

*BMES MÜHENDİSLİK DIŞ
TİCARET LTD. ŞTİ.*



THE **SAFETY** BOOK: THE **ESSENCE**

BMES INNOVATES

FROM HEAD TO TOE

**BMES INNOVATES,
DESIGNS, STANDARDISES
TO SUPPLY A GLOBAL
OFFER THAT MEETS YOUR
NEEDS**

BMES cares about well-being at the workplace and researches more innovative solutions in terms of comfort, design and technicality, to protect you in all circumstances.

Each of our product families is worked to provide products that meet European standards (and for some U.S. standards).

Our range managers are inspired by sport and recreation to develop easy to wear PPE at work everyday.

All BMES PPE solutions are offered at the best value: need/ quality/ price



FALL PROTECTION SYSTEM
HAR35 EOLIEN



FOOT PROTECTION
D-SPIRIT



HEAD PROTECTION
SUPER QUARTZ



HAND PROTECTION
EOS NOCUT VV910



BODY PROTECTION
D-MACH

PROTECTION FROM HEAD TO TOE, IN THE WORKPLACE

A SEGMENTATION FOR DESIGNING PRODUCTS AND RANGES:



KNOW
THE RISKS



ANALYZE THEM
IN THE WORKERS'
ENVIRONMENT AND
CONSTRAINTS



TOOL:
SEGMENTATION



CONSTRUCTION
OF A SUITABLE
PRODUCT OFFER



Our multi key input segmentation (business areas, risks, levels of range) is the foundation on which is built the strategy of the range and future products are determined and designed, which meet the constraints and risks in the workplace.



SEGMENTATION TO MEET THE NEEDS OF USERS



**LISTEN TO
THE USER**



**EVALUATE THEIR RISKS
AND THEIR NEEDS**



**TOOL:
SEGMENTATION**



**THE EPI ADAPTED
SOLUTION**

Our multi key input segmentation (business areas, risks, levels of range) facilitates the advice from the distributor toward their user customer:

- Respond more quickly and effectively to the needs of the user customer.
- Guide the customer in the same way in the 5 product families

THE KEY INPUTS OF THE SEGMENTATION

• THE BUSINESS AREAS

	AGRICULTURE/ GREEN AREAS	Farmers - Woodcutters - Gardeners ...		SERVICES / LOGISTICS	Logistics - Transportation - Airport - Distribution ...
	CONSTRUCTION/ CIVIL ENGINEERING	Structural work - Construction		HYGIENE ENVIRONMENT	Food industry - Pharmacy - Hospitals - Restaurants - Communities ...
	SECOND WORK/CRAFTSMAN	Electricians - Plumbers - Heating specialists - Painters ...		OIL/GAS	Petrochemical industry - Refinery - Off shore - Exploration - Pipelines
	HEAVY INDUSTRY	Metal construction - Petrochemical ...		MINING	Mines (exploration, extraction ...) - Stone-pit
	LIGHT INDUSTRY	Automotive - Aerospace - Industrial Subcontracting ...		WIND ENERGY	

• RISK

				
ANTISTATIC	NOISE	HEAT	SHOCK	FALL
				
CUTTING / PERFORATION	COLD WEATHER	SLIP	BIOLOGICAL CHEMICAL PARTICLES	
				
WEARING	UV/IR	ELECTRICAL		
				
HIGH VIS				

• LEVELS OF THE RANGE

PREMIUM	High Tech products for specialized uses
EVOLUTION	Powerful multi-purpose products
ESSENTIAL	Standard multi-purpose products

A GLOBAL
OFFER,
READABLE AND EFFECTIVE

BMES INNOVATION



Product providing the look and/ or the particular design of Delta Plus: the pleasure of wearing PPE.

D-MACH

- Look, comfort, durability: Mach quality from Delta Plus



RANDERS

- Pleasant in its look and its comfort in mid-season



BASEBALL DIAMOND

- Comfortable to wear with its unique and functional look



SPORTSWEAR

- Easy to wear with its look and comfort



Practical Solutions for a rapid introduction and/ or removal of the PPE.

GRANITE PEAK

- Easy to position.
- Quick adjustment with ROTOR® system.
- Light and easy to carry



DIAMOND V UP

- Easy to position.
- Quick adjustment with ROTOR® system



X-RUN

- Easy to put on and take off.
- Saving time in the lacing and unlacing



Adhesion techniques for safe movements and/ or steps.

ASO

- Flexible arms in bi-material = anti slip effect



TREK WORK

- Safety provided on ladders, soft ground, slippery floors, hot floors etc...





*Technological advances
for a protection higher than
required by the standard.*

SUPER QUARTZ

- High multiple hazard and multiple environment protection level



*Anatomical and/or ergonomic
solutions for maximum comfort
and ergonomics.*

KISKA

- The lightest safety glasses in the world



SPIDER MASK

- Comfortable and easy to adjust as a result of its design
- Economy through innovation



VIRAGE S1P

- High level of comfort with flexibility, stability, lightness and breathability



APOLLON

- High level of comfort by its flexibility
- Waterproof while limiting perspiration.
- Great dexterity



HAR32 ANATOM

- Innovative ergonomics for a greater comfort and enhanced security



HAR35 EOLIEN

- Innovative ergonomics for a greater comfort and enhanced security



*Heat shields
for regulating the temperature of the
body or a part of the body.*

GRANITE WIND

- Good head ventilation due to a large ventilation area



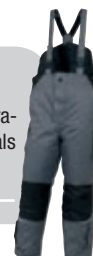
NORDLAND

- High insulation for low temperatures with appropriate materials and design



ICEBERG

- High insulation for low temperatures with appropriate materials and design



HEAD PROTECTION

EYEWEAR PROTECTION

		AGRICULTURE/ GREEN AREAS	CONSTRUCTION	CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
PREMIUM	Safety glasses												ASO CLEAR	10
													ASO SMOKE	10
													FUJIZ CLEAR	12
EVOLUTION													FUJIZ GRADIENT	12
													THUNDER CLEAR	13
													THUNDER SMOKE	13
	Welding												BARRIER	23
													BARRIER PLATE	23
	Safety visors												VISOR TORIC	24
													PACAYA CLEAR	14
													PACAYA SMOKE	14
													KISKA CLEAR	14
													KISKA SMOKE	14
													EGON CLEAR	15
													EGON SMOKE	15
													FUEGO	15
													LIPARI2 CLEAR	16
													LIPARI2 T5	23
													HEKLA	16
													VULCANO2 PLUS CLEAR	17
													VULCANO2 CLEAR	17
													VULCANO2 SMOKE	17
	Safety goggles												GALERAS	20
													CASOUD 2	23
	Welding												CASOUD2HE	23
													TOBA 2 T5	23
													VISORPC	24
													VISORG	24
	Safety visors												VISORPC MINI	24
													VISORG MINI	24
													BALBI 2	25
													PICO 2	25

		AGRICULTURE/ GREEN AREAS	CONSTRUCTION	CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
ESSENTIAL	Safety glasses												KUNLUN	17
													MEIA CLEAR	18
													MEIA SMOKE	18
													BRAVA2 CLEAR	18
													BRAVA2 YELLOW	18
													BRAVA2 SMOKE	18
													KILIMANDJARO CLEAR	19
													KILIMANDJARO CLEAR AB	19
													KILIMANDJARO SMOKE	19
													PITON 2 CLEAR	19
													PITON CLEAR	19
													FILM GOGGLE	20
	Safety goggles												RUIZ 1	21
													MURIA 1	21

SKULL PROTECTION

		AGRICULTURE/ GREEN AREAS	CONSTRUCTION	CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
PREMIUM	Safety helmets												GRANITE PEAK	26
													GRANITE WIND	26
													BASEBALL DIAMOND V UP	28
EVOLUTION													BASEBALL DIAMOND V	29
													SUPER QUARTZ	30
													QUARTZ UP IV	32
													QUARTZ UP III	33
													FORESTIER 2	33
	Bump cap												AIR COLTAN	36
													QUARTZ I	34
ESSENTIAL	Safety helmets												ZIRCON 1	34
													WINTER CAP	34
	Bump cap												COLTAN	36



HEARING PROTECTION

		AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY															
		          															
PREMIUM	Ear defenders															PIT-STOP	38
																YAS MARINA	39
																SILVERSTONE 2	39
																INTERLAGOS	40
																MAGNY-COURS	42
																MAGNY HELMET	42
EVOLUTION	Earplugs															CONICFIR050	44
																CONICMOVE01	44
																CONICMOVE01BR	44
ESSENTIAL	Earplugs															SEPANG 2	43
																CONICCO200	45
																CONIC DISPLAY	45
ESSENTIAL	Earplugs															SUZUKA 2	43
																SPA 3	43
																CONIC200	45
																CONIC500	45

RESPIRATORY PROTECTION

		AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY															
													Suitable protection		PAGES		
PREMIUM	Disposable respiratory													SPIDERMASK P3 X5	46		
														SPIDERMASK P2 X5	46		
															SPIDERMASK P2W X5	46	
															SPIDER REFILL FFP2	46	
															SPIDER REFILL FFP3	46	
																SPIDER REFILL FFP2W	46
	Reusable respiratory														M1300V	48	
															M1200VPLUS	48	
															M9200 - ROTOR GALAXY	50	
															M9300 - STRAP GALAXY	50	
															M9000 A2	51	
															M9000 A2B2E2K2	51	
EVOLUTION	Disposable respiratory													M9000A2B2E2K2P3	51		
														M9000 A2P3	51		
														M9000 P3	51		
															M1300V2	49	
															M1200V	49	
																M1200VW	49
	Reusable respiratory														M1100V	49	
															M1300VB	49	
															M1200VB	49	
															M6100 JUPITER	52	
															M6200 JUPITER	52	
															M6300 JUPITER	52	
															M6400 JUPITER	52	
															M6000 A1	53	
															M6000 A2	53	
															M6000 A1B1E1K1	53	
															M6000 PREP3	53	
															M6000 P2	53	
ESSENTIAL	Disposable respiratory													M6000 P2 CLIP	53		
														M6000 P3	53		
														M1200	48		
													M1100	49			
													M1195B	49			



HEAD PROTECTION

- INDOOR
- OUTDOOR
- OUTDOOR / INDOOR

Glasses

		PREMIUM											
EN166		ASO CLEAR	ASO SMOKE	THUNDER BRONZE	THUNDER CLEAR	FUJ12 CLEAR	FUJ12 GRADIENT						
	EN170	■			■	■							
	EN172		☀	☀			☀						
		EVOLUTION											
EN166		KISKA CLEAR	KISKA SMOKE	HEKLA CLEAR	FUEGO	EGON CLEAR	EGON SMOKE	PACAYA CLEAR	PACAYA SMOKE	LIPARI2 CLEAR	VULCANO2 PLUS CLEAR	VULCANO2 CLEAR	VULCANO2 SMOKE
	EN170	■		■	■	■		■		■	■	■	
	EN172		☀				☀		☀				☀
		ESSENTIAL											
EN166		MEIA CLEAR	MEIA SMOKE	BRAVA2 CLEAR	BRAVA2 YELLOW	BRAVA2 SMOKE	KILIMANDJARO CLEAR	KILIMANDJARO CLEAR AB	KILIMANDJARO SMOKE	PITON2 CLEAR	PITON CLEAR	KUNLUN	
	EN170	■		■	■		■	■		■	■		
	EN172		☀			☀			☀				
ANSI Z87+				●	●	●	●	●	●		●		

Goggles

EN166	EVOLUTION		ESSENTIAL	
		GALERAS	RUIZ1	MURIA1
	ANSI Z87	●	●	●

Visor

	PREMIUM		EVOLUTION							
	VISOR TORIC	VISOR HOLDER	VISOR-HOLD MINI	VISORPC	VISORPC MINI	VISORG	VISORG MINI	BALB12	PIC02	
										
	EN170	●								
	EN1731		●	●			●	●		●
	EN166	●	●	●	●	●			●	

Welding

EN166	PREMIUM		EVOLUTION		EVOLUTION EVOLUTION		ESSENTIAL	
		BARRIER	CASOUD2	CASOUD2HE		LIPARI2 T5	TOBA2 T5	
	EN169		●	●		●	●	
	EN175	●	●	●			●	
	EN379	●						
	ANSI 287.1	●						

Kit mines



Metallic front support for mining lamp and plastic hook on the back for lamp cable. Available on demand. Lamp not included.

Badge Holder





Helmet

All our helmets have standard all for accessories.

EN397 EN50365		PREMIUM				EVOLUTION				ESSENTIAL	
		GRANITE WIND	GRANITE PEAK	DIAMOND V UP	BASEBALL DIAMOND V	SUPER QUARTZ	QUARTZ UP IV	QUARTZ UP III	FORESTIER2	QUARTZ I	ZIRCON I
		COLOURS									
		ADJUSTMENT									
		VENTILATION									
		ELECTRICAL INSULATION									
		MM									
		LD									
		TEMPERATURE									

Bump cap

EN812		PREMIUM		EVOLUTION	
		AIR COLTAN		COLTAN	
		FARBEN			

VISOR LENGTH (CM)		3/5/7	5/7	3/7	7	3/5/7
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CUSTOMIZE YOUR SAFETY HELMETS!

- > The logo sent must be in vectorized format (.eps, .ai, or .pdf) and do not have different colour background of the chosen helmet.
- > For logos in colours, thanks to give us the pantone reference for each colour.
- > Warning: the colours of the logos can be slightly changed according to the colour of helmets. To have the same colour as your logo, we recommend to choose white helmets.
- > It is impossible to do gradient colours in pad printing.
- > Minimum of order: 240 pieces per colour for all orders out of Europe
- > Maximum number of colours: 4
- > The space to put the logo may not exceed dimensions shown on the schema below:



ZIRCON	QUARTZ - SUPER QUARTZ	GRANITE	BASEBALL DIAMOND
Front	Front		Front
		NOTICE: only front printing available	
Back	Back		Back

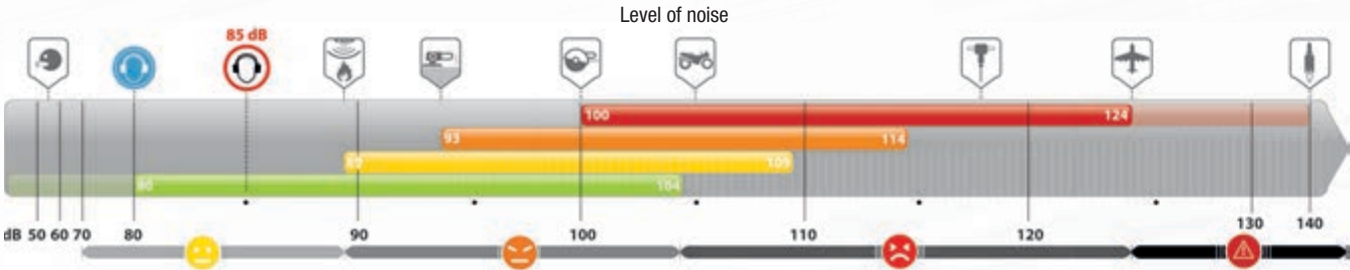
HEAD PROTECTION

HEARING PROTECTION

Ear defenders and earplugs



	PIT STOP	SUZUKA2	SPA3	SEPANG2	SILVERSTONE2	YAS MARINA	MAGNY COURS	MAGNY HELMET	INTERLAGOS
80 - 104 dB									
89 - 109 dB	26 dB	27 dB	28 dB	29 dB					
93 - 114 dB					30 dB	32 dB	32 dB	32 dB	33 dB
100 - 124 dB									
HML	H 30 M 23 L 16	H 29 M 25 L 18	H 30 M 27 L 17	H 31 M 29 L 19	H 32 M 28 L 21	H 33 M 31 L 25	H 34 M 29 L 23	H 34 M 31 L 23	H 33 M 31 L 25
Weight	286 g	257 g	158 g	212 g	240 g	312 g	338 g	286 g	303 g
Description	Electronic Foldable	HV colour	Light	Comfort headband	BTH	Reinforced headband Foldable	Air room	Air room	HV colour Reinforced headband



Attenuation values for noise



NOISE	SNR
80 - 104 dB	20 - 24 dB
89 - 109 dB	25 - 29 dB
93 - 114 dB	30 - 34 dB
100 - 124 dB	35 - 39 dB



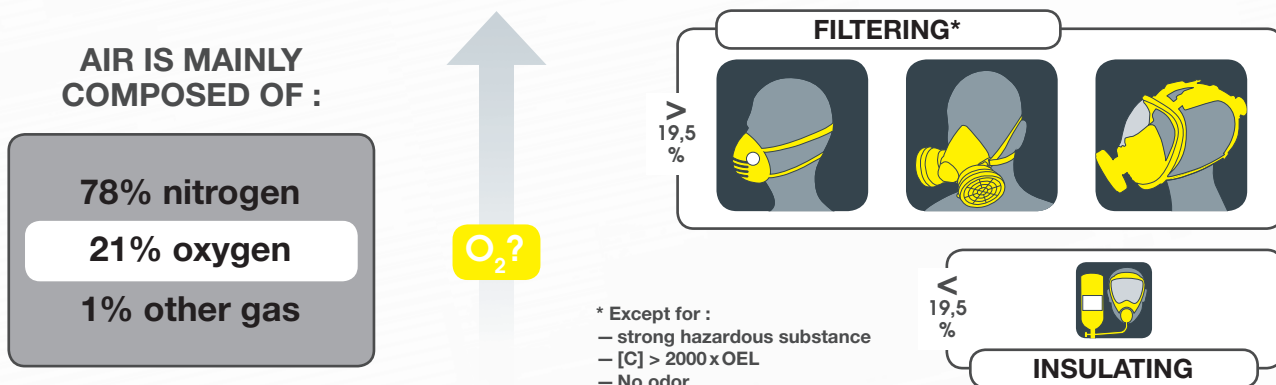
	CONICMOVE	CONICAP	CONICFIR	CONICCO	CONIC
80 - 104 dB	22 dB	24 dB			
89 - 109 dB			29 dB		
93 - 114 dB					
100 - 124 dB				37 dB	37 dB
HML	H 24 M 16 L 14	H 25 M 20 L 19	H 27 M 24 L 24	H 36 M 34 L 33	H 36 M 34 L 33
Material	PU	PU	TPR	PU	PU
Ø	19 mm	18 mm	7 - 11 mm	12 mm	12 mm
Cord	Ergonomic headband	Foldable headband	Textile	Plastic	-
Uses	Reusable	Reusable	Reusable	Disposable	Disposable
Packaging	 x1	 x1	 x10	 x200	 x10  x200  x500



RESPIRATORY PROTECTION

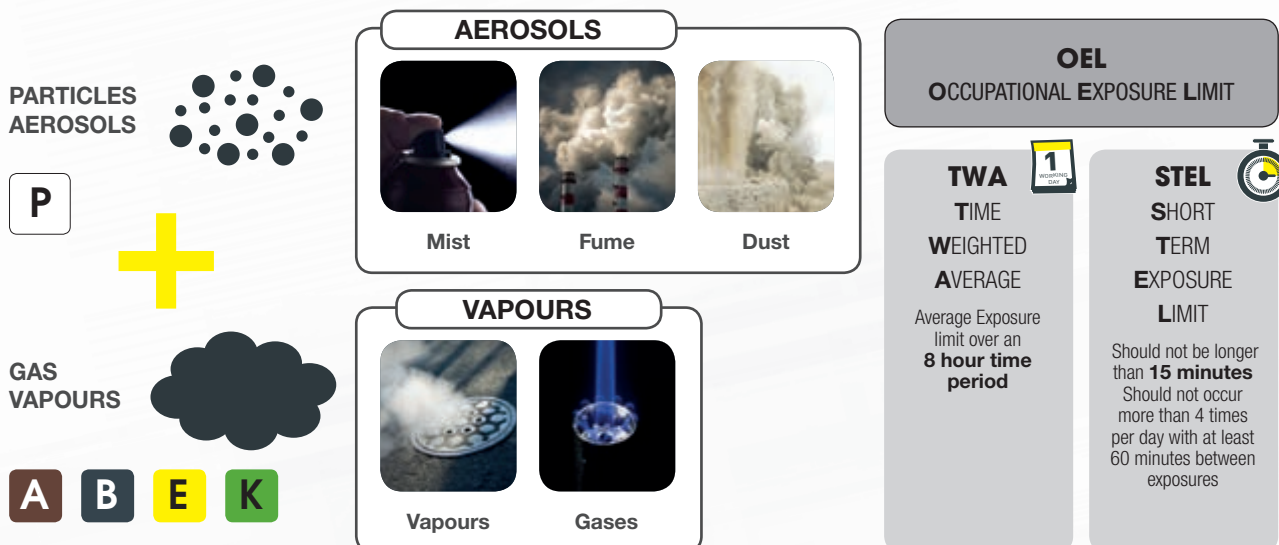
STEP 1

O₂ OR NOT O₂?



STEP 2

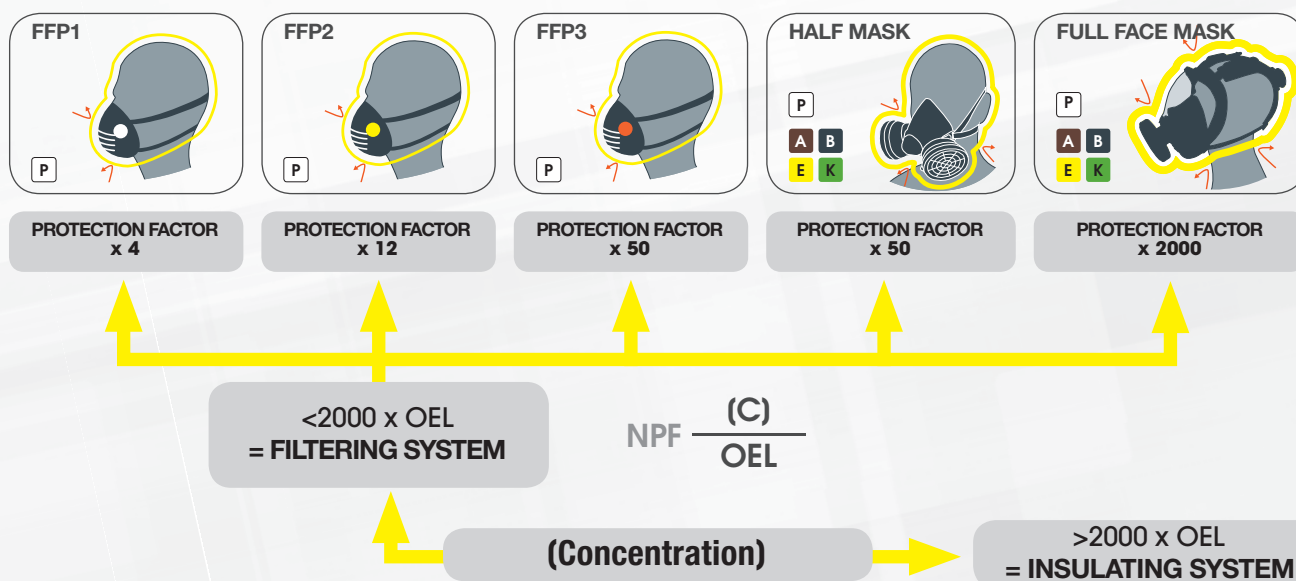
IDENTIFY THE TYPE OF RISK



STEP 3

CONCENTRATION

in ppm or mg/m³



NPF: Nominal Protection Factor means the level of protection tested in laboratory
The Level of APF, Assigned Protection Factor, might be different according local regulations

HEAD PROTECTION



DIPOSABLE RESPIRATORY PROTECTION

FFP1



CE
EN149

Nominal Protection Factor* x 4



Cement dust, Flour, Calcium carbonate, (chalk), Graphite, Cotton, Concrete...**

FFP2



CE
EN149

Nominal Protection Factor* x 12



Untreated softwood, Grinding, Cutting, Welding, Milling, Coal, Glass fibre, Mineral fibre, Graphite, Powdered pesticide...**

FFP3



CE
EN149

Nominal Protection Factor* x 50



Asbestos (without manipulation), Powdered pesticide, Biological agents, Pharmaceutical powder, Treated wood, Hard wood (exotic), Chromium, Lime, Lead, Graphite...**

APPLICATION

SUBSTANCES

PREMIUM

EVOLUTION

ESSENTIAL

SPIDER MASK P2 X5

SPIDER MASK P2W X5

M1200VPLUS

SPIDER MASK P3 X5

M1300V



Smell filtering



M1100VB

M1200VB

M1300VB



M1100V

M1200V

M1200VW

M1300V2



M1195B

M1100

M1200



Optional test of EN149: 2001 standard for clogging of dolomite dust
*The Assigned Protection Factor, might be different according local regulations.

** This list is indicative but not contractual and can not engage the responsibility of DELTA PLUS



REUSABLE RESPIRATORY PROTECTION

Gas
Vapours



A B E K

EN14387

Particles
Aerosols



P

EN143/A1



EN136

PREMIUM

M9200 - ROTOR GALAXY M9300 - STRAP GALAXY



- ROTOR® registered mark
- Adjustable size
- Wide vision (210°)
- Adjustable size
- Wide vision (210°)
- To be used with helmet



M8000P3R



EN140

EVOLUTION

M6100 - JUPITER



- Comfort half mask in tri-material
- Elastic straps
- 1 filter cartridge



M6000 A1



M6000 PREP3



M6000 P2



M6000 P2CLIP



M6000 P3

M6200 - JUPITER



- Comfort half mask in tri-material
- Elastic straps
- 2 filter cartridges



M6000 A1



M6000 A2



M6000 A1B1E1K1



M6000 PREP3



M6000 P2



M6000 P2CLIP



M6000 P3

M6300 JUPITER



- Comfort half mask (PP)
- Elastic straps
- 1 filter cartridges



M6000 A1



M6000 PREP3



M6000 P2



M6000 P2CLIP



M6000 P3

M6400 JUPITER



- Comfort half mask (PP)
- Elastic straps
- 2 filter cartridges



M6000 A1



M6000 A2



M6000 A1B1E1K1



M6000 PREP3



M6000 P2



M6000 P2CLIP



M6000 P3

Advice : Change the filter after each use, or quicker if the atmosphere is polluted, humid and the air flow (or breathing) is high.



EYEWEAR PROTECTION

Safety glasses



ASO CLEAR



N Anti-mist &
K Anti-scratch
treatment



ASO SMOKE



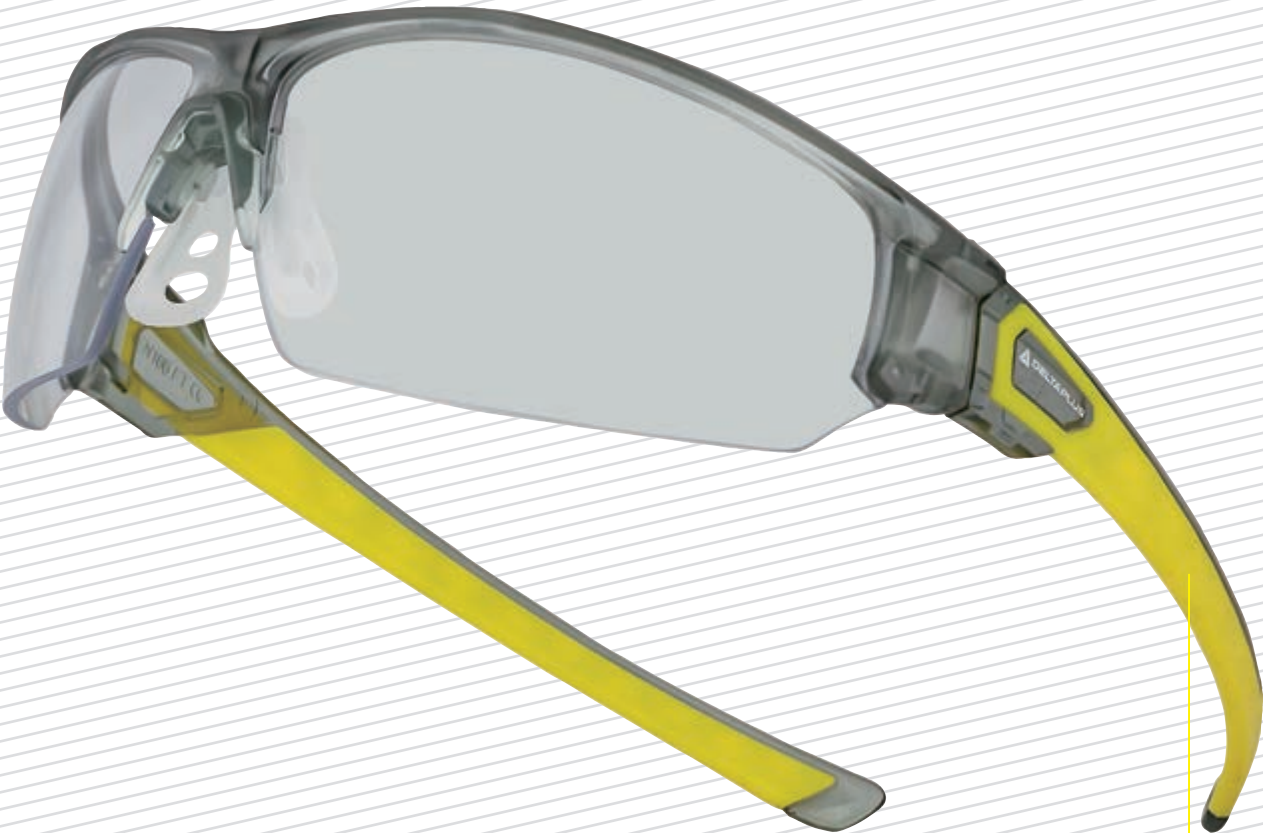
N Anti-mist &
K Anti-scratch
treatment



Article	Colours	Description	Standard		
ASO CLEAR	Clear	Polycarbonate glasses. Sport design. Polycarbonate/TPR bi-material arms: Flexible and non slip. D-Pad: Nose piece suitable for all body shapes.	EN166 1 FT KN / FT	EN170 UV 2C-1.2	30 g x 100
ASO SMOKE	Smoke			EN172 UV 5-3.1	



D-Pad technology:
Adjustable nose piece,
shape memory for all body
types. Universal Fit.



Anti-slip bi-material arms

EYEWEAR PROTECTION

Safety glasses

FUJI2 CLEAR



UV400
Anti-mist
Anti-scratch



FUJI2 GRADIENT



UV400
Anti-scratch



Article	Colours	Description	Standard		
FUJI2 CLEAR	Clear	Polycarbonate twin lens glasses. Twin material arms. Soft tips. Soft TPE nose piece.	ANSI Z87.1 Z87+	EN170 UV 2C-1.2	29 g x 100
FUJI2 GRADIENT	Gradient		EN166 1 FT / FT	EN172 UV 5-1.4 : 5-1.7	



THUNDER CLEAR



UV400
Anti-mist
Anti-scratch



THUNDER SMOKE



UV400
Anti-mist
Anti-scratch



Article	Colours	Description	Standard		
THUNDER CLEAR	Clear	Ergonomic glasses. Polycarbonate lens. Sports look. Twin material arms. Soft tips. Soft, extra comfort TPE nose piece.	 EN166 1 FT / FT	32 g	x 100
THUNDER SMOKE	Smoke				

EN170
UV 2C-1.2

EN172
UV 5-3.1

EYEWEAR PROTECTION

Safety glasses

PACAYA LYVIZ



LYVIZ™

UV400
Anti-mist
Anti-scratch



Removable foam frame for dust and shock protection

Suitable for all faces with the tilting arms

Article	Colours	Description	Standard		
PACAYA LYVIZ	Clear	Polycarbonate single lens glasses. Integrated polycarbonate nose piece. Adjustable nylon arms. Side protection.	EN166 1 FT / FT ANSI Z87.1 Z87+	EN170 UV 2C-1.2	36 g x 100
PACAYA CLEAR					
PACAYA SMOKE	Smoke		EN172 UV 5-3.1		

KISKA CLEAR

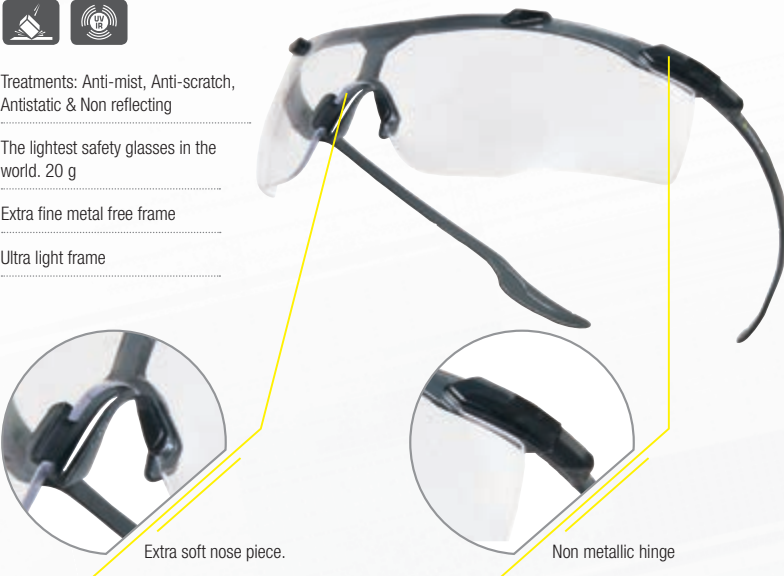


Treatments: Anti-mist, Anti-scratch,
Antistatic & Non reflecting

The lightest safety glasses in the
world. 20 g

Extra fine metal free frame

Ultra light frame



Extra soft nose piece.

Non metallic hinge

Article	Colours	Description	Standard		
KISKA CLEAR	Clear	Ultra light one-piece polycarbonate glasses. Extra fine rimless frame and extra soft polycarbonate nose bridge. Suitable for long duration wear.	EN166 1 FT / FT	EN170 UV 2C-1.2 EN172 UV 5-3.1	20 g x 100
KISKA SMOKE	Smoke				

PACAYA SMOKE



UV400
Anti-mist
Anti-scratch



KISKA SMOKE



Treatments: Anti-mist, Anti-scratch,
Antistatic & Non reflecting

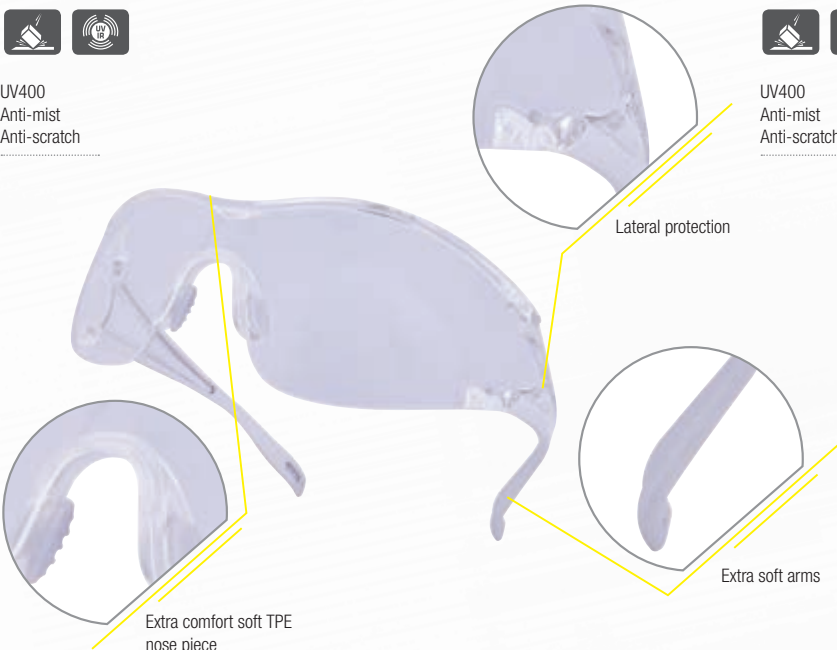




EGON CLEAR



UV400
Anti-mist
Anti-scratch



EGON SMOKE



UV400
Anti-mist
Anti-scratch

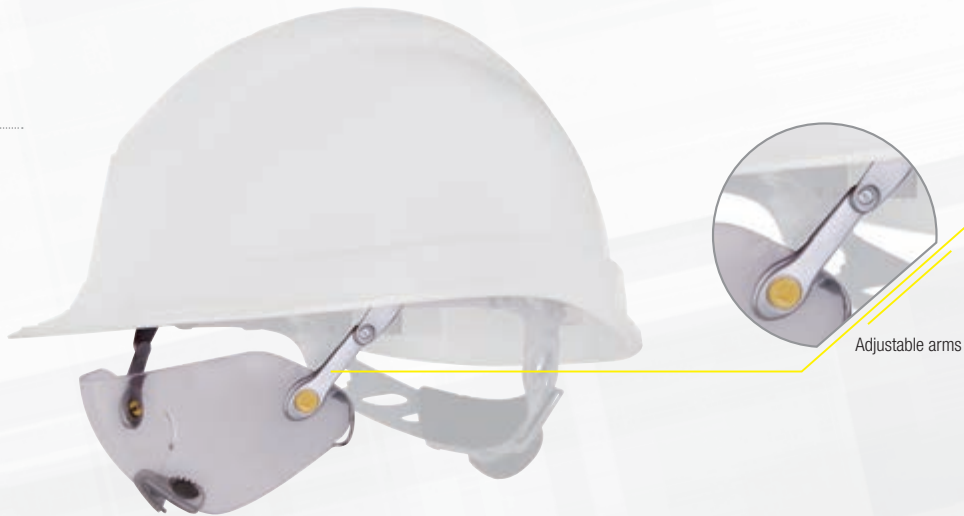


Article	Colours	Description	Standard		
EGON CLEAR	Clear	Ergonomic glasses. Polycarbonate lens. Sport look. Twin material arms. Extra comfort soft TPE nose piece.	ANSI Z87.1 Z87+ EN166 1 FT / FT	EN170 UV 2C-1.2 EN172 UV 5-3.1	33 g x 100
EGON SMOKE	Smoke				

FUEGO



UV400
Anti-mist
Anti-scratch



Article	Colours	Description	Standard		
FUEGO	Clear	Clear polycarbonate single lens glasses to use as an accessory for safety helmet. Wraparound design for maximum protection. Folding system in the helmet when it is not use, for intermittent use. Very convenient. Branches foldable for easy positioning in the helmet. Suitable for our range of safety helmet.	EN166 1 FT / FT	EN170 UV 2C-1.2	35 g x 100

EYEWEAR PROTECTION

Safety glasses

LIPARI2 CLEAR



UV400
Anti-mist
Anti-scratch



LIPARI2 T5



UV400
Anti-mist
Anti-scratch



Article	Colours	Description	Standard		
LIPARI2 CLEAR	Clear	Polycarbonate single lens glasses. Adjustable and tilting nylon arms. Spatula tips. Integrated TPE nose piece. Side protection.	 ANSI Z87.1 Z87+ EN166 1 FT / FT	EN170 UV 2C-1.2	34 g x 100
LIPARI2 T5	Shade 5			EN169 UV 5	

HEKLA



UV400
Anti-scratch



Article	Colours	Description	Standard		
HEKLA	Clear	Single lens polycarbonate over glasses. Side shields. Integrated polycarbonate nose piece. Flexible polycarbonate arms. Suitable for all types of prescription glasses.	 EN166 1 FT / FT	EN170 UV 2C-1.2	36 g x 100



VULCANO2 PLUS CLEAR



UV400
Anti-mist
Anti-scratch



VULCANO2 CLEAR



UV400
Anti-mist
Anti-scratch



VULCANO2 SMOKE



UV400
Anti-mist
Anti-scratch



Article	Colours	Description	Standard		
VULCANO2 PLUS CLEAR	Clear		ANSI Z87.1 Z87+ EN166 1 FT K N / FT	EN170 UV 2C-1.2	
VULCANO2 CLEAR	Clear	Polycarbonate single lens glasses. Adjustable and tilting nylon arms. Spatula tips. Integrated TPE nose piece. Side protection.	CE ANSI Z87.1 Z87+ EN166 1 FT / FT		26 g x 100
VULCANO2 SMOKE	Smoke		EN172 UV 5-3.1		

KUNLUN



Article	Colours	Description			
KUNLUN	Clear	Single lens polycarbonate glasses. Comfortable polycarbonate nose piece. Adjustable polycarbonate arms. Non-slip PVC tips.	CE EN166 1 FT / FT ANSI Z87.1 Z87+	EN170 UV 2C-1.2	24 g x 100

EYEWEAR PROTECTION

Safety glasses

Article	Colours	Description	Standard		
MEIA CLEAR	Clear	Single lens polycarbonate glasses. Integrated polycarbonate nose piece. Polycarbonate arms. Non-slip PVC tips.	CE	24 g	x 100
		UV400 Anti-scratch	EN166 1 FT / FT EN170 UV 2C-1.2		
		      			
MEIA SMOKE	Smoke	Single lens polycarbonate glasses. Integrated polycarbonate nose piece. Polycarbonate arms. Non-slip PVC tips.	CE	24 g	x 100
		UV400 Anti-scratch	EN166 1 FT / FT EN172 UV 5-3.1		
		    			
BRAVA2 CLEAR	Clear	Polycarbonate single lens glasses. Soft flat spatula type arms. Integrated polycarbonate nose piece. Easy to use with safety helmet and ear defenders. Side protection.	CE	25 g	x 100
		UV400 Anti-scratch	ANSI Z87.1 Z87+ EN166 1 FT / FT EN170 UV 2C-1.2		
		      			
BRAVA2 YELLOW	Yellow	Polycarbonate single lens glasses. Soft flat spatula type arms. Integrated polycarbonate nose piece. Easy to use with safety helmet and ear defenders. Side protection.	CE	25 g	x 100
		UV400 Anti-scratch	ANSI Z87.1 Z87+ EN166 1 FT / FT EN170 UV 2C-1.2		
		    			
BRAVA2 SMOKE	Smoke	Polycarbonate single lens glasses. Soft flat spatula type arms. Integrated polycarbonate nose piece. Easy to use with safety helmet and ear defenders. Side protection.	CE	25 g	x 100
		UV400 Anti-scratch	ANSI Z87.1 Z87+ EN166 1 FT / FT EN172 UV 5-3.1		
		    			



Article	Colours	Description	Standard		
KILIMANDJARO CLEAR	Clear	Polycarbonate single lens glasses. Adjustable nylon arms. Side protection. UV400 Anti-scratch	 ANSI Z87.1 Z87+ EN166 1 FT / FT EN170 UV 2C-1.2	32 g	x 100
		  			
KILIMANDJARO CLEAR AB	Clear	Polycarbonate single lens glasses. Adjustable nylon arms. Side protection. UV400 Anti-mist Anti-scratch	 ANSI Z87.1 Z87+ EN166 1 FT / FT EN170 UV 2C-1.2	32 g	x 100
		  			
KILIMANDJARO SMOKE	Smoke	Polycarbonate single lens glasses. Adjustable nylon arms. Side protection. UV400 Anti-scratch	 ANSI Z87.1 Z87+ EN166 1 FT / FT EN172 UV 5-3.1	32 g	x 100
		  			
PITON 2 CLEAR	Clear	Polycarbonate single lens glasses. Modern and sport design. Side protection. Open arms for lateral ventilation. Hole in arms for neck cord. UV400 Anti-scratch	 EN166 1 FT / FT EN170 UV 2C-1.2	30 g	x 100
		   			
PITON CLEAR	Clear	Clear polycarbonate single lens glasses. Direct side ventilation. Side protection. Hole in arms for neck cord. UV400	 ANSI Z87.1 Z87+ EN166 1 FT / FT EN170 UV 2C-1.2	45 g	x 300
		   			

EYEWEAR PROTECTION

Safety goggles

GALERAS



Anti-mist
Anti-scratch

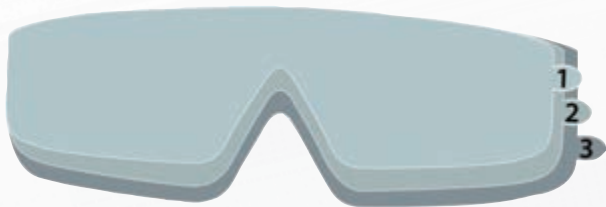


Tilting elastic to fit better

Marking (EN166)
1 = the best optical class
B = medium energy impact resistance
T = impact resistance at extreme temperature
3 = liquid projections resistance
4 = large dust particles resistance
9 = molten metal projections resistance

Article	Colours	Description	Sizes	Standard		
GALERAS	Clear	Clear polycarbonate goggles. Indirect ventilation. Flexible PVC and nylon frame. Wide screen with non-reflecting effect. Adapted to the wearing of corrective glasses and disposable respiratory half-masks. Wide elastic strap.	Adjustable	 ANSI Z87.1 Z87+; High impact EN166 1 BT 9 349 BT	104 g	x 60

FILM GOGGLE



Article	Colours	Description		
FILM GOGGLE	Clear	Box of 10 sets of protective film to protect screens of goggles. Each set is made of 3 layers of films.		x 10

EYEWEAR PROTECTION

Safety goggles



Article	Colours	Description	Sizes	Standard		
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RUIZ 1

Clear
Clear polycarbonate goggles. Flexible PVC frame. Indirect ventilation with 4 ventilators. Textile elastic strap.

 86 g x 60



ANSI Z87.1
Z87
EN166
1 B / 3 B

MURIA 1

Clear
Clear polycarbonate goggles. Flexible PVC frame. Direct ventilation. Textile elastic strap.

 60 g x 60



ANSI Z87.1
Z87
EN166
1 B / B

EYEWEAR PROTECTION

Welding



BARRIER



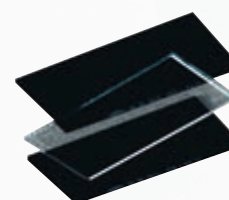
CASOUD 2



CASOUD2HE



FILTER-IN



FILTER 11

FILTER-KIT

TOBA 2 T5



LIPARI2 T5

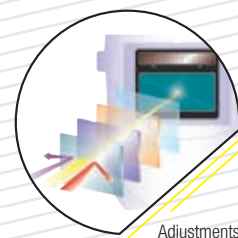


BARRIER PLATE



Sensitivity $\leq 0,0003$ s

Led indicator for low battery



Adjustments: Sensitivity, shade selection, switching time

Article	Colours	Description	Sizes	Standard		
BARRIER	Blue	Helmet for electric arc welding, MIG, TIG that requires DIN9 to DIN13 protection. Polypropylene. Sweat band. Headband with easy ratchet adjustment. Vision shield: 100 x 60 mm. LCD filter included. Shades: Clear: DIN4 - Dark: DIN9 to DIN13. Sensitivity $\leq 0,0003$ s. (Clear shade to dark shade). Powered by solar cells and 2 replaceable lithium batteries included.		ANSI Z87.1 Z87 EN166 1 S EN379 1/3/3/3/4/9-13 EN175 S	520 g	x 6
BARRIER PLATE	Clear	Pack of 5 exterior spare screens for BARRIER helmet in polycarbonate.		EN166 1 S		x 50
CASOUD 2	Black	Helmet for all types of welding that requires shade 11 protection. Polypropylene with glass fibre. Headband. Sold ready to use: fixed screen equipped with one clear polycarbonate filter (FILTER-IN), Flip-up screen equipped with one DIN11 filter (FILTER-11), protected by one clear polycarbonate filter (FILTER-IN). Dimensions of the filters: 108 x 51 mm.		EN166 1F F EN169 11 EN175 F	522 g	x 10
CASOUD2HE	Black	Polypropylene welding face shield, to be used on safety helmets. For all types of welding that requires shade 11 protection. Sold ready to use: fixed screen equipped with one clear polycarbonate filter, Flip-up screen equipped with one DIN11 filter, protected by one clear polycarbonate filter. Dimensions of the filters: 108 x 51 mm.	Adjustable	EN166 1F S EN169 11 EN175 S	260 g	x 10
FILTER-IN	Clear	Pack of 5 clear polycarbonate filter, 108 x 51 mm. to be fitted on CASOUD2 welding helmet and MASOUD2 welding shield. Thickness: 1,8 mm.		EN166 1F	140 g	x 20
FILTER 11	Green	Pack of 5 Shade 11 mineral filter, 108 x 51 mm. to be fitted on CASOUD2 welding helmet and MASOUD2 welding shield. Thickness: 3 mm.		EN166 1F EN169 11	240 g	x 20
FILTER-KIT		Pack of 5 shade 11 mineral filters 108 x 51 mm. Thickness: 3 mm + 5 clear polycarbonate filters 108 x 51 mm. Thickness: 1,8 mm to be fitted to CASOUD2 & CASOUD2HE welding helmet & welding visors.		EN166 1F EN169 11	340 g	x 10
TOBA 2 T5	Red	Welding goggles. Flip-up screen. Flexible PVC frame. Indirect ventilation. Elastic strap. Clear polycarbonate inside lens. Shade 5 mineral glass upper lens with clear polycarbonate reinforcement lens.	Adjustable	EN166 1F F EN169 UV 5 EN175 F	140 g	x 60
LIPARI2 T5	Shade 5	Polycarbonate single lens glasses. Adjustable and tilting nylon arms. Spatula tips. Integrated TPE nose piece. Side protection.		ANSI Z87.1 Z87+ EN166 1 FT / FT EN169 UV 5	34 g	x 100



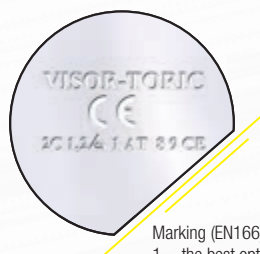
EYEWEAR PROTECTION

Safety visors

VISOR TORIC



Anti-scratch



Marking (EN166)
1 = the best optical class
A = highest shock resistance
T = extreme temperature resistance
8 = electrical Arc, short-circuit resistance
9 = molten metal projections resistance

Marking (EN170)
2C-1,2 = UV resistance

Article	Colours	Description	Standard		
VISOR TORIC	Clear	Clear polycarbonate injected visor. Thickness 1,9/2,0 mm. Electric Arc protection. Universal fixing. Suitable for faceshield holder VISOR HOLDER and VISOR H (BALBI2 and PICO2 support). 39 x 20 cm.	CE EN166 1AT 89 EN170 UV 2C-1.2	162 g	x 20

VISORPC



VISORG



VISORPC MINI



VISORG MINI



Article	Colours	Description	Standard		
VISORPC	Clear	Pack of 2 clear polycarbonate visors with plastic edge. Universal fixing. Suitable for BALBI2 - PICO2 - VISOR HOLDER faceshield holder. 39 x 20 cm.	EN166 1BT	100 g	
VISORG	Black	Pack of 2 gauze visors with plastic edge. Universal fixing. Suitable for BALBI2 - PICO2 - VISOR HOLDER faceshield holder. 39 x 20 cm.	CE EN1731 F	104 g	x 20
VISORPC MINI	Clear	Pack of 2 clear polycarbonate visors with plastic edge. Universal fixing. Suitable for VISOR-HOLD MINI. 36 x 17 cm.	EN166 1BT	90 g	
VISORG MINI	Black	Pack of 2 gauze visors with plastic edge. Universal fixing. Suitable for VISOR-HOLD MINI. 36 x 17 cm.	EN1731 S	94 g	

EYEWEAR PROTECTION

Safety visors



BALBI 2



PICO 2



Article	Colours	Description	Standard		
BALBI 2	Yellow	Faceshield with front protection + VISORPC visor: clear polycarbonate visor with plastic edge. 39 x 20 cm.	EN166 1BT / 3BT	260 g	x 20
PICO 2	Yellow-Black	Faceshield with front protection + VISORG visor: gauze visor with plastic edge. 39 x 20 cm.	CE EN1731 F F	264 g	

VISOR HOLDER



Can be used helmet mounted
ear defenders



VISOR-HOLD MINI



Can be used helmet mounted
ear defenders



Article	Colours	Description	Standard		
VISOR HOLDER	Black	Faceshield holder suitable for ZIRCON, QUARTZ and BASEBALL DIAMOND safety helmets. To combine with VISORPC, VISORG and VISOR-TORIC visors, universal fixing.	EN166	x 20	
VISOR-HOLD MINI		Faceshield holder suitable for GRANITE WIND and GRANITE PEAK safety helmets. To combine with VISORPCMINI and VISORGMINI.	EN1731		

SKULL PROTECTION

Safety helmets

GRANITE



GRANITE PEAK



GRANITE WIND

GRANITE PEAK

GRANITE WIND



BASGAMMA

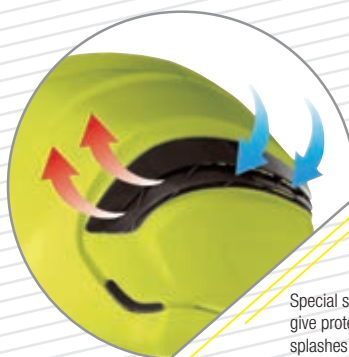
JUGGAMMA



Article	Colours	Description	Sizes	Standard		
GRANITE WIND	Yellow	Ventilated ABS safety helmet. Mountain helmet style: without visor for the best vertical vision. Less encumbrance. Light. Polyamide harness: 3 textile bands with 8 fixing points. Thermoformed sweat band. Innovative adjustable ROTOR® system (patented): head sizes 53 to 63 cm. Sold with 3 point chin strap.	Adjustable		355 g	x 10
	White					
	Blue					
	Orange					
	Red					
GRANITE PEAK	Yellow	ABS safety helmet. Mountain helmet style: without visor for the best vertical vision. Less encumbrance. Light. Polyamide harness: 3 textile bands with 8 fixing points. Thermoformed sweat band. Innovative adjustable ROTOR® system (patented): head sizes 53 to 63 cm. Sold with 3 point chin strap. Specially designed for working at height. Electrical insulation up to 1 000 V.A.C. or 1 500 V.D.C.	Adjustable		350 g	x 10
	White					
	Blue					
JUGGAMMA	Black	Bag of 5 chin straps with 3 fixing points. Safety-breaking system. Suitable for GRANITE PEAK and GRANITE WIND safety helmets.				x 20
BASGAMMA	Black	Bag of 5 thermoformed sweat bands for GRANITE PEAK & WIND, BASEBALL DIAMOND, SUPER QUARTZ and QUARTZ UP safety helmets.				



Polyamide harness: 3 textile bands with 8 fixing points
GRANITE PEAK - GRANITE WIND



Special system of fins which give protection against splashes and optimized surface ventilation
GRANITE WIND



ROTOR® system (Patented) for easy use
GRANITE PEAK - GRANITE WIND



Thermoformed sweat band
GRANITE PEAK - GRANITE WIND

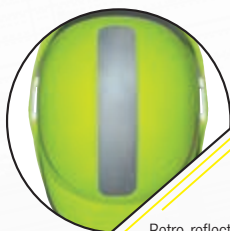


Removable chin strap with 3 fixing points
GRANITE PEAK - GRANITE WIND

SKULL PROTECTION

Safety helmets

BASEBALL DIAMOND V UP



Retro-reflective tape.



Polyamide harness: 3 textile bands with 8 fixing points



ROTOR® patented system for easy use



Article	Colours	Description	Sizes	Standard		
BASEBALL DIAMOND V UP	Yellow	ABS safety helmet with innovative design. Tested in «reverse» position. Polyamide cap: 3 fabric bands with 8 attachment points. Terry sweatband. Rotor® clamping system (patented): head circumference 53 to 63 cm. 2 possible positions around the head (high/ low) for better comfort. Retro-reflective band. Electrical insulation 1000 VAC/ 1500 VDC. Sold with 4 chin attachment points.	Adjustable	 EN397 MM LD -10°C +50°C 440VAC EN50365 CLASS 0	425 g	x 20
	White					
	Blue					
	Red					
	Red					



BASEBALL DIAMOND V



HARNESS V



Article	Colours	Description	Sizes	Standard		
BASEBALL DIAMOND V	Orange	ABS safety helmet. Innovative "baseball cap" shape to improve vision when looking up. Also tested for front back wearing, to reduce encumbrance. Textile harness: 3 textile straps with 8 fixing points. Foam sweat band. Innovative button adjustment "colour to colour" for head sizes 53/63 cm. 2 possible positions of the headband (top/low) for a better comfort. Electrical insulation up to 1 000 V.A.C. or 1 500 V.D.C.	Adjustable	EN397 MM LD -20°C +50°C 440 VAC EN50365 CLASS 0	368 g	x 20
	White					
	Blue					
	Yellow					
	Black					
	Red					
HARNESS V	Green					
	Black	Bag of 10 spare harnesses for BASEBALL DIAMOND safety helmet. Textile lining, foam sweat band, adjustment with button.				x 10

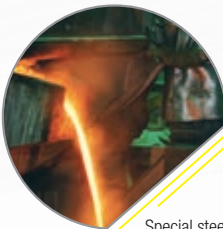
SKULL PROTECTION

Safety helmets

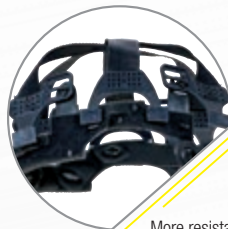
SUPER QUARTZ



ABS-PC shell



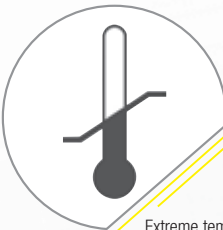
Special steel industry



More resistant helmet due to plastic anchorages moulded over the textile straps



Button for an easy adjustment



Extreme temperature resistance +150°C / -30°C

Article	Colours	Description	Sizes	Standard		
SUPER QUARTZ	White	ABS-PC safety helmet. Polyamide harness: 3 textile bands with 8 fixing points. Foam sweat band. Innovative button adjustment "colour to colour" for head sizes 53/63 cm. 2 possible positions of the headband (high/low) for better comfort. Electrical Insulation up to 1 000 V.A.C. or 1 500 V.D.C.	Adjustable	EN397 MM LD +150°C -30°C 440VAC CE EN50365 CLASS 0	410 g	x 40



SUPER QUARTZ
📄 30

**VESTE19A -
VESTE19N**
📄 174

TERK400
📄 96

**PANTA19A -
PANTA19N**
📄 174

**BMES
FUSION S3**
📄 SRC
198

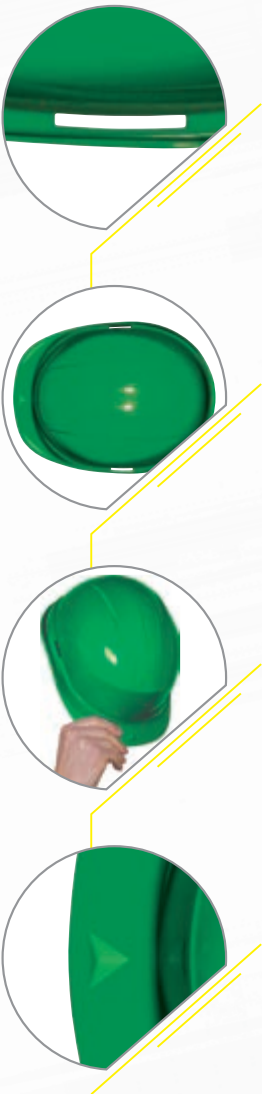
SKULL PROTECTION

Safety helmets

QUARTZ UP IV



2 positionings of the head measurement: Optimized comfort
QUARTZ IV - QUARTZ III



Ventilated helmet with adjustable ventilation
QUARTZ UP IV



More resistant helmet due to plastic anchorages moulded over the textile straps
QUARTZ UP IV - QUARTZ UP III



Rotor® adjustment
QUARTZ UP IV - QUARTZ UP III

Article	Colours	Description	Sizes	Standard		
QUARTZ UP IV	Green	Ventilated UV-resistant high density polypropylene (PP) safety helmet. Polyamide cradle: 3 textile bands with 8 fixing points. Foam sweat band. Innovative adjustable ROTOR® system: head sizes 53/63 cm. 2 possible positions of the headband (high/low) for better comfort.	Adjustable	 EN397 MM +50°C -30°C	322 g	x 40
	Orange					
	White					
	Blue					
	Yellow					
	Red					



QUARTZ UP III



Article	Colours	Description	Sizes	Standard		
QUARTZ UP III	Red	UV-resistant high density polypropylene (PP) safety helmet. Polyamide harness: 3 textile bands with 8 fixing points. Foam sweat band. Innovative adjustable ROTOR® system: head sizes 53/63 cm. 2 possible positions of the headband (high/low) for better comfort. Electrical Insulation up to 1 000 V.A.C. or 1 500 V.D.C.	Adjustable	 EN397 MM +50°C -30°C 440VAC EN50365 CLASS 0	322 g	x 40
	Green					
	White					
	Blue					
	Yellow					
	Orange					

FORESTIER 2



Storage bag included

Article	Colours	Description	Sizes	Standard		
FORESTIER 2	Orange	Forester's type helmet consisting of: QUARTZ UP III safety helmet: UV-resistant high density polypropylene. Polyamide cradle: 3 textile bands with 8 fixing points. SUZUKA2 ear defenders. VISOR HOLDER faceshield holder. VISORG gauze visor. Plastic shell packaging.	Adjustable	 EN397 MM +50°C -30°C 440VAC EN50365 CLASS 0 EN1731 FF EN352-3 SNR 27 dB H29 M 25 L 18	900 g	x 10

SKULL PROTECTION

Safety helmets

Article	Colours	Description	Sizes	Standard		
QUARTZ I 	White	Ventilated UV-resistant high density polypropylene (PP) safety helmet. Polyethylene Harness: 8 fixing points. Sweat band. Manual adjustment: head sizes 53/63 cm. 2 possible positions of the headband (high/low) for better comfort. Helmet with adjustable ventilation.	Adjustable	 EN397 +50°C -10°C	346 g	x 40
	Blue					
	Yellow 	  				
ZIRCON I 	Green	UV-resistant high density polyethylene (HDPE) safety helmet. Low density (LDPE) polyethylene harness with 8 fixing points. Sweat band. Manual adjustment: head sizes 53/63 cm. Electrical Insulation up to 1 000 V.A.C. or 1 500 V.D.C. Standard holes for accessories. Anchorage for chin straps with 2 or 4 points.	Adjustable	 EN397 +50°C -10°C 440VAC EN50365 CLASS 0	370 g	x 40
	White					
	Blue					
	Grey 					
	Yellow					
	Orange 					
	Red	  				
WINTER CAP 	Black	Lining placed inside the helmet. Accessory for extreme cold protection, easy to remove. User instructions included. Suitable for our range of helmets. This is not PPE.	Adjustable			x 40
		 				
FUEGO 	Clear	Clear polycarbonate single lens glasses to use as an accessory for safety helmet. Wraparound design for maximum protection. Folding system in the helmet when it is not use, for intermittent use. Very convenient. Branches foldable for easy positioning in the helmet. Suitable for our range of safety helmet. Adjustable arms		 EN166 1 FT / FT EN170 UV 2C-1.2	35 g	x 100
		   				

SKULL PROTECTION

Helmets accessories - Marking



Article	Colours	Description	Sizes	
JUGGAMMA	Black	Bag of 5 chin straps with 3 fixing points. Safety-breaking system. Suitable for GRANITE PEAK and GRANITE WIND safety helmets.	Adjustable	x 20



BASGAMMA	Black	Bag of 5 thermoformed sweat bands for GRANITE PEAK & WIND, BASEBALL DIAMOND, SUPER QUARTZ and QUARTZ UP safety helmets.		x 20
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Article	Colours	Description	Sizes	
DYNAMIC JUGALPHA	Black	Bag of 10 chin straps. 4 fixing points for work at height. Safety-breaking system. Suitable for ZIRCON, QUARTZ, QUARTZ UP, SUPER QUARTZ and BASEBALL DIAMOND safety helmets.	Adjustable	x 20



Article	Colours	Description	Sizes	
MENTALPHA	Black	Bag of 10 elastic chin straps with chin protector. Safety-breaking system. Suitable for ZIRCON, QUARTZ, QUARTZ UP, SUPER QUARTZ and BASEBALL DIAMOND safety helmets.	Adjustable	x 20



JUGALPHA	Black	Bag of 10 chin straps. Safety-breaking system. Suitable for ZIRCON, QUARTZ, QUARTZ UP, SUPER QUARTZ and BASEBALL DIAMOND safety helmets.	Adjustable	x 20
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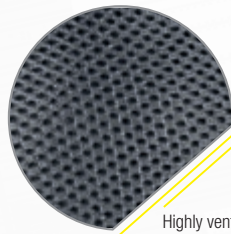
BASALPHA	Black	Bag of 10 foam sweat bands for all our safety helmets.		x 20
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SKULL PROTECTION

Bump cap

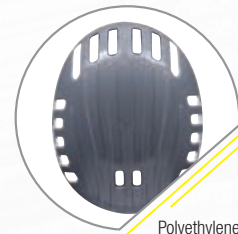
AIR COLTAN



Highly ventilated Mesh fabric



Bi-material



Polyethylene shell with 18 holes



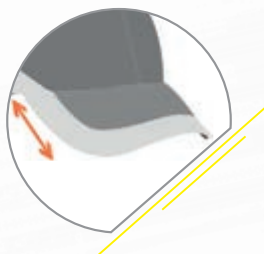
4 versions of colour matching the range of MACH 2 CORPORATE - PANOSTYLE HV - DMACH clothing



COLTAAIJAF - 7 cm



Rear adjustment



COLTAIGRMI - 3 cm
COLTAAIGR - 7 cm



COLTAAINOMI - 3 cm
COLTAAINOSH - 5 cm
COLTAAINOLG - 7 cm



COLTAAIBMSH - 5 cm
COLTAAIBM - 7 cm

COLTAN



COLTABMMI - 3 cm
COLTABMSH - 5 cm
COLTABL - 7 cm



Article	Colours	Description	Sizes	Standard		
AIR COLTAN	Fluorescent yellow-Grey	Impact resistant baseball style bump cap. Highly ventilated polyester/Cotton with mesh fabric. Lined with polyethylene and comfortable EVA foam shell to absorb shocks. Adjustable size by buckle 55/62 cm.	Adjustable	EN812	200 g	x 20
	Light grey-Dark grey					
	Black-Red					
	Navy blue-Black					
COLTAN	Navy blue				210 g	



AIR COLTAN
☎ 36

DMACHVES
☎ 119

HEARING PROTECTION

Ear defenders

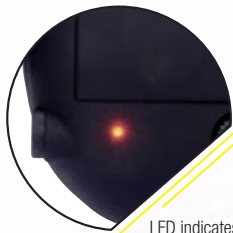
PIT-STOP



Electric wireless external



6 AAA batteries not included



LED indicates activated system



Article	Colours	Description	Sizes	Standard		
PIT-STOP	Black	Foldable electronic ear defenders with ABS cups, in a matte finish. Pads filled with synthetic foam. Coolmax® headband for extra comfort, adjustable in height. ON/OFF and volume switch button on each cup, for right/left use separately. 2 omni directional microphones outside, connected to 2 loudspeakers inside the cups. Hunting system: amplification of voices and alarm signals to avoid the risk of insulation on the job. System of amplification shuts off automatically and reverts to passive ear defender mode, in the case of impulsive noise which reaches 80/82 dB: protection against hazardous noises. Requires 6 batteries AAA, not included.	Adjustable	EN352-1 SNR 26 dB H 30 M 23 L 16	286 g	x 20



YAS MARINA



Foldable: reduced encumbrance



Tool to carry eardefenders on the belt included
INTERLAGOS - YAS MARINA



Double headband for more flexibility
Metal reinforcement for strength



Article	Colours	Description	Sizes	Standard		
YAS MARINA	Grey-Orange	Foldable ear defenders with ABS cups. Pads filled with synthetic foam. Double plastic headband (POM), adjustable in height, with metallic insert and soft, ventilated reinforcement for a better comfort.	Adjustable	CE EN352-1 SNR 32 dB H 33 M 31 L 25	312 g	x 20

SILVERSTONE 2



Without headband: Easy to wear with all helmets and bum caps



Article	Colours	Description	Sizes	Standard		
SILVERSTONE 2	Fluorescent yellow	Ear defenders for wearing around the neck. Metal arch and ABS cups, padded with synthetic foam.	Adjustable	CE EN352-1 SNR 30 dB H 32 M 28 L 21	240 g	x 20

HEARING PROTECTION

Ear defenders

INTERLAGOS



HV colour



Double headband for more flexibility
Metal reinforcement for strength



Tool to carry eardefenders on the belt
included
INTERLAGOS - YAS MARINA

Article	Colours	Description	Sizes	Standard		
INTERLAGOS	Grey Fluorescent yellow	Ear defenders with ABS cups. Pads filled with synthetic foam. Double plastic headband (POM), adjustable in height, with metallic insert and soft, ventilated reinforcement for a better comfort.	Adjustable	EN352-1 SNR 33 dB H 33 M 31 L 25	303 g	x 20



INTERLAGOS
🔋 40

FUJI2 CLEAR
🔋 12

DMACHVES
🔋 119

HEARING PROTECTION

Ear defenders

MAGNY-COURS



Colours matching BEIGE
MACH 2 CORPORATE range

Article	Colours	Description	Standard		
MAGNY-COURS	Beige-Black	Ear defenders with ABS cups. Pads filled with synthetic foam. Metallic headgear: internal/textile EVA, internal/PVC material. Adjustable in height. High performance level due to the multi layer technology with AIR ROOM inside the cups.	EN352-1 SNR 32 dB H 34 M 29 L 23	338 g	x 20

MAGNY HELMET



Suitable for all our safety helmets



Colours matching GREY
MACH 2 CORPORATE range

Article	Colours	Description	Standard		
MAGNY HELMET	Grey	Ear defenders for safety helmets. Adjustable in height. Metallic arms and ABS cups padded with synthetic foam. Can be used on their own or with «VISOR HOLDER» faceshield holder. Suitable for ZIRCON, QUARTZ, GRANITE and BASEBALL DIAMOND safety helmets.	EN352-3 SNR 32 dB H 34 M 31 L 23	286 g	x 20

HEARING PROTECTION

Ear defenders



Article	Colours	Description	Sizes	Standard		
SEPANG 2	Orange	Ear defenders with ABS and synthetic foam cups. Polycarbonate headband, adjustable in height, padded and flexible.			212 g	x 50

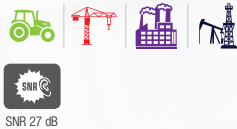


EN352-1
SNR 29 dB
H 31 M 29 L 19

Article	Colours	Description	Sizes	Standard		
SUZUKA 2	Fluorescent yellow	Ear defenders for safety helmets. Adjustable in height. High flexibility ABS arms and cups. Cups padded with synthetic foam. Can be used on their own or with «VISOR HOLDER» faceshield holder. Suitable for GRANITE, SUPER QUARTZ, QUARTZ, ZIRCON and BASEBALL DIAMOND safety helmets.	Adjustable		257 g	x 20



Black



EN352-3
SNR 27 dB
H 29 M 25 L 18

SPA 3	Blue-Black	Ear defenders with polystyrene (PS) and synthetic foam cups. ABS headband, adjustable in height. Low pressure pads.	Adjustable		158 g	x 50
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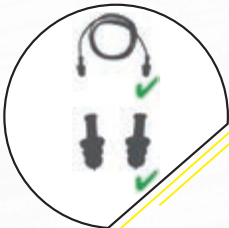


EN352-1
SNR 28 dB
H 30 M 27 L 17

HEARING PROTECTION

Disposable earplugs

CONICFIR050



x 50

Article	Colours	Description	Standard	
CONICFIR050	Navy blue-Orange	Box of 50 pairs of reusable TPR earplugs with fabric cord.	ANSI S3.19 NRR 25 dB EN352-2 SNR 29 dB H 27 M 24 L 24	x 20

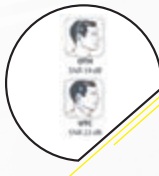
CONICMOVE01



SNR 19 dB / 22 dB

Ergonomic and stable headband

Earplugs can move on the headband



CONICMOVE01BR



Round earplugs very comfortable



Article	Colours	Description	Standard	
CONICMOVE01	Blue-Green	PU earplugs with headband in polypropylene which can be worn under the chin. Ideal for intermittent or occasional wear.	EN352-2 SNR 19 dB O-T-H / 22 dB U-T-C H 0-T-H 22 / U-T-C 25 M 0-T-H 15 / U-T-C 19 L 0-T-H 13 / U-T-C 17	x 100
CONICMOVE01BR	Green	Bag of 10 pairs of spare earplugs for CONICMOVE01.		x 200

HEARING PROTECTION



Article	Colours	Description	Standard	
REUSABLE EARPLUGS				
CONICAP01	Blue-Green	PU earplugs with headband in polypropylene which can be worn under the chin. Ideal for intermittent or occasional wear.	CE ANSI S3.19 NRR 22 dB EN352-2 SNR 24 dB H 25 M 20 L 19	x 200
		  SNR 24 dB		
CONICAP01BR	Green	Bag of 10 pairs of spare earplugs for CONICAP01.		x 200
		  SNR 24 dB		
Article	Colours	Description	Standard	
DISPOSABLE EARPLUGS				
CONICCO200	Yellow	Dispenser box of 200 pairs disposable polyurethane earplugs with plastic cord. Ø 12mm. Individual plastic bag of 2 earplugs.	CE ANSI S3.19 NRR 32 dB EN352-2 SNR 37 dB H 36 M 34 L 33	x 5
		   SNR 37 dB		
CONIC200	Yellow	Dispenser box of 200 pairs disposable polyurethane earplugs. Ø 12 mm. Individual plastic bag of 2 earplugs.	CE ANSI S3.19 NRR 32 dB EN352-2 SNR 37 dB H 36 M 34 L 33	x 5
		    SNR 37 dB		
CONIC500	Yellow	Box of 500 pairs disposable polyurethane earplugs. Ø 12 mm. Refill unit for CONICDISPLAY.	CE ANSI S3.19 NRR 32 dB EN352-2 SNR 37 dB H 36 M 34 L 33	x 5
		    SNR 37 dB		
CONIC DISPLAY	Grey	Dispenser for earplugs including a refill of 500 pairs of CONIC500 earplugs. Can be fixed on the wall or lay	CE ANSI S3.19 NRR 32dB EN352-2 SNR 37 dB H 36 M 34 L 33	x 4
		  SNR 37 dB		

RESPIRATORY PROTECTION

Disposable respiratory

SPIDER MASK



SPIDERMASK P3 X5



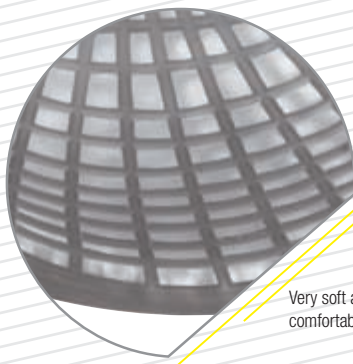
SPIDERMASK P2 X5



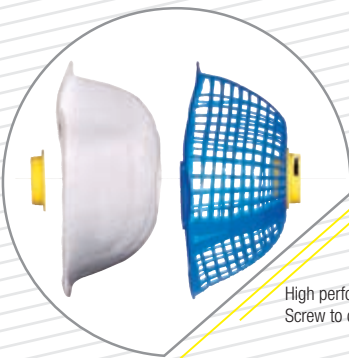
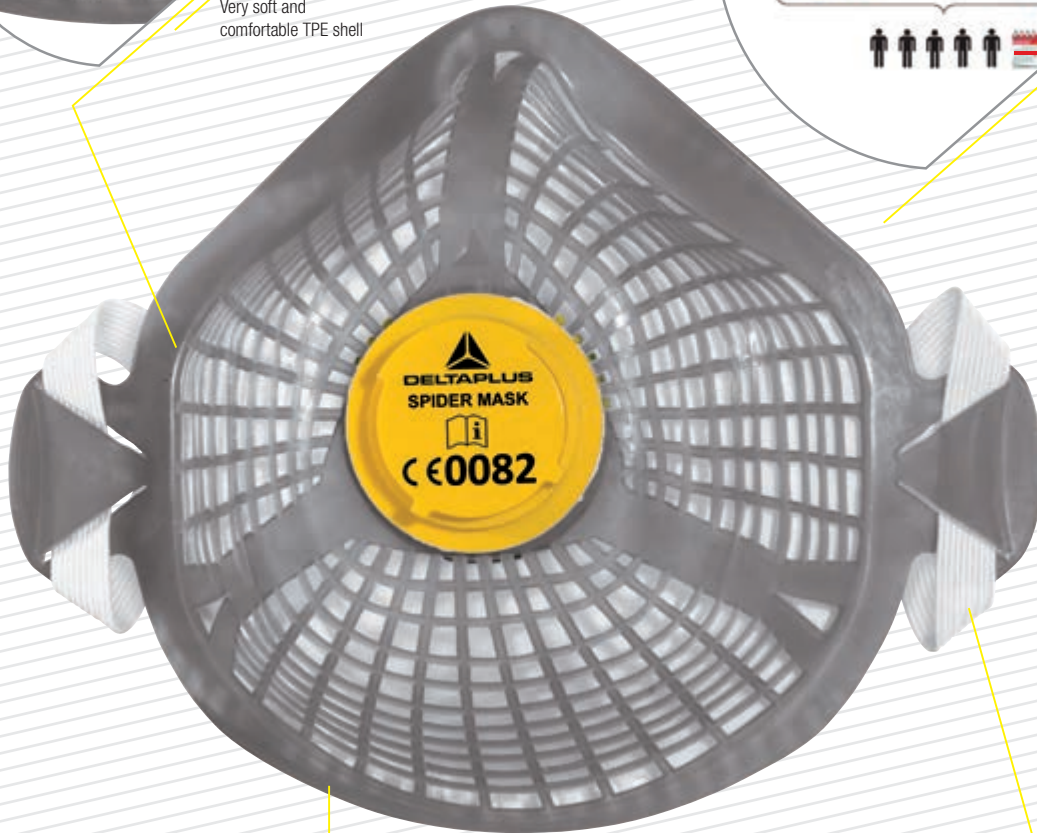
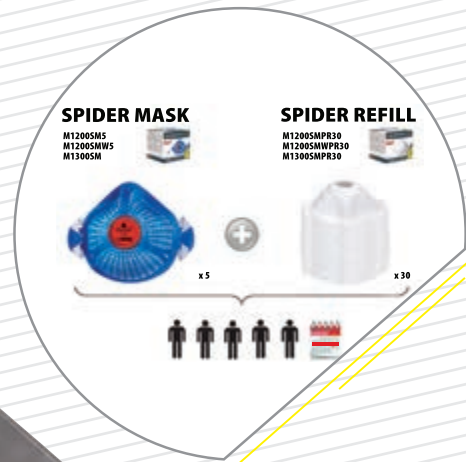
SPIDERMASK P2W X5



Article	Colours	Description	Sizes	Standard	
SPIDERMASK P3 X5	Blue	Box of 5 reusable FFP3 dust mask. 5 Reusable moulded mask shells in TPE. Replaceable non woven synthetic fibre disposable filter (SPIDERREFILL FFP3). High performance valve which unscrews to allow the user to change the mask filter. Adjustable straps. Back fixing with clip.			
SPIDERMASK P2 X5	Blue	Box of 5 reusable FFP2 dust mask. 5 Reusable moulded mask shells in TPE. Replaceable non woven synthetic fibre disposable filter (SPIDERREFILL FFP2). High performance valve which unscrews to allow the user to change the mask filter. Adjustable straps. Back fixing with clip.	Adjustable	CE EN149	x 10
SPIDERMASK P2W X5	Grey	Box of 5 reusable FFP2W dust mask. 5 Reusable moulded mask shells in TPE. Active carbon non woven synthetic fibre disposable masks for organic vapours (for concentration < VME), replaceable. High performance valve which unscrews to allow the user to change the mask filter (SPIDERREFILL FFP2W). Adjustable straps. Back fastening with clip.			
SPIDER REFILL FFP2	White	Box of 30 pieces of non woven synthetic fibre disposable masks FFP2 protection. Spare parts for SPIDER MASK.			
SPIDER REFILL FFP3	White	Box of 30 pieces of non woven synthetic fibre disposable masks FFP3 protection. Spare parts for SPIDER MASK.			x 30
SPIDER REFILL FFP2W	Grey	Box of 30 pieces of non woven synthetic fibre disposable masks FFP2W protection, organic vapours, active carbon. Spare parts for SPIDER MASK.			



Very soft and comfortable TPE shell



High performance exhalation valve
Screw to change the filtering masks



Rear fastening with clip and soft elastic: Easy to put on and

SPIDER REFILL FFP2



SPIDER REFILL FFP3



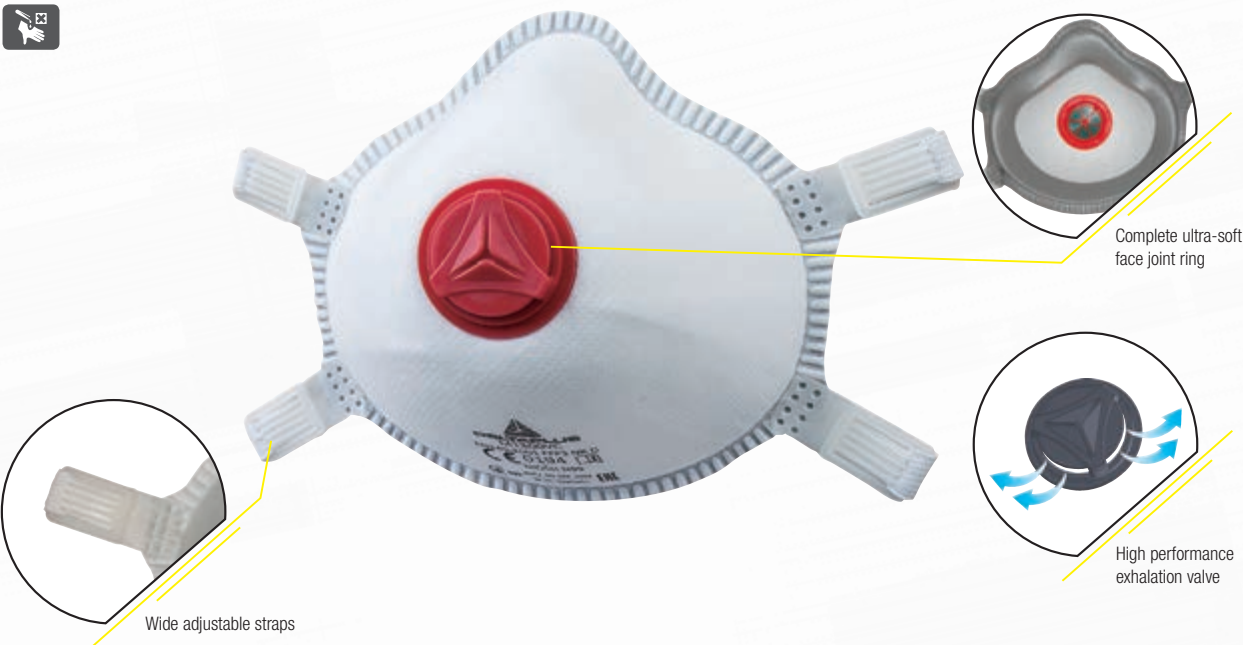
SPIDER REFILL FFP2W



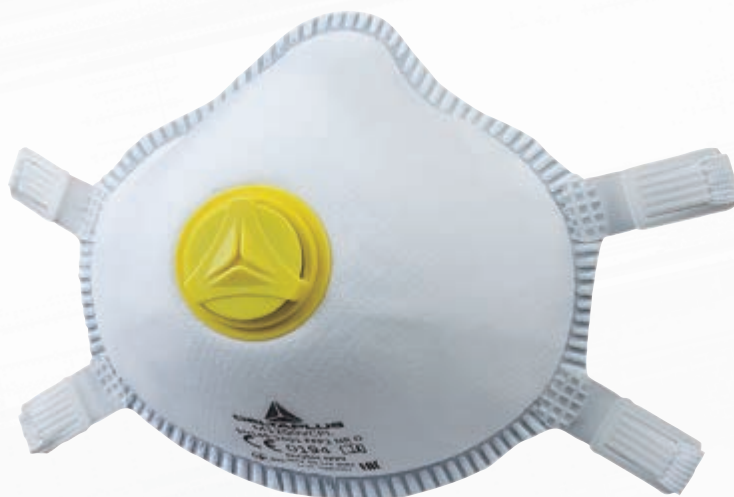
RESPIRATORY PROTECTION

Disposable respiratory

M1300V



M1200VPLUS



Article	Colours	Description	Standard	
M1300V	White	Box of 5 non woven synthetic fibre disposable masks FFP3. Wide adjustable straps. Moulded mask. Nose clip for adjustment. Complete ultra-soft face joint ring. High performance exhalation valve.	EN149 NIOSH N99	x 10
M1200VPLUS		Box of 5 non woven synthetic fibre disposable masks FFP2. Wide adjustable straps. Moulded mask. Nose clip for adjustment. Complete ultra-soft face joint ring. High performance exhalation valve.		

RESPIRATORY PROTECTION

Disposable respiratory



Article	Colours	Description	Standard	
M1300V2	White	Box of 10 non woven synthetic fibre disposable masks FFP3. Moulded mask. Nose clip for adjustment. EVA edge for extra comfort under nose clip. High performance exhalation valve. DOLOMIA optional test for longer continuous wear time.	CE EN149	x 10
		    		
M1200V	White	Box of 10 non woven synthetic fibre disposable masks FFP2. Moulded mask. Nose clip for adjustment. Foam edge under nose clip. High performance exhalation valve. DOLOMIA optional test for longer continuous wear time.	CE EN149 NIOSH N95	x 10
		    		
M1200VW	White	Box of 10 active charcoal non woven synthetic fibre disposable masks FFP2 for organic vapours (for concentration < VME). Moulded mask. Nose clip for adjustment. Foam edge under nose clip. High performance exhalation valve. Hygienic individual plastic bag. DOLOMIA optional test for longer continuous wear time.	CE EN149 NIOSH N95	x 10
		     		
M1100V	White	Box of 10 non woven synthetic fibre disposable masks FFP1. Moulded mask. Nose clip for adjustment. Foam edge under nose clip. High performance exhalation valve. DOLOMIA optional test for longer continuous wear time.	CE EN149	x 10
		     		
M1200	White	Box of 20 non woven synthetic fibre disposable masks FFP2. Moulded mask. Nose clip for adjustment. Foam edge under nose clip. DOLOMIA optional test for longer continuous wear time.	CE EN149 NIOSH N95	x 10
		   		
M1100	White	Box of 20 non woven synthetic fibre disposable masks FFP1. Moulded mask. Nose clip for adjustment. Foam edge under nose clip. DOLOMIA optional test for longer continuous wear time.	CE EN149	x 10
		   		
M1300VB	White	Box of 10 non woven synthetic fibre disposable masks FFP3. Nose clip for adjustment. High performance exhalation valve. Hygienic individual plastic bag.	CE EN149	x 10
		      		
M1200VB	White	Box of 10 non woven synthetic fibre disposable masks FFP2. Nose clip for adjustment. High performance exhalation valve. Hygienic individual plastic bag. DOLOMIA optional test for longer continuous wear time.	CE EN149 NIOSH N95	x 10
		       		
M1195B	White	Box of 30 non woven synthetic fibre disposable masks FFP1. Nose clip for adjustment. Foam edge under nose clip. DOLOMIA optional test for longer continuous wear time.	CE EN149 NIOSH N95	x 10
		     		

RESPIRATORY PROTECTION

Reusable respiratory

GALAXY



M9200 - ROTOR GALAXY



M9300 - STRAP GALAXY



Article	Colours	Description	Sizes	Standard
M9200 - ROTOR GALAXY	Black-Orange	Silicone full face mask with innovative ROTOR® system adjustment (patented), one-hand use even when wearing gloves. Wide polycarbonate screen (210°). Inside silicone half-mask to reduce mist and increased comfort (3 inhalation valves, an exhalation valve, phonic system). Adjustable sizes: S, M, L. Compatible with EN148-1 type cartridges as M9000 and M8000 range, sold separately. Storage bag included.	Adjustable	CE EN136
M9300 - STRAP GALAXY		Silicone full face mask with strap adjustment. Wide polycarbonate screen (210°). Inside silicone half-mask to reduce mist and increased comfort (3 inhalation valves, an exhalation valve, phonic system). Adjustable size. Shoulder strap to hold the mask when not in use. Compatible with EN148-1 type cartridges M9000 and M8000 range, sold separately. Storage bag included		



x 6



Article	Colours	Description	Standard	
M9000 A2	Black	Kit of 4 A2 filtering cartridges for M9200 ROTOR GALAXY, M9300 STRAP GALAXY full face masks.	CE EN148-1 EN14387 A2	x 10
		  		
M9000 A2B2E2K2	Black	Kit of 4 A2B2E2K2 filtering cartridges for M9200 ROTOR GALAXY, M9300 STRAP GALAXY full face masks.	CE EN148-1 EN14387 A2B2E2K2	x 10
		 		
M9000A2B2E2K2P3	Black	Kit of 4 A2B2E2K2P3 filtering cartridges for M9200 ROTOR GALAXY, M9300 STRAP GALAXY full face masks.	CE EN148-1 EN14387 A2B2E2K2P3	x 10
		   		
M9000 A2P3	Black	Kit of 4 A2P3 filtering cartridges for M9200 ROTOR GALAXY, M9300 STRAP GALAXY full face masks.	CE EN148-1 EN14387 A2P3R	x 10
		   		
M9000 P3	Black	Kit of 4 P3R filtering cartridges for M9200 ROTOR GALAXY, M9300 STRAP GALAXY full face masks.	CE EN148-1 EN143 P3R	x 10
		   		

RESPIRATORY PROTECTION

Reusable respiratory

M6300 JUPITER



M6400 JUPITER



Article	Colours	Description	Sizes	Standard	
M6300 JUPITER	Black-Grey	Comfort half mask mono-filter: Half mask body in polypropylene (PP) - Thermoplastic (TPE) overmould. Elastic straps. To be used with 1 filter cartridge, M6000 series, sold separately. Shell packaging.	One size	EN140	x 25
M6400 JUPITER		Comfort half mask bi-filter: Half mask body in polypropylene (PP) - Thermoplastic (TPE) overmould. Elastic straps. To be used with 2 filter cartridges, M6000 series, sold separately. Shell packaging.			

M6100 JUPITER



M6200 JUPITER



Bayonet attachment
M6100 - M6200

Article	Colours	Description	Sizes	Standard	
M6100 JUPITER	Blue	Comfort half mask in tri-material: Half mask body in Thermo-plastic Elastomer (TPE) - Support for cartridge anchorage in polyethylene HD (HDPE) - Valve protective housing in polypropylene (PP). Elastic straps. To be used with 1 filter cartridges, M6000P3, M6000PREP3 or M6000A1, sold separately.	Adjustable	EN140	x 15
M6200 JUPITER		Comfort half mask in tri-material: Half mask body in Thermo-plastic Elastomer (TPE) - Support for cartridge anchorage in polyethylene HD (HDPE) - Valve protective housing in polypropylene (PP). Elastic straps. To be used with 2 filter cartridges, M6000 series, sold separately.			



Article	Colours	Description	Sizes	Standard	
M6000 A1	Grey	Pack of 2 A1 filtering cartridges for M6200-JUPITER half-mask and M6100-JUPITER half mask.		CE EN14387 A1	x 30
  					
M6000 A2	Grey	Pack of 2 A2 filtering cartridges for M6200-JUPITER half-mask.		CE EN14387 A2	x 30
  					
M6000 A1B1E1K1	Grey	Pack of 2 A1B1E1K1 filter cartridges for M6200-JUPITER half-mask.		CE EN14387 A1B1E1K1	x 30
  					
M6000 PREP3	Grey	Set of 2 P3 pre-filters and 2 adapters for M6200-JUPITER half-mask and M6100-JUPITER half mask. To use with A1, A2 or A1B1E1K1 filters.		CE EN143 P3R	x 30
  					
M6000 P2	Grey	Pack of 2 P2 filter cartridges for M6200-JUPITER half-mask and M6100-JUPITER half mask.		CE EN143 P2R	x 30
  					
M6000 P2 CLIP	Grey	Set of 2 P2 filter cartridges for M6200-JUPITER and M6100-JUPITER half masks + 20 spare disposable filters.		CE EN143 P2NR	x 30
  					
M6000 P3	Grey	Pack of 2 P3 filter cartridges for M6200-JUPITER half-mask and M6100-JUPITER half mask.		CE EN143 P3R	x 30
  					

HAND PROTECTION

TO FIND THE SUITABLE PRODUCT FOR YOUR JOB

	AGRICULTURE/ GREEN AREAS	CONSTRUCTION	CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
PREMIUM												VENICUT50	60
												VENICUT52	60
												VENICUT55	61
												VENICUT5M	61
												EOS NOCUT VV910	68
												EOS VV900	69
												EOS OBM VV911	70
												NYSOS VV904	72
												HERCULE VV750	73
												APOLLON VV733	74
												PETRO VE766	80
												TER250	96
												TERK400	96
												VENICUT41	62
												VENICUT42	62
												VE702	64
EVOLUTION												VE702GR	64
												VE726	66
												VE727	66
												VE713	66
												VE7300R	75
												VENIZETTE VE920	78
												BASF PVCC400	79
												PETRO VE760	82
												PETRO VE780	82
												TOUTRAVO VE511	84
												TOUTRAVO VE509	86
												NITREX VE803	87
												NITREX VE802	88
												NITREX VE840	88
												VENITACTYL V1400B100	90
												KPG10	95

	AGRICULTURE/ GREEN AREAS	CONSTRUCTION	CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
ESSENTIAL												VENICUT43G3	63
												VENICUT44G3	63
												VENICUT58G3	63
												VE702P	65
												VE702PG	65
												VE712GR	67
												VE715	67
												VE722	67
												VE630	76
												VE799	76
												NI015	77
												NI150	77
												NI155	77
												NI170	77
												NI175	77
												PVC7327	83
												PVC7335	83
												NITREX VE801	89
												DUOCOLOR VE330	89
												ZEPHIR VE210	89
												VENITACTYL V1310	91
												VENITACTYL V1371	91
												FBN49	92
												FCN29	92
												FP159	92
												DC103	94
												DR605	94
												DS202RP	94
											CA515R	98	
											CA615K	98	
											TC716	98	
											TP169	99	
											CP149	99	



Supported or Not supported ?

► SUPPORTED: WHAT TYPE OF SUPPORT ?

- **Cotton: Natural fibre**
Exceptional comfort - Excellent capacity to absorb moisture - Insulating properties.
- **Polyamide: Synthetic fibre, also called Nylon**
Resistance to traction and abrasion - Elasticity and shape memory - Washable.
- **Polyester: Synthetic fibre**
Resistance to traction and abrasion - Possibility to blend with cotton to enhance comfort.
- **Kevlar®: Para-aramid fibre**
Heat and Cut Resistance - Carbonised between 425° and 475° - Self extinguishing - Softness and high dexterity - Washable.
- **Taeki®: Synthetic High-strength polyethylene fibre**
Exceptional mechanical properties (abrasion and cut resistance) - Softness and high dexterity - Washable.
- **Econocut®: High performance polyethylene fibre (Light version)**
Good mechanical properties - Combines resistance (abrasion, cut) and very good price/quality ratio.

► NON- SUPPORTED :

The mould is dipped directly into the material bath. Thus, the glove is very supple and allows high dexterity.

Different types of non supported gloves :

- **Flocked** (finished with a deposit of cotton particles) : Pleasant to the touch, limits transpiration and facilitates donning and removal.
- **Chlorinated** (finished by washing the glove in chlorinated water) : Gives a velvety touch and limits the effects of latex protein allergies.

Different types of disposable glove :

- **Powdered** (finished with a deposit of powder) : Pleasant to the touch, limits transpiration and facilitates donning and removal.
- **Non powdered** (finished by washing the glove in chlorinated water) : Gives a velvety touch and limits the effects of latex protein allergies.



PLUS : How to identify sizes ?

Implementation of a colour-coding system for High-Tech gloves and some leather gloves: Uniform sizes for easy identification.

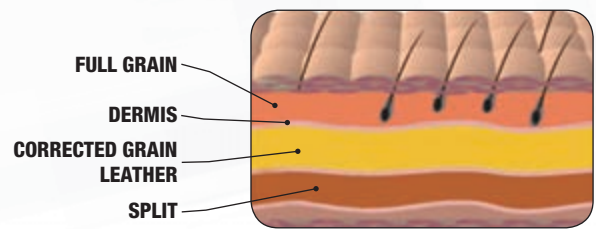
6	7	8	9	10	11	12
Red	Yellow	Brown	Black	Blue	Grey	Green

HAND PROTECTION

LEATHER GLOVES

Grain or Split ?

- **Full grain leather:** External part.
Advantages: dexterity, comfort and touch accuracy.
- **Split leather:** Internal part.
Advantages : greater resistance to abrasion, suitable for heavy-duty work.



Which type of leather ?

- **Cowhide**
Full grain or Split : Suppleness, dexterity and good resistance to abrasion and tearing.
- **Pigskin**
Full grain and split : Highly breathable thanks to its porous structure.
Softer and more supple in damp working conditions.



- **Goatskin**
Full grain only : Very highly supple, used for delicate applications, can have good resistance to abrasion depending on the thickness used.
- **Lambskin**
Full grain only : Suppleness and dexterity.

SYNTHETIC GLOVES

	LATEX	NITRILE	NEOPRENE	PVC	POLYURETHANE
 Strengths	• Supple, elastic, impermeable to water • Good mechanical Resistances (perforation and cutting) • Good cold protection	• Very good resistances to abrasion, to perforation and not sensitive to heat • Repels oil and grease • Suitable for some chemical products	• Very good resistances to abrasion and to heat • Repels oil, grease and hydrocarbons • Suitable for aggressive chemical environments	• Good mechanical resistance and to cold • Repels acids and hydrocarbons • Suitable for aggressive chemical environments	• ALWAYS SUPPORTED • Good resistance to abrasion and to tearing • Micro porous and highly elastic • High sensitivity
Elasticity/Flexibility	👉👉👉	👉👉	👉👉	👉	👉👉
Abrasion	👉	👉👉👉	👉👉👉	👉👉	👉👉👉
Acids	👉👉	-	👉👉👉	👉👉👉	👉
Bases (Lime, Sodium hydroxide)	👉👉👉	👉👉	👉👉👉	👉👉	👉
Oils/Grease	-	👉👉👉	👉👉👉	👉👉	👉
Hydrocarbons	-	👉👉	👉👉👉	👉👉👉	👉
Aromatic solvents (styrene...)	-	👉👉👉	-	-	-
Ketone solvents	👉👉	-	👉👉👉	-	-
Acetates (degreasing agents)	-	👉👉	👉	👉	-
 Precautions for use TO AVOID	Petroleum products, oil, grease and acids	Ketones, acids, alcohols	Chloride solvents	Ketones and aromatic/ chloride solvents	Chemical products

- Not recommended 👉 Average 👉👉 Good 👉👉👉 Very good

CUT RESISTANT GLOVES

Full range

HAZARD LEVEL - USE INTENSITY

1

2

3

4

5



TAEKI® 5



VENICUT52

VENICUT55

VENICUT50

VENICUT5M

TAEKI® S



VENICUT41

VENICUT42

ECONOCUT®



VENICUT43

VENICUT44

VENICUT58

The fibres

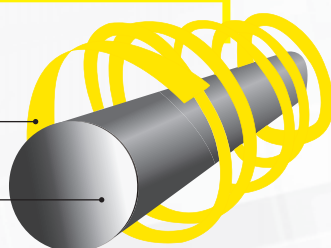
TAEKI® 5

Level 5 cut resistance



Para-aramid

High performance polyethylene fibre



For maximum safety and a good contact-heat protection

Maximum **cut** resistance.

High level of abrasion resistance.

Heat resistance **up to 100°C**.

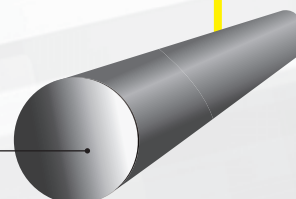
(until 250°C for VENICUT50 and VENICUT52).

TAEKI® S

Level 4 cut resistance



High performance polyethylene fibre



To combine safety and comfort

Excellent **cut** resistance.

Maximum **abrasion** performance.

Soft fibre: High level of **comfort**.

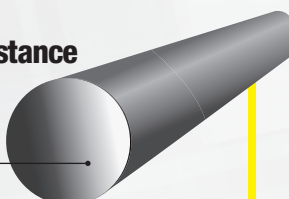
Gauge 13: High level of **dexterity**.

ECONOCUT®

Level 4 and 5 cut resistance



High performance polyethylene fibre



To combine safety and attractive price

Excellent cut resistance.

Good abrasion performance.

Economical fibre: good price.

Gauge 13: high level of **dexterity**.

HIGH-TECH GLOVES

Handling of sharp-edged objects

CUT RESISTANCE LEVEL 5 - TAEKI® 5

VENICUT50



TAEKI® 5 high performance polyethylene:

- Excellent cut resistance
- Maximum abrasion performance
- Heat resistance up to 250°C

Split leather :

- Very good abrasion resistance
- Ideal for heavy work



Reinforced thumb crotch



Article	Colours	Description	Sizes	Standard	
VENICUT50	Yellow-Grey	TAEKI® 5 High performance polyethylene fibre. Cowhide on palm and fingertips. Gauge 10.	09 / 10	CE EN388 4 5 4 3	x 60

VENICUT52



TAEKI® 5 high performance polyethylene:

- Excellent cut resistance
- Maximum abrasion performance
- Heat resistance up to 250°C

Latex coating :

- Good abrasion resistance
- Anti slip rough texture
- Excellent grip



Article	Colours	Description	Sizes	Standard	
VENICUT52	Yellow-Black	TAEKI® 5 High performance polyethylene fibre. Latex coating on palm and fingertips. Gauge 10.	07 / 08 / 09 / 10	CE EN388 4 5 4 2	x 60

VENICUT55



Food compatibility

- TAEKI® 5 high performance polyethylene:
- Excellent cut resistance
 - Maximum abrasion performance
 - Heat resistance up to 100°C



Article	Colours	Description	Sizes	Standard	
VENICUT55	Yellow-Grey	TAEKI® 5 High performance polyethylene fibre. Gauge 10.	07 / 09 / 10	CE EN388 3 5 4 X	EN407 X, 1, X, X, X, X x 120

VENICUT5M



Food compatibility

- TAEKI® 5 high performance polyethylene:
- Excellent cut resistance
 - Maximum abrasion performance
 - Heat resistance up to 100°C



45 cm

Article	Colours	Description	Sizes	Standard	
VENICUT5M	Yellow-Grey	TAEKI® 5 High performance polyethylene fibre. Knitted sleeve with thumbhole. Length 45 cm. Gauge 13.	One size	CE EN388 4 5 4 X	EN407 X, 1, X, X, X, X x 60

HIGH-TECH GLOVES

Handling of sharp-edged objects

CUT RESISTANCE LEVEL 5 & 4

VENICUT42



TAEKI® S:

- Maximum abrasion performance
- Excellent cut resistance
- Soft fibre: High level of comfort
- Gauge 13: High level of dexterity

PU coating :

- Flexibility and dexterity
- Silicone free :
- Limit the Environmental risks of manufacture



Article	Colours	Description	Sizes	Standard	
VENICUT42	Grey	TAEKI® S High performance polyethylene fibre. Polyurethane coating on Palm and fingertips. Gauge 13.	07 / 08 / 09 / 10	CE EN388 4442	x 60

VENICUT41

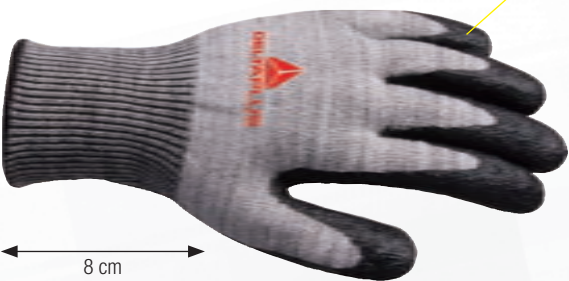


TAEKI® S:

- Maximum abrasion performance
- Excellent cut resistance
- Soft fibre: High level of comfort
- Gauge 13: High level of dexterity

Nitrile coating :

- Excellent grip and protection in greasy and oily environments
- Excellent mechanical performances



Article	Colours	Description	Sizes	Standard	
VENICUT41	Grey-Black	TAEKI® S High performance polyethylene fibre. Nitrile coating on Palm and fingertips. Gauge 13.	07 / 08 / 09 / 10	CE EN388 4444	x 60

HIGH-TECH GLOVES

Handling of sharp-edged objects

CUT RESISTANCE LEVEL 5 & 4

Article	Colours	Description	Sizes	Standard	
VENICUT58G3	Grey	ECONOCUT® high performance polyethylene fibre. Polyurethane coating on palm and fingertips. Elastic cuff 6 cm. Gauge 13.	07 / 08 / 09 / 10	CE EN388 4 5 4 3	 x 40



VENICUT44G3	Grey-Black	ECONOCUT® high performance polyethylene fibre. Polyurethane coating on palm and fingertips. Elastic cuff 6 cm. Gauge 13.	07 / 08 / 09 / 10	CE EN388 4 4 4 3	x 40
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VENICUT43G3	Grey-Black	ECONOCUT® high performance polyethylene fibre. Nitrile coating on palm and fingertips. Elastic cuff 6 cm. Gauge 13.	07 / 08 / 09 / 10	CE EN388 3 4 4 3	x 40
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HIGH-TECH GLOVES

Precision work

POLYURETHANE COATING

VE702GR



Silicone free



- Backing colour :
- Handling of soiled objects
- Seamless knit :
- More comfort



Article	Colours	Description	Sizes	Standard	
VE702GR	Grey	100% polyamide. Polyurethane coating on palm and fingertips. Gauge 13.	06 / 07 / 08 / 09 / 10	CE EN388 4131	x 240

VE702



Silicone free

Second skin effect



Article	Colours	Description	Sizes	Standard	
VE702	White	100% polyamide. Polyurethane coating on palm and fingertips. Gauge 13.	06 / 07 / 08 / 09 / 10	CE EN388 4131	x 240

HIGH-TECH GLOVES

Precision work

POLYURETHANE COATING

Article	Colours	Description	Sizes	Standard
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VE702PG

Grey 100% polyester. Polyurethane coating on palm and fingertips. Gauge 13.

06 / 07 / 08 / 09 / 10



x 240



VE702P

White 100% polyester. Polyurethane coating on palm and fingertips. Gauge 13.

06 / 07 / 08 / 09 / 10



x 240



HIGH-TECH GLOVES

Handling in oily environments

NITRILE COATING

VE727



Gauge 15:
• Provide super flexible feeling



Dots :
• Excellent grip
• Anti-slip

Article	Colours	Description	Sizes	Standard	
VE727	Grey-Black	100% polyamide Spandex. Nitrile/Polyurethane coating on palm and fingertips. Nitrile dots on palm. Gauge 15.	07 / 08 / 09 / 10	CE EN388 3 1 3 1	x 120

VE726



Gauge 15:
• Provide super flexible feeling

VE713



3/4 Nitrile coating :
• Increased protection of fingers
• Protection against oils
• Strength at joints
• Long lifespan

Double coating :
• A hardwearing nitrile layer
• A breathable nitrile layer
• Abrasion resistance
• Oils' protection
• Breathability

Article	Colours	Description	Sizes	Standard	
VE726	Grey-Black	100% polyamide Spandex. Nitrile/Polyurethane coating on palm and fingertips. Gauge 15.	07 / 08 / 09 / 10	CE EN388 3 1 3 1	x 120
VE713	Black	100% polyamide. Double nitrile coating on palm, fingers and half back. Gauge 13.		CE EN388 4 1 2 1	x 240

HIGH-TECH GLOVES

Handling in oily environments

NITRILE COATING

Article	Colours	Description	Sizes	Standard
VE722	Grey-Black	100% polyester. Foam nitrile coating on palm and fingertips. Gauge 13.	07 / 08 / 09 / 10	CE EN388 4 1 2 1



x 120



VE715	Black-Grey	100% polyester. 3/4 nitrile coating on palm and fingertips. Gauge 13.	07 / 08 / 09 / 10	CE EN388 4 1 2 1
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x 120



VE712GR	Black-Grey	100% polyester. Nitrile coating on palm and fingertips. Gauge 13.	07 / 08 / 09 / 10	CE EN388 4 1 2 1
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x 240



HIGH-TECH GLOVES

General handling

EOS NOCUT VV910



Very good resistance to abrasion and cutting

Double nitrile coating to work in oil environments:

- First smooth nitrile coating: Oil permeability
- Second foam nitrile coating: Good grip

Wash in cold water

Kevlar® thread for a longer durability of the glove



Available only with header card



Flexible reinforcements for better protection against impact and pinching.



Reinforcement between the thumb and index finger and on the palm



Protection of the metacarpals 5 J

8 cm cuff: safety and comfort

HDPE thread for a larger durability of the glove



Protection of the metacarpals about a force of 5 J
(One weight of 1 kg on a distance of 50 cm).
Tested under the European standard EN13594 6.8.2
(Hand's back test).

Article	Colours	Description	Sizes	Standard	
EOS NOCUT VV910	Yellow-Grey-Black	Cut resistance support with high performance polyethylene. Neoprene reinforcement on back and fingertips. Smooth nitrile coating/foam nitrile on palm and fingertips. Embossed inside reinforcement on palm. Kevlar® thread on all the seams.	08 / 09 / 10 / 11	CE EN388 4 5 4 3 EN1621-1	x 60

EOS VV900

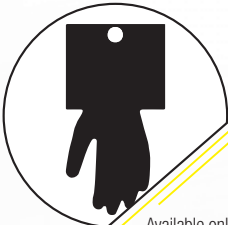


8 cm wrist in neopren: safe and comfort

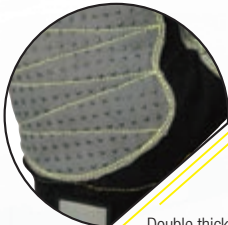
Tear release fastening: a perfect adjustment.
Limit the problems caused at the wrist during prolonged use

Wash in cold water
Yellow colour for better visibility

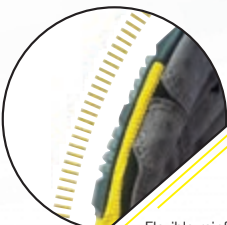
Very good abrasion



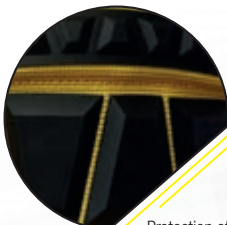
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Double thickness of polyamide/
polyurethane on palm with PVC
dots: antislip



Flexible reinforcements for
better impact and pinching
protection



Protection of the metacarpals
about a force of 2 J



Reinforcement between the
thumb and index finger and
on the palm



Identification badge
Belt clip



Protection of the metacarpals about a force of 2 J
(One weight of 1 kg on a distance of 20 cm).
Tested under the European standard EN13594 6.8.2
(Hand's back test).

Article	Colours	Description	Sizes	Standard
EOS VV900	Yellow-Grey-Black	Polyester/polyurethane back. PVC reinforcements. Polyamide/polyurethane palm with PVC dots. Kevlar® seams. 8 cm cuff in neoprene.	08 / 09 / 10 / 11 / 12	CE EN388 4233



x 60

HIGH-TECH GLOVES

General handling



EOS OBM VV911



Article	Colours	Description	Sizes	Standard
EOS OBM VV911	Blue-Yellow	Nitrile on cotton jersey lining. Double coating. Length: 40 cm.	08 / 09 / 10 / 11	EN388 3 1 1 2 EN1621-1



x 60

NITRILE ON COTTON JERSEY LINING:

- Protection against oils
 - Very good abrasion and cut resistance
 - Waterproof
- Sweat and moisture absorption

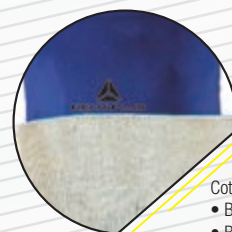


Flexible reinforcements for better impact and pinching protection



Protection of the metacarpals 5J

Full arm protection



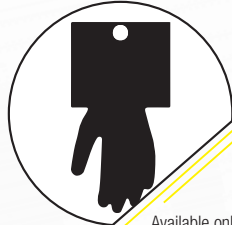
Cotton jersey lining :
• Better mechanical protection
• Better comfort all day
• Double coating

Protection of the metacarpals about a force of 5 J
(One weight of 1 kg on a distance of 50 cm). Tested
under the European standard EN13594 6.8.2
(Hand's back test).

General handling



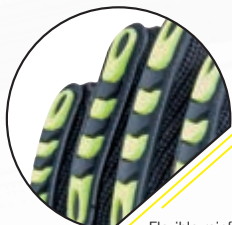
The support with its soft weave (seamless) makes it very comfortable for extended wear and allows good dexterity and grip



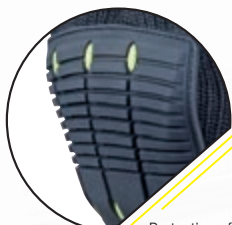
Available only with header card



Glove with single coating
reducing the effects from
impacts, shock and vibration



Flexible reinforcements for better protection against impact and pinching



Protection of the metacarpals 5 J



Anti-vibration and anti-impact



Protection of the metacarpals about a force of 5 J
(One weight of 1 kg on a distance of 50 cm).
Tested under the European standard EN13594 6.8.2
(Hand's back test).

Article	Colours	Description	Sizes	Standard	
NYSOS VW904	Yellow-Black	Polyester/Cotton. Palm and fingertips reinforced with Chloroprene rubber pads (0.8 cm thick). Neoprene back reinforcement. Gauge 7.	10 / 11	  EN388 4 1 4 2 EN ISO10819 EN1621-1	x 60

HIGH-TECH GLOVES

General handling

COLD PROTECTION

HERCULE VV750



Very good cold protection

- 3/4 Coating:
- Full protection of the fingers against cold and water
 - Long lifespan

- Scratch acrylic support:
- Cold protection
 - Scratching: Excellent comfort, keeps hands warm in cold conditions
- Polyamide support:
- High flexibility



Article	Colours	Description	Sizes	Standard
HERCULE VV750	Black	Inside: 100% acrylic gauge 7. Outside: 100% polyamide gauge 13. 3/4 foam nitrile coating on palm, fingers and half back.	09 / 10	 EN388 3 2 3 1   EN511 X 2 X



x 60

HIGH-TECH GLOVES

General handling

LATEX COATING

APOLLON VV733



Yellow flashy support :

- High Visibility

Foam Latex :

- Very soft coating, excellent dexterity
- Breathable coating, prevents perspiration build up



Article	Colours	Description	Sizes	Standard	
APOLLON VV733	Fluorescent yellow-Black	100% high quality polyester - Flashy Yellow color. Latex coating on palm and fingertips. Gauge 13.	07 / 08 / 09 / 10	CE 	x 120

HIGH-TECH GLOVES

General handling

LATEX COATING

VE730OR



Article	Colours	Description	Sizes	Standard
VE730OR	Yellow-orange	50% cotton 50% polyester. Rough latex coating on palm and fingertips. Gauge 10.	08 / 09 / 10	CE  EN388 2242



x 120

HIGH-TECH GLOVES

General handling

LATEX COATING

Article	Colours	Description	Sizes	Standard	
VE630	Grey-Black	100% polyester. Latex coating on palm and fingertips. Gauge 13.	07 / 08 / 09 / 10	CE EN388 3 1 2 1	 x 120
					
					
VE799	White	65% cotton 35% polyester. Transparent full coating in natural latex on full hand and laminated red latex on palm and fingertips. Gauge 10.	10	CE EN388 3 1 3 1	x 120
					
					

SYNTHETIC GLOVES

Heavy works

NITRILE ON JERSEY LINING

Article	Colours	Description	Sizes	Standard	
NI170	Blue	Nitrile on cotton jersey lining. 6-cm canvas safety cuff. Ventilated back.	10	CE EN388 4211	x 120
					
					
NI175	Blue	Nitrile on cotton jersey lining. 6-cm canvas safety cuff. Fully coated.	09 / 10 / 11	CE EN388 4211	x 120
					
					
NI150	Blue	Nitrile on cotton jersey lining. Knitted wrist. Ventilated back.	07 / 08 / 09 / 10	CE EN388 4211	x 120
					
					
NI155	Blue	Nitrile on cotton jersey lining. Knitted wrist. Fully coated.	10	CE EN388 4211	x 120
					
					
NI015	Yellow	Light nitrile on cotton jersey lining. Knitted wrist. Ventilated back.	07 / 08 / 09 / 10 / 11	CE EN388 4111	x 120
					
					



SYNTHETIC GLOVES

Heavy works

LATEX ON JERSEY LINING

VENIZETTE VE920



Resistant to 100°C heat contact for 15 secs.

Maximum abrasion resistance
Suppleness

Cotton jersey lining :
• Better mechanical and thermal protection
• Better comfort



Article	Colours	Description	Sizes	Standard	
VENIZETTE VE920	Blue	Latex on cotton jersey lining. Length: 30 cm. Thickness: 1,25 mm.	6/7 - 7/8 - 8/9 - 9/10 - 10/11	 EN388 4 1 2 1  EN407 X,1,X, X,X,X  EN374-3 AKL A 2 > 30 mm K 6 > 480 mm L 6 > 480 mm	x 120

SYNTHETIC GLOVES

Works requiring chemical resistance

PVC ON JERSEY LINING

BASF PVCC400



- PVC:
- Excellent resistance to abrasion
 - Repels oils chemical products and petrol derivatives

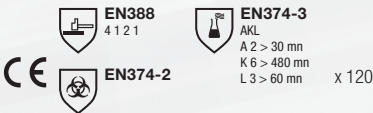
Hexamoll® DINCH® – Innovative plasticizer by BASF

- BASF is committed to sustainable and innovative products and has therefore introduced Hexamoll® DINCH®, the non-phthalate plasticizer:
- Hexamoll DINCH is safe for sensitive applications
 - Complies with regulations (REACH)
 - Hexamoll® DINCH® is environmentally friendly
 - Safeguard - Hexamoll® DINCH® in Food Contact Applications
 - Work Safe - in protective gloves



- Length 40 cm :
- Forearm protection

Article	Colours	Description	Sizes	Standard
BASF PVCC400	Red	Chemical PVC. PVC on cotton jersey lining. Length: 40 cm. Thickness: 1,30 mm.	10	EN388 4 1 2 1 EN374-3 AKL A 2 > 30 mn K 6 > 480 mn L 3 > 60 mn EN374-2



x 120

SYNTHETIC GLOVES

Works requiring chemical resistance

PVC ON JERSEY LINING



PETRO VE766



Article	Colours	Description	Sizes	Standard	
PETRO VE766	Blue	Chemical PVC. PVC on a jersey cotton medium. Length: 62 cm. Thickness: 1.30 mm.	08 / 09 / 10	 EN388 4 1 2 1	 EN374-3 AKL A 2 > 30 mn K 6 > 480 mn L 3 > 60 mn
				 EN374-2	x 60

PVC:

- Excellent resistance to abrasion
- Repels oils chemical products and petrol derivatives



SYNTHETIC GLOVES

Heavy works

PVC ON JERSEY LINING

PETRO VE780



Anti-slip grained-texture

Good abrasion resistance

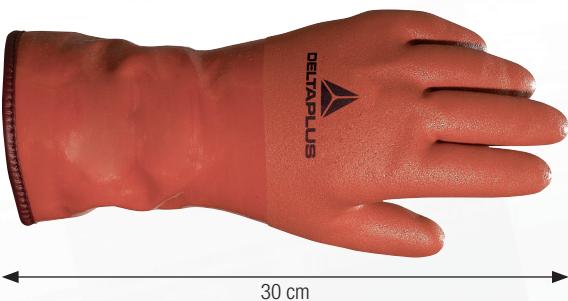


Article	Colours	Description	Sizes	Standard	
PETRO VE780	Blue	PVC on cotton jersey lining. Rough-textured palm. Length: 30 cm.	08 / 09 / 10	CE	x 120

PETRO VE760



Acrylic lining :
• Cold protection

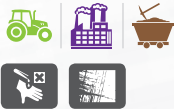


Article	Colours	Description	Sizes	Standard	
PETRO VE760	Orange	PVC on cotton jersey lining. Acrylic lining. Length: 30 cm.	10	CE	x 60

SYNTHETIC GLOVES

Heavy works

PVC ON JERSEY LINING

Article	Colours	Description	Sizes	Standard	
PVC7335	Red	PVC on cotton jersey lining. Length: 35 cm. Thickness 0,90 mm.	10	CE	x 120
					
PVC7327	Red	PVC on cotton jersey lining. Length: 27 cm. Thickness 0,90 mm.	10	CE	x 120
					



SYNTHETIC GLOVES

Works requiring chemical resistance

NEOPRENE ON JERSEY LINING

TOUTRAVO VE511

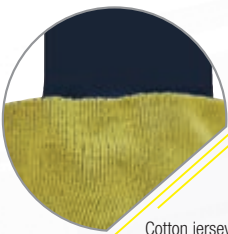


NEOPRENE ON JERSEY LINING

ADVANTAGE

- Waterproof (Water, Alcohol, and cleaners)
- Excellent protection against chemicals, greases and hydrocarbons

Sweat and moisture absorption



Cotton jersey lining :

- Better mechanical and thermal protection (neopren quality)
- Better comfort all day

Article	Colours	Description	Sizes	Standard	
TOUTRAVO VE511	Black	Neoprene on cotton jersey lining. Length: 38 cm. Thickness 1,40 mm.	9/10 - 10/11	 EN388 2132  EN374-2	 EN374-3 J K L J 2 > 30 mm K 6 > 480 mm L 4 > 120 mm x 60



SUPER QUARTZ
☞ 30

CONIC200
☞ 45

**M9300 -
STRAP GALAXY**
☞ 50

**TOUTRAVO
VE511**
☞ 84



SYNTHETIC GLOVES

Works requiring chemical resistance

NEOPRENE - UNSUPPORTED

TOUTRAVO VE509



NEOPRENE - UNSUPPORTED
RESISTANCE
• Abrasion
ADVANTAGE
• Waterproof
(Water, Alcohol, and cleaners)
• Good heat resistance
• Excellent protection against
chemicals, greases and
hydrocarbons



Flocked lining :
• Absorbs perspiration
• Comfort

Article	Colours	Description	Sizes	Standard	
TOUTRAVO VE509	Black	Neoprene with cotton flocklining. Length: 38 cm. Thickness: 0,75 mm.	6/7 - 7/8 - 8/9 - 9/10 - 10/11	 EN388 4110   EN374-3 ABCJKL A 3 > 60 mn B 3 > 60 mn C 1 > 10 mn I 3 > 60 mn J 2 > 30 mn K 6 > 480 mn L 4 > 120 mn	x 120

SYNTHETIC GLOVES

Heavy works

NITRILE ON JERSEY LINING

NITREX VE803



- Maximum abrasion resistance
- Suppleness
- Sweat and moisture absorption



Article	Colours	Description	Sizes	Standard	
NITREX VE803	Green	Nitrile on cotton jersey lining. Length: 33 cm. Thickness: 0,85 mm.	9/10 - 10/11	EN388 4011 EN374-2 CE	EN374-3 JKL J 6 > 480 mm K 6 > 480 mm L 3 > 60 mm x 60

SYNTHETIC GLOVES

Works in industry

NITRILE - UNSUPPORTED

NITREX VE802



Flocked lining :

- Absorbs perspiration
- Comfort

Silicone free :

- For specific uses



33 cm

Raised pattern texture on palm and fingers :

- Anti-slip



Article	Colours	Description	Sizes	Standard	
NITREX VE802	Green	Nitrile with cotton flocklining. Length: 33 cm. Thickness: 0,40 mm.	6/7 - 7/8 - 8/9 - 9/10 - 10/11	 EN388 4 1 0 1 EN374-2 EN374-3 AJKL A 3 > 60 mm J 6 > 480 mm K 6 > 480 mm L 4 > 120 mm x 120	

NITREX VE840



Flocked inside:

- Sweat absorption
- Comfort

Free of silicone:

- For specific uses



40 cm

Embossed structure on palm and fingers:

- Non-slip.



Article	Colours	Description	Sizes	Standard	
NITREX VE840	Green	Nitrile with cotton flocklining. Length: 40 cm. Thickness: 0.50 mm.	7/8 - 8/9 - 9/10	 EN388 4 0 0 2 EN374-2 EN374-3 AJK A 2 > 30mm J 6 > 480mm K 6 > 480mm L 4 > 120 mm x 120	

SYNTHETIC GLOVES

Works in industry

Article	Colours	Description	Sizes	Standard
NITRILE - UNSUPPORTED				

NITREX VE801

Green
Nitrile with cotton flocklining. Length: 33 cm.
Thickness: 0,40 mm.

07 / 08 / 09 /
10 / 11  x 144



 **EN388**
3101

 **EN374-3**
JKL
J 6 > 480 mm
K 6 > 480 mm
L 3 > 60 mm

 **EN374-2**

LATEX - UNSUPPORTED

DUOCOLOR VE330

Blue-Yellow
Latex with cotton flock lining, double-dipped.
Length: 30 cm.
Thickness: 0,50 mm.

6/7 - 7/8 -
8/9 - 9/10  x 144



 **EN388**
1010

 **EN374-3**
ABK
A 2 > 30 mm
B 2 > 30 mm
K 4 > 120 mm

ZEPHIR VE210

Pink
Latex with cotton flock lining.
Length: 30 cm.
Thickness: 0,38 mm.

6/7 - 7/8 -
8/9 - 9/10  x 144



 **EN388**
1010

 **EN374-3**



SYNTHETIC GLOVES

Disposable

NITRILE

VENITACTYL V1400B100



- Nitrile:
- Waterproof and airtight
 - Flexibility, elasticity and tactility
 - No allergies risks
 - Protection against chemical products (occasional contact)

- Powder-free glove :
- Protection of the object as no risk of leaving particles



- Blue colour :
- Easier to see in the workplace

Article	Colours	Description	Sizes	Standard
VENITACTYL 1400B100	Blue	Powder-free nitrile. Suitable for food industry. AQL 1,5. Box of 100 disposable gloves.	6/7 - 7/8 - 8/9 - 9/10	   EN374-2 AQL 1.5 EN374-3



x 10

SYNTHETIC GLOVES

Disposable

Article	Colours	Description	Sizes	Standard	
LATEX					
VENITACTYL V1310	Natural	Powdered latex. Suitable for food industry. AQL 1,5. Box of 100 disposable gloves.	6/7 - 7/8 - 8/9		x 10
		 EN374-2 AQL<1.5			
		 EN374-3			
					
		  			
					

VINYL					
VENITACTYL V1371	Transparent	Powdered vinyl. Suitable for food industry. AQL 1,5. Box of 100 disposable gloves.	6/7 - 7/8 - 8/9 - 9/10	CE	x 10
		 			



LEATHER GLOVES

General handling

Article	Colours	Description	Sizes	Standard	
COWHIDE FULL GRAIN LEATHER					
FBN49	Grey	Cowhide full grain leather. American assembly.	07 / 08 / 09 / 10 / 11	CE EN388 3122	x 120



FCN29	Grey	Cowhide grain leather palm. Full index. Cowhide split leather back. American assembly.	08 / 09 / 10 / 11	CE EN388 2121	x 120
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PIGSKIN FULL GRAIN LEATHER					
FP159	Buff	Pigskin full grain leather. American assembly.	09 / 10	CE EN388 2111	x 120



CONIC500

📄 45



PACAYA
SMOKE

📄 14

M2VES

📄 197

FBN49

📄 92

LEATHER GLOVES

General handling

Article	Colours	Description	Sizes	Standard	
COWHIDE SPLIT LEATHER / COTTON CANVAS					
DS202RP	Grey-Blue	Cowhide split leather with cotton canvas lining. Reinforcement on palm, thumb and index. Canvas back with leather reinforcement. Reinforced canvas cuff.	10	CE EN388 4 2 2 3	x 120
 					
FURNITURE COWHIDE GRAIN LEATHER / COTTON CANVAS					
DR605	Matched colours	Furniture cowhide grain leather. Canvas back with leather reinforcement. Reinforced canvas cuff.	10	CE EN388 3 1 2 1	x 120
 					
COWHIDE SPLIT LEATHER / COTTON CANVAS					
DC103	Beige-Navy blue	Cowhide split leather. Canvas back with leather reinforcement. Reinforced canvas cuff.	10	CE EN388 3 1 2 2	x 120
 					

KNITTED GLOVES

Handling requiring cut and heat resistance

KEVLAR®

KPG10



- Knitted Kevlar® gauge 7:
- Optimal cut performance and good resistance to heat
 - Excellent balance between heat resistance and dexterity

Ambidextrous
Washable

10-cm knitted wrist :
• Better vein protection



Article	Colours	Description	Sizes	Standard	
KPG10	Yellow	Kevlar® Technology outside. 100% cotton lining Gauge 7.	09	  	x 36

LEATHER GLOVES

Welders works

GOATSKIN/LAMBSKIN/COWHIDE LEATHER

TERK400



Kevlar® Preox Alu :

- High resistance to radiating heat

Thickness: 1,20 to 1,40 mm

Heat-resistant leather (HR) :

- Better Resistance to contact heat
- Reduction of the reactivity on flames contact
- Flexible leather



20 cm



Article	Colours	Description	Sizes	Standard	
TERK400	Orange-Grey	Heat-resistant cowhide split leather palm (HR). Aluminised Kevlar Preox® back. Wool fleece lining. 20 cm cuff. Kevlar® Technology sewn. American assembly. Length: 40 cm. Thickness: 1,20 mm to 1,40 mm.	10	CE  EN388 4 1 4 3  EN407 4, 1, 3, 4, X, 4 EN12477 TYPE A	x 36

TER250



Heat-resistant leather (HR) :

- Better Resistance to contact heat
- Reduction of the reactivity on flames contact
- Flexible leather

Kevlar® seams



20 cm



Article	Colours	Description	Sizes	Standard	
TER250	Brown-Grey	Heat-resistant cowhide split leather palm (HR). Wool fleece lining on palm. 20 cm cuff with canvas lining. Kevlar® Technology sewn. American assembly. Length: 40 cm.	10	CE  EN388 4 1 3 3  EN407 4, 1, 4, X, 4, X EN12477 TYPE A	x 60

**BASEBALL
DIAMOND**
📄 29

CASOUD2HE
📄 22

TERK400
📄 96

TONC3
📄 168

DELTA FUSION
📄 198



LEATHER GLOVES

Welders works

COWHIDE LEATHER

Article	Colours	Description	Sizes	Standard	
CA615K	Red	High quality heat-resistant split leather (HR). Cuff with canvas lining. Kevlar® Technology sewn. American assembly. Length: 35 cm.	10	   	x 60
					
  					
CA515R	Red	Heat-resistant cowhide split leather (HR). Hand with cotton fleece lining. Cuff with canvas lining. American assembly. Length: 35 cm.	10	   	x 60
					
  					
TC716	Grey	Cowhide split leather. 15 cm cuff. American assembly. Length: 35 cm.	09 / 10 / 11	   	x 120
					
  					

KNITTED GLOVES

Small handling

COTTON

Article	Colours	Description	Sizes	Standard	
TP169	White	65% polyester 35% cotton. PVC dots on palm. Gauge 7.	07 / 09	CE EN388 2131	 x 300
					
 					
CP149	Beige	Brushed drill cotton lining 270 g/m². French assembly. PVC dots on palm and full thumb, index and little finger.	08 / 10	CE	x 300
					
  					

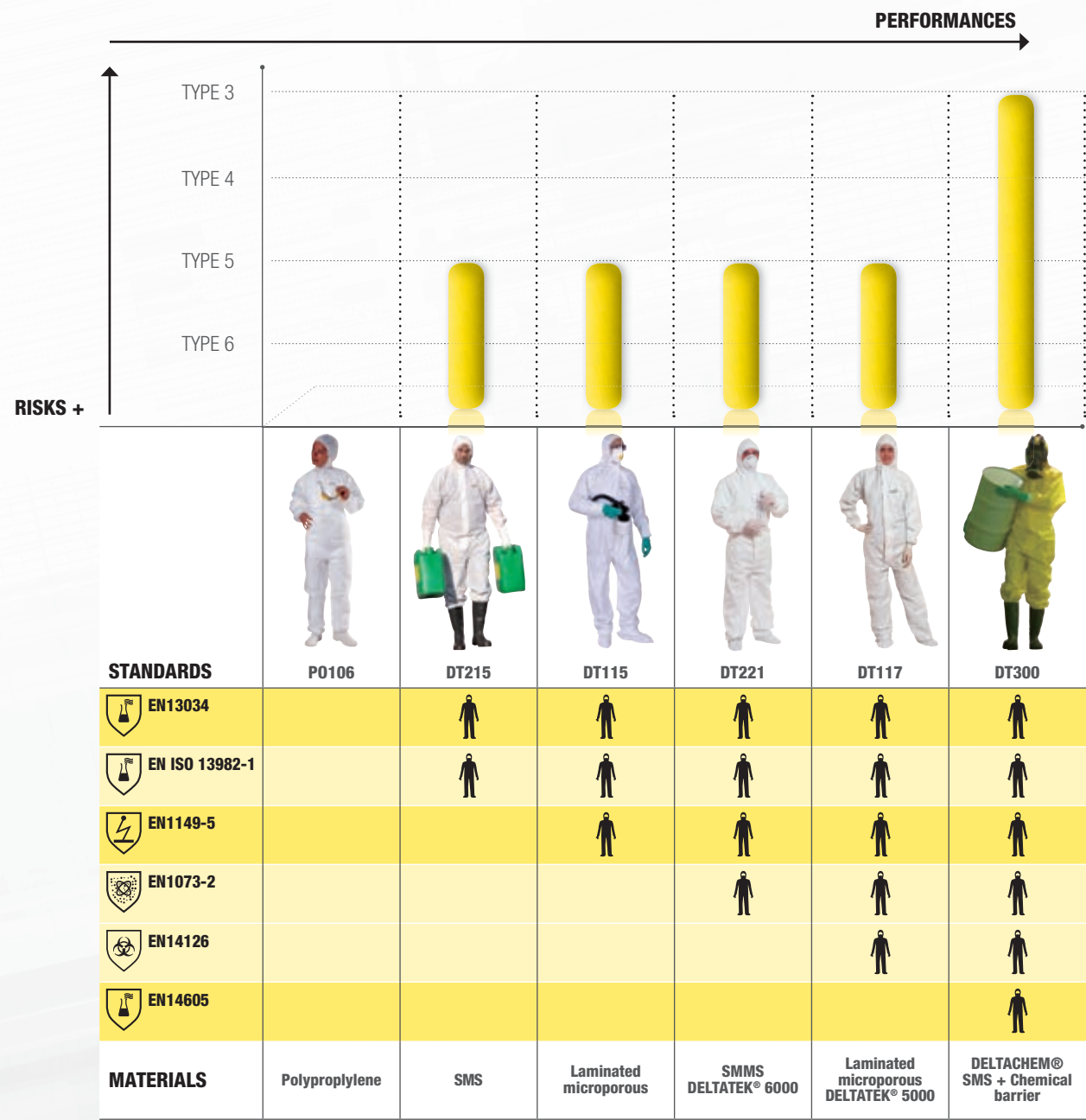


TO FIND THE SUITABLE PRODUCT FOR YOUR JOB



PERFORMANCES

What performance to choose according to your needs ?



DISPOSABLE WEAR

Chemical protection overalls

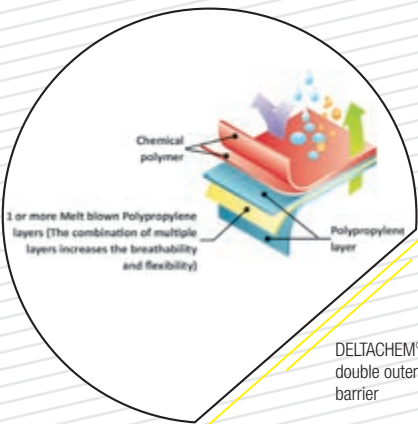
DELTACHEM®



DT300



Article	Colours	Description	Sizes	Standard	
DT300	Yellow	Overall with elasticated hood. Non woven Deltachem®. Zip Fastening under double flap. Elasticated around the head, waist, cuffs and ankles. Individual pack.	M/L/XL/XXL	 EN14605 TYPE 3B TYPE 4B  EN ISO 13982-1 TYPE 5B  EN13034 TYPE 6B  EN14126  EN1073-2 CLASS 2  EN1149-5	x 20

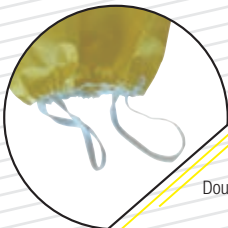


DELTACHEM® SMS with double outer chemical barrier

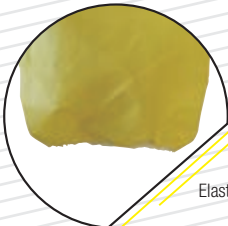


Closure with double flap

Sealed seams
Lint free
Silicone free
Decontamination



Double elastic for thumb



Elasticated ankles



DISPOSABLE WEAR

Chemical protection overalls

DT117

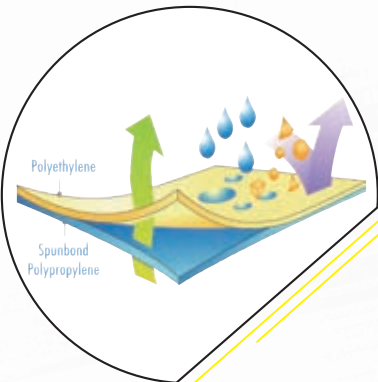


Lint free
Extra soft
Silicone free

Deltatek 5000.



DELTA TEK® 5000
70 % polypropylene 30 %
polyethylene
The polyethylene film ensures
greater resistance to chemical
hazards and higher mechanical
resistance (abrasion – tearing).



Zip with self adhesive flap
DT117 - DT221



Elasticated cuffs
DT117 - DT221



Elasticated ankles
DT117 - DT221

Article	Colours	Description	Sizes	Standard
DT117	White	Overall with elasticated hood. Non-woven Deltatek® 5000. Fastening with zip under flap (top and bottom opening). Elasticated waist and ankles. Knitted wrist. Individual airtight pack.	M/L/XL/XXL	EN ISO 13982-1 TYPE 5-B EN13034 TYPE 6-B CE



EN ISO
13982-1
TYPE 5-B



EN13034
TYPE 6-B



EN14126



EN1073-2
CLASS 1



EN1149-5



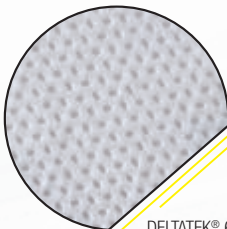
x 20

DT221

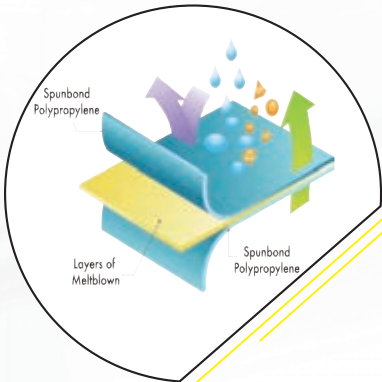


Breathable

Deltatek 6000.



DELTA[®]TEK® 6000
100 % polypropylene SMMS*.
* Non woven Spunbond (x1), Melt
Blown (x2), Spunbond (x1)
The SMMS* process allows good
product breathability.



Article	Colours	Description	Sizes	Standard	
DT221	White	Overall with elasticated hood. Non-woven Deltatek® 6000. Fastening with zip under flap (top and bottom opening). Elasticated round head, waist and ankles. Knitted wrist. Individual airtight pack.	M/L/XL/XXL	CE EN ISO 13982-1 TYPE 5 EN 13034 TYPE 6	EN 1073-2 CLASS 1 EN 1149-5 x 20

DISPOSABLE WEAR

Chemical protection overalls

DT115



Antistatic

ESSENTIAL version
Microporous laminated



Article	Colours	Description	Sizes	Standard	
DT115	White	Overall with elasticated hood. Non-woven 70% polypropylene / 30% polyethylene. Fastening with zip under flap. Elasticated round head, waist, cuffs and ankles. Individual pack.	M/L/XL/XXL	CE EN ISO 13982-1 TYPE 5 EN13034 TYPE 6	EN1149-5 x 50

DT215



Breathable
Comfortable

ESSENTIAL version
SMS



Article	Colours	Description	Sizes	Standard	
DT215	White	Overall with elasticated hood. Non-woven 100% polypropylene SMS. Fastening with zip under flap. Elasticated round head, waist, cuffs and ankles. Individual pack.	M/L/XL/XXL	CE EN ISO 13982-1 TYPE 5 EN13034 TYPE 6	EN13034 TYPE 6 x 50

A person wearing a white full-body protective suit, orange gloves, and a respirator mask with a circular filter is using a spray gun. The spray gun is connected to a black hose. The person is holding the spray gun with their right hand and the hose with their left hand. The background is a light-colored wall with some blue and white patterns.

PACAYA CLEAR
☐ 14

M6300
☐ 52

DT117
☐ 106



DISPOSABLE WEAR

Overalls - Coats - Aprons - Headwear

Article		Colours	Description	Sizes	
PO106		White	Overall with elasticated hood. Suitable for food industry. Non-woven polypropylene 35 g/m². Zip fastening. Elasticated waist, ankles and cuffs. Individual pack.	M/L/XL/XXL CE	x 50
			   		
BLOUSPO		White	Coat. Suitable for food industry. Non-woven polypropylene 35 g/m². Fastening with 4 press studs. Shirt collar. Made-up sleeves. 2 patched low pockets. Individual pack.	M/L/XL/XXL	x 50
					
TABPO02		White	Apron. Polyethylene 20 µ. Dimensions: 120 x 70 cm. Bag of 100 pieces.	One size	x 10
					

Article	Colours	Description	Sizes	
PO110 	White Blue	Round mobcap. Non-woven polypropylene 10 g/m². Elasticated border. 53 cm in diameter. Dispenser box of 100 pieces.	One size	x 10
MASQU 	White	Hygiene masks. Non-woven polypropylene 160 g/m². Elasticated straps and nose clip. Box of 50 masks.	One size	x 20
MANCHBE 	Blue	Sleeve. Polyethylene 21 µm. Suitable for food industry. Elasticated on both ends. Dimensions: 40 x 20 cm. Bag of 100 pieces.	One size	x 20
SURCHPE 	Blue	Visitor overshoes. Polyethylene 25 µm. Elasticated ankle. Bag of 50 pairs.	One size	x 20



TO FIND THE SUITABLE PRODUCT
FOR YOUR JOB

EVOLUTION	AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY														Suitable protection	PAGES
															DMACHCOM	118
															DMACHPAN	119
															DMACHVES	119
															DMACHSAL	120
															MCCOM	124
															MCPAN	125
															MCVES	125
															MCHE	126
															MCSAL	126
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															M2GIL	133
															M2BER	133
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															PALAOS	140
															PALAOHV	140
															LAETITIA	141
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ESSENTIAL	AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY														Suitable protection	PAGES
															M6COM	136
															M6PAN	137
															M6VES	137
															M6SAL	138
															M6GIL	138
															PHPAN	142
															PHVES	142

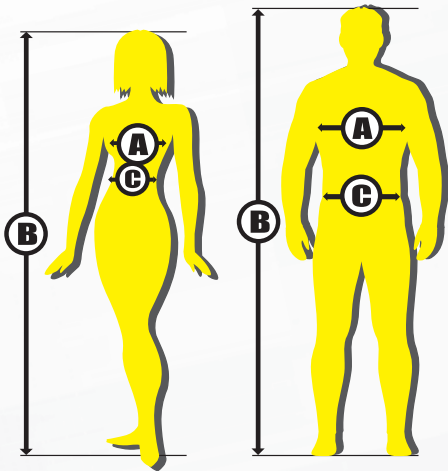
SIZES

Order the right size
by taking the correct
measurements

To take the correct measurements, take the measurements directly on
the body, without tightening.

I.E. :

- The measurements outlined in the tables are for the **body**, not the garment.
- For wearing a garment over another,
the width required is provided.



A	B	C
Chest measurement	Height	Waist measurement

SIZE EQUIVALENCE TABLE

MALE	XS	S	M	L	XL	XXL	3XL
FEMALE	S	M	L	XL	XXL	-	-

MALE	B	XS 156/164	S 156/164	M 164/172	L 172/180	XL 180/188	XXL 188/196	3XL 196/204
JACKET / BOMBER / BODYWARMER / OVERALL	EU	42/44	44/46	48/50	52/54	56/58	60/62	64/66
	IT	36/38	38/40	42/44	46/48	50/52	54/56	58/60
	DE	46/48	48/50	52/54	56/58	60/62	64/66	68/70
	cm	78/86	86/94	94/102	102/110	110/118	118/129	129/141
	inch	32 ^{1/2} /34	34/37	37/40	40/43	43/46 ^{1/2}	46 ^{1/2} /50 ^{1/2}	50 ^{1/2} /55 ^{1/2}
TROUSERS / DUNGAREES	EU	32/34	34/36	38/40	42/44	46/48	50/52	54/56
	IT/DE	36/38	38/40	42/44	46/48	50/52	54/56	58/60
	cm	58/66	66/74	74/82	82/90	90/98	98/106	106/117
	inch	23/26	26/29	29/32	32/35 ^{1/2}	35 ^{1/2} /38 ^{1/2}	38 ^{1/2} /41 ^{1/2}	41 ^{1/2} /46
TEE-SHIRT (A)	cm	76/79	80/88	89/97	98/106	107/115	116/124	125/133

FEMALE	B	156/164	164/172	172/180	180/188	188/196
JACKET / SMOCK / BODYWARMER	EU	36/38	38/40	42/44	46/48	50/52
	UK	8/10	10/12	14/16	18/20	22/24
	IT/DE	40/42	42/44	46/48	50/52	54/56
	cm	82/86	86/94	94/102	102/113	113/125
TROUSERS	EU	/	38/40	42/44	46/48	50/52
	IT/DE	/	42/44	46/48	50/52	54/56
	cm	/	70/78	78/86	86/97	97/102
	inch	/	27 ^{1/2} /31	31/34	34/38	38/40



DMACH

BASEBALL
DIAMOND V

📄 29

MAGNY HELMET

📄 42

JUMPER2 S3
BUMPER SRC

📄 206

DMACHSAL

📄 120



DMACHCOM	DMACHSAL	DMACHPAN	DMACHVES
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DMACHCOM	DMACHSAL	DMACHPAN	DMACHVES
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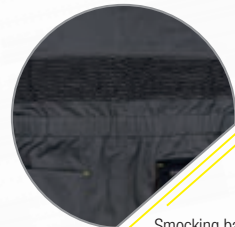
DMACHCOM	DMACHSAL	DMACHPAN	DMACHVES
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WORKWEAR

D-Mach

DMACHCOM



Smocking back for more comfort



Buttock reinforcement



Pockets for ruler and tools
DMCOM - DMPAN - DMSAL



Kneepad pockets
DMCOM - DMPAN - DMSAL



Bottom of trousers with reinforcement to avoid dirt
DMCOM - DMPAN - DMSAL

Article	Colours	Description	Material	Sizes	
DMACHCOM	Black-Red	Overalls. Elasticated waist. Fastening with zip under bias (top and bottom opening). 9 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL	CE x 10
	Grey-Orange				
	Grey-Yellow				

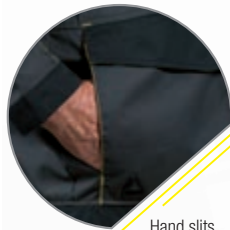
DMACHVES



Badge holder



Internal pocket



Hand slits



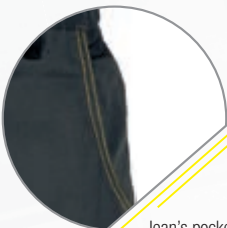
Reinforced wrists for dirt resistance



Article	Colours	Description	Material	Sizes
DMACHVES	Black-Red	Jacket. Cuffs with press studs fastening. 4 pockets.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL
	Grey-Orange			
	Grey-Yellow			

CE x 10

DMACHPAN



Jean's pocket



Article	Colours	Description	Material	Sizes
DMACHPAN	Black-Red	Trousers. Elasticated waist on both sides. 6 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL
	Grey-Orange			
	Grey-Yellow			

CE x 10

WORKWEAR

D-Mach

DMACHSAL



Article	Colours	Description	Material	Sizes
DMACHSAL	Black-Red	Dungarees. Adjustable elasticated braces. 8 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL
	Grey-Orange			
	Grey-Yellow			



CE x 10

GRANITE WIND

📄 26

**MEDBLOC
AN13006C**

📄 238

**JAGUAR
HAR36TCP**

📄 354

DMACHVES

📄 119

DMACHPAN

📄 119



MACH 2 CORPORATE

THUNDER
CLEAR
📄 13

VE726
📄 66

MCSAL
📄 126

MCCOM	MCSAL	MCPAN	MCVES	MCCHE
-------	-------	-------	-------	-------



MCCOM	MCSAL	MCPAN	MCVES	MCCHE
-------	-------	-------	-------	-------



MCCOM	MCSAL	MCPAN	MCVES	MCCHE
-------	-------	-------	-------	-------



MCCOM



Underarm ventilation with eyelets
Gusset at the back
MCVES - MCCOM



Article	Colours	Description	Material	Sizes
MCCOM	Light grey-Dark grey	Overalls. Elasticated waist at the back. 8 pockets including 1 ruler. 2 Hand slits.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL
	Navy blue-Black			
	Beige-Grey			



CE x 10

MCVES



Multi pockets

Article	Colours	Description	Material	Sizes
MCVES	Light grey-Dark grey	Jacket Adjustable bottom of garment with press stud flap. 6 pockets.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL
	Navy blue-Black			
	Beige-Grey			



MCPAN



Buttock reinforcement
MCPAN - MCSAL - MCCOM

Article	Colours	Description	Material	Sizes
MCPAN	Light grey-Dark grey	Trousers. Elasticated waist on both sides. Preformed knees. 9 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL
	Navy blue-Black			
	Beige-Grey			

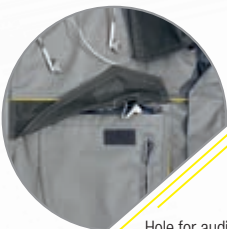


MCSAL

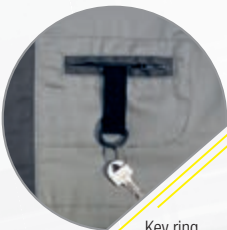


Article	Colours	Description	Material	Sizes	
MCSAL	Light grey-Dark grey	Dungarees. Adjustable elasticated braces. 10 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/ XXL/3XL	 x 10
	Navy blue-Black				
	Beige-Grey				

MCCHE



Hole for audio wire
MCVES - MCCHE - MCCOM



Key ring



Sleeves can be lifted up with
tabs and buttons

Article	Colours	Description	Material	Sizes
MCCHE	Light grey-Dark grey	Shirt with long sleeves. Fastening with zip under velcro flap. 3 pockets.	Twill 65% polyester 35% cotton 200 g/m ² .	S/M/L/XL/ XXL/3XL
	Navy blue-Black			
	Beige-Grey			

CE x 10



MACH 2

BASEBALL
DIAMOND
📏 29

M2VES
📏 130

VE730
📏 75

M2PAN
📏 130

M2COM	M2SAL	M2PAN	M2VES
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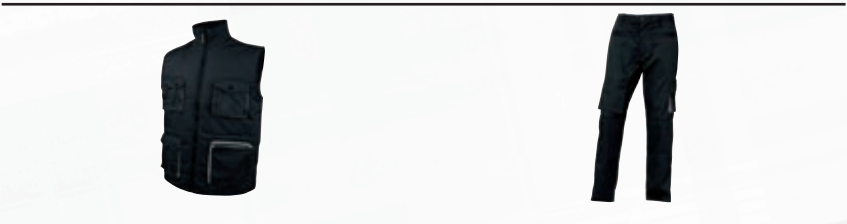
M2COM	M2SAL	M2PAN	M2VES	M2GIL	M2BER
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M2COM	M2SAL	M2PAN	M2VES	M2GIL	M2BER
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STOCKTON	M2PAW
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STOCKTON	M2PAW
----------	-------



STOCKTON



WINTER



WORKWEAR

Mach 2

M2VES



Article	Colours	Description	Material	Sizes	
	Grey-Orange				
M2VES	Navy blue-Royal blue	Jacket. Raglan sleeves. Cuffs with press stud fastening. 4 pockets including 1 on the sleeve.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL	CE x 10
	Black-Grey				

M2PAN



Kneepad pockets
M2PAN - M2SAL - M2COM



Article	Colours	Description	Material	Sizes	
	Grey-Orange				
M2PAN	Navy blue-Royal blue	Trousers. Elasticated waist on both sides. 7 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL	CE x 10
	Black-Grey				

M2COM



Badge holder
M2VES - M2COM

Kneepad pockets
M2PAN - M2SAL - M2COM



Article	Colours	Description	Material	Sizes
M2COM	Grey-Orange	Overalls. Zip fastening under bias. Elasticated waist. Cuffs with press stud fastening. 9 pockets including 1 on the sleeve.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL
	Navy blue-Royal blue			
	Black-Grey			



M2SAL



Kneepad pockets
M2PAN - M2SAL - M2COM



Article	Colours	Description	Material	Sizes	
M2SAL	Grey-Orange	Dungarees. Adjustable elasticated braces. 8 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/ XXL/3XL	x 10
	Navy blue-Royal blue				
	Black-Grey				

M2GIL



Article	Colours	Description	Material	Sizes	
M2GIL	Grey-Orange	Multipocket vest. Bias finishing. 13 pockets.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/ XXL/3XL	CE x 10
	Navy blue-Royal blue				

M2BER



Article	Colours	Description	Material	Sizes	
M2BER	Grey-Orange	Bermuda. Elasticated waist on both sides. 7 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL	CE x 10
	Navy blue-Royal blue				

PANOSTYLE

VE630
📄 76

M6VES
📄 137

M6PAN
📄 137

VIRAGE S1P
📄 193

M6COM	M6SAL	M6PAN	M6VES	M6GIL
-------	-------	-------	-------	-------



M6COM	M6SAL	M6PAN	M6VES	M6GIL
-------	-------	-------	-------	-------



M6COM	M6SAL	M6PAN	M6VES	M6GIL
-------	-------	-------	-------	-------



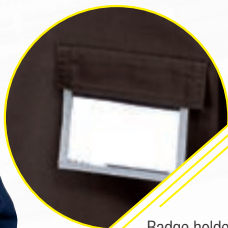
M6COM	M6SAL	M6PAN	M6VES	M6GIL
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WORKWEAR

Panostyle

M6COM



Badge holder sold separately
M6VES - M6COM



Contrasting colours
M6VES - M6PAN - M6SAL -
M6GIL - M6COM



Internal kneepad pockets
M6PAN - M6SAL - M6COM

Article	Colours	Description	Material	Sizes	
M6COM	Grey-Orange	Overalls. Front zip fastening with bias finishing. Elasticated waist. Elasticated cuffs. 7 pockets.	Twill 65% polyester 35% cotton 235 g/m².	XS/S/M/L/XL/ XXL/3XL	CE x 10
	Brown-Green				
	Grey-Green				
	Navy blue-Orange				

M6VES



Article	Colours	Description	Material	Sizes
M6VES	Grey-Orange			
	Brown-Green	Jacket. Front zip fastening with bias finishing.	Twill 65% polyester 35% cotton 235 g/m².	XS/S/M/L/XL/XXL/3XL
	Grey-Green	Elasticated cuffs. 4 pockets.		
	Navy blue-Orange			

CE x 10

M6PAN



Article	Colours	Description	Material	Sizes
M6PAN	Grey-Orange			
	Brown-Green	Trousers. Elasticated waist on both sides. 5 pockets including 1 ruler.	Twill 65% polyester 35% cotton 235 g/m².	XS/S/M/L/XL/XXL/3XL
	Grey-Green			
	Navy blue-Orange			

CE x 10

M6SAL



Waist fastened with buttons



Contrasting colours
M6VES - M6PAN - M6SAL
- M6GIL - M6COM



Internal kneepad pockets
M6PAN - M6SAL - M6COM

Article	Colours	Description	Material	Sizes	
M6SAL	Grey-Orange				
	Brown-Green	Dungarees. Elasticated waist on both sides.	Twill 65% polyester 35% cotton 235 g/m².	XS/S/M/L/XL/ XXL/3XL	CE x 10
	Grey-Green	Adjustable elasticated braces. 6 pockets.			
	Navy blue-Orange				

M6GIL



Article	Colours	Description	Material	Sizes	
M6GIL	Grey-Orange				
	Brown-Green	Multipocket vest. Front zip fastening with bias finishing. Bias finishing. 6 pockets.	Twill 65% polyester 35% cotton 235 g/m².	XS/S/M/L/XL/ XXL/3XL	CE x 10
	Grey-Green				
	Navy blue-Orange				

MSGIL



Multipockets



Article	Colours	Description	Material	Sizes	
MSGIL	Beige	Stonewashed multipocket vest. Bias finishing. 13 pockets.	Twill 65% polyester 35% cotton 245 g/m². Polyester mesh lining.	S/M/L/XL/XXL/3XL	CE x 10

MSPAN



Kneepad pockets



Inside adjustable waist with elastic and buttons



Convertible legs with zip (3 lengths)



Article	Colours	Description	Material	Sizes	
MSPAN	Beige	3 in 1 stonewashed trousers. 7 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m².	S/M/L/XL/XXL/3XL	CE x 10

WORKWEAR

PALAOOS



PALAOSHV



Article	Colours	Description	Material	Sizes	
PALAOS	Bugatti blue	Overall. Opening with double zip and press studs tab. Raglan sleeves. Elasticated waist at the back. 5 pockets including 1 meter.	Twill 100% Cotton 290 g/m².	S/M/L/XL/ XXL/3XL/4XL	 x 10
	Orange				
PALAOSHV					

WORKWEAR

Lady - Caps - Belts

LAETITIA



Extra comfort opening on both sides



Article	Colours	Description	Material	Sizes	
LAETITIA	White	Slimfit jacket. Long sleeves. 3 pockets including 1 on the sleeve	Ripstop canvas 65% polyester 35% cotton 180 g/m².	38/40 → 50/52	CE x 10
	Green				

VERONA



ATOLL



Article	Colours	Description	Material	Sizes	
VERONA	Red-Grey	Cap (To match the MACH range).	Twill 65% polyester 35% cotton 245 g/m².	One size	x 100
	Black-Grey				
	Grey-Orange				
	Navy blue-Royal blue				
ATOLL	Grey	Belt.	100% polyester.		

WORKWEAR

High Visibility Workwear

PHVES



Article	Colours	Description	Material	Sizes	Standard	
PHVES	Fluorescent yellow-Navy blue Fluorescent orange-Navy blue	Jacket. Elasticated cuffs. High visibility: Class 2 - Silver colour - Shoulder-belt and parallel assembly. 2 pockets.	Twill 54% cotton 46% polyester 260 g/m ² . Retro-reflective sewn bands.	S/M/L/XL/ XXL/3XL	CE EN ISO 20471 ²	x 10

PHPAN



internal kneepad pocket



Article	Colours	Description	Material	Sizes	Standard	
PHPAN	Fluorescent yellow-Navy blue Fluorescent orange-Navy blue	Trousers. Elasticated waist on both sides. High visibility: Class 2 - Silver colour. 5 pockets including 1 ruler pocket.	Twill 54% cotton 46% polyester 260 g/m ² . Retro-reflective sewn bands.	S/M/L/XL/ XXL/3XL	CE EN ISO 20471 ²	x 10



BASEBALL
DIAMOND V
📄 29

PHVES
📄 142

PHPAN
📄 142



OUTDOOR WEAR

TO FIND THE SUITABLE PRODUCT FOR YOUR JOB

	AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY													Suitable protection	PAGES
															
EVOLUTION														MILTON	148
														FIDJI	153
														DUNCAN	148
														GOTEBORG	149
														RANDERS	150
														BARI	152
														STOCKTON	154
														M2PAW	154
														SACHA	155

AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY													Suitable protection	PAGES
														
ESSENTIEL		●	●			●							HELSINKI	149
		●	●		●	●							DARWIN II	149
		●	●		●	●							RENO	152
	●	●	●		●	●							SIERRA	155
	●		●			●							400	156
	●		●										304	156
			●			●							MA400	157
	●		●										305	157

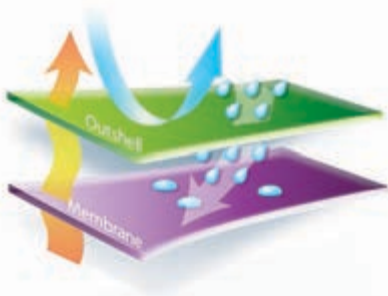
MATERIALS



Material made up of 2 layers.

- Outer layer
- Membrane

Breathable - Impermeable – Comfortable



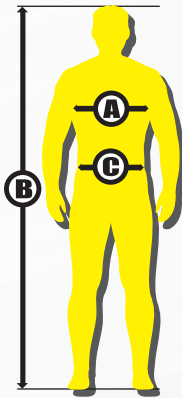
SIZES

Order the right size by taking the correct measurements

To take the correct measurements, take the measurements directly on the body, without tightening.

► I.E. :

- The measurements outlined in the tables are for the **body**, not the garment.
- For wearing a garment over another, **the width required is provided.**



A	B	C
Chest measurement	Height	Waist measurement

SIZE EQUIVALENCE TABLE

MALE	B	XS	S	M	L	XL	XXL	3XL
		156/164	156/164	164/172	172/180	180/188	188/196	196/204
JACKET / BOMBER / PARKA / VEST Chest measurement (A)	EU	44/46	46/48	48/50	50/52	52/54	54/56	56/58
	IT	36/38	38/40	42/44	46/48	50/52	54/56	58/60
	DE	48/50	50/52	52/54	54/56	56/58	58/60	60/62
	cm	90/94	94/98	98/102	102/106	106/110	110/114	114/118
	inch	35 ^{1/2} /37	37/38 ^{1/2}	38 ^{1/2} /40	40/41 ^{1/2}	41 ^{1/2} /43 ^{1/2}	43 ^{1/2} /45	45/46 ^{1/2}
TROUSERS Waist measurement (C)	EU	/	34/36	38/40	42/44	46/48	50/52	54/56
	IT/DE	/	38/40	42/44	46/48	50/52	54/56	58/60
	cm	/	66/74	74/82	82/90	90/98	98/106	106/117
	inch	/	26/29	29/32	32/35 ^{1/2}	35 ^{1/2} /38 ^{1/2}	38 ^{1/2} /41 ^{1/2}	41 ^{1/2} /46
UNDERWEAR Chest measurement (A) Waist measurement (C)	EU	/	34/36	38/40	42/44	46/48	50/52	54/56
	IT/DE	/	38/40	42/44	46/48	50/52	54/56	58/60
	cm	/	78/86	86/94	94/102	102/110	110/118	118/123
	inch	/	30 ^{1/2} /34	34/37	37/40	40/43 ^{1/2}	43 ^{1/2} /46 ^{1/2}	46 ^{1/2} /48 ^{1/2}
	cm	/	66/74	74/82	82/90	90/98	98/106	106/117
	inch	/	26/29	29/32	32/35 ^{1/2}	35 ^{1/2} /38 ^{1/2}	38 ^{1/2} /41 ^{1/2}	41 ^{1/2} /46



OUTDOOR WEAR

Parkas and bombers jackets

MILTON



WATERPROOF AND BREATHABLE
Water vapour resistance
Ret < 20 m² Pa/W
with ISO11092 and EN31092



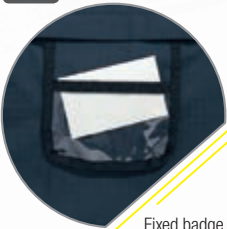
Elbows and shoulders with reinforcement



Pocket for document

Article	Colours	Description	Material	Sizes	
MILTON	Black	Parka. Waterproof seams. Fastening with zip under velcro storm flap. Removable wadded hood. Adjustable bottom of garment with elastic drawstring. 5 pockets.	94% polyester 6% elastane fabric, 2 laminated layers. Yokes: Polyurethane-coated Oxford polyester fabric. Quilted Taffeta polyester lining.	S/M/L/XL/ XXL/3XL	CE x 10
	Red				

DUNCAN



Fixed badge holder included



Rear vent for embroidery access



Fix armlet included in the sleeve pocket

Article	Colours	Description	Material	Sizes	Standard	
DUNCAN	Grey	Parka. Waterproof seams. Fastening with zip under velcro storm flap. Removable hood. Underarm ventilation with eyelets. Adjustable bottom of garment with elastic drawstring. 5 pockets.	PVC-coated Ripstop polyester fabric. Top lining: Wadded polyester polar fleece. Bottom lining: Wadded polyester Taffeta.	S/M/L/XL/ XXL/3XL	CE EN14058 33 X 0.271m ² K/W X EN343 3 1*	x 10

OUTDOOR WEAR

Parkas and bombers jackets

HELSINKI



Wadded removable hood



Knitted inside cuffs

Article	Colours	Description	Material	Sizes	Standard	
HELSINKI	Navy blue	Parka. Waterproof seams. Fastening with zip under press studs storm flap. Adjustable cuffs with drawstring. 6 pockets.	PVC-coated polyester fabric. Wadded polyester Taffeta lining.	S/M/L/XL/ XXL/3XL	 EN342 0.436m.K/W (B) X 3 X   EN343 3 1*	x 10

DARWIN II



Badge holder
DARWIN II - ISOLA



GOTEBORG



No metallic part



Fixed badge
holder
included



Article	Colours	Description	Material	Sizes	Standard	
DARWIN II	Navy blue	Parka. Waterproof seams. Fixed hood. Adjustable waist and bottom of garment with drawstring. Knitted cuffs. 6 pockets.	PVC-coated polyester fabric. Quilted polyester Taffeta lining.	XS/S/M/L/ XL/XXL	 EN343 3 1*   EN14058 3 3 X 0.250 m².K/W X  EN343 3 1*	x 10
GOTEBORG	Navy blue	Parka. Waterproof seams. Collar with polar fleece lining. Fastening with zip under velcro storm flap. Removable hood. Adjustable bottom of garment with elastic drawstring. 5 pockets.	PVC-coated Twill polyester fabric. Top lining: Wadded polyester polar fleece. Bottom lining: Wadded polyester Taffeta.	S/M/L/XL/ XXL/3XL	 EN14058 3 3 X 0.250 m².K/W X  EN343 3 1*	x 10

OUTDOOR WEAR

Parkas and bombers jackets

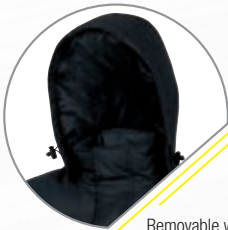
RANDERS



Underarm ventilation eyelets



Fixed badge holder included



Removable wadded hood



Removable sleeves



Article	Colours	Description	Material	Sizes	 x 10
RANDERS	Grey	Quilted bomber jacket with removable sleeves (To match the D-MACH range). Fastened with a zip under the storm flap with press studs. Knitted cuffs and bottom of garment. 5 pockets.	Quilted polyurethane-coated polyamide fabric. Lining: Quilted in polyester Taffeta.	S/M/L/XL/XXL/3XL	

RANDERS
📄 150

DMACHPAN
📄 119

**BASEBALL
DIAMOND V**
📄 28

**D-SPIRIT S1P
SRC**
📄 191



OUTDOOR WEAR

Parkas and bombers jackets

RENO



Article	Colours	Description	Material	Sizes	
RENO	Navy blue	Bomber jacket with removable sleeves. Collar with polar fleece lining. Knitted cuffs and bottom of garment. 5 pockets.	Polyurethane-coated Oxford polyester fabric. Polyester polar fleece lining.	S/M/L/XL/XXL/3XL	CE x 10
	Black				
	Green				

BARI



Article	Colours	Description	Material	Sizes	
BARI	Navy blue	Bomber jacket. Waterproof seams. Raglan sleeves. Elasticated bottom of garment. Underarm ventilation with eyelets. 6 pockets.	Polyurethane-coated Taslon polyamide fabric. Polyester body lining. Wadded polyester Taffeta sleeve lining.	S/M/L/XL/XXL/3XL	CE x 10

OUTDOOR WEAR

Bodywarmers

FIDJI



Extra comfort opening on both sides



Lower back protection

Article	Colours	Description	Material	Sizes
FIDJI	Grey-Black	Bodywarmer. Collar with polar fleece lining. 3 pockets.	PVC-coated Pongee polyester fabric. Wadded polyester polar fleece lining.	S/M/L/XL/XXL  x 10
	Black			
	Black-Red			
	Orange-Grey			

OUTDOOR WEAR

Bodywarmers

STOCKTON



Multipockets



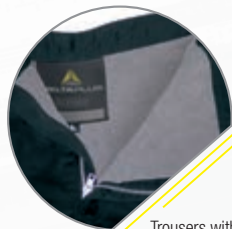
Windbreaker arm-hole

Article	Colours	Description	Material	Sizes	
STOCKTON	Navy blue-Royal blue	Multipocket bodywarmer. Adjustable bottom with elastic drawstring. 7 pockets.	Quilted twill 65% polyester 35% cotton 235 g/m². Wadded polyester Taffeta lining.	S/M/L/XL/ XXL/3XL	CE x 10
	Grey-Orange				
	Black-Grey				

M2PAW



Kneepad pockets



Trousers with flanel lining

Article	Colours	Description	Material	Sizes	
M2PAW	Black-Grey	Warm trousers. Elasticated waist on both sides. 7 pockets including 1 ruler.	Twill 65% polyester 35% cotton 245 g/m². 100% flanel cotton lining.	S/M/L/XL/ XXL/3XL	CE x 10
	Grey-Orange				

OUTDOOR WEAR

Bodywarmers

SIERRA



Article	Colours	Description	Material	Sizes		
SIERRA	Navy blue	Multipocket bodywarmer. Elasticated on both sides and back. 7 pockets.	65% polyester 35% quilted cotton canvas. Wadded polyester Taffeta lining.	S/M/L/XL/XXL/3XL	CE	x 20
	Navy blue-Red					
	Grey					
	Green					

SACHA



Article	Colours	Description	Material	Sizes		
SACHA	Green	Bodywarmer. 4 pockets	Ripstop canvas 65% polyester 35% cotton 180 g/m². Wadded polar fleece polyester lining.	38/42/46/50	CE	x 10

OUTDOOR WEAR

Rain

400



Ventilation back flap
Underarm ventilation eyelets



Article	Colours	Description	Material	Sizes	Standard	
400	Navy blue	Rain jacket and trousers. Waterproof seams. JACKET: Fixed hood.	PVC-coated polyester fabric.	M/L/XL/XXL	  EN343 3 1+	x 20
	Yellow	Fastening with zip under storm flap. Raglan sleeves. Adjustable cuffs with press-studs. 2 pockets. TROUSERS:				
	Royal blue	Elasticated waist. Adjustable bottom of legs with press-studs. 2 hand slits.				
	Green					

304



Ventilation back flap
Underarm ventilation eyelets

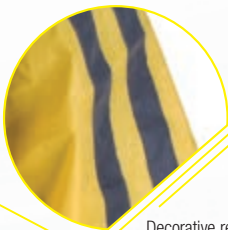


Article	Colours	Description	Material	Sizes	Standard	
304	Yellow	Rain jacket and trousers. Sealed seams. JACKET: Fixed hood. Fastening with zip under press-studs flap. Raglan sleeves.	PVC-coated polyester support. Double sided coating.	M/L/XL/XXL	  EN343 3 1+	x 10
	Green	Elasticated inside cuffs. 2 pockets. TROUSERS: Elasticated waist. Fly closed with press-studs. Adjustable bottom of legs with press-studs. 2 hand slits.				

MA400



Ventilation back flap
Underarm ventilation eyelets



Decorative retro-reflective
bands
(front and back)

Article	Colours	Description	Material	Sizes	Standard	
MA400	Yellow	Rain coat. Waterproof seams. Fixed hood. Fastening with zip under storm flap. Elasticated inside cuffs. 2 pockets.	PVC-coated polyester fabric.	M/L/XL/XXL	  EN343 3 1+	x 20
	Green					

305



Length 1,20 m
Ventilation back flap
Underarm ventilation eyelets



Article	Colours	Description	Material	Sizes	Standard	
305	Yellow	Rain coat. Sealed seams. Fixed hood. Fastening with double press-stud flap. Raglan sleeves. Elasticated inside cuffs. 2 pockets.	PVC-coated polyester support. Double side coating.	M/L/XL/XXL	  EN343 3 1+	x 10
	Green					

TECHNICAL WEAR

TO FIND THE SUITABLE PRODUCT FOR YOUR JOB

	AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY													Suitable protection	PAGES
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														TONP3	168
														TONV3	168
														BORCO	169
														BORPA	169
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EVOLUTION														C0600	173
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	AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY													Suitable protection	PAGES
ESSENTIAL														EASYVIEW	162
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RETRO-REFLECTIVE TECHNOLOGY

They reflect the light of vehicle headlights back to their source and improve visibility distance of a pedestrian by 30 to 160 metres.

3M SCOTCHLITE™ TECHNOLOGY

- **Micro-ball technology:** glass micro-balls encased in a reflective resin.



SIZE EQUIVALENCE TABLE

Workwear

MALE	B	XS 156/164	S 156/164	M 164/172	L 172/180	XL 180/188	XXL 188/196	3XL 196/204
JACKET / BOMBER / BODYWARMER / OVERALL Chest measurement (A)	EU	42/44	44/46	48/50	52/54	56/58	60/62	64/66
	IT	36/38	38/40	42/44	46/48	50/52	54/56	58/60
	DE	46/48	48/50	52/54	56/58	60/62	64/66	68/70
	cm	78/86	86/94	94/102	102/110	110/118	118/129	129/141
	inch	32 ^{1/2} /34	34/37	37/40	40/43	43/46 ^{1/2}	46 ^{1/2} /50 ^{1/2}	50 ^{1/2} /55 ^{1/2}
TROUSERS / DUNGAREES Waist measurement (C)	EU	32/34	34/36	38/40	42/44	46/48	50/52	54/56
	IT/DE	36/38	38/40	42/44	46/48	50/52	54/56	58/60
	cm	58/66	66/74	74/82	82/90	90/98	98/106	106/117
	inch	23/26	26/29	29/32	32/35 ^{1/2}	35 ^{1/2} /38 ^{1/2}	38 ^{1/2} /41 ^{1/2}	41 ^{1/2} /46
TEE-SHIRT (A)	cm	76/79	80/88	89/97	98/106	107/115	116/124	125/133

Outdoor Wear

MALE	B	XS 156/164	S 156/164	M 164/172	L 172/180	XL 180/188	XXL 188/196	3XL 196/204
JACKET / BOMBER / PARKA / VEST Chest measurement (A)	EU	44/46	46/48	48/50	50/52	52/54	54/56	56/58
	IT	36/38	38/40	42/44	46/48	50/52	54/56	58/60
	DE	48/50	50/52	52/54	54/56	56/58	58/60	60/62
	cm	90/94	94/98	98/102	102/106	106/110	110/114	114/118
	inch	35 ^{1/2} /37	37/38 ^{1/2}	38 ^{1/2} /40	40/41 ^{1/2}	41 ^{1/2} /43 ^{1/2}	43 ^{1/2} /45	45/46 ^{1/2}
TROUSERS Waist measurement (C)	EU	/	34/36	38/40	42/44	46/48	50/52	54/56
	IT/DE	/	38/40	42/44	46/48	50/52	54/56	58/60
	cm	/	66/74	74/82	82/90	90/98	98/106	106/117
	inch	/	26/29	29/32	32/35 ^{1/2}	35 ^{1/2} /38 ^{1/2}	38 ^{1/2} /41 ^{1/2}	41 ^{1/2} /46
UNDERWEAR Chest measurement (A) Waist measurement (C)	EU	/	34/36	38/40	42/44	46/48	50/52	54/56
	IT/DE	/	38/40	42/44	46/48	50/52	54/56	58/60
	cm	/	78/86	86/94	94/102	102/110	110/118	118/123
	inch	/	30 ^{1/2} /34	34/37	37/40	40/43 ^{1/2}	43 ^{1/2} /46 ^{1/2}	46 ^{1/2} /48 ^{1/2}
	cm	/	66/74	74/82	82/90	90/98	98/106	106/117
	inch	/	26/29	29/32	32/35 ^{1/2}	35 ^{1/2} /38 ^{1/2}	38 ^{1/2} /41 ^{1/2}	41 ^{1/2} /46



TECHNICAL WEAR

Outdoor high visibility

OPTIMUM



Article	Colours	Description	Material	Sizes	Standard	
OPTIMUM	Fluorescent yellow- Navy blue	Parka 4 in 1: removable bodywarmer. Parka : Waterproof seams. Fastening with zip under storm flap. Fixed hood. Polar fleece collar. High visibility: Class 3 - Silver colour - Shoulder-belt and parallel assembly. 4 pockets. Removable jacket :Waterproof seams. Removable sleeves. High visibility: Class 2 - Silver colour - Shoulder-belt assembly. 4 pockets.	PVC-coated Oxford polyester fabric. Fixed polyester Taffeta lining. PVC-coated Oxford polyester removable bodywarmer with removable sleeves in polyester polar fleece. Quilted polyester Taffeta lining. Retro-reflective sewn bands.	S/M/L/XL/ XXL/3XL	  	x 10
	Fluorescent orange- Navy blue					

EASYVIEW



Article	Colours	Description	Material	Sizes	Standard	
EASYVIEW	Fluorescent yellow- Navy blue	Warm parka Waterproof seams. Fixed hood. Fastening with zip under velcro storm flap. High visibility: Class 3 - Silver colour - Shoulder-belt and parallel assembly. 4 pockets.	Polyurethane-coated Oxford polyester fabric. Quilted polyester Taffeta lining. Retro-reflective sewn bands.	S/M/L/XL/ XXL/3XL	  	x 10
	Fluorescent orange- Navy blue					

FIDJI HV



Article	Colours	Description	Material	Sizes	Standard	
FIDJI HV	Fluorescent yellow- Navy blue	Reversible body warmer. Zip fastening. 4 pockets. High visibility: Class 2 - Silver colour - Shoulder- belt assembly.	Polyurethan-coated Oxford polyester fabric on 1 side. Quilted polyester taffeta fabric on 1 side. Retro-reflective sewn bands.	S/M/L/XL/ XXL/3XL	CE  EN ISO 20471	x 10

GILP4



GILP2



Article	Colours	Description	Material	Sizes	Standard	
GILP4	Fluorescent yellow Fluorescent orange	Vest. Fastening with velcro band. High visibility: Class 2 - Silver colour - Shoulder-belt assembly.	Polyester fabric. Retro-reflective sewn bands.	L/XXL	CE  EN ISO 20471	x 100
GILP2	Fluorescent yellow Fluorescent orange	Vest. Fastening with velcro band. High visibility: Class 2 - Silver colour - Parallel assembly.				

TECHNICAL WEAR

High Visibility Workwear

PHVES



Article	Colours	Description	Material	Sizes	Standard	
PHVES	Fluorescent yellow-Navy blue Fluorescent orange-Navy blue	Jacket. Elasticated cuffs. High visibility: Class 2 - Silver colour - Shoulder-belt and parallel assembly. 2 pockets.	Twill 54% cotton 46% polyester 260 g/m². Retro-reflective sewn bands.	S/M/L/XL/ XXL/3XL	CE EN ISO 20471 2	x 10

PHPAN



internal kneepad pocket



Article	Colours	Description	Material	Sizes	Standard	
PHPAN	Fluorescent yellow-Navy blue Fluorescent orange-Navy blue	Trousers. Elasticated waist on both sides. High visibility: Class 2 - Silver colour. 5 pockets including 1 ruler pocket.	Twill 54% cotton 46% polyester 260 g/m². Retro-reflective sewn bands.	S/M/L/XL/ XXL/3XL	CE EN ISO 20471 2	x 10



**BASEBALL
DIAMOND V**
📄 29

PHVES
📄 166

PHPAN
📄 166



TECHNICAL WEAR

Chill Room and Cold Store

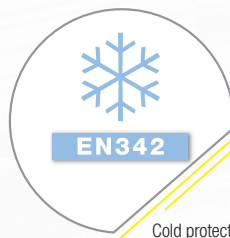
NORDLAND



Fixed badge holder included



Decorative reflective details
NORDLAND - ICEBERG



Cold protection



Internal storm cuff with cutaway
Thumb for improved cold
protection



Article	Colours	Description	Material	Sizes	Standard	
NORDLAND	Grey	Parka. Waterproof seams. Removable hood. Collar with polar fleece lining. Fastening with double zip under press stud storm flap. Adjustable waist and bottom with elastic drawstring. 7 pockets.	Polyurethane-coated Oxford polyester fabric. Quilted polyester Taffeta lining.	S/M/L/XL/ XXL/3XL	CE  EN342 0.705 m².K/W X 3 X	x 5

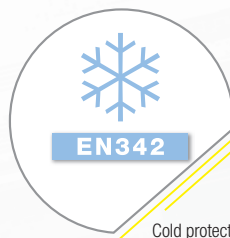
ICEBERG



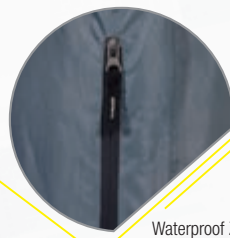
Higher back protection



Bottom of legs with storm flap



Cold protection



Waterproof Zipped pockets



Article	Colours	Description	Material	Sizes	Standard	
ICEBERG	Grey	Warm Salopette. Waterproof seams. Adjustable waist with elastic drawstring. Adjustable braces. Preformed and reinforced knees. 5 pockets.	Polyurethane-coated Oxford polyester fabric. Quilted polyester Taffeta lining.	S/M/L/XL/ XXL/3XL	CE  EN342 0.705 m².K/W X 3 X	x 5



NORDLAND
📄 22

ICEBERG
📄 166

HERCULE
📄 73

**SAMARA
S3 SRC**
📄 208



TECHNICAL WEAR

Anti-acid - Flame retardant - Antistatic

TONC3



50 washes at 75°C
TONV3 - TONP3 - TONC3

TONV3



TONP3



Article	Colours	Description	Material	Sizes	Standard	
TONC3		Coverall, concealed stud Mandarin collar, Zip front fastening with concealed studded flap. Elasticated rear waist band, Raglan sleeve with concealed adjustable cuffs. 4 pockets including 1 on the leg.				
TONV3	Navy blue	Jacket, concealed stud Mandarin collar. Concealed Stud front fastening. Raglan sleeve with concealed adjustable cuffs. Side elastication and 2 side pockets with flap over.	60% Modacrylic 37% cotton 3% antistatic fibre 250 g/m².	S/M/L/XL/ XXL/3XL/4XL	CE	EN ISO 11612 A1, B1, C1, X, E1, F1 EN1149-5
TONP3		Trousers. Fastening with hidden press studs. Side elastication. 4 pockets including 1 on leg.				



EN13034
TYPE 6

EN ISO 11612
A1, B1, C1, X, E1, F1

EN1149-5

x 5

TECHNICAL WEAR

Anti-acid - Flame retardant - Antistatic

BORCO



Internal kneepad pocket



3M Scotchlite™
Retro-reflective bands
BORCO OV

50 washes at 60°C
BORCO OV

BORVE



50 washes at 75°C
BORVE - BORPA - BORCOBM
Gusset at the back
BORVE - BORCO



BORPA



Article	Colours	Description	Material	Sizes	Standard
BORCO	Navy blue	Overalls. Straight collar closed with hidden press studs. Fastening with hidden press studs. Elasticated waist at the back. Half elasticated cuffs. 6 pockets including 1 ruler pocket. 2 hand slits.			
	Orange				
BORVE	Navy blue	Jacket. Straight collar closed with hidden press studs. Fastening with hidden press studs. Half elasticated cuffs. 3 pockets including 1 inside chest pocket.	Ripstop 55% Modacrylic/ Staciflam® 42% cotton 3% antistatic fibre 295 g/m².	S/M/L/XL/ XXL/3XL/4XL	EN13034 TYPE 6 EN531 A B1 C1 X X EN533 3/50X75°C 3/50/60°C BORCOOV x 5
BORPA	Navy blue	Trousers. Fastening with hidden press studs. Side elastication. 4 pockets including 1 on leg.			EN1149-5

TECHNICAL WEAR

Flame retardant

MAICO



50 washes at 75°C
MAIVE - MAIPA - MAICOBM



Concealed Velcro closing
Mandarin collar
MAIVE - MAICO



MAIVE



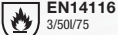
Preformed elbows
MAIVE - MAICO

High collar with velcro band
closing
MAIVE - MAICO



MAIPA



Article	Colours	Description	Material	Sizes	Standard
MAICO	Navy blue	Overalls with high Mandarin collar, zip fastening with concealed studded cover, raglan sleeve with half elasticated cuffs, rear elasticated waistband. 7 pockets including ruler pocket and trouser access on both sides.	Twill 100% flame retardant cotton 310 g/m².	S/M/L/XL/ XXL/3XL/4XL	  
MAIVE		Jacket. High collar. Raglan sleeves. Half elasticated cuffs. 4 pockets including 2 inside pockets.			
MAIPA		Trousers. Elasticated waist on both sides. 5 pockets including 1 ruler pocket.			



x 5

MAICO



- Preformed elbows
MAIVE- MAICO
- 3M Scotchlite™
retro-reflective sewn bands
- 50 washes at 60°C



3M Scotchlite™
Reflective Material



Concealed Velcro closing
Mandarin collar
MAIVE - MAICO

Article	Colours	Description	Material	Sizes	Standard	
MAICO	Blue	Overalls with high Mandarin collar, zip fastening with concealed studded cover, raglan sleeve with half elasticated cuffs, rear elasticated waistband. 7 pockets including ruler pocket and trouser access on both sides.	Twill 100% flame retardant cotton 310 g/m².	S/M/L/XL/ XXL/3XL/4XL	  	x 5
	Orange					
	Red					

CAFR1

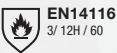
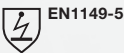


SSVFR



Extended cuffs with
cut- away thumb



Article	Colours	Description	Material	Sizes	Standard	
CAFR1	Navy blue	Hood with flap covering shoulders.	50% Aramid knitwear 48% Viscose 2% Antistatic fibre 200 g/m².	One size	  	x 50
SSVFR		Underwear set. Long sleeve tee-Shirt and Long Johns.				

TECHNICAL WEAR

Flame retardant - Antistatic

CHEFR



Article	Colours	Description	Material	Sizes	Standard	
CHEFR	Navy blue	Long Sleeve shirt, concealed stud fastening and cuffs. 2 pockets.	Ripstop 55% Modacrylic/ Staciflam® 42% cotton 3% antistatic fibre 180 g/m².	S/M/L/XL/ XXL/3XL/4XL		x 10

VESFR



Article	Colours	Description	Material	Sizes	Standard	
VESFR	Navy blue	Polar Fleece jacket. 2 pockets.	Polar 60% Modacrylic 38% cotton 2% antistatic fibre 430 g/m².	S/M/L/XL/ XXL/3XL/4XL		x 10

POLFR



Article	Colours	Description	Material	Sizes	Standard	
POLFR	Navy blue	Long Sleeve Polo shirt with concealed stud collar.	Piqué knit Modacrylic/Cotton Antistatic fibre 280 g/m².	S/M/L/XL/ XXL/3XL/4XL		x 10

TECHNICAL WEAR

Chemical protection overalls

CO600



PETRO VE766



M9200 - ROTOR GALAXY



M8000 A2B2E2K2P3

Article	Colours	Description	Material	Sizes	Standard
CO600	Green	Chemical protective overall type 3, liquid-tight. Raglan sleeves. Sealed seams. Zip fastening with studded cover flap and Velcro straps. Fixed elasticated hood, elasticated at wrist and ankles.	Polyester support with double sided PVC 380 g/m ² coating.	S/M/L/XL/XXL/3XL	CE EN14605 TYPE 3

x 10

Protective aprons

TABALPV



Article	Colours	Description	Material	Sizes
TABALPV	White	Apron. Adjustment buckle on the neck. Dimensions: 120 cm x 90 cm. Thickness: 0,30 mm.	100% PVC.	One size

x 50

TECHNICAL WEAR

Flame retardant

VESTE19A - VESTE19N



PANTA19A - PANTA19N



Article	Description	Material	Sizes	Standard	
VESTE19A	Heat and projection resistant jacket. Straight bottom of sleeve. Snap and adhesive band closure.	Pre-oxyded PAN/Para-Aramide REFLESPACE® aluminization 515 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1
VESTE19N	Available on demand.	VISCOSE with REFLESPACE® aluminization 580 g/m². Lining with 100% cotton PROBAN® 310 g/m².	M/L/XL/ XXL/3XL	EN ISO 11612 A1, B1, C3, D3 E3, F1	x 1
PANTA19A	Heat and protection resistant trousers. Straight bottom of leg. Snap and adhesive band closure.	Pre-oxyded PAN/Para-Aramide REFLESPACE® aluminization 515 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1
PANTA19N	Elasticated braces. Available on demand.	VISCOSE with REFLESPACE® aluminization 580 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1

CAGOULE19A
CAGOULE19N

COMBI19A
COMBI19N

MANTEAU19A
MANTEAU19N



GUETRE19A
GUETRE19N

Article	Description	Material	Sizes	Standard	
CAGOULE19A	Heat and protection resistant hood. Assembled on adjustable headband. Side ventilation slits. Available on demand.	Pre-oxided PAN/Para-Aramide REFLESPACE® aluminization 515 g/m². Lining with 100% cotton PROBAN® 310 g/m².	ONE SIZE	 	x 1
CAGOULE19N		VISCOSE with REFLESPACE® aluminization 580 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1
COMBI19A	Heat and protection resistant overall. Straight sleeve and bottom of leg. Zip fastener protected by adhesive flap. Available on demand.	Pre-oxided PAN/Para-Aramide REFLESPACE® aluminization 515 g/m². Lining with 100% cotton PROBAN® 310 g/m².	M/L/XL/ XXL/3XL		x 1
COMBI19N		VISCOSE with REFLESPACE® aluminization 580 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1
MANTEAU19A	Heat and protection resistant coat. Straight bottom of sleeve. Snap and adhesive band closure. Available on demand.	Pre-oxided PAN/Para-Aramide REFLESPACE® aluminization 515 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1
MANTEAU19N		VISCOSE with REFLESPACE® aluminization 580 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1
GUETRE19A	Heat and protection resistant gaiters. Back opening with flap. Available on demand.	Pre-oxided PAN/Para-Aramide REFLESPACE® aluminization 515 g/m². Lining with 100% cotton PROBAN® 310 g/m².	ONE SIZE		x 1
GUETRE19N		VISCOSE with REFLESPACE® aluminization 580 g/m². Lining with 100% cotton PROBAN® 310 g/m².			x 1

FOOT PROTECTION



TO FIND THE SUITABLE PRODUCT FOR YOUR JOB

AGRICULTURE/ GREEN AREAS CONSTRUCTION CIVIL ENGINEERING SECOND WORK CRAFTSMAN HEAVY INDUSTRY LIGHT INDUSTRY SERVICES LOGISTICS HYGIENE ENVIRONMENT OIL/GAS MINING WIND ENERGY											Suitable protection	PAGES
PREMIUM											TREK WORK	180
											X-RUN	182
EVOLUTION											OUTDOOR	184
											COMPOSITE TECH	186
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											LIGHT WALKERS	192
											4 X 4 INDUSTRY	196
											X-LARGE INDUSTRY	200
ESSENTIAL											ESD	202
											CLASSIC +	204
											CLASSIC INDUSTRY	205
											WINTER BOOT	208
											RAIN BOOT	208
											AGRO	209

RANGES



	TREK WORK	X-RUN	OUTDOOR	COMPOSITE TECH	PROTECH	SPORTSWEAR
Material	PU / NITRILE RUBBER	PU / RUBBER	PU / PU	PU / RUBBER	PU / PU	PU / RUBBER
Advantages	• Ladder grips • Flex-Zone for increased flexibility • Slip-resistant cleated outsole	• Flex zones • Anti slip rubber • TPU foot arch reinforcement	• Ladder grips • V STAB SYSTEM • Flex-Zone	• Lightness • Comfort	• Ladder grips • V STAB SYSTEM • Flex-Zone	• PU midsole for effective cushioning • Rubber outsole for improved abrasion resistance • Crampon design specially designed for optimum grip
Performances	SRC HRO HI CI	SRC HRO	SRC	SRC HRO	SRC	SRC HRO



LIGHT WALKERS		AGRO	4X4 INDUSTRY	X LARGE INDUSTRY	CLASSIC +	CLASSIC INDUSTRY
COMPOSITE	NO COMPOSITE					
PU / PU		PU / PU	PANORUBBER® NITRILE RUBBER	PU / PU	PU / PU	PU / PU
• Step rolling • Tige Mesh / Croûte velours pour une meilleure ventilation du pied • Available in ESD version (VIAGI S1P Black-Red)		• Microfibre upper	• Slip resistance on all type of slippery surfaces • Oil resistances • Hydrolysis resistance • Heat resistance	• Areas of integrated bending (PANOFLEX® system) • Shock absorber • Available in ESD version (SAULT S3)	• Lifespan and comfort	• JUMPER2 S3 FUR: / JUMPER2 S3 FUR HC PU resistant to -30°C
SRC		SRC	SRC HRO HI CI	SRC	SRC	SRC





TW400 S3 SRC



Article	Colours	Description	Sizes	Standard		
TW400 S3 SRC	Black	Upper: Full grain leather, S3 water resistant treatment, mit rubber scuff cap. Lining: Polyamide Cambrelle absorbing. Insole: Removable preformed - Polyester on PU. Midsole: Cemented - PU with Panoshock® shock absorber. Outsole: Rubber Nitrile. Non metallic footwear.	39 → 48	 EN ISO 20345 S3 HRO CI HI SRC	710 g	x 5



The design and comfort of a trekking shoe with high tech performance of a safety shoe.

SHOES
X-run



XR502 S3 SRC



Article	Colours	Description	Sizes	Standard		
XR502 S3 SRC	Black	Upper: Nubuck leather and nylon mesh, S3 water resistant treatment. Lining: Polyamide absorbing. Insole: Removable preformed - Polyamide on EVA. Midsole: Cemented - PU with shock absorber Panoshock®. Outsole: Rubber. Non metallic shoe.	39 → 47	 EN ISO 20345 S3 HRO SRC	590 g	x 5



Speed lace

ARCH SUPPORT SYSTEM
Gives better stability
Torsion control

PANOSHOCK® system
For reduced fatigue & added comfort

Composite Protection
NON-METALLIC

Composite toe cap
200- joule,
Lighter than steel
Non conductive material

Ultra flexible anti-perforation composite insole

PU/RUBBER CEMENTED OUTSOLE
1- Flex-Zone
2- Antislip rubber
3- TPU foot arch reinforcement

When work and sport are the same thing.

SHOES

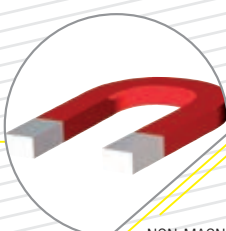
Outdoor

The nature sports and walking shoe dedicated to safety. Comfortable, technical and performance, the shoes of OUTDOOR range will take you far !

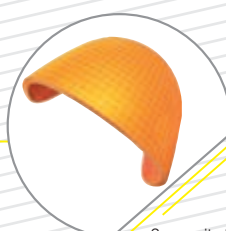
- 1- Flex-Zone
- 2- V STAB SYSTEM
- 3- Ladder lateral grips
- 4- Crampons with hooks on all types of indoor and outdoor surface areas
- 5- SRC standards



Ultra flexible anti-perforation composite insole



NON-MAGNETIC
No metal part in the shoe



Composite toe cap
200- joule,
Lighter than steel
Non conductive material



Composite Protection

NON-METALLIC

OHIO3 S3



Article	Colours	Description	Sizes	Standard		
OHIO3 S3	Black	Upper: Full grain leather, S3 water resistant treated. Lining: Polyester. Insole: Removable preformed - Polyamide on EVA. Outsole: Sole: Injected - Dual density PU.	36 → 47	EN ISO 20345 S3 SRC	650 g	x 5

AURIBEAU3 S1P SRC



PERTUIS3 S1P SRC



Article	Colours	Description	Sizes	Standard		
AURIBEAU3 S1P SRC	Green-Black	Upper: Split suede leather and mesh. Lining: Polyester. Insole: Removable preformed - Polyamide on EVA.	36 → 47	EN ISO 20345 S1P SRC	620 g	x 5
PERTUIS3 S1P SRC		Outsole: Sole: Injected - Dual density PU.			600 g	

SHOES

Composite Tech

SAGA S3 SRC



LIGHT - ULTRA FLEXIBLE

Designed for the most demanding workers in terms of comfort.



Article	Colours	Description	Sizes	Standard		
SAGA S3 SRC	Beige	Upper: Nubuck leather, S3 water resistant treatment. Lining: Polyester. Insole: Removable - polyester on EVA. Outsole: Cemented - PU/Rubber.	39 → 48	CE EN ISO 20345 S3 HRO SRC	730 g	x 5



A professional range combines resistance, comfort and lightness.

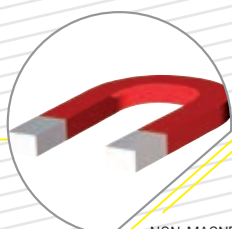
- 1- Flex-Zone
- 2- V STAB SYSTEM
- 3- Ladder lateral grips
- 4- Cleats with grip on all indoor and outdoor surfaces
- 5- Standards SRC



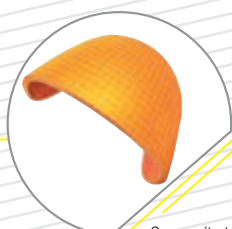
Speed lace



Ultra flexible anti-perforation composite insole



NON-MAGNETIC
No metal part in the shoe



Composite toe cap
200- joule,
Lighter than steel
Non conductive material



Composite Protection

NON-METALLIC

PHOENIX S3 SRC



PHOCEA S3 SRC



Article	Colours	Description	Sizes	Standard		
PHOENIX S3 SRC	Black	Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyamide mesh. Insole: Removable preformed - Polyamide on EVA. Midsole: Injected - PU bi-density.	36 → 47	 EN ISO 20345 S3 SRC	620 g	x 5
PHOCEA S3 SRC					600 g	

PROTON S1P SRC



PRISM S1P



Article	Colours	Description	Sizes	Standard		
PROTON S1P SRC	Black	Upper: Pigmented split leather. Lining: Polyamide mesh. Insole: Removable preformed - Polyamide on EVA. Midsole: Injected - PU bi-density.	36 → 47	 EN ISO 20345 S1P SRC	610 g	x 5
PRISM S1P					590 g	

A Sport attitude for many professional activities.

Very light

PU/RUBBER OUTSOLE

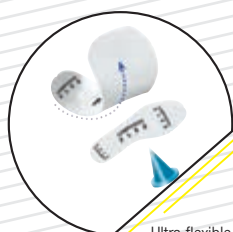
- 1- PU midsole for greater shock absorber
- 2- Rubber outsole for better abrasion resistance
- 3- Specific outsole design for an optimal grip (SRC standard)
- 4- HRO: 300° Contact-heat resistant sole assembly (1 mins)



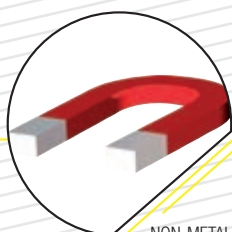
Padded collar and tongue for greater comfort



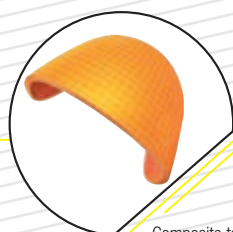
Insole in EVA for more comfort all day



Ultra flexible anti-perforation composite insole



NON-METALLIC
No metal part in the shoe



Composite toe cap
200- joule, lighter than steel
Non conductive material



Composite Protection

NON-METALLIC

D-SPIRIT S1P SRC



Article	Colours	Description	Sizes	Standard		
D-SPIRIT S1P SRC	Black	Upper: Leather/mesh. Lining: Polyester. Insole: Removable - Polyester on EVA. Outsole: Cemented - PU/Rubber. Non metallic footwear.	38 → 47	CE EN ISO 20345 S1P HRO SRC	520 g	x 5

D-SPIRIT S3 SRC



Article	Colours	Description	Sizes	Standard		
D-SPIRIT S3 SRC	Black	Upper: Leather, S3 water resistant treatment. Lining: Polyester. Insole: Removable - Polyester on EVA. Outsole: Cemented - PU/Rubber. Non metallic footwear.	36 → 47	CE EN ISO 20345 S3 HRO SRC	520 g	x 5

D-STAR S3 SRC



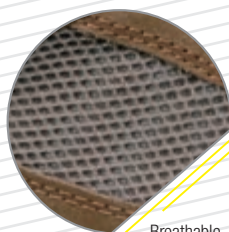
Article	Colours	Description	Sizes	Standard		
D-STAR S3 SRC	Black	Upper: Leather, S3 water resistant treatment. Lining: Polyester. Insole: Removable - Polyester on EVA. Outsole: Cemented - PU/Rubber. Non metallic footwear.	38 → 47	CE EN ISO 20345 S3 HRO SRC	550 g	x 5

SHOES

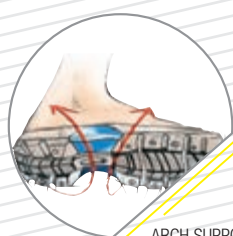
Light Walkers

A lightweight and ventilated system make these shoes particularly suitable for professional activities requiring comfort.

- 1- Flex zones
PANOFLEX® system
to facilitate the rolled of the foot
- 2- Lateral grip
- 3- Step rolling to facilitate the walk



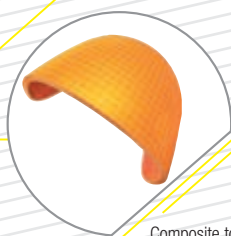
Breathable



ARCH SUPPORT SYSTEM
Gives better stability



Ultra flexible anti-perforation
composite insole



Composite toe cap 200-
joule, lighter than steel
Non conductive material



NON-METALLIC

ASTI S1P SRC



Article	Colours	Description	Sizes	Standard		
ASTI S1P SRC	Beige	Upper: Suede split leather and polyester mesh. Lining: Polyester.	36 → 48	 EN ISO 20345 S1P SRC	550 g	x 10
	Grey-Blue	Insole: Removable - Polyester on EVA. Outsole: Injected - Dual-density PU.				
	Black	Non metallic footwear.				

VIRAGE S1P SRC



Article	Colours	Description	Sizes	Standard		
VIRAGE S1P SRC	Grey-Green	Upper: Suede split leather and polyester mesh. Lining: Polyester. Insole: Removable preformed - Polyester on EVA. Outsole: Injected - Dual-density PU. Non metallic footwear.	36 → 48	 EN ISO 20345 S1P SRC	610 g	x 10
	Black-Red					

SHOES

Light Walkers

RIMINI II S1P SRC



Article	Colours	Description	Sizes	Standard		
RIMINI II S1P SRC	Beige-Grey	Upper: Suede split leather and nylon mesh (breathable). Lining: Polyamide absorbing. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.	39 → 47	 EN ISO 20345 S1P SRC	600 g	x 10
	Grey-Navy blue		36 → 47			
	Grey-Black					

MIAMI S1P SRC



Article	Colours	Description	Sizes	Standard		
MIAMI S1P SRC	Grey-Navy blue	Upper: Polyester and cotton. Insole: Removable- Polyamide on EVA. Midsole: injected - Single density PU.	35 → 46	 EN ISO 20345 S1P SRC	350 g	x 10
	Black					



SHOES

4 X 4 Industry

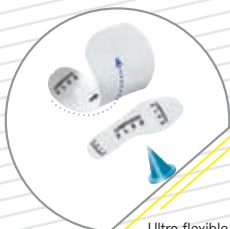
Exclusive Panorubber® outsole providing resistance to hydrolysis and protection from heat and cold. The products of 4x4 INDUSTRY range meet the requirements of the petrochemical industry and construction.

PANORUBBER® OUTSOLE

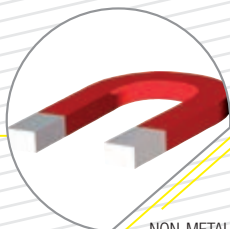
- 1- SLIP RESISTANCE
Rubber outsole SRC standard
Slip resistance on all type of slippery floor
- 2- OIL RESISTANCE
Rubber/Nitrile outsole
- 3- RESISTANCE TO HYDROLYSIS
The material remains stable and keeps its shapes during variations in temperature and humidity
- 4- HEAT RESISTANCE
 - HRO standard :
300° Contact-heat resistant sole assembly (1 mins)
 - HI standard :
Isolation of the foot in the shoe against the heat.
Raising the temperature does not exceed 22°C after 30 mins in a sand bath at 150°C



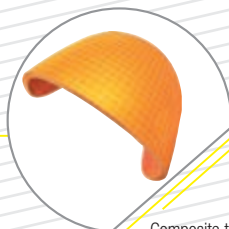
Reinforced toe protection :
Toe with coated leather scuffcap
Except LANTANA - NAVARA



Ultra flexible anti-perforation
composite insole
Except LANTANA - NAVARA -
KORANDA



NON-METALLIC
No metal part in the shoe
Except LANTANA - NAVARA -
KORANDA



Composite toe cap 200-
joule, lighter than steel
Non conductive material
Except LANTANA - NAVARA -
KORANDA



NON-METALLIC
Except LANTANA - NAVARA -
KORANDA

CAMARO S3 SRC



FRONTERA S3 SRC



KORANDA S3 SRC



Article	Colours	Description	Sizes	Standard		
CAMARO S3 SRC	Brown	Upper: Full grain leather, S3 water resistant treatment, with TPU toe cap. Lining: Polyamide Cambrelle absorbing. Insole: Removable preformed - Polyamide Cambrelle on EVA. Midsole: Injected - Panorubber®. Outsole: Rubber Nitrile.	36 → 48	EN ISO 20345 S3 HRO HI CI SRC	820 g	x 5
FRONTERA S3 SRC					750 g	
KORANDA S3 SRC	Black	Upper: Pigmented split leather, S3 water resistant treatment, with TPU toe cap. Lining: Polyamide absorbing. Insole: Removable - Polyamide on EVA. Midsole: Injected - Panorubber®. Outsole: Rubber Nitrile.			720 g	

LANTANA S1P SRC



NAVARA S1P SRC



Article	Colours	Description	Sizes	Standard		
LANTANA S1P SRC	Black	Upper: Buffalo pigmented split leather. Lining: Polyamide absorbing. Insole: Removable - Polyamide on EVA. Midsole: Injected - Panorubber®. Outsole: Rubber Nitrile.	36 → 48	EN ISO 20345 S1P HRO HI CI SRC	700 g	x 5
NAVARA S1P SRC					670 g	

DELTA FUSION S3 SRC



Specially designed and tested for foundry and aluminium heavy industries
Resistance in hot and hard working conditions (molted metal)

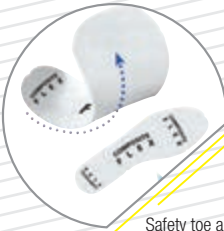
- PANORUBBER® OUTSOLE
- 1- SLIP RESISTANCE
 - Rubber outsole SRC standard
 - Slip resistance on all type of slippery floor
 - Outsole studs design developed by DELTAPLUS® LAB for optimal traction and grip
 - 2- OIL RESISTANCE
 - Rubber/Nitrile outsole
 - 3- RESISTANCE TO HYDROLYSIS
 - The material remains stable and keeps its shapes during variations in temperature and humidity
 - 4- HEAT RESISTANCE
 - HRO standard: 300° Contact-heat resistant sole assembly (1 mins)
 - HI standard: Isolation of the foot in the shoe against the heat. Raising the temperature does not exceed 22°C after 30 mins in a sand bath at 150°C



Cambrelle polyamide lining
Perspiration absorption
Quick dry



Fast opening
Snap fasteners



Safety toe and anti-perforation insole
Stainless steel



EN ISO 20349 Standard 2010 HI-1 Steel and Aluminum
Protection against thermal risks and splashes of molten metal (foundry – welding)

Article	Colours	Description	Sizes	Standard		
DELTA FUSION S3 SRC	Black	Upper: Fireproof Buffalo «C» leather, 1.8-2 mm . Lining: Polyamide absorbing. Insole: Removable - non-woven on latex Foam. Midsole: Injected - Panorubber®. Outsole: Rubber nitrile.	36 → 48	CE EN ISO 20349 AL FE HI-1 EN ISO 20345 S3 HRO SRC	910 g	x 5



SUPER QUARTZ
📄 30

**VESTE19A -
VESTE19N**
📄 174

TERK400
📄 96

**PANTA19A -
PANTA19N**
📄 174

**DELTA FUSION
S3 SRC**
📄 198



SHOES

X-Large Industry

Symbol of comfort, protection and durability, the X-LARGE INDUSTRY range meets the toughest working environments.

EXCELLENT SLIP RESISTANCE

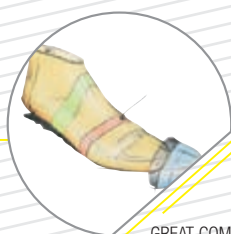
- 1- Toe grip and heel grip
- 2- Lateral ladder grip



Reflective strip



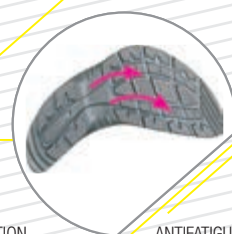
SHOCK ABSORBER
Dual density PU outsole



GREAT COMFORT (wider fitting)
Last and toe size 11



REINFORCED TOE PROTECTION
Toe with PU cover (Bump cap system)



ANTIFATIGUE SOLE
Integrated flexing zone (PANOFLEX® system)

CADEROUSSE S3 SRC



CADEROUSSE



SAULT S3 SRC



MONTBRUN S3 SRC



Article	Colours	Description	Sizes	Standard		
CADEROUSSE S3 SRC	Black	Upper: Full grain leather, S3 water resistant treatment. Lining: Acrylic furlined. Insole: Preformed removable - Felt. Outsole: Injected - Dual-density PU with bump cap.	39 → 48	EN ISO 20345 S3 CI SRC	880 g	x 5
SAULT S3 SRC		Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyamide. Insole: Removable preformed - Polyamide on EVA. Outsole: Injected - Dual-density PU with bump cap.		EN ISO 20345 S3 SRC	800 g	
MONTBRUN S3 SRC					740 g	

CAROMB S1P SRC



MAZAN S1P SRC



Article	Colours	Description	Sizes	Standard		
CAROMB S1P SRC	Grey-Blue	Upper: Suede split leather and polyamide nylon. Lining: Polyamide. Insole: Preformed removable - Polyamide on EVA. Outsole: Injected - Dual-density PU with bump cap.	39 → 48	EN ISO 20345 S1P SRC	740 g	x 5
MAZAN S1P SRC					710 g	

What does the regulation say?

Areas with potentially explosive atmospheres called **ATEX** and the protection of workers against the risks of explosion are regulated by 1999/92/EC Directive.

The use of  qualified footwear dissipating electrostatic charges, is recommended in these areas as part of a comprehensive system of prevention of explosion risk.

Requirements for the design, implementation of systems controlling electrostatic discharge (ESD) that can damage electronic components are defined by the EN61340-5-1 standard.

The device said ESD must offer resistance between $10^5 \Omega$ and $3.5 \cdot 10^7 \Omega$.

To be used in an ESD system, a shoe must at least be qualified according to EN61340-4-3 standard and offer resistance less than $10^8 \Omega$ (and greater than $10^5 \Omega$), it is then dissipative.

SAULT ESD and VIAGI ESD perform particularly well because they have not only reached a maximum resistance between 10^5 and $3.5 \cdot 10^7$ (single ohm), but **these tests were conducted under severe restraints: the climatic environment class number 1 (high drought: 15% humidity rate).**

Due to their low resistance level, **SAULT ESD** and **VIAGI ESD** are a particularly efficient part of global grounding system (gloves, clothing, carpet, seat, etc ...).

Thus, their performances help this system to achieve the level of resistance required for  compliance.



RISK OF ELECTROSTATIC DISCHARGE (ESD*)

The static electricity on the operators must be controlled in the following application areas, because it can:



- > generate electrostatic sparks that can ignite explosive atmospheres: plastic industry, mining, oil and gas industry, chemical industry ...
- > damage sensitive equipment against electric shock: various electronic industries ...
- > generate particles that may be deposited on the painting: car industry, house appliances ...

* Electrostatic Discharge

SAULT S3 SRC ESD



Article	Colours	Description	Sizes	Standard		
SAULT S3 SRC ESD	Black	Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyamide. Insole: Removable preformed - Polyamide on EVA. Outsole: Injected - Dual-density PU with bump cap.	39 → 48	 EN ISO 20345 S3 SRC EN61340 CLASS 1	800 g	x 5

VIAGI S1P SRC ESD



Article	Colours	Description	Sizes	Standard		
VIAGI S1P SRC ESD	Black-Red	Upper: Suede split leather and polyester mesh. Lining: Polyester. Insole: Removable preformed - Polyester on EVA. Outsole: Injected - Dual-density PU. Non metallic footwear.	36 → 48	 EN ISO 20345 S1P SRC EN61340 CLASS 1	580 g	x 10

SHOES

Classic +

Article	Colours	Description	Sizes	Standard		
GARGAS II ISO 18KV	Black	Upper: Pigmented split leather. Lining: Polyamide absorbing. Insole: Removable - Polyamide on EVA. Outsole: Injected - Dual-density PU.	35 → 48	ASTM 18 KV M/V/75/C/75 EH PR	570 g	x 10
       						
GARGAS II S1P SRC	Black	Upper: Pigmented split leather. Lining: Polyamide absorbing. Insole: Removable - Polyamide on EVA. Outsole: Injected - Dual-density PU.	35 → 48	CE EN ISO 20345 S1P SRC	630 g	x 10
       						
GOULT II S1P SRC	Black	Upper: Pigmented split leather. Lining: Polyamide absorbing. Insole: Removable - Polyamide on EVA. Outsole: Injected - Dual-density PU.	35 → 48	CE EN ISO 20345 S1P SRC	610 g	x 10
       						

SHOES

Classic Industry

Article	Colours	Description	Sizes	Standard		
COBRA 3 S3 SRC 	Black	Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU. • Para aramid seams • Flap        	36 → 47	 EN ISO 20349 WG HI-1 EN ISO 20345 S3 SRC	650 g	x 10
BRISBANE S1 SRC 	Grey	Upper: Suede split leather. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.       	36 → 48	 EN ISO 20345 S1 SRC	540 g	x 10
VOYAGER S1P SRC 	Grey-Blue	Upper: Suede split leather. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.       	36 → 45 46 → 47	 EN ISO 20345 S1P SRC	620 g	x 10 x 5
MIRAGE S1P SRC 	Grey-Blue	Upper: Suede split leather. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.       	36 → 45 46 → 47	 EN ISO 20345 S1P SRC	600 g	x 10 x 5
FENNEC II S1 SRC 	Grey	Upper: Suede split leather. Lining: Polyamide absorbing. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.       	36 → 45 46 → 47	 EN ISO 20345 S1 SRC	600 g	x 10 x 5
FENNEC II S1P SRC 	Grey	Upper: Suede split leather. Lining: Polyamide absorbing. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.        	36 → 45 46 → 47	 EN ISO 20345 S1P SRC	620 kg	x 10 x 5

SHOES

Classic Industry

Article	Colours	Description	Sizes	Standard		
JUMPER2 S3 FUR HC SRC	Black	Upper: Pigmented leather croupon, S3 water resistant treatment. Lining: Polyester fur. Insole: Removable preformed - Felt. Outsole: Sole: Injected - Dual density PU. • PU formula sole keeping its properties until -30°C	36 → 45 46 → 48	 EN ISO 20345 S3 CI SRC	690 g	x 10 x 5
		         				
JUMPER2 S3 FUR SRC	Black	Upper: Pigmented split leather, S3 water resistant treatment. Lining: furlined polyester. Insole: Removable - Polyamide on EVA. Outsole: Injected - Dual-density PU. • Outsole with special PU material resistant to -30°C	36 → 45 46 → 48	 EN ISO 20345 S3 CI SRC	680 g	x 10 x 5
		        				
JUMPER2 S3 BUMPER SRC	Black	Upper: Pigmented split leather, S3 water resistant treatment, with TPU toe cap. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.	36 → 45 46 → 48	 EN ISO 20345 S3 SRC	650 g	x 10 x 5
		       				
JUMPER2 S3 SRC	Black	Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyamide mesh. Insole: Fixed - Polyamide on antibacterial latex. Outsole: Injected - Dual-density PU.	36 → 45 46 → 48	 EN ISO 20345 S3 SRC	660 g	x 10 x 5
		       				
JET2 S3 SRC	Black	Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyamide mesh. Insole: Fixed - Polyamide on antibacterial latex. Outsole: Injected - Dual-density PU.	36 → 45 46 → 47	 EN ISO 20345 S3 SRC	630 g	x 10 x 5
		       				

Article	Colours	Description	Sizes	Standard		
JUMPER2 S1P SRC	Black	Upper: Pigmented split leather. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.	36 → 45 46 → 47	CE	660 g	x 10 x 5
		       		EN ISO 20345 S1P SRC		
JET2 S1P SRC	Black	Upper: Pigmented split leather. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.	36 → 45 46 → 47	CE	630 g	x 10 x 5
		       		EN ISO 20345 S1P SRC		
JUMPER2 S1 SRC	Black	Upper: Pigmented split leather. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.	36 → 45 46 → 47	CE	590 g	x 10 x 5
		      		EN ISO 20345 S1 SRC		
JET2 S1 SRC	Black	Upper: Pigmented split leather. Lining: Polyamide mesh. Insole: Fixed - Polyamide on EVA. Outsole: Injected - Dual-density PU.	36 → 45 46 → 47	CE	590 g	x 10 x 5
		       		EN ISO 20345 S1 SRC		



BOOTS

Winter Boot - Rain Boot

Article	Colours	Description	Sizes	Standard		
SAKHA S3 SRC 	Beige	Upper: Cowhide leather, water resistant treatment S3 with TPR heel protection. Lining: Acrylic fur. Insole: Removable preformed - Polyester on EVA. Outsole: Injected - Dual density PU with front PU reinforcement. 	39 → 48	 EN ISO 20345 S3 CI SRC	850 g	x 5
SAMARA S3 SRC 	Black	Upper: Cowhide leather, water resistant treatment S3 with TPR heel protection. Lining: acrylic fur. Insole: Removable preformed - Polyester on EVA. Outsole: Injected - Dual density PU with front PU reinforcement. 	39 → 48	 EN ISO 20345 S3 CI SRC	850 g	x 5
ONTARIO S1P SRC 	Black	Upper: Pigmented split leather. Lining: Polyamide. Insole: removable - Polyamide on EVA. Outsole: Dual-Density PU 	35 → 47	 EN ISO 20345 S1P SRC	740 g	x 5
AMAZONE S5 SRA 	Black Green	Upper: PVC. No Lining. No Insole. Outsole: Injected PVC/Nitrile. 	36 → 47	 EN ISO 20345 S5 SRA	1100 g	x 5

Article	Colours	Description	Sizes	Standard		
ROBION3 S2 SRC	White	Upper: Microfibre. Lining: Polyamide. Insole: Preformed removable - Polyester on EVA. Outsole: Injected - PU bi-density.	35 → 47	 EN ISO 20345 S2 SRC	450 g	x 5



- Water resistant upper in microfibre
- Machine wash up to 30° C, easy to maintain
- Absorbent non woven lining for quick dry

MAUBEC 3 SBEA SRC	White	Upper: Microfibre. Lining: Polyamide. Insole: Preformed removable - Polyester on EVA. Outsole: Injected - PU bi-density.	35 → 47	 EN ISO 20345 SB A E SRC	460 g	x 5
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- Water resistant upper in microfibre
- Machine wash up to 30° C, easy to maintain
- Absorbent non woven lining for quick dry

Accessoires

Article	Colours	Description	Sizes	Standard		
LACET XL	Black-Grey	Round polyamide laces. Length: 120 cm.			10 g	x 500



	Black	Round polyamide laces. Length: 100 cm.			10 g	x 500
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22180

45400	Black	Spare soles. Polyamide.	35/36 → 47/48		60 g	x 350
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FALL PROTECTION

TO FIND THE SUITABLE PRODUCT FOR YOUR JOB

	AGRICULTURE/ GREEN AREAS	CONSTRUCTION	CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
PREMIUM												JAGUAR HAR36TCP	220
												GALAGO HAR35TC	221
												GALAGO HAR35TCA	221
												EOLIEN HAR35	222
												ANATOM HAR32	223
												AN235200CD	234
												AN245200CDD	234
												LV504A	242
												LV400	243
												LV401	243
												L0045200	244
												L0047100	244
												L0047150	244
												L0047150AD	244
												L0147150	244
												L0147150CDD	244
												TC001	246
												TC002	246
												TC003	246
												TC004	246
												TC012	246
												TC044	246
												AN006	247
												TC005	247
												TC009	247
												TC015	247
												TC029	247

	AGRICULTURE/ GREEN AREAS	CONSTRUCTION	CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
PREMIUM												TRA101	248
												TRA102	248
												TRA103	248
												TRA20	248
												TRA22	248
												TRA30	248
												TRA32	248
												RAH33	250
												TC022	250



TO FIND THE SUITABLE PRODUCT FOR YOUR JOB

	AGRICULTURE/ GREEN AREAS	CONSTRUCTION CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
											EX220	224
											HAR22	224
											HAR24	224
											HAR23	225
											HAR23GIL	225
											EX118200A	228
											HA203	229
											RIPLIGHT 2 HA201	229
											ELARA280	230
											ELARA320	230
											ELARA140	231
											ELARA270	231
											ELARA150	232
											ELARA170	232
											AN208150CC	235
											AN208RCD	235
											AN218150CCC	235
											AN218RCDD	235
											FIXBLOC AN105	239
											MEDBLOC AN13006C	238
											MINIBLOC AN102	239
											AN315	240
											AN317	240
											AN319	240
											ASCORD AN060	240
											LV100	242
											LV105	242
											LV102100	243
											LV102150	243
											TETRANCHOR LV115	242
											DAYAK LV120G	243
											L0005200	245
											L0007100R	245
											L0007150	245
											L0007150CD	245
											AM022X2	251
											AM010	244
											AM025X2	251

	AGRICULTURE/ GREEN AREAS	CONSTRUCTION CIVIL ENGINEERING	SECOND WORK CRAFTSMAN	HEAVY INDUSTRY	LIGHT INDUSTRY	SERVICES LOGISTICS	HYGIENE ENVIRONMENT	OIL/GAS	MINING	WIND ENERGY	Suitable protection	PAGES
											EX120	226
											HAR11	226
											HAR12	226
											HAR14	226
											HAR12GIL	227
											HAR12GILNO	227
											EX021	228
											ELARA190	232
											ELARA130	233
											ELARA160	233
											AN201200CC	236
											AN201200CD	236
											AN211200CCC	236
											AN211200CDD	236
											AN203200CC	237
											AN203200CD	237
											AN213200CCC	237
											AN213200CDD	237
											FENNEC AN06310	241
											FENNEC AN06320	241
											FENNEC AN06330	241
											L0030	245
											L0031	245
											L0032	245
											AM002X5	251
											TC105	250



FALL PROTECTION SYSTEMS

FALL ARREST

FULL BODY HARNESSES



EN361

EN361

EN361

EN361 + EN358

FALL ARREST



SELF RETRACTABLE FALL ARRESTER

ROPE GRABS

ENERGY ABSORBING LANYARDS

EN360

AN12006T

AN060

AN06310

EN355

EN355

ANCHORAGE



EN362

EN795-A

EN795-B

RESCUE AND SUSPENSION HARNESSES



EN1498-B

EN361 + EN358

RESTRAINT SYSTEMS



EN358

EN358



EN567



EN358



EN354



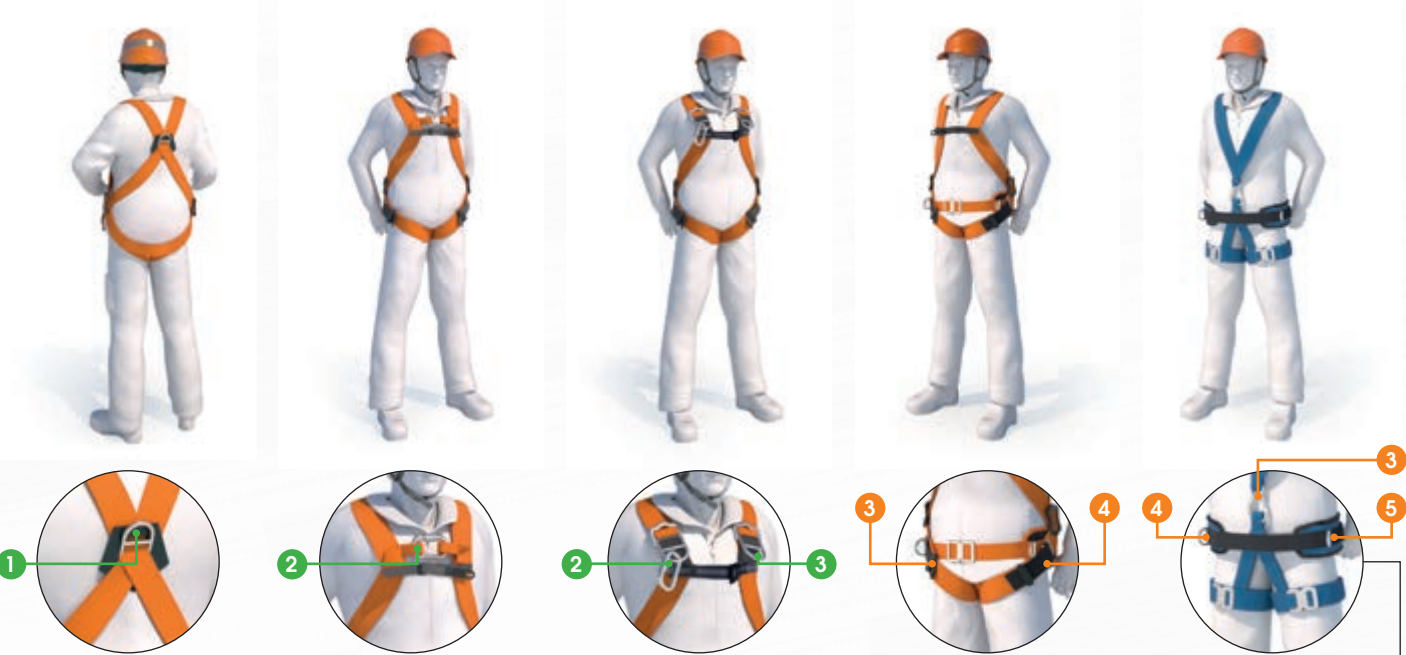
EN795-B

EN795-B



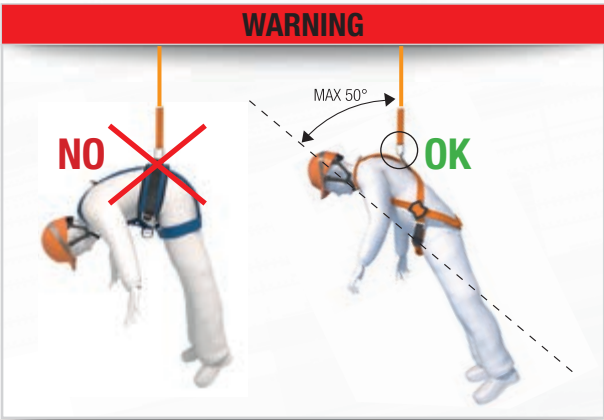
HARNESS

CHOOSING YOUR HARNESS



CHOOSING YOUR SIZE

REF	SIZES	1	2	3	4
GT	S-M-L	<195 cm	<110 cm	<115 cm	<65 cm
XX	XL-XXL	>190 cm	>105 cm	>110 cm	>60 cm

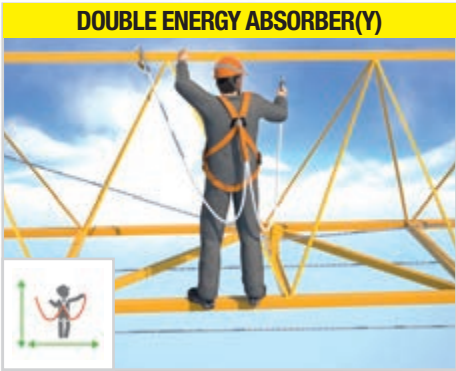


DONNING A HARNESS

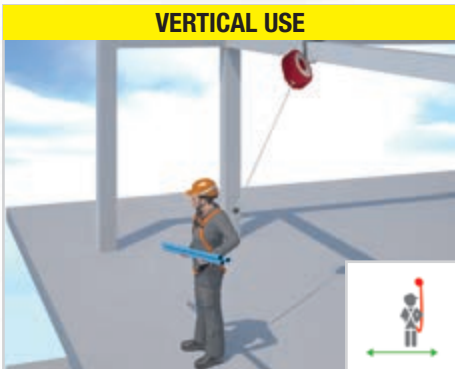


FALL ARREST

ENERGY ABSORBER



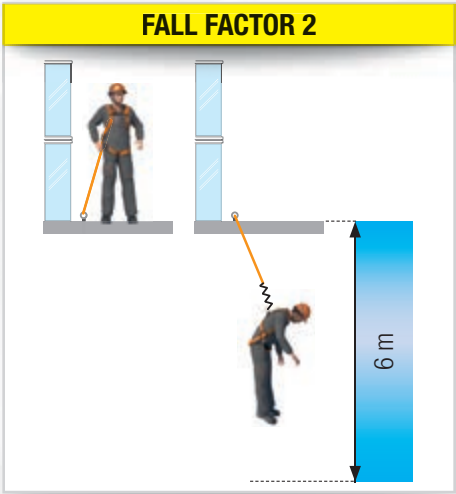
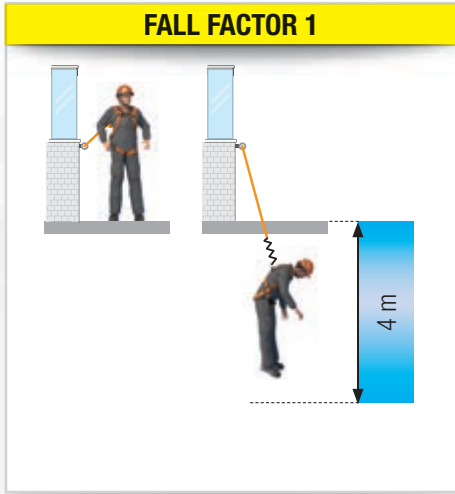
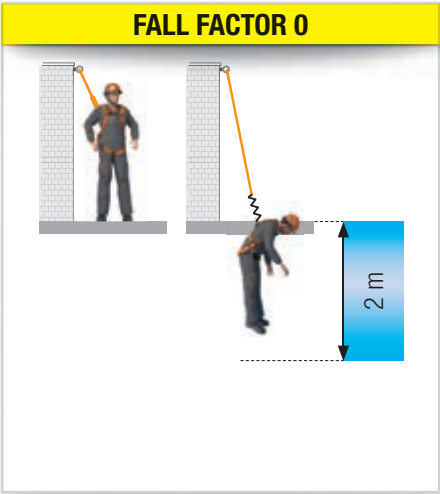
SELF RETRACTABLE FALL ARRESTER



TEMPORARY AND PERMANENT LIFELINES



CLEARANCE



AFTER SALES SERVICE

MANDATORY GENERAL ANNUAL INSPECTION

EN365

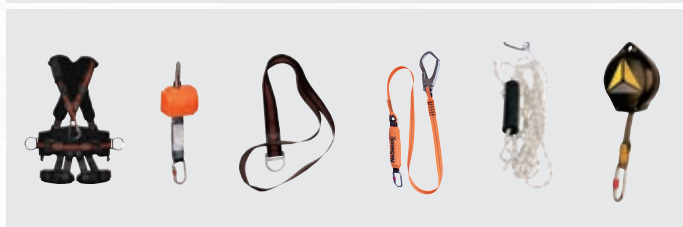
Instructions for periodic inspections shall include inter alia:

- A recommendation for the frequency of periodic inspections, taking into account factors such as regulation, the type of equipment, frequency of use, and environmental conditions. This recommendation shall include a clause stating that the periodic

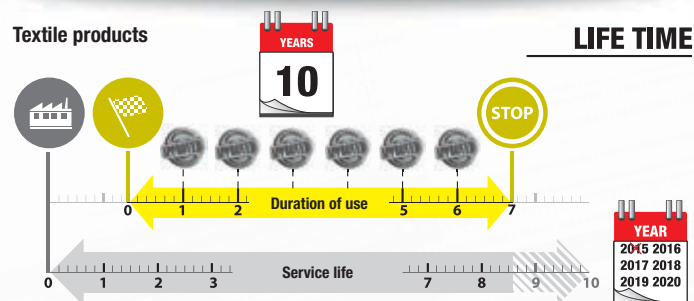
inspection should be conducted at least once every twelve months;

- A warning to emphasise that periodic inspections should be carried out by a competent person in strict compliance with the manufacturer periodic inspection procedures.

10 years

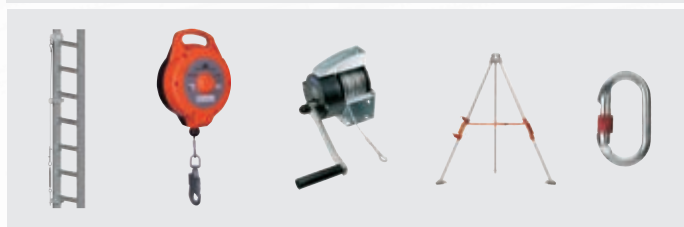


Textile products

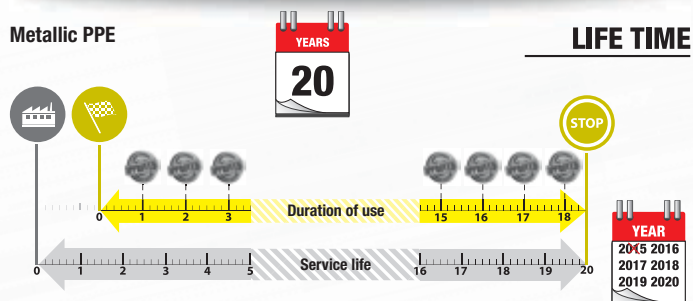


Up to 10 years from the date of manufacture or 7 years from the usage date for textile PPE

20 years



Metallic PPE



Up to 20 years from the date of manufacture for metallic PPE

VISUAL INSPECTION FOR:

Harnesses, belts, lanyards, ropes, energy absorbers, non removable reels (e.g. AN102), connectors, components of our kits (except ELARA270), temporary anchors (tripod, LV201 ...)

MECHANICAL INSPECTION FOR:

Removable reels, rescue equipment (e.g. TC013)



LOCAL AFTER SALES SERVICES

Network of service centres



Info on
www.deltaplus.eu



Training centres
www.dpgtraining.com



SCHEDULE THE INSPECTION

1. MICROCHIP

A microchip, read by NFC, is placed below fall protection PPE's labels.

Almost all smartphones have the NFC (Near Field Communication).



NFC

Near Field Communication



2. MOBILE APP

Free download of APP DELATPLUS «ID CARD» to read and write the product traceability.



3. www.deltaplus.eu

Users can manage the cycle life of its PPE fall protection portfolio, programming the review, the end of life, the optimal stock.



HOW TO SCHEDULE THE ANNUAL INSPECTION

Register on the site
www.deltaplus.eu



Or:

- Schedule by the user
- Schedule by the employer
- Label on the storage area of the product
- Use the following organisations for the scheduling:
 - the dealer
 - the Delta Plus manufacturer
 - the Service Center



BODY SUPPORT

Fall arrester and suspension harnesses

JAGUAR HAR36TCP



Comfortable with the thermoformed backrest and thigh with sponge lining and comfort pad

Article	Description	Sizes	Standard		
JAGUAR HAR36TCP	Two colour harness with belt: 2 fall arrest anchorage points (dorsal-sternal). Positioning belt with thermoformed back and shorts. 2 work positioning attachment points (lateral). 1 suspension point. 8 adjustable buckles, of which 4 are automatic. 1 Ventral blocker.	S/M/L XL/XXL	EN358 EN361 EN567 EN362	2.4 kg	x 5

Most of our products have been tested with a mass constraint greater than 40% to 50% of the normative requirements (140 kg or 150 kg). Find this information in the technical specifications of our products.

GALAGO HAR35TC



Comfortable with the thermoformed backrest and thigh with sponge lining and comfort pad



2 accessory attachment holders incorporated into the belt



2 quick release buckles to adjust or remove the shoulder straps to get a shorts belt EX320TC

Article	Description	Sizes	Standard		
GALAGO HAR35TC	Two colour harness with belt: 2 fall arrester anchorage points (back - front). Positioning belt with thermoformed back and shorts. 2 work positioning attachment points (lateral). 1 suspension point. 8 adjustable buckles. 1 karabiner.	S/M/L XL/XXL	EN358 EN361 EN813 EN362	1.9 kg	x 5

GALAGO HAR35TCA



Automatic buckles



Article	Description	Sizes	Standard		
GALAGO HAR35TCA	Two colour harness with belt: 2 fall arrest anchorage points (dorsal-sternal). Positioning belt with thermoformed back and shorts. 2 work positioning attachment points (lateral). 1 suspension point. 8 adjustable buckles, of which 4 are automatic. 1 carabiner.	S/M/L XL/XXL	EN358 EN361 EN813 EN362	2.6 kg	x 5



BODY SUPPORT

Fall arrester harnesses

EOLIEN HAR35



Pocket for phone or fall detector carrier



Article	Description	Sizes	Standard		
EOLIEN HAR35	Two colour harness with positioning belt. 3 fall arrester attachment points (back- front right side - front left side). 4 adjustable buckles in light alloy. 2 automatic buckles. Positioning belt with thermoformed back closed with wide Velcro for more comfort. 120° rotation. 2 lateral anchorage points. 1 adjustment loop. Sponge back lining.	S/M/L XL/XXL	 EN358 EN361	2 kg	x 5

Most of our products have been tested with a mass constraint greater than 40% to 50% of the normative requirements (140 kg or 150 kg). Find this information in the technical specifications of our products.

ANATOM HAR32



Pocket for phone or fall detector carrier



Article	Description	Sizes	Standard		
ANATOM HAR32	Two colour harness. 2 fall arrester anchorage points (back - front). 4 adjustable buckles.	S/M/L XL/XXL	EN361	1.4 kg	x 5



BODY SUPPORT

Fall arrester harnesses

HAR24



«Riplight System II®»

Rotation 120°
2 accessory attachment holders
incorporated into the belt

Fall indicator



Article	Description	Sizes	Standard		
HAR24	Harness with extensible «Riplight System II®» patented waves with positioning belt. 2 fall arrester anchorage points (back - front). 4 adjustable buckles. Positioning belt with thermoformed back closed with wide Velcro. 120° rotation. Large thermoformed back with sponge lining. 2 lateral anchorage points for work positioning.	S/M/L XL/XXL	CE EN358 EN361	1.8 kg	x 5

HAR22



EX220



Article	Description	Sizes	Standard		
HAR22	Elasticated harness with extensible «Riplight System II®» patented waves. 2 fall arrester anchorage points (back - front). 4 adjustable buckles.	S/M/L XL/XXL	EN361	1 kg	x 5
EX220	Positioning belt with thermoformed back closed with wide Velcro for more comfort. 120° rotation. 2 lateral anchorage points. 1 adjustment loop. Sponge back lining.		EN358	0.8 kg	

Most of our products have been tested with a mass constraint greater than 40% to 50% of the normative requirements (140 kg or 150 kg). Find this information in the technical specifications of our products.

HAR23



«Riplight System II®»



Fall indicator

Article	Description	Sizes	Standard		
HAR23	Elasticated harness with extensible «Riplight System II®» patented waves. 3 fall arrester attachment points (back- right front side - left front side). 4 adjustable buckles.	S/M/L XL/XXL	CE EN361	1.3 kg	x 5

HAR23GIL



«Riplight System II®»



Fall indicator

Article	Description	Sizes	Standard		
HAR23GIL	Extensible harness with work vest not removable; Harness (Ref. HAR23). Vest: Polyester and Oxford polyamide. Polyester mesh lining. Zip closure. 2 zip pockets. Retro-reflective pipings. Adjustable size by elastic cords.	S/M/L XL/XXL	CE EN361	1.8 kg	x 5



BODY SUPPORT

Fall arrester harnesses

Article	Description	Sizes	Standard		
HAR14 	2 fall arrester anchorage point harness (back - front). 2 adjustment loops. 2 adjustable lateral plates. Positioning belt with broad thermoformed back. Sponge lining. 2 anchorage points for work positioning.   	S/M/L XL/XXL	CE EN358 EN361	1.1 kg	x 10
HAR12 	2 fall arrester anchorage point harness (back - front). 2 adjustment loops. 2 adjustable lateral plates.   	S/M/L XL/XXL	CE EN361	0.7 kg	x 10
HAR12MFB 	2 fall arrester anchorage point harness (back - front) with 45 mm chest strap. 2 adjustment loops. 2 adjustable lateral plates. Available on demand   		CE EN361	10.8 kg	x 10
HAR11 	1 fall arrester anchorage point harness (back). 2 adjustment loops. 2 adjustable lateral plates.   	S/M/L XL/XXL	CE EN361	0.6 kg	x 10
EX120 	Positioning belt with thermoformed back. 2 lateral anchorage points for work positioning. 1 adjustment loop. Sponge back lining.   	One size	CE EN358	0.4 kg	x 10

Most of our products have been tested with a mass constraint greater than 40% to 50% of the normative requirements (140 kg or 150 kg). Find this information in the technical specifications of our products.

Article	Description	Sizes	Standard		
HAR12GILNO 	Harness with work vest not removable: Harness (Ref. HAR12). Vest: 100% polyester. Polyester Mesh lining. Zip closure. 4 pockets including 1 phone pocket. Adjustable size by zip.	S/M/L XL/XXL	CE EN361	1.2 kg	x 10
 1 2 4 5 9  6 7 8 9 11  					
HAR12GIL  	Harness with high visibility vest not removable: Harness (Ref. HAR12). Vest: Twill 54% polyester 46% cotton. Sewn retroreflective tape. Polyester mesh lining. Zip closure. 4 pockets including 1 phone pocket. Adjustable size by zip.	S/M/L XL/XXL	CE EN361 EN471 1 2	1.2 kg	x 10
 1 2 4 5 9  6 7 8 9 11  					



ANCHORAGE - WORK POSITIONING

Work positioning systems

EX118



Recommended accessory
for the proper use of this
product: 1 AM002 connector



Article	Description	Sizes	Standard		
EX118200A EX118400A	Adjustable work positioning lanyard via stainless steel tensioner. Adjustable length. Stranded rope Ø 14 mm equipped with a wear indicator. Thimble loop. Splice protection. Protective sheath. 1 hook.	0.20 to 2 m 0.40 to 2 m	EN358 EN362	0.9 kg 1.1 kg	x 5

EX021

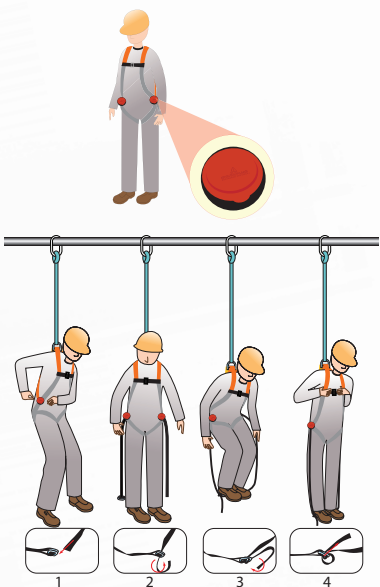


Article	Description	Sizes	Standard		
EX021	Adjustable work positioning lanyard via reducer. Adjustable length. Stranded rope Ø 12 mm. Protective sheath on the splices.	1.10 to 2 m	EN358	0.3 kg	x 15

FALL ARRESTER SYSTEMS

Fall arrester accessories

HA203



Article	Description	Sizes		
HA203	Pair of straps enabling blood circulation in the legs after a fall while waiting for help. Adjustable for any type of harness by positioning on the side straps. Ease and speed of implementation. Carrying case.	One size	300 g	x 25

RIPLIGHT 2 HA201



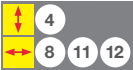
Article	Description	Sizes		
RIPLIGHT 2 HA201	RIPLIGHT SYSTEM II® gives elasticity to your harness by removing the stress points. «Clips» easily on our harness straps. For optimum comfort, it is recommended to use three pairs of expandable waves. Sold in pairs.	One size	30 g	x 100



FALL ARRESTER SYSTEMS

Kits

ELARA320



Storage bag



Article	Description	Sizes	Standard		
ELARA320	POSITIONNING & SCAFFOLDING - ready for use fall arrest kit: 2 fall arrest anchor point harness (back - front). 2 adjustment loops. 2 adjustable side plates. Positioning belt (Ref. HAR14). Adjustable work positioning lanyard via reducer. Length of 1.1 to 2 m. Stranded rope Ø 12 mm (Ref. EX021). Fall arrester with energy absorber in double stranded rope (Y) Ø 12mm. Length 2 m. 1 AM002 carabiner and 2 AM022 hooks (Ref. AN211200CDD) 2 connectors AM002.	S/M/L	CE EN355 EN361 EN358 EN362	3.6 kg	x 5

ELARA280



Storage bag



Article	Description	Sizes	Standard		
ELARA280	SCAFFOLDING - ready for use fall arrest kit: 2 fall arrest anchor point harness (back - front). 2 adjustment loops. 2 adjustable side plates. (Ref. HAR12). Fall arrester with energy absorber in double stranded rope (Y) Ø 12mm. Length 2 m. 1 AM002 carabiner and 2 AM022 hooks (Ref. AN211200CDD)	S/M/L	CE EN355 EN361 EN362	2.8 kg	x 5

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ELARA270



Article	Description	Sizes	Standard		
ELARA270	VERTICAL & HORIZONTAL 10 M - Ready for use fall arrester kit: 2 fall arrester anchorage point harness (back - front). 2 adjustment loops. 2 adjustable side plates. (Ref. HAR12). Self retractable fall arrester with steel strap. Length 10 m. ABS case. 1 automatic swivel connector and fall indicator AM016 (Ref. AN12010T). Lanyard and anchorage point in tubular strap, length 2 m (Ref. LO030). 2 connectors AM002.	S/M/L	EN360 EN354 EN795 TYPE B EN361 EN362	8.5 kg	x 1

ELARA140



Storage bag

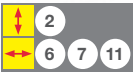


Article	Description	Sizes	Standard		
ELARA140	VERTICAL & HORIZONTAL 2.50 M - Fall arrester kit ready for use: 2 fall arrester anchorage point harness (back - front). 2 adjustment loops. 2 adjustable side plates. (Ref. HAR12). Self retractable fall arrester with 46 mm strap with energy absorber. Protection case. 1 connector AM002 (Ref. AN102). 1 connector AM002.	S/M/L XL/XXL	EN360 EN361 EN362	2.1 kg	x 5

FALL ARRESTER SYSTEMS

Kits

ELARA170

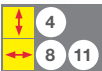


Storage bag



Article	Description	Sizes	Standard		
ELARA170	ROOF - ready for use fall arrester kit: 2 fall arrester anchorage point harness (back - front). 2 adjustment loops. 2 adjustable side plates. (Ref. HAR12). Sliding non opening fall arrester set with fall indicator on stranded rope anchorage line Ø 12 mm, length 20 m. (Ref. AN063/20). 2 connectors AM002.	S/M/L XL/XXL	EN353-2 EN361 EN362	3.3 kg	x 5
ELARA150		S/M/L		2.4 kg	

ELARA190



Storage bag



Article	Description	Sizes	Standard		
ELARA190	SCAFFOLDING - ready for use fall arrester kit: 2 fall arrester anchorage point harness (back - front). 2 adjustment loops. 2 adjustable side plates. (Ref. HAR12). Fall arrest with energy absorber with lanyard strap, length 2 m, equipped with 1 connector AM002 and 1 AM022 hook (Ref. AN203200CD).	S/M/L XL/XXL	EN355 EN361 EN362	1.8 kg	x 5

FALL ARRESTER SYSTEMS

Kits

Most of our products have been tested with a mass constraint greater than 40% to 50% of the normative requirements (140 kg or 150 kg). Find this information in the technical specifications of our products.

ELARA130



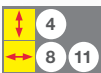
RESTRAINT KIT

Storage bag



Article	Description	Sizes	Standard		
ELARA130	RESTRAINT - ready for use kit: 1 fall arrester anchorage point harness (back). 2 adjustment loops, 2 adjustable side plates with lanyard in irremovable stranded rope Ø 12 mm. Length 1.50 m. 1 connector AM002.	S/M/L	EN358 EN362	1.3 kg	x 5

ELARA160



Storage bag



Article	Description	Sizes	Standard		
ELARA160	CLASSIC - ready for use fall arrester kit: 1 fall arrester anchorage point harness (back). Two adjustment loops, 2 adjustable side plates with fall arrester with not removable energy absorber in stranded rope Ø 12mm, length 2 m. 1 karabiner AM002.	S/M/L XL/XXL	EN355 EN361 EN362	1.5 kg	x 5



FALL ARRESTER SYSTEMS

Energy absorbing lanyards

AN245200CDD



Article	Description	Sizes	Connector 1	Connector 2	Standard		
AN245200CDD	Fall arrest with energy dissipater in double elastic strap (Y). Thimble loops. Equipped with 1 carabiner AM002 + 2 AM022 hooks.	1.40 to 2 m	1 x AM002	2 x AM022	CE EN355 EN362	2 kg	x 5

AN235200CD

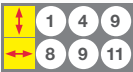


Article	Description	Sizes	Connector 1	Connector 2	Standard		
AN235200CD	Fall arrest with energy absorber elastic strap. Thimble loops. Equipped with 1 AM002 carabiner + 1 AM022 hook.	1.40 to 2 m	1 x AM002	1 x AM022	CE EN355 EN362	1.3 kg	x 5

FALL ARRESTER SYSTEMS

Energy absorbing lanyards

AN218150CCC



AN208150CC



Article	Description	Length	Connector 1	Connector 2	Standard		
AN218150CCC	Fall arrester with energy absorber in double braided rope (Y) Ø 10.5 mm. Thimble loops.	1,50 m	1 x 	2 x  AM002	 EN355 EN362	1.2 kg	x 5
AN208150CC	Fall arrester with energy absorber in braided rope Ø 10.5 mm. Thimble loops.			1 x  AM002		0.8 kg	

AN218RCDD



AN208RCD



Article	Description	Length	Connector 1	Connector 2	Standard		
AN218RCDD	Fall arrester with energy absorber in double braided rope Ø 12 mm (Y), adjustable by means of two gear rings on the rope.	1,50 → 2 m	1 x 	2 x  AM022	 EN355 EN362	2 kg	x 5
AN208RCD	Fall arrester with energy absorber in braided rope Ø12 mm, simple and adjustable by means of a gear ring on the rope.			1 x  AM022		1.3 kg	



FALL ARRESTER SYSTEMS

Energy absorbing lanyards

AN201200CC



AN201200CD



Article	Description	Length	Connector 1	Connector 2	Standard	Weight	Box
AN201200CC	Fall arrester with energy absorber in stranded rope Ø 12 mm. Thimble loops.	2 m	1 x AM002	1 x AM002	CE EN355 EN362	0.8 kg	x 5
AN201200CD				1 x AM022		1.2 kg	

AN211200CCC

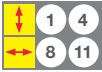


AN211200CDD

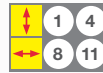


Article	Description	Length	Connector 1	Connector 2	Standard	Weight	Box
AN211200CCC	Fall arrester with energy absorber in stranded rope (Y) Ø 12 mm. Thimble loops.	2 m	1 x AM002	2 x AM002	CE EN355 EN362	1.3 kg	x 5
AN211200CDD				2 x AM022		2 kg	

AN203200CC



AN203200CD



Article	Description	Length	Connector 1	Connector 2	Standard	Weight	Box
AN203200CC	Fall arrester with energy absorber in lanyard webbing. Thimble loops.	2 m	1 x AM002	1 x AM002	CE EN355 EN362	0.7 kg	x 5
AN203200CD				1 x AM022		1.1 kg	

AN213200CCC



AN213200CDD

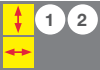


Article	Description	Length	Connector 1	Connector 2	Standard	Weight	Box
AN213200CCC	Fall arrester with energy absorber in double lanyard webbing (Y). Thimble loops.	2 m	1 x AM002	2 x AM002	CE EN355 EN362	1.3 kg	x 5
AN213200CDD				2 x AM022		1.8 kg	

FALL ARRESTER SYSTEMS

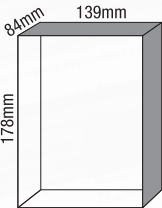
Retractable fall arresters

MEDBLOC AN13006C

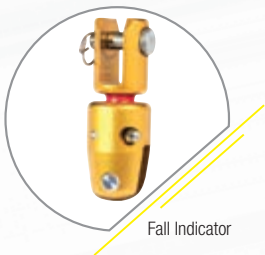
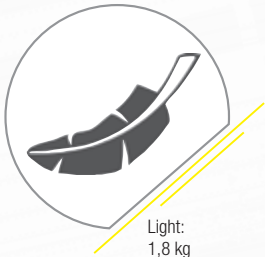


Easy to use

150 Kg tested



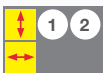
Compact:
139mm
178mm
84mm



Article	Description	Length	Connector 1	Standard		
MEDBLOC AN13006C	Self retractable fall arrester with polyester webbing 25 mm. ABS protection. Swivel with fall indicator. 1 carabiner AM002.	6 m	1 x  AM002	 EN360 EN362	1.8 kg	x 5

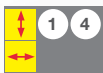
Most of our products have been tested with a mass constraint greater than 40% to 50% of the normative requirements (140 kg or 150 kg). Find this information in the technical specifications of our products.

PROTECTOR ROUND

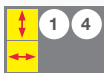


Article	Description	Sizes	Connector	Standard		
AN12006T	Self retractable fall arrestor with galvanized steel cable. ABS protection. Fall indicator. Inertia braking system. 1 carabiner AM016.	6 m	1 x  AM016	 EN360 EN362		
AN12010T		10 m				
AN12015T		15 m				
					7 kg	
					7.5 kg	x 1
					8 kg	

MINIBLOC AN102



FIXBLOC AN105



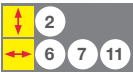
Article	Description	Length	Connector 1	Standard		
MINIBLOC AN102	Self retractable fall arrestor with 46 mm strap with energy absorber. Protection case. 1 carabiner AM002.	2,50 m	1 x  AM002	 EN360 EN362		
FIXBLOC AN105	Self retractable fall arrestor with 17 mm polyester/Aramid Kevlar® strap. Plastic case. Inertia locking system. 1 automatic swivel connector with fall indicator. 1 karabiner AM002.	1,90 m				
					1.1 kg	
					0.9 kg	x 5



FALL ARRESTER SYSTEMS

Fall arresters on rope

ASCORD AN060



Non-inverting device

Energy absorber with fall indicator



AN315

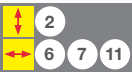


Article	Description	Length	Connector 1	Standard		
ASCORD AN060	Fall arrester sliding on anchorage line stranded rope Ø 14 mm (rope sold separately). Opening type fall arrester equipped with automatic locking, non-inverting device, energy absorber with fall indicator. 1 carabiner AM002.				0.7 kg	x 5
AN315		10 m	1 x  AM002	 EN353-2 EN362	1.5 kg	x 10
AN317	Anchorage line stranded rope Ø 14 mm for ASCORD®. End spliced with thimble loop.	20 m			2.8 kg	x 5
AN319		30 m			4.1 kg	x 5

FALL ARRESTER SYSTEMS

Fall arresters on rope

FENNEC



Recommended accessory for the proper use of this product:
1 connector AM002



Article	Description	Length	Standard		
FENNEC AN06310		10 m		1.3 kg	x 10
FENNEC AN06320	Sliding non opening fall arrester set with fall indicator on stranded rope anchorage line Ø 12 mm. Wear indicator. 1 loop spliced on high end.	20 m	 EN353-2	2.2 kg	x 5
FENNEC AN06330		30 m		3 kg	



ANCHORAGE - WORK POSITIONING

Anchorage devices

LV100



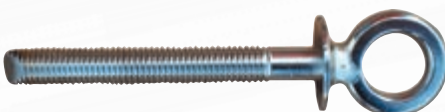
Easy Installation



LV105

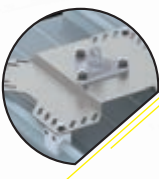


To seal or to screw



Article	Description	Standard		
LV100	Stainless steel anchorage mounting plate with screws Ø 12 mm.	CE EN795 TYPE A	50 g	x 10
LV105	Anchorage with stainless steel eye Ø 12 mm. Overall length 140 mm. Rod length (under flange) 100 mm. Thread length 80 mm.		175 g	

LV504A



TETRANCHOR LV115



Helps manage the anchor point connectors



Article	Description	Sizes	Standard		
LV105	Anchorage with stainless steel eye Ø 12 mm. Overall length 140 mm. Rod length (under flange) 100 mm. Thread length 80 mm.	One size	EN795 TYPE A	175 g	x 10
TETRANCHOR LV115	«Rigging plate». Device for multi-point anchoring with 4 holes		CE EN795 TYPE A TS16415 4	200 g	x 20

ANCHORAGE - WORK POSITIONING

Anchorage devices

LV400



LV401

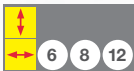


Article	Description	Length	Standard		
LV400	Telescopic rod with 5 sections. Closed length 2m. Open Length 8 m. Material insulates to 30kV.	Adjustable		5 kg	x 1
LV401	Automatic lock hook in aluminium with double opening action. Opening 90 mm R> 23kN.		EN795 TYPE B EN362	1.3 kg	x 10

LV102100



DAYAK LV120G



Article	Description	Length	Standard		
LV102100	Anchorage ring with high tenacity polyester strap. Width 45 mm. End loop with shrinkage and steel anchor D.	1 m		200 g	x 15
LV102150		1,50 m	EN795 TYPE B	300 g	
DAYAK LV120G	Transportable anchorage point, galvanized steel, for door frame or window of 63 to 123 cm. Adjustable with clamping screw.			7 kg	x 1



ANCHORAGE - WORK POSITIONING

Lanyards

LO147150CDD



LO147150



Article	Description	Length	Connector 1	Connector 2	Standard		
LO147150CDD	Double lanyard in braided rope Ø 10.5 mm. 3 thimble loops ends.	1,50 m	1 x AM002	2 x AM022	CE EN354 EN362	1.45 kg	x 5
LO147150					EN354	0.3 kg	x 15

LO047150AD



LO047100



Article	Description	Sizes	Connector 1	Connector 2	Standard		
LO047150AD	Lanyard in braided rope Ø 10.5 mm. 2 thimble loops ends.	1.50 m	1 x AM010	1x AM022	EN354 EN362	0.83 kg	
LO045200		2 m			CE	0.18 kg	x 15
LO047100		1 m			EN354	0.14 kg	
LO147150	Double lanyard in braided rope Ø 10.5 mm. 3 thimble loops ends.	1.50 m				0.3 kg	

ANCHORAGE - WORK POSITIONING

Lanyards

LO007150CD



LO007100



Article	Colours	Description	Sizes	Standard		
LO007150CD			1.50 m	1 x AM002 1 x AM022	EN354 EN362	0.87 kg
LO007100	White	Lanyard in stranded rope Ø 12 mm. 2 thimble loops.	1 m	CE	0.2 kg	x 15
LO007150			1.50 m	EN354	0.22 kg	
LO005200			2 m		0.26 kg	

LO030



Article	Description	Length	Standard		
LO030		2 m		130 g	x 15
LO031	Lanyard and anchorage point in tubular webbing. 2 sewn loops. Width 25 mm.	1,50 m	CE EN795 TYPE B	100 g	x 15
LO032		1 m	EN354	70 g	x 15



SUSPENSION

Rope access work

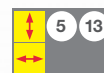
Article	Description	Length	Standard		
TC001	Ventral opening blocker type in aluminium alloy. Works on braided rope Ø 8 to 13 mm.		 EN567	160 g	x 10
         					
TC002	Right hand ascension handle in aluminium alloy. Works on braided rope Ø 8 to 13 mm.		 EN567	240 g	x 10
         					
TC003	Left hand ascension handle in aluminium alloy. Works on braided rope Ø 8 to 13 mm.		 EN567	0.24 g	x 10
         					
TC012	Mono stirrup adjustable strap 25 mm from 90 to 120 cm. Pedal ascent. To pair with TC002 or TC003.	Adjustable		200 g	x 10
          					
TC004	Figure of eight in aluminium alloy. Works on braided rope Ø 9 to 12 mm.			130 g	x 20
        					
TC044	Safety figure of eight in aluminium alloy. Works on braided rope Ø 9 to 16 mm.			260 g	x 20
        					

Article	Description	Length	Standard		
TC005	Oscillating pulley flanges in aluminium alloy. Intended for works on braided rope less than Ø 16 mm.		CE EN12278	250 g	x 10
	 				
TC015	Double pulley with oscillating flanges in aluminium alloy for braided rope less than Ø 16 mm.		CE EN12278	430 g	x 10
	 				
TC009	Static braided rope Ø 10.5 mm - Length on request.	per meter	CE EN1891 TYPE A		x 1000
					
TC029	Opening rope protection 35 cm. Velcro tape closure. Scalable length by adding elements.			200 g	x 100
					
AN006	Counterweight for anchorage line Ø 8-18 mm in black rubber. Weight 400 g.			400 g	x 30
					



RESCUE

Fall arrest and rescue, confined space

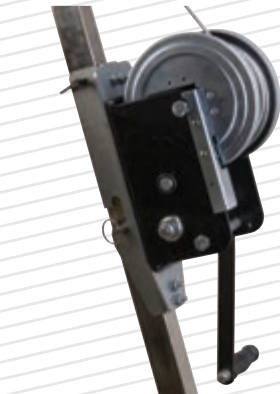


Article	Description	Length	Standard		
TRA20	Telescopic aluminium tripod. Height adjustable from 1.20 m to 1.97 m. Maximum wheelbase on ground 1.89 m. 3 central anchor points, 2 anchor points on the legs. Ability to set the TRA101 or TRA102 adjuster plate or the TRA103 steps.			19.6 kg	
TRA22	Telescopic aluminium tripod. Height adjustable from 1.20 m to 1.97 m. Maximum wheelbase on ground 1.89 m. 3 central anchor points, 2 anchor points on the legs. Equipped with TRA101 and TRA102 adjuster plates. TRA103 steps not included.	Adjustable	EN795 TYPE B TS16415	21.8 kg	
TRA30	Telescopic aluminium tripod. Height adjustable from 1.45 m to 2.15 m. Maximum wheelbase on ground 1.50 m. 1 central anchor point for fall arrester. Ability to set a TRA101 or TRA102 adjuster plate for a retractable fall arrester.			20 kg	x 1
TRA32	Telescopic aluminium tripod. Height adjustable from 1.74 m to 3.02 m. Maximum wheelbase on ground 2.62 m. 3 central anchor points, 2 anchor points on the legs. Equipped with TRA101 or TRA102 adjuster plates or the TRA103 steps.		CE	22.24 kg	
TRA101	Aluminium mounting plate for a self retracting fall arrest. To set on tripod TRA20 and TRA30.			1.3 kg	
TRA102	Aluminium mounting plate for hoist. To set on tripod TRA20 and TRA30.	One size		1.7 kg	
TRA103	Step to access the tripod head and the pulley. Sold individually.			500 g	x 10
TR00420	Manual winch with Ø 5 mm cable. Length 20 m.	20 m		18.7 kg	x 2
TR00430	Manual winch with Ø 5 mm cable. Length 30 m	30 m		19.7 kg	
TRBAG	Storage bag with wheels for tripod.			1.7 kg	
TRBAG3	Storage bag with wheels for TRA30 and TRA32.	One size		1.7 kg	x 10

Steel swivel
3 anchorage points
Safety pin

TR00420
TR00430

TRA20
TRA22
TRA30
TRA32



TRA102

TRA101



TRBAG
TRBAG3



TRA103



Most of our products have been tested with a mass constraint greater than 40% to 50% of the normative requirements (140 kg or 150 kg). Find this information in the technical specifications of our products.

Article	Description	Sizes	Standard		
RAH33	 Head down harness with rescue sling. 3 attachment points (sternal, dorsal and for rescue). 7 adjustment buckles.	S/M/L	 EN1498 CLASS C EN361	2 kg	x 5
TC022	 Rapid evacuation triangle. Fits all body types with its 12 adjustment points.	Adjustable	EN1498 CLASS B	1.1 kg	x 5
TC105	 A seat for a vertical movement. Adjustable footrest length for better stability. Ring D tool holder on both sides.			2.2 kg	x 2

CONNECTING SYSTEMS

Connectors

Article	Description	Standard		
AM002X5	Set of 5 screw lock karabiners in galvanized steel. Opening 17 mm. R > 23 kN.	CE EN362	1.1 kg	x 4



Article	Description	Standard		
AM025X2	Set of 2 automatic lock karabiners in light alloy. Opening 22 mm. Ring 1/4 turn. R > 25 kN.	CE EN362	180 g	x 10



AM022X2	Set of 2 automatic hooks lock in galvanized steel. Large opening 55 mm. Eye hook. R > 20 kN.	CE EN362	1 kg	x 10
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A UNIQUE IMAGE IN YOUR SHOP





A UNIQUE IMAGE IN YOUR SHOP



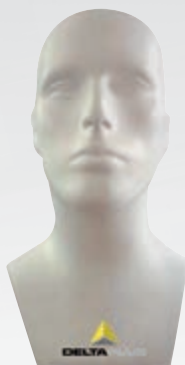
PLV008

H 49,5 x W 19 x D 17,6 cm
Counter display for spectacles



HEADDUMMY

H 40 x W 25 x D 25 cm
Head dummy



HANGERO

H 22 x W 44 x D 1 cm
Wood hanger for jackets



PLV009

H 200 x W 57 x D 68,7 cm
Workwear display



MANNEQUIN

H 172 x W 60 x D 60 cm
Dummy





PLV017

H 120 x W 35 x D 55 cm
Cardboard display with 3 shelves



PLV012GR

H 79 x W 29 x D 14 cm
PVC chest dummy with hanger



PLV010

H 166 x W 60 x D 60 cm
Shoes display



PLV3A + PLV13B

H 210 x W 100 x D 60 cm
Fall arrest display



A TRAINING CENTRE DEVOTED TO OCCUPATIONAL HEALTH AND SAFETY

Special PPE courses designed for both distributors and users.

► INFORMATION AND TRAINING TO BETTER UNDERSTAND THE ISSUES OF PERSONAL PROTECTION

- Act within the framework of health and safety at work.
- Argue a range of personal protection.
- Understand the technical features of personal protection.
- Follow a study of work position and recommend a solution for personal protection.
- Identify and assess risks, adjust the performance of protection.
- Comply with requirements for recording, storage, maintenance, product control.
- Read and understand the product certification.
- Know the legal, regulatory and normative environment.

► THEREFORE WE ADDRESS:

- For sales teams to organize and deepen their knowledge of PPE to develop their sales and give more meaning to their job as their business proposals.
- For companies that use PPE to identify the most appropriate answers to the risks of their work environment, to choose the most efficient products and follow up the necessary review of PPE category III.

► TRAINING IS INDISPENSABLE:

For example, particularly when it is about Fall protection PPE Category III against fatal and irreversible risks.

It allows:

- Awareness of work at height
- Analysis of risk situations
- Securing workstations
- Finding protection solutions
- Providing more productivity
- Providing technical expertise in inspection, maintenance and repair of products

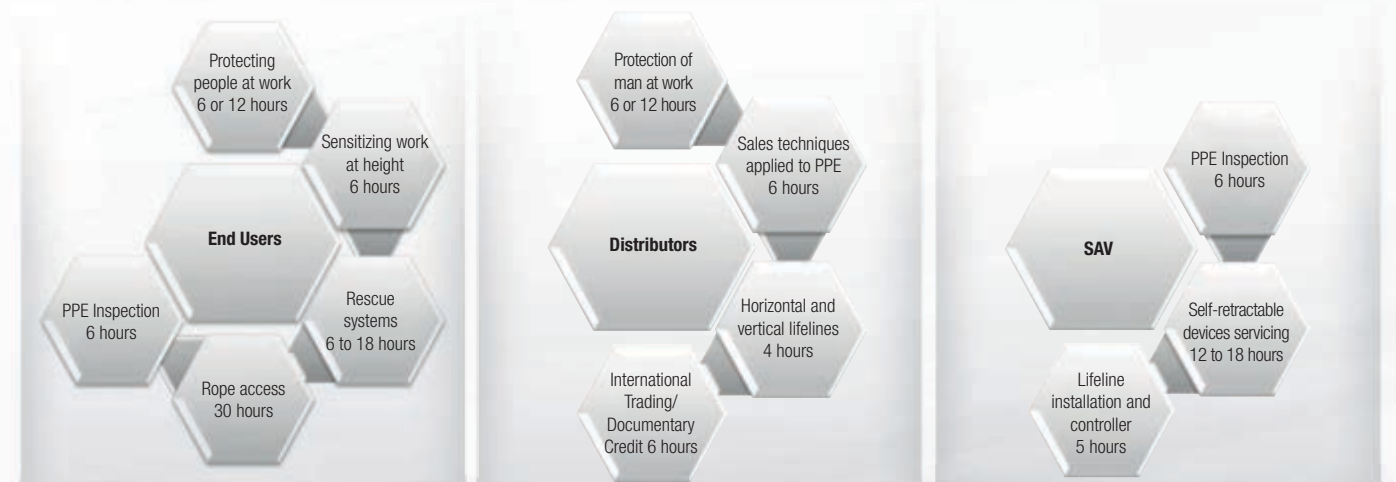
EN365

USERS: "It is essential that staff are trained, that their competence is controlled and they have written instructions enabling them to choose, use, maintain and periodically revise the PPE or other equipment."

AUDITORS: "It is possible that a competent person has to be trained by the manufacturer (i.e.) significant security related knowledge necessary for the disassembly, reassembly, or evaluation of PPE or other equipment."

► OUR TRAINING OFFER:

Several training modules adapted to different audiences: users, distributors, technical inspection services and repair.



REGULATORY FRAMEWORK

THE DIRECTIVE (EUROPEAN UNION)

89/686 directive is intended for Personal Protective Equipment (PPE) manufacturers and determines conditions for market trade. It defines the essential requirements in terms of design, manufacture and test methods for PPE with which PPE must comply in order to ensure the safety of the users.

STANDARDIZATION

Its aim is to draw up test methods and product standards defining the technical specifications for products. The respect of these standards is evidence of conformity to Directive 89/686/EEC and allows CE marking.

CATEGORIZATION

Taking into account the level of accident risk protection, the Directive defines categories of PPE and determines the manufacturer’s obligations:

- **PPE category 1:** Protection against Minor Risks.
- **PPE category 2:** All PPE that is not category 1 or 3.
- **PPE category 3:** Protection against disability or fatality.

CERTIFICATION PROCEDURE



- **PPE category 2 and 3:** EC type examination of PPE by an independent body for which compliance with the Directive 89/686/EEC is verified using standards that are in accordance with the Directive. Issuance of the EC type Examination Certificate (confidential document).
 - **PPE category 1, 2 and 3:** CE marking on the product.
- **PPE category 3:** Control by an independent body that ensures compliance of the manufacture with of examined PPE:
 - Or control of the final product (procedure called 11A),
 - Or control of the production (procedure called 11B).
- **PPE category 1,2 and 3:** Establishment by the manufacturer of the EC Compliance Declaration which shows the user the compliance of the PPE with the 89/686/EEC Directive.

OTHER ACCREDITATIONS (EXCEPT EUROPEAN UNION)

Some of our products are accredited under the regulations of many countries. The products concerned (and / or their packaging) bear the following markings:

USA	ANSI, ASTM, NIOSH
Argentina	    AR 1983
Brésil	CA
Ukraine	 023
Common Economic Space (Russia, Belarus Kazakhstan)	Eurasian Conformity logo (Eurasian Conformity logo)



HEAD PROTECTION

SAFETY EYEWEAR

Safety eyewear provides protection from spray and splatter from particles, liquids and dust, and from chemical product fumes and radiation.

► HOW TO PROTECT YOURSELF?

Select the most suitable protective glasses or shields.

- **Identify the type of risk:** spray, radiation, other, ...
- **Determine the type of protection:** spectacles-type safety glasses, goggles, face mask, cover goggles, ...

- **Note the protective features:** scratch-resistant, fog-resistant, tinted, ...
- **Select the type of eye-piece:** one-piece or double lens.
- **Choose the frame type:** design, classical, ...

► STANDARDS

EN166 : applies to all types of individual protection of the eye which protects from hazards likely to damage the eye, except for nuclear radiation, x-rays, laser emissions and infrared emitted by low-temperature sources. Does not apply to eye protection for which separate standards exist (anti-laser eye protection, sunglasses for general use,...)

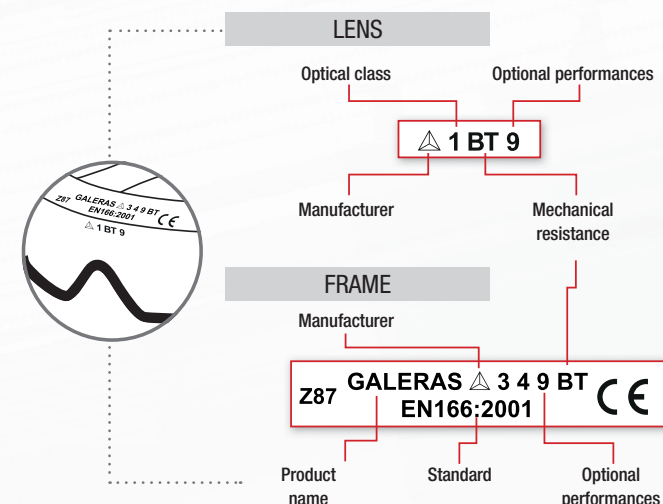
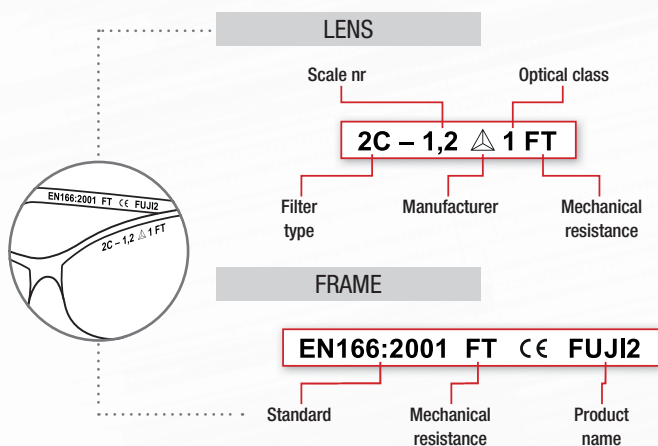
EN175 : Specifications for the safety requirements for eye and face protection equipment for welding and related techniques (filters frames/media).

EN169 : Specifications of level numbers and requirements relating to the transmittance of filters to protect operators for welding and related techniques. Specification of requirements for welding filters with double number of levels.

EN170 : Specifications of level numbers and of requirements relating to the transmittance of the filters for protection against ultraviolet radiation.

EN172 : Specification of level numbers and requirements relating to the transmittance of filters for protection against solar radiation, industrial use.

► MARKING



• SYMBOL MEANING - EN166 :

1 : optical class allowing permanent wear of the spectacles.

Mandatory performances

- S** : Increased robustness: steel ball of 22 mm diameter at 5.1 m/s.
F : Low energy impact: steel ball of 6 mm diameter at 45 m/s.
B : Medium energy impact: steel ball of 6 mm diameter at 120 m/s.
A : High energy impact: steel ball of 6 mm diameter at 190 m/s.

Optional performances

- 3** : Liquid resistance (droplets or splashes).
4 : Large dust particles resistance (size of > 5 µm).
5 : Gas and fine dust particles resistance (size < 5 µm).
8 : Short circuit electric arc resistance.
9 : Resistance to splashes of molten metal and penetration of hot solids.
T : (F - B - A) High speed particles at extreme temperatures - 5°C / + 55°C.
N : Resistance to fogging of lenses.
K : Resistance to surface damage by fine particles (anti-scratch).

► FILTERS

Special filters can eliminate certain parts of light and a high proportion of the electro-magnetic spectrum (ultraviolet rays, infrared rays...).

SPECTACLES LENS MARKING								
Lens colour	Minimal transmission factor of visible light	SCALE Nr	EN166					
			UV FILTERS (EN170)		IR FILTERS (EN171)	SUN FILTERS (EN172)		WELDING (EN169)
			2	2C	4	5	6	no code nr
			Colours perception may be altered	Colours perception is not altered		Without IR protection specification	With IR protection specification	
CLEAR 	80,0%	1,1				5-1,1	6-1,1	
	74,4%	1,2	2-1,2	2C-1,2	4-1,2			
LIGHT SMOKE 	58,1%	1,4	2-1,4	2C-1,4	4-1,4	5-1,4	6-1,4	
	43,2%	1,7	2-1,7	2C-1,7	4-1,7	5-1,7	6-1,7	
	29,1%	2	2-2	2C-2	4-2	5-2	6-2	
SMOKE 	17,8%	2,5	2-2,5	2C-2,5	4-2,5	5-2,5	6-2,5	
	8,0%	3,1				5-3,1	6-3,1	
VERY DARK (for welding) 	8,5%	3	2-3	2C-3	4-3			3
	3,2%	4	2-4	2C-4	4-4	5-4,1	6-4,1	4
	1,2%	5	2-5	2C-5	4-5			5
	0,44%	6			4-6			6
	0,16%	7			4-7			7
	0,061%	8			4-8			8
	0,023%	9			4-9			9
	0,085%	10			4-10			10
	0,0032%	11						11
	0,0012%	12						12
	0,00044%	13						13
	0,00016%	14						14
	0,000061%	15						15
	0,000023%	16						16

Lens marking is composed by 2 numbers (separated in the middle by a "-"):

CODE NUMBER :

from 2 to 6. Welding lens have no code number.

SCALE NUMBER :

from 1.1 (the highest % of transmission in visible light, the clearest lens)
to 16 (the lowest % of transmission in visible light, the darkest lens)

DELTA PLUS range :

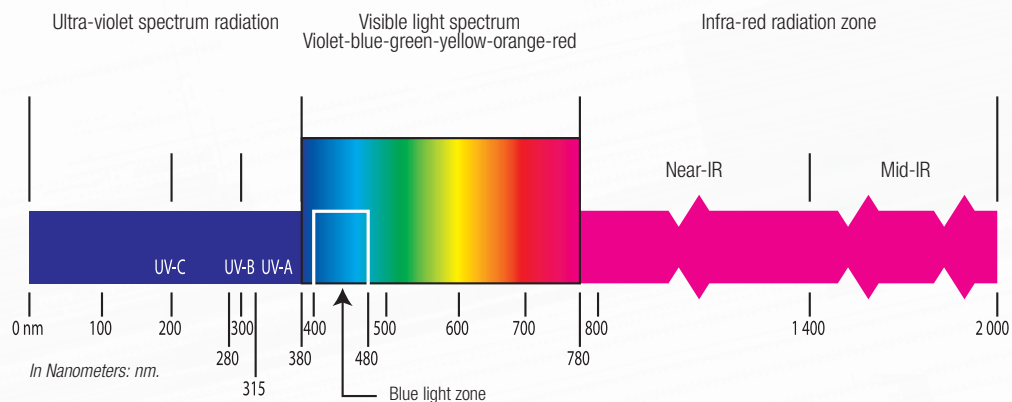
The yellow coloured possibilities are available in the DELTA PLUS range.



HEAD PROTECTION

RISKS TO THE EYE FROM HARMFUL RADIATION			
Zone	Wave Length	Environment	Eyesight damage
UV-A	315-380 nm	Outdoor work.	Eye fatigue, partial blindness, cataract. Sunshine.
UV-B	280-315 nm	Sunlight. Industrial environment. Black light tests.	Cataract. Welder flash. Arc flash.
UV-C	100-280 nm	Industrial environment. Arc welding.	Cornea or crystalline lesions. Loss of eyesight.
Blue light	400-480 nm	Industrial environment. Computer work (fatigue, VDU). Electrical installations. Outdoor work.	Retinal lesions. Loss of eyesight. Blurring degeneration (age). Retinitis pigmentosis.
Infra-red	780-1400 nm (near IR) 1400-2000 nm (IR mid)	Electric welding. Molten work (glassmaking, steel production). Micro-wave processes. Sunlight.	Retinal lesions. Blurring degeneration (age). Retinitis pigmentosis (near-IR). Crystalline and cornea lesions (mid-IR).

THE ELECTRO-MAGNETIC SPECTRUM



► ARC WELDING

RECOMMENDED USE OF DIFFERENT GRADE NUMBERS FOR ARC WELDING ACCORDING TO STANDARDS EN169/EN175																						
A Current amperage																						
Process	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600	
MMA	8						9		10		11		12		13		14					
MAG	8						9		10		11		12		13		14					
TIG	8				9		10		11		12		13									
MIG (heavy metals)	9								10		11		12		13		14					
MIG (light metals)	10										11		12		13		14					
Arc air gouging	10										11		12		13		14		15			
Plasma cutting	9									10	11	12		13								
Micro plasma welding	4		5	6	7	8	9	10		11		12										

This table is valid under normal conditions of use, in which the distance between the eye of the user and the mass of molten metal is approx. 50 cm and average light is approx. 100 lux.

SKULL PROTECTION

► HOW TO PROTECT YOURSELF ?

To choose the correct safety helmet

To identify the risk: falling bumps or combined risks (hearing protection and face protection).

The safety helmet has three functions:

Antipenetration for an effective skull protection.

Shock absorber because the cap and the harness absorb shocks.

Deflector thanks to a suitable design which makes it possible to deflect the fall of an object from the top of the head.

There is in addition a selection of accessories which offers a face and hearing protection.

► STANDARDS

EN397	Protective helmets for industry	MANDATORY	Impact* : force transmitted to the headform must not exceed 5 kN at the fall of an object of 5 kg from a 1m height. The impact energy of the helmet at the end of the test is 49 J. Penetration* : the tip of the mass used in the test (3 kg over 1m) must not come into contact with the skull Flammability : the helmet should not burn with flame emission more than 5 seconds after removal of the flame. <i>* The impact and penetration tests are performed at room temperature, at 50°C and at -10°C</i>
		OPTIONAL	In extreme temperatures : impact and penetration tests are conducted at room temperature at 150°C, at -20°C or -30°C Protects against lateral compression . The maximum deformation of the helmet should be ≤ 40 mm Protects against accidental short-term contact with a live electrical conductor up to 440 VAC Resistance to molten metal splashes
EN50365	Electrical insulation helmets for use in low voltage environment	MANDATORY	Electrically insulating helmets for use near energized equipment not exceeding 1000 VAC or 1500 VDC (appliance class 0). Used simultaneously with other electrically insulating protective equipment, these helmets prevent dangerous currents passing through to the person's head. These optional electrical insulation tests are more stringent than the EN397 and they complement them. (2 triangle marking, Class 0).
ANSI Z89	(American National Standards Institute) American standard for industrial head protection	MANDATORY	Depending on the type and class of the helmet: Protection against mechanical risk (impact, penetration, crushing), flammability, electrical insulation.
		OPTIONAL	
EN812	Bump caps for industry	MANDATORY	Impact* : This PPE protects against impacts from knocks against structures or objects. It does not protect from the impact of a falling object at all. The impact energy of the cap at the end of the test reached 12.25 J. Penetration* : the tip of the mass used in the test (0.5 kg over 0.5 m) must not come into contact with the skull <i>* The impact and penetration tests are performed at room temperature, at 50°C and at -10°C</i> Should in no way be a substitute for an industry type helmet (EN397).
		OPTIONAL	In extreme temperatures : impact and penetration tests are conducted at room temperature at -20°C or -30°C Protects against accidental short-term contact with a live electrical conductor up to 440 VAC Flammability : the helmet must not burn with flame emission more than 5 seconds after removal of the flame (F marking)

► HELMET MARKING ILLUSTRATION

Helmet material



06/2013
or

	1	2	3	4	5	6	7	8	9	10	11	12
2010	•	•	•	•	•	•	•	•	•	•	•	•
2011	•	•	•	•	•	•	•	•	•	•	•	•
2012	•	•	•	•	•	•	•	•	•	•	•	•
2013	•	•	•	•	•	•	•	•	•	•	•	•
2014	•	•	•	•	•	•	•	•	•	•	•	•
2015	•	•	•	•	•	•	•	•	•	•	•	•
2016	•	•	•	•	•	•	•	•	•	•	•	•
2017	•	•	•	•	•	•	•	•	•	•	•	•

06/2013

Year and month of manufacture.
Helmets lifespan:
ZIRCON, QUARTZ UP:
 5 years from date of manufacture,
 3 years in use.
SUPER QUARTZ, DIAMOND, GRANITE:
 7 years from the date of manufacture,
 4 years use.



CE EN397:1995
 A1:2000
 DIAMOND V
 -20°C LD MM 440 VAC
 Classe 0
 Batch NR :
 production date

- > CE Marking
- > Standard number
- > Name of the helmet model
- > Optional requirements
- > EN50365 standard
- > Batch number

DELTA PLUS
 53 - 63 cm

- > Manufacturer identification
- > Size Range

HEAD PROTECTION

HEARING PROTECTION

► HOW TO PROTECT YOURSELF ?

To choose the correct product for hearing protection.

- **Identify the nature of the noise:** stable, fluctuating, intermittent, pulse.
- **Measure the noise at the working station:** intensity (dB) and volume (Hz).
- **Determine the exposure time**
- **Calculate the reduction** necessary to return to an acceptable ambient level (cf Directive 2003/10/CE).

Requirements Directive 2003/10/EC: Minimum requirements for the protection of workers against the risks related to noise exposure		
8 hours exposure time at ≥ 85 dB(A)	8 hours exposure time at ≥ 80 dB(A) and < 85 dB(A)	8 hours exposure time at > 75 dB(A) and < 80 dB(A)
Obligatory hearing protection	Hearing protectors available to the worker	Hearing protection recommended

The performance of the hearing protector (its attenuation level) must be adapted to the risk assessment of the workplace. It should bring the noise level to a level that is not harmful to health, while avoiding overprotection would cut the operator from his environment (warnings, communication...)

► STANDARDS

- **EN352:** Exigences of safety and tests
 - **EN352-1:** the ear-muff
 - **EN352-2:** the earplugs
 - **EN352-3:** the adjustable head defenders for the safety helmets.
 - **EN352-6:** Earmuffs with electrical audio input.
 - **EN352-8:** Audio enabled earmuffs.
- These standards establish requirements with regards to the manufacture, the design, performances and test methods. They stipulate the putting at disposal relative to the characteristics.

- **EN458:** Hearing protection
Recommendations for selection, use and maintenance.
- **ANSI (US American National Standards institute) S3.19 - 1974**
This standard specifies the test method for determining the level of noise attenuation (NRR Noise Reduction Rating) of the hearing protection, as recommended by the EPA (U.S. Environmental Protection Agency).

► ATTENUATION VALUES FOR NOISE

NOISE	SNR
80 - 104 dB	20 - 24 dB
89 - 109 dB	25 - 29 dB
93 - 114 dB	30 - 34 dB
100 - 124 dB	35 - 39 dB

► HOW DO YOU USE THE ATTENUATION VALUES?

3 indicators, from the simplest to the most precise are made available to the user:

- **SNR (Single Number Rating) :** Single average value of attenuation.
- **HML :** Attenuation values expressed in terms of average levels of frequency:
 - H :** Attenuation of PPE at high frequencies (pitched noises)
 - M :** Attenuation of PPE at medium frequencies
 - L :** Attenuation of PPE at low frequencies (bass sounds))
- **APV (Assumed Protection Value) :** Attenuation values expressed on 8 specific frequency levels (*see the data sheet of the hearing protector*).

► WEARING RATE

Hearing protection decreases very quickly when the protector is not worn continuously



2 mn of non-use (during 8h) => reduce the protective efficacy of 25%

2 h of non-use (during 8h) => loss of protective effectiveness of 75%

- **OTH :**  Over the head
- **UTC :**  Under the chin
- **BTH :**  Behind the head

► LEVEL OF NOISE



RESPIRATORY PROTECTION

European Directives: End user's obligations

- 89/391: Identify and assess the risk, take preventive and protective measures, inform and train the workers
- 2004/37: Risks related to exposure to carcinogens or mutagens at work: hazard identification, «limit values», respiratory protection
- 89/656: Select and use the appropriate and compliant PPE, inform and train people, check and replace the PPE when necessary

STANDARDS

The main standards concerning the respiratory apparatuses.

EN136 : overall masks

It contains laboratory tests and practical performance tests to check the conformity with resistance to temperature, to impacts, to flame, to thermal radiation, to traction, resistance to cleansers and disinfectants. Furthermore, the visual inspection must concern the marking and the manufacturers' information guide.

EN140 : half-masks and quarter-masks

It contains laboratory tests and practical performance tests to check the conformity with resistance to impacts, to cleaners and disinfectants, to temperature, to flame and respiratory resistance.

EN14387 : gas filters and compound filters

It contains laboratory tests to check the conformity with resistance to impacts, to temperature, to humidity and corrosive atmospheres, and with mechanical and respiratory resistance.

EN143 : filters against particles

It contains laboratory tests to check the conformity with resistance to impacts, to temperature, to humidity and corrosive atmospheres and with mechanical and respiratory resistance.

EN149 : filtering half-masks

It contains laboratory tests to check the conformity with resistance to impacts, to cleansers and disinfectants, to temperature, to flame and with respiratory resistance.

EN405 : half-masks fitted with valves and gas filters or compound filters

It contains laboratory tests to check the conformity with resistance to handling and wear, to impacts, to flame and with respiratory resistance.

EN148-1 : standard threaded joint

This standard is specific to the standard connection system of the cartridge for full face masks.

NIOSH (US National Institute for Occupational Safety) 42 CFR Part84

Filtering facial parts, multiple levels of protection (non exhaustive list):

- NIOSH 95 : Filter at least 95% of the particles (non-oily) suspended in the air.
- NIOSH 99 : Filter at least 99% of the particles (non-oily) suspended in the air.

PRODUCTS	STANDARDS	TOTAL INWARD LEAKAGE** (%)	NOMINAL PROTECTION FACTOR*
FFP1	EN149	22	4
FFP2	EN149	8	12
FFP3	EN149	2	50
½ mask P1 ½ mask gazXP1	EN140 EN14387 EN 143/A1	22	4
½ mask P2 ½ mask gazXP2	EN140 EN14387 EN 143/A1	8	12
½ mask P3 ½ mask gazXP3	EN140 EN14387 EN 143/A1	2	48
½ mask gazX	EN140 EN14387	2	50
Full Face Mask P3	EN136 EN143/A1	0,1	1000
Full Face Mask gazXP3	EN136 EN14387 EN143/A1	0,1	1000
Full Face Mask gazX	EN136	0,05	2000

*NPF : Nominal Protection Factor means the level of protection tested in laboratory
The Level of APF, Assigned Protection Factor, might be different according local regulations

**TIL : Leakage of the ambient atmosphere into the respiratory interface measured in laboratory



HEAD PROTECTION

RESPIRATORY PROTECTION

► MARKING

V The valve provides better comfort. It facilitates exhalation, decreases CO₂ content, and reduces heat and humidity inside the mask.

P Horizontal folding.
B Vertical folding.

FFP1
Protection level of the mask according to the filtration ability of the filter medium. Filtering facepiece Particles = Filtering Face Piece from Particles.

NR Non-Reusable.
The mask should not be used for more than 8 hours.

D Optional test of the EN149:2001 standard for clogging the Dolomite. This test indicates that the mask has a greater resistance to clogging: Extended respiratory comfort.

W Protection against unpleasant odours.

No. of the quality control laboratory.

Instructions inside the packaging

Colour code filter

Standard

Storage conditions

Date of expiration (AAAA/MM)

► GAS AND VAPOUR FILTER

Each filter or cartridge is identified with a colour code.

TYPE	PROTECTION	GAS AND VAPOURS
A	Protects from organic gases and vapours whose boiling point is > 65°C	Alcohol, Acetic Acid, Ether, Hexane, Toluene, Xylene, White Spirit, Thiophenol...*
AX	Protects from organic vapours whose boiling point is ≤ 65°C	Acetone, Acetaldehyde, Ethyl ether, Butane, Methanol, Methan trichloride...*
B	Protects from inorganic gases and vapour	Chlorine, Chlorine dioxide, Fluorine, Formaldehyde, Hydrogen Phosphide...*
E	Protects from sulphur dioxide and some acid vapours & gases	Sulphur dioxide...*
K	Protects from ammoniac and some amine derivatives	Ammonia, Ethylamine, Methylamine...*

FILTER ABSORPTION CLASS FOR GASES AND VAPOURS	
Class 1	Low capacity filter (pollutant concentration < 0.1% or 1000 ppm).
Class 2	Average capacity filter (pollutant concentration < 0.5% or 5000 ppm).
Class 3	High capacity filter (pollutant concentration < 0.1% or 10 000 ppm).
ppm	Concentration in parts per million.

► PARTICLES/AEROSOLS FILTER

TYPE	PROTECTION	PARTICLES
P1	Protects from non-toxic dust and/or water-based aerosols	Cement dust, flour, calcium carbonate, (chalk), graphite, cotton, concrete...*
P2	Protects from slightly toxic or irritating solid aerosols and/or liquids	Untreated softwood, grinding, cutting, welding, milling, coal, glass fibre, mineral fibre, graphite, powdered pesticide...*
P3	Protects from solid aerosols and/or liquids listed as toxic	Asbestos (without manipulation), powdered pesticide, biological agents, pharmaceutical powder, treated wood, hard wood (exotic), chromium, lime, lead, graphite...* Manganese, Kaolin, Sodium hydroxide (Caustic soda), Quartz, Silica...*

*This type of usage is indicative and cannot engage Delta Plus Responsibility.

USER GUIDE FOR BREATHING APPARATUS FILTER FOR POLLUTING SUBSTANCES

Substances	Chemical formula	n° cas	Plyové filtry	Particle filter	MC/DM*	OEL	Unit of measurement
1- chloro- 2,3- epoxy- propane	C3H5OCl	106-89-8	A	P3	MC	VLE=2	ppm
1,1,1-Trifluoro-2-bromo-2-chloroethane	CF3CBrCl	151-67-7			ARI or A AIR	2,000	ppm
1,1,2,2- tetrabromoethane	CHBr2C2HBr2	79-27-6	A	P3	MC	1	ppm
1,1'-Ethylene-2,2'-bipyridylium dibromide	C12H12N2Br2	85-00-7		P3	MC	0,50	mg/m3
1,2,3,4,5,6,7,8-octachloronaphthalene	C10Cl8	2234-13-1	A	P3	MC	0	mg/m3
1,2,4- Trichlorobenzene	C6H3Cl3	120-82-1	A	P3	MC	5,00	ppm
1,2,4-Benzenetricarboxylic anhydride	C9H4O5	552-30-7	A	P3	MC	0,04	mg/m3
1,2-Benzenedicarboxylic anhydride	C6H4(CO)2O	85-44-9		P3	MC	1,00	ppm
1,2-Dibromo-2,2-dichloroethyl dimethyl phosphate	(CH3O)2P(O)(OCHBrCBrCl2	300-76-5	A	P3	MC	3,00	mg/m3
1,2-dichloroethane	ClCH2CH2Cl	107-06-2	A		MC	10,00	ppm
1,2-Dihydroxybenzene	C6H4(OH)2	120-80-9	A	P3	MC	5	mg/m3
1,2-Ethanediamine	NH2CH2CH2NH2	107-15-3	K		MC	10,00	ppm
1,2-ethanediol	HOCH2CH2OH	107-21-1	A	P3	MC	50,00	ppm
1,3- butadiene	CH2=CHCH=CH2	106-99-0	AX		MC	VLE= 1	ppm
1,4- dichlorobenzene	C6 H4 Cl2	106-46-7	A		MC	75,00	ppm
1,4-benzenediamine	C6H4(NH2)2	106-50-3	A	P3	MC	0	mg/m3
1,4-dihydroxybenzene	C6H4(OH)2	123-31-9	A	P3	MC	2	mg/m3
1,4-dinitrobenzene	C6H4(NO2)2	100-25-4	A	P3	DM or MC	1,000	mg/m3
1,5-diisocyanatonaphthalene	C10H6(NCO)2	3173-72-6	A2B2	P3	MC	0,10	mg/m3
1,5-pentanedial	OCH(CH2)3CHO	111-30-8	A2	P3	MC	0,20	ppm
1,6- hexanolactam	C6H11NO	105-60-2	A	P3	MC	0,22	ppm
1-Chloro-2-methylbenzene	ClC6H4CH3	95-49-8	A		MC	50,00	ppm
1-Chloro-2-propene	CH2=CHCH2Cl	107-05-1	AX		MC	1,00	ppm
1-Hydroxybutane	CH3CH2CH2CH2OH	71-36-3	A		MC	50,00	ppm
1-Methoxy-2-propanol	CH3OCH2CHCH3	107-98-2	A		MC	100	ppm
1-Methylpropyl acetate	CH3COOCH(CH3)CH2CH3	105-46-4	A	P3	DM or MC	200	ppm
1-Propen-3-ol	CH2=CHCH2OH	107-18-6	A		MC	2	ppm
1-Propyn-3-ol	C3H3OH	107-19-7	A		MC	1	ppm
2- butoxyethanol	C4H9OCH2CH2OH	111-76-2	A	P3	MC	25,00	ppm
2- Diethylaninoethanol	(CH25)NH2CH2CH2OH	100-37-8	K		MC	10,00	ppm
2- ethoxyethyl acetate	CH3COOCH2CH2OCH2CH3	111-15-9	A		MC	1	ppm
2- ethylhexyl chloroformate	Cl C1 C7 O2 H12	24468-13-1	A	P3	DM or MC	1	ppm
2- furaldehyde	C5H4O2	98-01-1	A		MC	2,00	ppm
2- Methoxyethyl acetate	CH3COOCH(CH3)CH2OCH3	110-49-6	A		MC	0	ppm
2- Methylaziridine	C3H7N	75-55-8	K	P3	MC	2,00	ppm
2- methylpentane- 2,4- diol	(CH3)2COCH2CH(OH)CH3	107-41-5	A		DM or MC	25	ppm
2- nitronaphthalene	C10H7NO2	581-89-5	A	P	DM or MC		
2- Pyridylamine	NH2C5H4N	504-29-0	A	P3	DM or MC	2	mg/m3
2,2'-Diaminodithylamine	NH2CH2CH2)2NH	111-40-0	ABEK	P3	MC	1,00	ppm
2,2'-dihydroxydiethylamine	HOCH2CH2)2NH	111-42-2	K	P3	MC	3	ppm
2,2-Dichlorovinyl dimethyl phosphate	(CH3O)2P(O)(OCH=CCl2	62-73-7	A	P3	MC	0,10	ppm
2,3- epoxypropyl isopropyl ether	OBH12O2	4016-14-2	A		MC	50	ppm
2,3,4,5,6-pentachlorophenol	C6Cl5OH	87-86-5	A	P3	MC	1	mg/m3
2,3-Dihydro-2,2-dimethyl-7-benzofuranyl							
2,4- dichlorophenoxyacetic acid	ClC2C6H3OCH2COOH	94-75-7		P3	MC	10	mg/m3
2,4,5-Trichlorophenoxyacetic acid	Cl3C6H2OCH2COOH	93-76-5		P3	DM or MC	10	mg/m3
2,4,6- trinitrophenol	(NO2)3C6H2OH	88-89-1		P3	MC	0	mg/m3
2,4,6-tetrl	(NO2)3C6H2NH2(NO2)CH3	479-45-8	A	P3	MC	2	mg/m3
2,5-Furanedione	C4 H2 O3	108-31-6	A	P3	MC	0,25	ppm
2-Aminotoluene	CH3C6H4NH2	95-53-4	A	P3	MC	2,00	ppm
2-butanol	CH3CH(OH)CH2CH3	78-92-2	A		MC	100,00	ppm
2-Carbomethoxy-1-methylvinyl dimethyl phosphate	C7H13PO6	7786-34-7	A	P3	MC	0	ppm
2-Chloro-1,1,2-Trifluoroethyl difluoromethyl ether	CHF2OCF2CHFClF	13838-16-9			ARI or A AIR	2,000	ppm
2-Chloro-1,3-butadiene	CH2=C(Cl)CH=CH2	126-99-8	AX	P3	MC	VLE = 1	ppm
2-chloroacetaldehyde	ClCH2CHO	107-20-0	A		MC	1,00	ppm
2-Chloroethanol	CH2ClCH2OH	107-07-3	A		MC	1,00	ppm
2-hydroxymethylfuran	C5H6O2	98-00-0	A		MC	10,00	ppm
2-Isopropoxy propane	(CH3)2CHOCH(CH3)2	108-20-3	A		MC	500,00	ppm
2-Mercaptoacetic acid	HSCH2COOH	68-11-1	A2B2	P3	MC	1	ppm
2-methoxyethanol	CH3OCH2CH2OH	109-86-4	A		MC	5,00	ppm
2-Methylacrylic acid	CH2=C(CH3)COOH	79-41-4	A	P3	MC	20	ppm
2-methylpropenenitrile	CH2=C(CH3)CN	126-98-7	A	P3	MC	1	ppm
2-Methylpropyl acetate	CH3COOCH(CH3)CH2CH3	110-19-0	A		MC	150,00	ppm
2-Oxetanone	C3H4O2	57-57-8			ARI or A AIR		
2-Pentanol acetate	CH3COOCH(CH3)C3H7	626-38-0	A		MC	125	ppm
2-Phenyl propylene	C6H5O(C3H5)=CH2	98-83-9	A		MC	50,00	ppm
2-propenamide	CH2=CHCONH2	79-06-1	A	P3	MC	0,30	mg/m3
2-propenenitrile	CH2=CHCN	107-13-1	A	P3	MC	2,00	ppm
2-Propenoic acid	CH2=CHCOOH	79-10-7	A		DM or MC	2,000	ppm
2-Propyl acetate	CH3COOCH(CH3)2	108-21-4	A		MC	250,00 (ST)	ppm
2-Propynyl alcohol	C3H3OH	107-19-7	A		MC	1	ppm
3,3'- dichlorobenzidine salts	NH2C6Cl2C6H3ClN2	91-94-1	A	P3	MC		
3,3'-dimethylbenzidine	C14H16N2	119-93-7	A	P3	MC	0,02	mg/m3
3,5,5- trimethylcyclohex- 2- enone	C9H14O	78-59-1	A		MC	4,00	ppm
3a,4,7,7a-Tetrahydro-4,7-methanoindene	C10 H12	77-73-6	A	P3	MC	5,00	ppm
3-Heptanone	CH3CH2CO(CH2)3CH3	106-35-4	A		MC	50	ppm
3-Methyl-1-butanol acetate	CH3COOCH2CH2CH(CH3)2	123-92-2	A		DM or MC	100	ppm
3-Methyl-5-heptanone	C2H5COCH2CH(CH3)CH2CH3	541-85-5	A		MC	25	ppm
4- Methylpentan- 2- One	CH3COCH2CH(CH3)2	108-10-1	A		MC	50	ppm

*MC/DM = Overall masks / Half-mask

This list is not contractual. It is an indicative list and in no way incurs the liability of DELTA PLUS.

TECHNICAL INFORMATION

OEL
OCCUPATIONAL EXPOSURE LIMIT

TWA

TIME WEIGHTED AVERAGE

Average Exposure limit over an 8 hour time period



STEL

SHORT TERM EXPOSURE LIMIT

Should not be longer than 15 minutes

Should not occur more than 4 times per day with at least

60 minutes between exposures



Substances	Chemical formula	n° cas	Plyové filtry	Particle filter	MC/DM*	OEL	Unit of measurement	
4,4'- Methylene dianiline (mda)	CH2(C6H4NH2)2	101-77-9	A	P3	MC	0,01	ppm	
4-Hydroxy-4-Methyl-2-Pentanone	CH3COCH2C(CH3)2OH	123-42-2	A		MC	50	ppm	
4-Nitroaniline	C6 H6 N2 O2	100-01-6	A	P3	MC	6	mg/m3	
4-nitrochlorobenzene	ClC6H4NO2	100-00-5	AB	P3	MC	1,00	mg/m3	
5-Methyl-2-hexanone	CH3COCH2CH2CH(CH3)2	110-12-3	A		MC	50	ppm	
6,9-methano- 2,4,3-benzo-dioxathiepin-3-oxide	C8H6O6O3S	115-29-7	A	P3	MC	0	mg/m3	
Acetaldehyde	CH3CHO	75-07-0	AX		MC	100	ppm	
Acetic acid	CH3COOH	64-19-7	A	P3	MC	10,00	ppm	
Acetic ester	CH3COOC2H5	141-78-6	A		MC	400,00	ppm	
Acetic oxide	(CH3CO)2O	108-24-7	A		MC	5	ppm	
Acetylene	C2H2	74-86-2			ARI or A AIR	2500	ppm	
Acraldehyde	CH2=CHCHO	107-02-8	AX 450		MC	0	ppm	
Age	C6H10O2	106-92-3	A		MC	5	ppm	
Aldrin	C12H8Cl6	309-00-2	AB	P3	DM or MC	0,25	mg/m3	
Alpha- chlorotoluene	C6H5CH2Cl	100-44-7	A		MC	1	ppm	
Alpha-chloroacetophenone	C6H5COCH2Cl	532-27-4	ABEK	P3	MC	0,30	ppm	
Alpha-starch	(C6H10O5)n	9005-25-8		P3	MC	5,00	mg/m3	
Aluminium metal (respirable dust)	Al	7429-90-5	P2/P3		MC	5,000	mg/m3	
Aluminum trioxide	Al2O3	1344-28-1		P3	DM or MC	4	mg/m3	
Amidocyanogen	NH2CN	420-04-2		P3	DM or MC	2,000	mg/m3	
Aminocyclohexane	C6H11NH2	108-91-8	A		DM or MC	10,000	ppm	
Aminodimethylbenzene	(CH3)2C6H3NH2	1300-73-8	K		DM or MC	2	ppm	
Aminomethane	CH3NH2	74-89-5	K		MC	10	ppm	
Ammonia	NH3	7664-41-7	K		MC	25	ppm	
Ammonium amidosulfonate	NH4OSO2NH2	7773-06-0		P3	MC	5,00	mg/m3	
Ammonium chloride	NH4Cl	12125-02-9	K	P	MC	10	mg/m3	
Amyl acetic ether	CH3COO(CH2)4CH3	628-63-7	A		MC	100	ppm	
Anhydrous hydrogen bromide;	H Br	10035-10-6	B	P3	MC	3	ppm	
Anone	C6H10O	108-94-1	A		DM or MC	25,000	ppm	
Antimony and compounds (as sb)	Sb	7440-36-0		P3	MC	MEL	mg/m3	
Antimony hydride	SbH3	7803-52-3			ARI or A AIR	0	ppm	
Antimony trioxide	O3 Sb2	1309-64-4		P3	DM or MC	0,500	mg/m3	
Argon	Ar	7440-37-1			ARI or A AIR		ppm	
Arsenic & compounds except arsine	As	7440-38-2		P3	MC	0,15	mg/m3	
Arsenic trihydride	AsH3	7784-42-1			ARI or A AIR	0,020	ppm	
Arsenic trioxide	As2O3	1327-53-3			ARI or A AIR	0,200	mg/m3	
Artificial barite	BaSO4	7727-43-7		P3	MC	0,50	mg/m3	
ASBESTOS, amiante	Hydrated mineral silicates	1332-21-4	PAPR		MC	MEL	fibres/ml	
Asphalt, petroleum fumes	n/ a	8062-42-4			ARI or A AIR	5	mg/m3	
Atrazine (iso)	C8H14ClN5	1912-24-9		P3	DM or MC	5,000	mg/m3	
Azimethylene	CH2N2	334-88-3		ABEK	P3	MC	0,20	ppm
Azirane	C2H5N	151-56-4	K 450		MC		ppm	
Azium	NaN3	26628-22-8		P3	DM or MC	0	mg/m3	
Azodicarbonamide	C2H4N4O2/NH2CON=NC=ONH2	123-77-3	A	P3	MC	MEL	mg/m3	
Barium compounds soluble (as ba)	Ba	7440-39-3		P2/P3	DM or MC	1	mg/m3	
Basudin®	C12H21N2O3PS	333-41-5	BE	P3	MC	0,10	mg/m3	
BCME [Bis (chloromethyl) ETHER]	(CH2Cl)2O	542-88-1	A2	P3	MC	0,05	mg/m3	
Benomyl (iso)	C14H18N4O3	17804-35-2	A	P3	DM or MC	5,000	mg/m3	
Benzenamine	C6H5NH2	62-53-3	A	P3	MC	2,00	ppm	
Benzene	C6H6	71-43-2	A 450		MC	1,00	ppm	
Benzene chloride	C6H5Cl	108-90-7	A		DM or MC	75,000	ppm	
Benzene hexahydride	C6 H12	110-82-7	A		DM or MC	300,000	ppm	
Benzyl butyl phthalate	C19 H20 O4	85-68-7	A	P	DM or MC	5,000	mg/m3	
Beryllium and compounds	Be	7440-41-7		P3	MC	VLE	mg/m3	
Beta-Aminoethyl alcohol	NH2CH2CH2OH	141-43-5	A		MC	3	ppm	
Beta-Hydroxypropyl acrylate	CH2=CHCOOCH2CH(OH)CH3	999-61-1	A		MC	1	ppm	
BGE	C7 H14 O2	2426-08-6	A		MC	5,00	ppm	
Biottle	H2KA3(SiO4)3	12001-26-2		P3	DM or MC	3,000	mg/m3	
Bigotassium chromate	K2 Cr O4	7789-00-6			ARI or A AIR		mg/m3	
Bis(2- ethylhexyl) phthalate	C24H38O4	117-81-7	A	P3	DM or MC	5,000	mg/m3	
Bis(2,3- epoxypropyl) ether	C6H10O3	2238-07-5	A	P3	MC	0,10	ppm	
Bismuth telluride	Bi2Te3	1304-82-1		P3	MC	5,00	mg/m3	
Borates, (tetra) sodium salts	Na2B4O7	1330-43-4		P3	DM or MC	1,000	mg/m3	
Borax decahydrate	Na2B4O7 • 10H2O	1303-96-4		P3	MC	5,00	mg/m3	
Boric anhydride	B2O3	1303-86-2		P3	DM or MC	10,000	mg/m3	
Bornan- 2- one	C10H16O	76-22-2	A	P3	DM or MC	2,000	mg/m3	
Boron fluoride	BF3	7637 07 02			ARI or A AIR	1,000	ppm	
Boron hydride	B2H6	19287-45-7	B	P3	MC	0,10	ppm	
Bromacil (iso)	C9H13BrN2O2	314-40-9	AB	P3	DM or MC	1,000	ppm	
Bromine	Br2	7726-95-6	B	P3	MC	0,10	ppm	
Bromine fluoride	BrF5	7789-30-2	AX		MC	0,10	ppm	
Bromoethane	CH3CH2Br	74-96-4	AX		MC	200,00	ppm	
Bromoethylene	CH2=CHBr	593-60-2	AX		DM or MC	5,000	ppm	
Bromoform	CHBr3	75-25-2	A		MC	0,50	ppm	
Bromomethane	CH3Br	74-83-9	AX		MC	5	ppm	
Butane	CH3CH2CH2CH3	106-97-8	AX		DM or MC	600,000	ppm	
Butyl acrylate	CH2=CHCOOC4H9	141-32-2	A		MC	10,00	ppm	
Butyl ester of 2-hydroxypropanoic acid	CH3CH(OH)COOC4H9	138-22-7	A	P3	DM or MC	5,000	ppm	
Butyl ethanoate	CH3COO(CH2)3CH3	123-86-4	A		MC	150	ppm	

HEAD PROTECTION

Substances	Chemical formula	n° cas	Pyrone filter	Particle filter	MC/DM+	OEL	Unit of measurement
Butyl methyl ketone /MBK	CH3CO[CH2]3CH3	591-78-6	A		MC	5,00	ppm
Butylamine	CH3CH2CH2CH2NH2	109-73-9	BK		MC	5,00	ppm
Cadmium	Cd S	7440-43-9		P3	DM or MC	VLE=0,05	mg/m3
Caesium hydroxide	CSOH	21351-79-1	B		DM or MC	2,000	mg/m3
Calcium carbimide	CaCN2	156-62-7			ARI or A AIR	0,500	mg/m3
Calcium carbonate	CaCO3	1317-65-3		P3	DM or MC	5,000	mg/m3
Calcium hydrate	Ca(OH)2	1305-62-0		P3	DM or MC	5,000	mg/m3
Calcium monosilicate	CaSiO3	1344-95-2		P2/P3	DM or MC	5,000	mg/m3
Calcium sulfate hemihydrate	CaSO4 • 0.5H2O	26499-65-0		P3	DM or MC	5,000	mg/m3
Captafol (iso)	C10H9Cl14NO2S	2425-06-1	A		MC	0,10	mg/m3
Carbaryl (iso)	CH3NHCOC10H7	63-25-2	A		DM or MC	5,000	mg/m3
Carbofuran (iso)	C12H15NO3	1563-66-2	A	P3	DM or MC	0,100	mg/m3
Carbolic acid	C6H5OH	108-95-2	A	P3	MC	5	ppm
Carbon black	C	1333-86-4		P3	MC	3,50	mg/m3
Carbon dioxide	CO2	124-38-9			ARI or A AIR	5000,000	ppm
Carbon disulphide	C S2	75-15-0	AX		MC	10,00	ppm
Carbon hexachloride	C3CCl3	67-72-1	A	P3	MC	1,00	ppm
Carbon monoxide	CO	630-08-0			ARI or A AIR	30,000	ppm
Carbon tetrachloride	CCl4	56-23-5	A		MC	2,00	ppm
Carbonyl chloride	COCl2	75-44-5	B	P3	MC	0,10	ppm
Carboxyethane	CH3CH2COOH	79-09-4	A	P3	MC	10	ppm
CB	CH2BrCl	74-97-5	A		MC	200,00	ppm
Cd: Cadmium	CdO/Cd	1306-19-0		P3	MC	VLE=0,05	mg/m3
Cellosolve®	C2H5OCH2CH2OH	110-80-5	A		MC	0,50	ppm
Cellulose	(C6H10O5)n	9004-34-6		P3	DM or MC	5,000	mg/m3
Cement	as Portland Cement	65997-15-1		P2/P3	DM or MC	10,000	mg/m3
Chlordan	C10H6Cl8	57-74-9	A	P3	DM or MC	0,500	mg/m3
Chlorine	Cl2	7782-50-5	B		MC	0,50	ppm
Chlorine fluoride	ClF3	7790-91-2	B		MC	0,10	ppm
Chlorine oxide	Cl O2	10049-04-4	B		DM or MC	0,100	ppm
Chloroacetic acid chloride	ClCH2COCl	79-04-9	A	P3	MC	0,05	ppm
Chloroacryanide	ClCN	506-77-4	B 450		MC	0,30	ppm
Chlorodimethyl ether	CH3OCH2Cl	107-30-2			ARI or A AIR		
Chloroethane	CH3CH2Cl	75-00-3	AX		DM or MC	1000,000	ppm
Chloroethanoic acid	ClCH2COOH	79-11-8	A	P3	MC	0	ppm
Chloroethene	CH2=CHCl	75-01-4	AX		MC	1,00	ppm
Chloroform	CHCl3	67-66-3	AX		MC	2,00	ppm
Chloromethane	CH3Cl	74-87-3			ARI or A AIR	100,000	ppm
Chlorpicrin	CCl3NO2	76-06-2	A	P3	MC	0,10	ppm
Chlorosulfuric acid	HClO3S	7790-94-5	E	P3	MC	1,00	mg/m3
Chlorothene	CH3CCl3	71-55-6	A		MC	300,00	ppm
Chlorpyrifos	C9H11Cl3N3O3PS	2921-88-2	A	P3	DM or MC	0,200	mg/m3
Chromic acid (cro3)	CrO3	1333-82-0	BE	P3	MC	0,05	mg/m3
Chromium	Cr	7440-47-3		P3	MC	0,50	mg/m3
Cobalt and compounds (as co)	Co	7440-48-4		P2/P3	DM or MC	VLE	mg/m3
Copper, dusts and mists	Cu	7440-50-8		P3	MC	1,00	mg/m3
Crag® herbicide No. 1	C6H3Cl2O2CH2CH2OSO3Na	136-78-7		P3	MC	5,00	mg/m3
Cresols (all isomers)	C7 H8 O	1319-77-2	A	P3	MC	5,00	ppm
Cumene	C6H5CH(CH3)2	98-82-8	A		MC	50,00	ppm
Cyanogen chloride, (as -cn)	C- N	57-12-5	B	P3	MC	5,00	mg/m3
Cyclohexene	C6 H10	110-83-8	A		DM or MC	300,000	ppm
Cyclohexylmethane	CH3C6H11	108-87-2	A		DM or MC	400,000	ppm
DBP	C6H4(COOC4H9)2	84-74-2	A	P3	MC	5,00	mg/m3
Dca	CCl2	7572-29-4			ARI or A AIR	0,100	ppm
DDH	CSH6Cl2N2O2	118-52-5	ABEK	P3	MC	0,20	mg/m3
DDT	(C6H4Cl)2CHClCl3	50-29-3		P3	MC	1	mg/m3
Di- N- Butyl Phosphate	(C4H9O)2(OH)PO	107-66-4	A	P3	MC	1,00	ppm
Diallyl phthalate	C14 H14 O4	131-17-9	A	P3	DM or MC	5,000	ppm
Diammonium peroxodisulphate	N2 H8 S2 O8	7727-54-0	A	P3	MC	1,00	mg/m3
Dianiline (mboca)	CH2(C6H4CINH2)2	101-14-4	A	P3	MC	0,00	mg/m3
Diatomaceous earth, natural, respirable dust	SiO2	68855-54-9		P3	MC	1,20	mg/m3
DIBENZ(a, h) ANTHRACENE	C22 H14	65996-93-2	A	P3	MC	0,10	mg/m3
Dibenzoyl peroxide	(C6H5CO)2O2	94-36-0	A	P3	DM or MC	5,000	mg/m3
Dibromochloropropane	CH2BrCHBrCH2Cl	96-12-8			ARI or A AIR	0,001	ppm
Dibutyl phosphate	(C4H9O)2(OH)PO	107-66-4	A	P3	MC	1,00	ppm
Dibutylated hydroxytoluene	[C(CH3)3]2OH3C6H2OH	128-37-0		P	MC	10,00	mg/m3
Dichloromethane	CH2Cl2	75-09-2	AX		MC	50,00	ppm
Dichloromethyl ether	(CH2Cl)2O	542-88-1	A2	P3	MC	0,05	mg/m3
Dicyanogen	NCCN	460-19-5	BK		DM or MC	10,000	ppm
Dicyclohexyl phthalate	C20 H26 O4	84-61-7	A	P3	DM or MC	5,000	ppm
Dieldrin (iso)	C12H8Cl6O	60-57-1	A	P3	DM or MC	0,250	mg/m3
Diethyl ether	C2H5OC2H5	60-29-7	AX		MC	400,00	ppm
Diethyl phthalate	C6H4(COOC2H5)2	84-66-2	A	P3	DM or MC	5,000	mg/m3
Diethyl sulphate	C4 H10 O4 S	64-67-5	A	P3	MC	VLE	ppm
Diethylene imidoxide	C4H9ON	110-91-8	A		MC	20	ppm
Difluorodibromomethane	CB2F2	75-61-6			ARI or A AIR	100,000	ppm
Disodecyl phthalate	C28 H46 O4	26761-40-0	A	P3	DM or MC	5,000	mg/m3
Disooxonyl phthalate	C26 H42 O4	28553-12-0	A	P3	DM or MC	5,000	mg/m3
Disooxetyl phthalate	C24 H38 O2	27554-26-3	A	P3	DM or MC	5,000	mg/m3
Diisopropylamine	[(CH3)2CH]2NH	108-18-9	K		MC	5	ppm
Dimethyl carbinol	(CH3)2CHOH	67-63-0	A		MC	400	ppm
Dimethyl ester of 1,2-benzenedicarboxylic acid	C6H4(COOCH3)2	131-11-3	A	P3	MC	5,00	mg/m3
Dimethyl ether	H6 C2 O	115-10-6			ARI or A AIR	400,000	ppm
Dimethyl methane	CH3CH2CH3	74-98-6			ARI or A AIR	1000,000	ppm
Dimethyl sulphate	(CH3)2SO4	77-78-1	A	P3	MC	0,10	ppm
Dimethylacetone	CH3CH2COCH2CH3	96-22-0	A		DM or MC	200,000	ppm
Dimethylaminoethanol	CAH11NO(CH3)2NHCH2CH2OH	108-01-0	A		MC	? 2	ppm
Dimethylnitromethane	(CH3)2CH(NO2)	79-46-9	A	P3	MC	10,00	ppm
Dinitrogen tetroxide (N2O4)	N O2	10102-44-0	NO		MC	3,00	ppm
Diphenyl	C6H5C6H5	92-52-4	A	P3	MC	0,20	ppm
Diphenyl ether (vapor)	C6H5OC6H5	101-84-8	A	P3	MC	1,00	ppm
Dipotassium peroxodisulphate (measured as s2o8)*	H2 K2 O8 S2	7727-21-1	AB	P	MC	1,00	mg/m3
Direx®	C6H3Cl2NHCON(CH3)2	330-54-1		P3	DM or MC	10,000	mg/m3
Disodium peroxodisulphate (measured as s2o8)	Na2 O8 S2	7775-27-1	A	P3	MC	1,00	mg/m3
Disodium tetraborate, decahydrate	Na2B4O7 • 10H2O	1303-96-4		P3	MC	5,00	mg/m3

Substances	Chemical formula	n° cas	Pyrone filter	Particle filter	MC/DM+	OEL	Unit of measurement
Disodium tetraborate, pentahydrate	B4 O7 2Na 10H 2O	11130-12-4			DM or MC	1,000	mg/m3
Disulfoton (iso)	CBH19O2PS3	298-04-4	ABE	P3	MC	0,10	mg/m3
Disulphur dichloride	S2 Cl2	10025-67-9	B	P3	MC	1,00	ppm
Divanadium pentaoxide (as v)	V2O5	1314-62-1		P3	MC	VLE=0,005	mg/m3
DMAC	CH3CON(CH3)2	127-19-5	A		DM or MC	10,000	ppm
DMF	HCON(CH3)2	68-12-2	A		MC	10,00	ppm
DMH	(CH3)2NNH2	57-14-7	K 450		MC	0,06	ppm
Eca	C6H7NO2	7085-85-0	AXB	P3	MC	2	mg/m3
Elemental selenium	Se	7782-49-2		P3	MC	0	mg/m3
Endrine	C12H8Cl6O	72-20-8		P3	MC	0,10	mg/m3
Ethane	C2 H6	74-84-0			ARI or A AIR		ppm
Ethanedioic acid	HOCCOOH • 2H2O	144-62-7		P3	MC	1	mg/m3
Ethanethiol	CH3CH2SH	75-08-1	AX	P3	MC	1	ppm
Ethyl acetone	CH3COCH2CH2CH3	107-87-9	A		MC	200	ppm
Ethyl acrylate	CH2=CHCOOCC2H5	140-88-5	A		MC	5,00	ppm
Ethyl alcohol	CH3CH2OH	64-17-5	A		MC	1000	ppm
Ethyl chloroformate	C3H5ClO2 / ClCOOCC2H5	541-41-3			ARI or A AIR	1	ppm
Ethyl ester of formic acid	CH3CH2OCHO	109-94-4	AX		MC	100	ppm
Ethyl methyl ketone	CH3COCH2CH3	78-93-3	A		MC	200,00	ppm
Ethyl nitrile	CH3CN	75-05-8	A		MC	40	ppm
Ethyl parathion	(C2H5O)2P(S)OC6H4NO2	56-38-2	A2	P3	MC	0	mg/m3
Ethylamine	CH3CH2NH2	75-04-7	K		MC	10,00	ppm
Ethylbenzene	CH3CH2C6H5	100-41-4	A		MC	100	ppm
Ethylene	C2 H4	74-85-1			ARI or A AIR		ppm
Ethylene bromide	BrCH2CH2Br	106-93-4	A		MC	0,05	ppm
Ethylene oxide	C2H4O	75-21-8	AX		MC	5,00	ppm
Ferban (iso)	[(CH3)2NC(S)2]3Fe	14484-64-1		P3	MC	10	mg/m3
Ferrocene	C10 H10 Fe	102-54-5	A	P	MC	10	mg/m3
Fluoride (as f)	F	16984-48-8	AB	P3	DM or MC	3	mg/m3
Fluorine-19	F2	7782-41-4	B		MC	1,00	ppm
Formal	CH3OCH2COH3	109-87-5	AX		MC	1000,00	ppm
Formaldehyde	HCHO	50-00-0	ABE		MC	0,50	ppm
Formamide	HCONH2	75-12-7	A	P3	MC	10,00	ppm
Formic acid	HOCHO	64-18-6	B / BE	P3	MC	5	ppm
Formonitrile	HCN	74-90-8	B	P3	MC	2,00	ppm
Freon® 112	CCl2FCCl2F	76-12-0	A		MC	500,00	ppm
Freon® 112a	CCl3CClF2	76-11-9	A		MC	500,00	ppm
Freon® 113	CCl2FCClF2	76-13-1			ARI or A AIR	1000	ppm
Freon® 114	CClF2CClF2	76-14-2			ARI or A AIR	1000,000	ppm
Freon® 12	CCl2F2	75-71-8			ARI or A AIR	1000,000	ppm
Freon® 21	CHCl2F	75-43-4			ARI or A AIR	10,000	ppm
Freon® 22	CHClF2	75-45-6			ARI or A AIR	1000,000	ppm
Germanium tetrahydride	GeH4	7782-65-2			ARI or A AIR	0	ppm
Glycerol	HOCH2CH(OH)CH2OH	56-81-5	A	P3	MC	5,00	mg/m3
Glycidyl phenyl ether	C9H10O2	122-60-1	A		MC	1	ppm
Glycol dinitrate	O2NOCCH2OCH2NO2	628-96-6	A	P	MC	0,20	ppm
Graphite	C	7440-44-0		P2/P3	DM or MC	5,000	mg/m3
Guthion®	C10H12O3PS2N3	86-50-0	A	P3	DM or MC	0	mg/m3
Gypsum	Ca S O6 H4	10101-41-4		P3	MC	4	mg/m3
Hafnium	Hf	7440-58-6		P3	MC	1	mg/m3
Halon® 1301	CBrF3	75-63-8			ARI or A AIR	1000,000	ppm
Helium	He				ARI or A AIR		ppm
Heptan- 2- one	CH3CO[CH2]4CH3	110-43-0	A		MC	100	ppm
Hexachlorobenzene	C6 Cl6	118-74-1	A	P3	MC	0,03	mg/m3
Hexahydrodimethylphenol	CH3C6H10OH	25639-42-3	A		MC	50	ppm
Hexalin	C6H11OH	108-93-0	A		MC	50,00	ppm
Hexamethyl phosphoramide	[(CH3) 2N]3 PO	680-31-9			ARI ou A AIR		
Hexane	CH3[CH2]4CH3	110-54-3	A		DM ou MC	50	ppm
Hydrated lime	Ca(OH)2	1305-62-0		P3	DM or MC	5,000	mg/m3
Hydrazine	H2NNH2	302-01-2	K	P3	MC	0,10	ppm
Hydrazinobenzene	C6H5NNH2	100-63-0	A	P3	DM or MC	0,140	ppm
Hydrazoic acid (as vapour)	H N3	7782-79-8	K	P3	MC	0	ppm
Hydrogen	H2	1333-74-0	?		ARI or A AIR		ppm
Hydrogen chloride	H Cl	7647-01-0	B	P3	MC	5,00	ppm
Hydrogen fluoride (as f)	H F	7664-39-3	B 450 B/BE/ NO	P3	MC	3,00 (ST)	ppm
Hydrogen nitrate	HNO3	7697-37-2		P3	MC	2	ppm
Hydrogen peroxide	H2O2	7722-84-1	AB	P3	MC	1	ppm
Hydrogen phosphide	PH3	7803-51-2	B		MC	0,10	ppm
Hydrogen sulfate	H2SO4	7664-93-9	BE 450	P3	MC	1	mg/m3
Hydrogen sulphide	H2 S	7783-06-4	B		MC	10	ppm
Hydroquinone monomethyl ether	CH3OC6H4OH	150-76-5		P3	MC	5	mg/m3
Hydrous magnesium silicate	Mg3Si4O10(OH)2	14807-96-6		P3	MC	2,00	mg/m3
Hyponitrous acid anhydride	N2 O	10024-97-2	NO		MC	25,000	ppm
Impure corundum	Al2O3	1302-74-5		P3	DM or MC	5	mg/m3
Indium and compounds (as in)	In	7440-74-6		P3	MC	0	mg/m3
Indonaphthene	C9 H8	95-13-6	A		MC	10	ppm
Iodine	I2	7553-56-2	IPR	P3	MC	0,10	ppm
Iodomethane	CH3I	74-88-4	AX		MC	VLE=2	ppm
Iron (II) oxide	Fe2O3	1309-37-1		P3	DM or MC	5	mg/m3
Iron oxide, fume (as fe)	Fe2O3	1309-37-1		P3	DM or MC	5	mg/m3
Iron pentacarbonyl	Fe(CO)5	13463-40-6	A	P3	MC	0	ppm
Isobutanol	(CH3)2CHCH2OH	78-83-1	A		MC	50	ppm
Isobuteryl methyl ketone	(CH3)2C=CHCOCH3	141-79-7	A		MC	10,00	ppm
Isotlurane	C3 F5 H2 Cl O	26675-46-7			ARI or A AIR	50	ppm
Isophorone diamine diisocyanate	C12H18N2O2	4098-71-9	A		MC	VLE=0,01	ppm
Isopropyl chloroformate	C4H7ClO2/(CH3)2CHCOCl	108-23-6		P3	MC	?	1,00 ppm
Isosalorene	[(CH3)2CHCH2]2C=CO	108-93-8	A		MC	25,00	ppm
Jasmolin 1 or II	C20H28O3 / C21H28O5 C21H30O3 / C22H30O5 C21H28O3 / C22H28O5	8003-34-7	A	P3	MC	5,00	mg/m3
Kaolin	(Al2Si2O5(OH)4)2	1332-58-7		P3	DM or MC	5	mg/m3
Keto-ethylene	CH2=C=O	463-51-4			ARI or A AIR	1	ppm
Ketone propane	(CH3)2CO	67-64-1	AX		MC	500	ppm
Lead and compounds (except lead alkyls)	Pb	7439-92-1		P3	MC	150,00	µg/ m3
Lepidolite	n/a	12001-26-2		P3	DM or MC	3,000	mg/m3
Lime	CaO	1305-78-8		P2/P3	MC	2,00	mg/m3

TECHNICAL INFORMATION

Substances	Chemical formula	n° cas	Plywood filter	Particle filter	MC/DM*	OEL	Unit of measurement
Lithium hydroxide	LiOH	1310-65-2		P3	MC	1.00 (ST)	mg/m3
Lithium monohydride*	LiH	7580-67-8	A	P3	MC	0,025	mg/m3
LP6 (Liquefied Petroleum Gas)	Mix : C3 H6; C3 H8; C4 H8; C4 H10	68476-85-7		ARI or A AIR	1000.00		ppm
Magnetite	MgCO3	546-93-0		P3	DM or MC	5,000	mg/m3
Magnesium oxide, fume and dust (as mg)	MgO	1309-48-4		P3	DM or MC	15	mg/m3
Malthion (iso)	C10H19O6PS2	121-75-5	A	P3	MC	10	mg/m3
Manganese and compounds (as mn)	Mn	7439-96-5		P2/P3	DM or MC	1,000	mg/m3
Manganese tetroxide	Mn3O4	1317-35-7		P3	DM or MC	1	mg/m3
Manganese tricarbonylmethylcyclopentadieny	CH3C5H4Mn(CO)3	12108-13-3	A	P3	MC	0	mg/m3
Margarite	n/a	12001-26-2		P3	DM or MC	3,000	mg/m3
MD	C5H5Mn(CO)3	12079-65-1	A	P3	DM or MC	0,100	mg/m3
MDI	CH2(C6H4NCO)3	101-68-8	A	P3	MC	0,01	ppm
Mecrylate	CH2=C(CH3)COOCH3	137-05-3	A	P3	MC	2,00	ppm
Mercury & its inorganic divalent compounds	Hg	7439-97-6	Hg	P3	DM or MC	0,050	mg/m3
Mesitylene	C6H3CH3	108-67-8	A		MC	25	ppm
Methacrylate monomer	CH2=C(CH3)COOCH3	80-62-6	A		MC	100	ppm
Methane	C H4	74-82-8			ARI or A AIR		ppm
Methane tetrabromide	CB4	558-13-4	A		DM or MC	1,400	mg/m3
Methane tetramethylol	C(CH2OH)4	115-77-5	A	P3	MC	5	mg/m3
Methanethiol	CH3SH	74-93-1	AXB		MC	0,50	ppm
Methanol	CH3OH	67-56-1	AX		MC	200	ppm
Methomyl (resp. Dust)	CH3C(SCH3)NOC(O)NHCH3	16752-77-5		P3	MC	3	mg/m3
Methoxy-ddt	(C6H4OCH3)2CHCOCH3	72-43-5	A	P3	DM or MC	15,000	mg/m3
Methyl acetate	CH3COOCH3	79-20-9	AX		MC	200,00	ppm
Methyl ester of formic acid	HCOOCH3	107-31-3	AX		MC	100	ppm
Methyl ester of isocyanic acid	CH3NCO	624-83-9	B	P3	MC	VLE=0,02	mg/m3
Methyl ethylene oxide	C3H6O	75-56-9	AX 450		MC	100,00	ppm
Methyl parathion	(CH3O)2P(S)OC6H4NO2	298-00-0	A2	P3	MC	0	mg/m3
Methyl phosphite	(CH3O)3P	121-45-9	A	P3	MC	2	ppm
Methyl propenoate	CH2=CHCOOCH3	96-33-3	A		MC	10	ppm
METHYL- t- BUTYL ETHER	C5 H12 O	1634-04-4	AX	P3	MC	25	ppm
Methylene oxide	HCHO	50-00-0	ABE		MC	0,50	ppm
Methylstyrene	CH2=CHC6H4CH3	25013-15-4	A		MC	100	ppm
Miak	CH3COCH2CH2CH(CH3)2	110-12-3	A		MC	50	ppm
Mibc	(CH3)2CHCH2CH(OH)CH3	108-11-2	A		MC	25	ppm
MMH	CH3NHNH2	60-34-4	AK	P3	MC	0,04	ppm
Molybdenum compounds (as mo)	Mo	7439-98-7		P3	MC	5	mg/m3
Monochloropentafluoroethane	ClCF2CF3	76-15-3			ARI or A AIR	1000,000	ppm
Monofluorotrichloromethane	CCl3F	75-69-4			ARI or A AIR	1000	ppm
N- Butyl chloroformate	C5 H10 Cl O2	592-34-7	A	P3	MC	1,00	ppm
N- propyl acetate	CH3COOCH2CH2CH3	109-60-4	A		MC	200,00	ppm
N, n- dimethylalanine	C6H5N(CH3)2	121-69-7	A	P3	MC	5,00	ppm
N,N'-Dimethyl-4,4'-bipyridinium dichloride	CH3(C5H4N)2CH3 • 2Cl	1910-42-5	A	P3	MC	0,10	mg/m3
Naphthalene	C10H8	91-20-3	A	P3	MC	10,00	ppm
Navade®	C4H6O2[SPS](OC2H5)2]2	78-34-2	A	P3	MC	0,20	mg/m3
Neon	Ne	7440 01 9			ARI or A AIR		ppm
N-Ethylethanamine	(C2H5)2NH	109-89-7	K + 450		MC	10,00	ppm
N-Ethylmorpholine	C6 H13 N O	100-74-0	A	P3	MC	5,00	ppm
Ng	CH2N03CHN03CH2N03	55-63-0	A	P3	DM or MC	0,100	mg/m3
Nickel and inorganic compounds	Ni	7440-02-0		P3	DM or MC	1,000	mg/m3
Nickel carbonyl	Ni(CO)4	13463-39-3			ARI or A AIR	0.10 (ST)	ppm
Nicotine	C5H4NC4H7NCH3	54-11-5	A	P3	DM or MC	1	mg/m3
Nitraprin	C1C5H3NCO3	1929-82-4	AB	P3	MC	5,00	mg/m3
Nitric oxide	N O	10102-43-9			ARI or A AIR	25	ppm
Nitrocarbol	CH3NO2	75-52-5	A	P3	MC	100	ppm
Nitroethane	CH3CH2NO2	79-24-3	A	P3	MC	100	ppm
Nitrogen	N2	7727-37-9			ARI or A AIR		ppm
Nitrogen trifluoride	NF3	7783-54-2			ARI or A AIR	10	ppm
Nitropropane	CH3CH2CH2NO2	108-03-2	A	P3	MC	25	ppm
N-methylmethanamine	(CH3)2NH	124-40-3	K		MC	10,00	ppm
NN- Dimethylethylamine	C4 H11 N	598-56-1	K	P3	MC	5,00	ppm
N-Nitroso-N,N-dimethylamine	(CH3)2N2O	62-75-9	A	P3	MC		
N-octane	CH3(CH2)6CH3	111-65-9	A		MC	75,00	mg/m3
Nonyphenols	C15H24O	25154-52-3	A	P3	MC		
N-phenylmethylamine	C6H5NHCH3	100-61-8	A		DM or MC	1	ppm
N-Trichloromethylmercapto-4-cyclohexene 1,2-dicarboximide	C9H8O3N2S2	133-06-2	A	P3	DM or MC	5,000	mg/m3
Nux vomica	C21H22N2O2	57-24-9		P3	MC	0	mg/m3
O- acetylsalicylic acid	CH3COOC6H4COOH	50-78-2	P2/P3		DM or MC	5,00	mg/m3
O-anisidine	NH2C6H4OCH3	90-04-0	A	P3	MC	1	mg/m3
O-danisidine	(NH2C6H3OCH3)2	119-90-4		P3	DM or MC		
O-diphenylbenzene	C6H5C6H4C6H5	84-15-1		P3	DM or MC	1	ppm
Oil mist, mineral		8012-95-1		P3	MC	5	mg/m3
Oil of mirbane	C6H5NO2	98-95-3	A	P3	MC	1	ppm
O-nitrotoluene	NO2C6H4CH3	88-72-2	A	P3	MC	2,00	ppm
Ortho-dichlorobenzene	C6H4Cl2	95-50-1	A		MC	50,00	ppm
Orthophosphoric acid	H3PO4	7664-38-2	B	P3	MC	1,00 (ST)	mg/m3
O-sac-Butylphenol	CH3CH2CH(CH3)C6H4OH	89-72-5	A		MC	5,00	ppm
Osmium oxide	OsO4	20816-12-0	B	P3	MC	0	mg/m3
Oxocetyl alcohol	C7H15SCH2OH	26952-21-6	A		MC	50	ppm
Ozone	O3	10208-15-6	AXB2	P3	MC	0	ppm
P - Aramid respirable fibres	(C14 H10 O2 N2) n	26125-61-1		P3	DM or MC	0.50	fibres/ml
P- toluenesulphonyl chloride	C7 H7 S O2 Cl	98-59-9	AB	P3	DM or MC	5,00 (ST)	mg/m3
Paracetamol	CH8 H9 N O2	103-90-2		P3	DM or MC	10	mg/m3
P-Dioxane	C4H8O2	123-91-1	A	P3	MC	10,00	ppm
Pentachlorophosphorus	PCl5	10026-13-8	B	P3	MC	1,00	mg/m3
Pentane	CH3(CH2)3CH3	109-66-0	AX		MC	120	ppm
Paraacetic acid	C2H4O3	79-21-0	AB	P3	DM or MC		ppm
Peroxoide de 2-Butanone	C8H16O4	1338-23-4	A	P3	MC	VLE=0,2	ppm
Phenyl phosphate	(C6H5O)3PO	115-86-6	A	P3	MC	3	mg/m3
Phenylaniline	(C6H5)2NH	122-39-4	A	P3	MC	10,00	mg/m3
Phenylethylene	C6H5CH=CH2	100-42-5	A		MC	50,00	ppm
Phorate	(C2H5O)2P(S)CH2SC2H5	298-02-2	A	P3	MC	0	mg/m3
Phosphorus oxychloride	POCl3	10025-87-3	B	P3	MC	0	ppm
Phosphorus pentasulphide	P2S5/P4S10	1314-80-3	B 450	P3	MC	1,00	mg/m3

*MC/DM = Overall masks / Half-mask

Substances	Chemical formula	n° cas	Plywood filter	Particle filter	MC/DM*	OEL	Unit of measurement
Phosphorus pentoxide		1314-56-3	A	P3	DM or MC	2,00 (ST)	mg/m3
Phosphorus trichloride	PCl3	7719-12-2	B 450	P3	MC	0	ppm
Phosphorus, yellow	P4	7723-14-0		P3	ARI or A A/R	0	mg/m3
Picloram (iso)	C6H3Cl3O2N2	1918-02-1	AB	P3	MC	5,00	mg/m3
Piperazine hydrochloride	C4H10N2 HCl	142-64-3		P3	MC	5,00	mg/m3
Piperidine	CH2(CH2)4NH	110-89-4	A		DM or MC	?	ppm
Platinum metal	Pt	7440 06 4		P2/P3	DM or MC	5	mg/m3
Polychlorinated biphenyl	C6H3Cl2C6H2Cl3	11097-69-1	AB	P3	MC	0,10	mg/m3
Polychlorinated biphenyls (pcb's)	C12 H(10- x) Clx	1336-36-3			ARI or A A/R	0,500	mg/m3
Potassium bromate	K Br O3	7789-01-2		P3	DM or MC		
Potassium hydroxide	KOH	1310-58-3		P3	MC	2,00 (ST)	mg/m3
P-quinone	O=C6H4O	106-51-4	A	P3	MC	0,10	ppm
Primary isoamyl alcohol	(CH3)2CHCH2CH2OH	123-51-3	A		MC	100	ppm
Propanolol	C16 H21 N O2	525-66-6	A	P3	DM or MC	2	mg/m3
Propylene	C3 H6	115-07-1			ARI or A A/R		ppm
Propylene glycol	as Propane- 1,2- diol	57-55-6	A	P3	DM or MC	150	ppm
Propylene glycol-1,2-dinitrate	CH3ON(O2)CHCH2ON(O2)H	6423-43-4	A	P3	MC	0	ppm
Pvc (polyvinyl chloride) (resp. Dust)	(C2 H3 Cl) N	9002-86-2		P3	MC	4	mg/m3
Pyridine	C5H5N	110-86-1	A	P3	MC	5	ppm
Pyrophosphate	Na4P2O7	7722-88-5		P3	MC	5	mg/m3
Quartz	SiO2	14808-60-7		P3	DM or MC	0,050	mg/m3
RDX	C3H6N6O6	121-82-4		P3	DM or MC	1,500	mg/m3
Resorcinol	C6H4(OH)2	108-46-3	A	P3	MC	10	ppm
Rhodium (as rh) metal fume and dust	Rh	7440-16-6	P2/P3		DM or MC	0	mg/m3
Rotenone (iso)	C23 H22 O6	83-79-4	A	P3	MC	5	mg/m3
Saccharose	C12H22O11	57-50-1		P2/P3	DM or MC	10	mg/m3
Sec-Hexyl acetate	C8 H16 O2	108-84-9	A		MC	50	ppm
Seekay wax	C10H4Cl4	1335-88-2	A	P3	DM or MC	2	mg/m3
Selenium dihydride	H2 Se	7783-07-5			ARI or A A/R	0	ppm
Silica, amorphous (resp. Dust)	SiO2	7631-86-9		P3	MC	6,00	mg/m3
Silica, fused (resp. Dust)	O2 Si	60676-86-0		P3	MC	0	mg/m3
Silicane	SiH4	7803-62-5			ARI or A A/R	5,000	ppm
Silicon (resp. Dust)	Si	7440-21-3		P3	MC	4	mg/m3
Silicon monocarbide	SiC	409-21-2		P3	DM or MC	5,000	mg/m3
Silver, metallic	Ag	7440-22-4		P3	MC	0	mg/m3
Sodium bisulphite	NaHSO3	7631-90-5	P2/P3		MC	5	mg/m3
Sodium hydroxide	NaOH	1310-73-2		P3	MC	2,00 (ST)	mg/m3
Sodium metabisulphite	Na2S2O5	7681-57-4	B	P3	MC	5,00	mg/m3
Sodium monofluoroacetate	FC2H2COONa	62-74-8		P3	DM or MC	0	mg/m3
Subtilisins	Bacillus subtilis	1395-21-7			ARI or A A/R	0	mg/m3
Sulfur fluoride	SF6	2551-62-4	BE	P3	MC	1000	ppm
Sulfurous oxychloride	SOCl2	7719-09-7	B	P3	MC	1,00 (ST)	ppm
Sulphur dioxide	SO2	7446-09-5	E		MC	2	ppm
Sulphur pentafluoride	S2F10	5714-22-7	B	P3	MC	0,01	ppm
Sulphur tetrafluoride	SF4	7783-60-0			ARI or A A/R	0	ppm
Sulphuryl difluoride	SO2F2	2699-79-8	BE 450		MC	5	ppm
Sym-dichloroethylene	ClCH=CHCl	540-59-0	AX		MC	200,00	ppm
Tantalum	Ta	7440-25-7		P3	MC	5	mg/m3
TCP	(CH3C6H4O)3PO	78-30-8	A	P3	DM or MC	0	mg/m3
TDI	CH3C6H3(NCO)2	584-84-9	A2B2		MC	VLE=0,01	ppm
TEA	(C2H5)3N	121-44-8			MC	10,00	ppm
Tedp	[(CH3CH2O)2PS]2O	3689-24-5	ABE	P3	MC	0	mg/m3
Tellurium & compounds	Te	13494-80-9		P2/P3	DM or MC	0	mg/m3
Tellurium fluoride	TeF6	7783-80-4			ARI or A A/R	0	ppm
Tepp (iso)	[(CH3CH2O)2PO]2O	107-49-3	A	P3	MC	0	mg/m3
tert-Butyl ester of acetic acid	CH3COOC(CH3)3	540-88-5	A		DM or MC	200	ppm
Tetrachloroethylene	C2C=CCl2	127-18-4	A		MC	50,00	ppm
Tetraethyl silicate	(C2H5)4SiO4	78-10-4	A		MC	10	ppm
Tetramethyl silicate	(CH3O)4Si	681-84-5	A		MC	1	ppm
Tetramethyl succinodinitrile	(CH3)2C(CN)(C)N(CH3)2	3333-52-6	A	P3	DM or MC	1	ppm
Thallium, soluble compounds (as tl)	Tl	7440-28-0		P3	MC	0	mg/m3
THF	C4H8O	109-99-9	A		MC	200	ppm
Thio-4,4' bis (tert-butyl-6m-crésol)	[CH3(OH)C6H2O(CH3)3]2S	96-69-5		P3	DM or MC	5,000	mg/m3
Thiophenol	C6H5SH	108-98-5	A		MC	0	ppm
Thiram (iso)	C6H11N2S24	137-26-8	A	P	MC	5	mg/m3
Tin compounds, inorganic, except snh4 (as sn)	Sn	7440-31-5		P3	MC	2	mg/m3
Titanium peroxide	TiO2	13463-67-7		P3	MC	4	mg/m3
TMA	(CH3)3N	75-50-3	K		MC	10	ppm
Toluene	C6H5CH3	108-88-3	A		MC	100,00	ppm
Tributyl ester of phosphoric acid	(CH3)3CH2O)3PO	126-73-8	A	P3	MC	2,50	mg/m3
Trichloroethanoic acid	CCl3COOH	76-03-9	B	P3	MC	1	ppm
Trichlorohydrin	CH2ClCHClCH2Cl	96-18-4	A		MC	10,00	ppm
Tricyclohexylin hydroxide	(C6H11)3SnOH	13121-70-5	A	P3	MC	5,00	mg/m3
Triglycidyl isocyanurate (tgic)	C12 H15 N3 O6	2451-62-9	AB	P3	DM or MC	VLE	mg/m3
Triodomethane	CH3	75-47-8	A		MC	0,60	ppm
Trilene	ClCH=CCl2	79-01-6	A		MC	75,00	ppm
Trimethyl carbinol	(CH3)3COH	75-65-0	A		MC	100	ppm
Trinitrotoluol	CH3C6H2(NO2)3	118-96-7	A	P3	MC	1	mg/m3
Tungsten & compounds (as w) (soluble)	W	7440-33-7		P3	MC	1	mg/m3
Turnpentine	C10 H16 (approx)	8006-64-2	A		MC	100	ppm
Uranium compounds, natural, soluble (as u)	U	7440-61-1		P3	MC	0	mg/m3
Vac	CH2=CHOOCH3	108-05-4	A		MC	VLE =4	ppm
VDC	CH2=CCl	75-35-4	AX	P3	MC	VLE	ppm
Warfarin (iso)	C19H16O4	81-81-2		P2/P3	DM or MC	0	mg/m3
White spirit	n/a	8052-41-3	A		MC	350,00	mg/m3
Xylene (all isomers)	C8H10	13310-20-7	A		MC	100	ppm
Y-BHC (iso)	C6H6Cl6	58-89-9	B	P3	MC	1	mg/m3
Yttrium	Y	7440-65-5		P3	MC	1	mg/m3
Zinc chloride, fume	ZnCl2	7646-85-7		P3	MC	1	mg/m3
Zinc disterate (resp. Dust)	Zn(C18H35O2)2	557-05-1		P3	MC	5,00	mg/m3
Zinc oxide fume	ZnO	1314-13-2		P3	DM or MC	5	mg/m3
Zirconium compounds (as zr)	Zr	7440-67-7		P2/P3	DM or MC	5	mg/m3

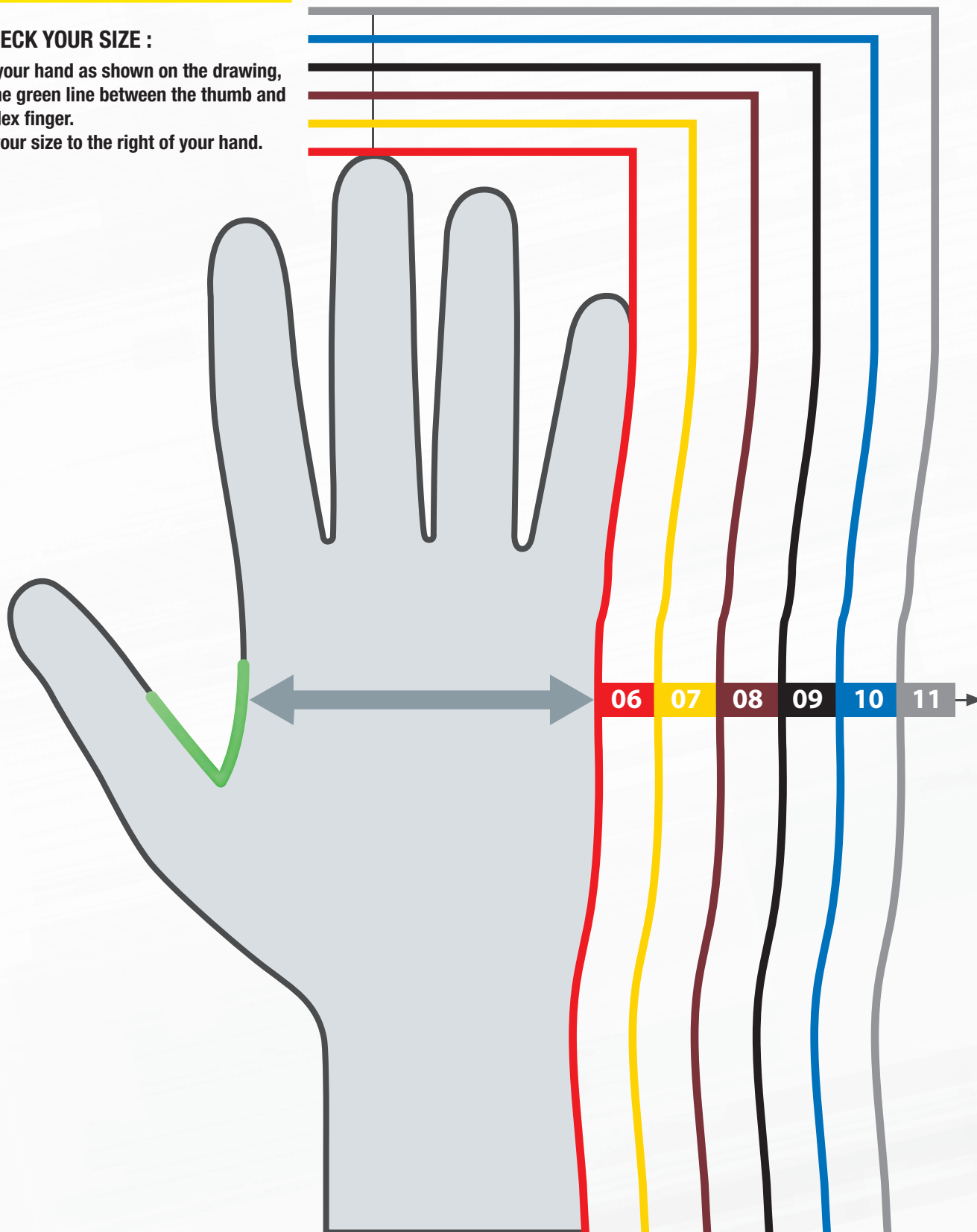
HAND PROTECTION

HAND MEASURING

► CHECK YOUR SIZE :

Place your hand as shown on the drawing, with the green line between the thumb and the index finger.

Read your size to the right of your hand.



THE EUROPEAN STANDARDS

EN420 ► GENERAL REQUIREMENTS

- **Conform to harmlessness** (pH, chrome VI levels, etc...).
- **Conform to the size charts** (see chart on below).
- **Pass the dexterity test**
- **Conform to the labelling, information and identification instructions.**

SIZES AS PER STANDARD EN420

Glove size	Hand dimensions (mm)		Minimal glove length
	Palm circumference	Length	
6	152	160	220
7	178	171	230
8	203	182	240
9	229	192	250
10	254	204	260
11	279	215	270

► STANDARDIZED LABELING/IDENTIFICATION

All our products meet the requirements in directive 89/686/CEE. Each is clearly identified by a standardized label, on which you will see:

- our brand logo ;
- the product reference ;
- the size ;
- an information tag indicating that instructions are available for the product ;
- the standardization pictogram(s) with their performance ratings.

And of course the data sheet for the product and the statement of compliance are available by simple request and on line 24 hours/day on our Web site: **www.deltaplus.eu**



EN388

► MECHANICAL RISKS

The EN388 standard applies to all types of protective gloves with respect to physical and mechanical aggression from abrasion, cutting from slicing, perforation and tearing.

PERFORMANCE LEVELS	REQUIREMENTS
1 to 4	RESISTANCE TO PERFORATION Force required to pierce the sample with a standardized punch.
1 to 5	
1 to 4	RESISTANCE TO TEARING Maximum force required to tear the sample.
1 to 4	
	RESISTANCE TO CUTTING WITH A BLADE Number of cycles required to cut the sample at constant speed.
	ABRASION RESISTANCE Number of cycles required to damage the sample at constant speed.

TEST	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
ABRASION RESISTANCE (number of cycles)	100	500	2 000	8 000	-
BLADE CUT RESISTANCE (index)	1.2	2.5	5.0	10.0	20
TEAR RESISTANCE (N)	10	25	50	75	-
PUNCTURE RESISTANCE (N)	20	60	100	150	-



EN511

► COLD RISKS

The EN511 standard defines the requirements and test methods for cold protection gloves from cold transmitted by convection or conduction down to -30°C. This cold can be from climatic conditions or industrial activity.

PERFORMANCE LEVELS	REQUIREMENTS
1 to 4	IMPERMEABILITY TO WATER
1 to 4	
1 to 1	RESISTANCE TO CONTACT COLD
	RESISTANCE TO CONVECTIVE COLD



HAND PROTECTION



EN407

► HEAT AND FIRE RISK

The EN407 standard specifies the test methods, the general requirements, the thermal performance and the labelling of gloves to protect from heat and fire.

It applies to all gloves which must protect hands from heat and/or flames in any one or several of the following forms: fire, contact heat, convective heat, radiating heat, small spray of molten metal or large spray of melting metal.

PERFORMANCE LEVELS

1 to 4 1 to 4 1 to 4 1 to 4 1 to 4 1 to 4

REQUIREMENTS

RESISTANCE TO LARGE MELTING METAL SPRAY
Amount of spray required to cause damage.

RESISTANCE TO SMALL MELTING METAL SPRAY
Amount of spray required to raise the glove to a certain temperature.

RESISTANCE TO RADIATING HEAT
Time required to raise to a given temperature level.

RESISTANCE TO CONVECTIVE HEAT
Time during which the glove is able to delay the transfer of the heat of a flame.

RESISTANCE TO CONTACT HEAT
Temperature (within the range of 100°C to 500°C) at which the person wearing the gloves will not feel any pain (for a period of at least 15 seconds).

RESISTANCE TO FLAMMABILITY
Time during which the material remains lighted and continues to be consumed after the ignition source has been eliminated.

PERFORMANCE LEVEL	CONTACT TEMPERATURE °C	THRESHOLD TIME (second)
1	100°C	≥15 s
2	250°C	≥15 s
3	350°C	≥15 s
4	500°C	≥15 s

EN12477

► WELDERS RISK

Requirements and test methods for gloves used for manual welding of metals, for cutting and related techniques. Welder gloves are ranked in two types: B when great dexterity is required, and A for other welding processes.

EN374-1

► AGAINST THE RISKS OF MICRO-ORGANISMS & CHEMICAL RISKS

Standard EN374-1, protective gloves against chemicals and micro-organisms, specifies the performance requirements required for gloves for protecting users against chemical products and/or micro-organisms and defines the terms to be used:

- **Penetration** (tested as per standard EN374-2):
Diffusion, at a non molecular scale, of a chemical product and/or micro-organism through the porosities, seams, micro-holes or other imperfections present in the material of the protective glove.
- **Permeation** (tested as per standard EN374-3):
Process by which a chemical product diffuses through the material of a protective glove, at the molecular scale.
A glove is considered resistant to chemical products if it obtains a performance index to permeation at least equal to 2 for three test chemical products included in the following list of chemical products:

CODE LETTER	CHEMICAL PRODUCT	N° CAS
A	Methanol	67-56-1
B	Acetone	67-64-1
C	Acetonitrile	75-05-8
D	Dichloromethane	75-09-2
E	Carbon disulfide	75-15-0
F	Toluene	108-88-3
G	Diethylamine	109-89-7
H	Tetrahydrofuran	109-99-9
I	Ethyl acetate	141-78-6
J	n-Heptane	142-82-5
K	Caustic soda 40 % (NaOH or sodium hydroxide)	310-73-2
L	Sulphuric acid 96 %	7664-93-9"

PASSAGE TIME MEASURED (MN)	PERFORMANCE INDEX TO PERMEATION
> 10 mn	1
> 30 mn	2
> 60 mn	3
> 120 mn	4
> 240 mn	5
> 480 mn	6

The glove will then carry the following pictogram: 

Failing compliance with this requirement, the glove will carry the following pictogram: 

Examples of application:

The field of use is decisive, as depending on the case, the glove must only be water and airtight, resistant to micro-organisms, sealed against splashes of low concentrate chemical products, resistant to low concentrate chemical products or against chemical products. It is therefore highly important to consult the recommended fields of use.

EN374-1 GENERAL REQUIREMENTS		EXAMPLES OF USES APPLICATIONS	MARKINGS	CATEGORIES AS PER 89/686/CEE
TEST METHODS	EN374-1 EN374-2	Waterproof glove for very frequent and prolonged use (dish washing gloves)	None	CAT I For Minor Risks
	EN374-1 EN374-2 EN374-3	Glove against micro-organisms (bacteria, fungi), air and water proof		CAT II For Intermediary Risks
	EN374-1 EN374-2 EN374-3	Glove offering low protection against chemical products (occasional contact), air and water proof		CAT III For irreversible Risks
	EN374-1 EN374-2 EN374-3	Glove against chemical products (direct and prolonged contact), air and water proof		CAT III For irreversible Risks

ISO2859 (DISPOSABLE GLOVES)

Determine the acceptable quality level (AQL): AQL 1.5 for instance



FOOD COMPATIBILITY

 ► **FOOD COMPATIBILITY IS GOVERNED BY:**

Regulation (EC) N° 1935/2004 of the European Parliament and of the Council of 27th October 2004 on materials and articles intended to come into contact with foodstuffs.

Materials and articles must be manufactured in compliance with good manufacturing practice so that, under normal or foreseeable conditions of use, they do not transfer their constituents to food in quantities which could :

- endanger human health ;
- bring about an unacceptable change in the composition of the food or a deterioration in the organoleptic characteristics thereof.

Food contact of plastic materials is governed by Regulation (EU) No 10/2011 of the Commission of 14 January 2011 repealing the directive 2002/72/EC.

PVC/Vinyl or even Latex/Nitrile gloves (unless local legislation exists) are directly subject to this directive.

It defines:

- positives lists of authorized constituents ;
- the purity criteria applicable to some of these constituents ;
- special migration limits in foodstuff s for certain constituents ;
- maximum residual quantities of some constituents in the material ;
- an overall migration limit in foods (10 mg/dm2 of material or 60 mg/kg of food).

Directive 85/572/EC provides the list of stimulants to be used for testing migration of constituents of plastic materials and articles intended to come into contact with foodstuffs:

- Aqueous foods (pH > 4.5): Stimulant A ;
- Acid food (pH <= 4.5): Stimulant B ;
- Alcoholic foods: Stimulant C ;
- Fatty foods: Stimulant D.
- Dry foods: Stimulant E.



HAND PROTECTION

CHEMICAL RESISTANCE TABLE

	n°CAS	Natural latex	Neoprene	Nitrile	PVC vinyl
20% nitric acid	631-61-8	***	***	***	***
30% and 5% hydrochloric acid	/		*	*	*
30% formaldehyde	123-86-4		*	*	*
30% hydrofluoric acid	62-54-4	***	***	***	***
50% acetic anhydride	141-78-6		*	*	*
85% lactic acid	127-08-2	***	***	***	***
85% triethanolamine	67-64-1	***	**		
90% formic acid	64-19-7	***	***	**	*
Acrolein	/	***	***	***	***
Acetone	10043-35-3	***	***	**	***
Alcoholic beverages	10035-10-6	***	*	*	*
Ammonium acetate	7647-01-0	***	***	***	**
Ammonium carbonate	7738-94-5			*	**
Ammonium chloride	77-92-9	***	***	***	***
Amyl acetate	7664-39-3	**	***	***	**
Amyl alcohol	64-18-6		**	*	*
Aniline	/	*	***	***	***
Animal fats	7697-37-2	**	**	*	*
Asphalt	112-80-1	*	***	***	*
Beef-root	144-62-7	***	***	***	***
Benzaldehyde	/	*	**	**	**
Benzene	7664-38-2	***	***	***	***
Benzyl alcohol	57-11-4	**	***	**	**
Bichromate of potash	7664-93-9		*		**
Bleach	/	***	***	***	***
Borax	/	***	***	***	***
Brake oils (lockheed)	71-41-0	***	***	***	***
Bromides	100-51-6	*	**	**	**
Butter	71-36-3	***	***	***	***
Butyl acetate	64-17-5	***	***	***	***
Butyl alcohol (or n-butanol)	78-83-1	***	***	***	***
Calcium acetate	67-56-1	***	***	***	***
Calcium chloride	111-87-5	*	***	***	*
Calcium fluophosphate	75-07-0	***	***	*	
Calcium hydrate	100-52-7			*	***
Calcium nitrate	50-00-0	***	***	***	***
Carbolic acid	1336-21-6	***	***	***	***
Carbon tetrachloride	62-53-3	**	**	*	*
Castor oil	/		*	***	
Chlorinated lime	71-43-2			*	
Chlorine	/		***	***	*
Chloroacetone	/	***	***	***	***
Chloroform	298-14-6	***	***	***	***
Chromic acid	144-55-8	***	***	***	***
Citric acid	7778-50-9	*	***	***	***
Concentrated ammonia	7631-90-5	***	***	***	***
Concentrated boric acid	/	***	***	***	***
Concentrated laundry potash	/	***	***	***	***
Concentrated laundry soda	/	***	***	***	***
Concentrated sulphuric acid	/	***	***	***	***
Cresole	10361-29-2	***	***	***	***
Cresol	497-19-8	***	***	***	***
Crystallisable acetic acid	584-08-7	***	***	***	***
Cutting oils	/	***	***	***	***
Cyclohexane	/	***	***	***	***
Cyclohexanol	7782-50-5		***	***	***
Cyclohexanon	/	***	***		
Dead lime	67-66-3		*	**	
Diacetone alcohol	12125-02-9	***	***	***	***
Dibutyl ether	10043-52-4	***	***	***	***
Dibutyl phthalate	/	*	***	***	***
Diehanolamine	75-09-2		*	*	
Diesel oils	7718-54-9	***	***	***	***
Diluted sulphuric acid (battery)	7447-40-7	***	***	***	***
Diocetylphthalate	7647-14-5	***	***	***	***
Dyes (hair dyes)	8001-58-9	*	***	***	***
Ethyl acetate	1319-77-3		***	***	***
Ethyl alcohol (or ethanol)	151-50-8	***	***	***	***
Ethylamine	110-82-7		*	**	
Ethylaniline	108-93-0	***	***	***	***
Ethylene dichloride	108-94-1	*	*		
Ethylene glycol	/	***	***	***	***
Fertilisers	/	***	***	***	***
Fish and shellfish	/	**	***	**	**
Fixing agents	/	***	***		*
Fluorides	142-96-1		*	***	*
Formaldehyde	84-74-2	**	*	*	*
Fuel oil	107-06-2			*	
Fuels	78-87-5			*	
Furrol (furalur or furaldehyde)	111-42-2	***	***	***	***
Gas-oil	117-81-7	**	***	***	
Gasoline	/	***	***	***	***
Glycerin	/	*	***	***	
Glycerophthalic paint	/		**	*	*
Glycols	/	***	***	***	***
Hair bleaching agents	/		*	***	*
Hair-curling products	/		**	***	*
Hexane	/		**	***	
Household detergents	/	*	***	***	*
Hydraulic fluids (esters)	75-04-7	*	*	***	*
Hydraulic oils (petrol)	/	*	***	***	*
Hydrobromic acid	107-21-1	***	***	***	***
Hydrogen peroxide	/	***	***	***	***

Not recommended Average * Good ** Very good ***

This table provides only general information. Be careful ! Glove resistance is influenced by other factors such as temperature, chemical product concentration, thickness, immersion time, and others. For specific use conditions, we recommend testing the glove prior to use.

	n°CAS	Natural latex	Neoprene	Nitrile	PVC vinyl
Isobutyl alcohol	/	***	***	***	*
Isobutyl ketone	/	***	***	***	***
Kerosene	/	***	***	***	***
Lard oil	50-00-0	***	***	***	***
Linseed oil	/		*	***	*
Lubricating oils	98-01-1	***	**		
Magnesia	/		*	***	*
Methyl acetate	56-81-5	***	***	***	***
Methyl alcohol (or methanol)	107-21-1	***	***	***	***
Methyl ethyl ketone	/	*	***		
Methyl isobutyl ketone	/		*	***	*
Methyl salicylate	110-54-3			*	***
Methylamine	/		***	***	*
Methylaniline	/		***	***	***
Methylocyclopentane	/		*	***	*
Methylene chloride	/	*	***	***	*
Methylformate	/		*	***	*
Milk and dairy products	/		*	***	*
Mineral greases	/		***	***	*
Mono ethanol amine	/		***	***	*
N-butylamine	/		*	***	
Naphta	/		***	***	*
Naphtalene	/		*	***	*
Nickel chloride	/		*	***	*
Nitrate of ammonium	/		***	***	
Nitrate of potassium	/		***	***	*
Nitrobenzene	/		*	***	*
Nitrohydrochloric acid	1305-62-0	***	***	***	***
Nitropropane	7778-54-3	***	***	***	***
Non-alcoholic beverages	7681-52-9	***	***	***	***
Octyl alcohol	/	***	***		
Oleic acid	/		*	***	*
Olive oil	/	*	***	***	
Oxalic acid	/	***	***	***	***
Paraffin oil	1309-48-4	***	***	***	***
Peanut oil	/		*	***	*
Perfumes and essences	79-20-9	*	***	*	*
Petroleum ether	74-89-5	***	**	***	***
Petroleum products	100-61-8	*	*	***	***
Petroleum spirit	96-37-7		*	***	*
Phenyl chloride	/	***	**		*
Phosphates of calcium	/	*	***	*	*
Phosphoric acid	/	**	*		
Polyester resins	119-36-8	***	***	***	***
Polish flakes	141-43-5	***	***	***	***
Potassium acetate	108-90-7		*	***	*
Potassium bicarbonate	/		*	***	*
Potassium carbonate	91-20-3		*	**	*
Potassium chloride	109-73-9	***	***	***	***
Potassium cyanide	6484-52-2	***	***	***	***
Potassium manganate	10124-37-5	***	***	***	***
Potassium phosphates	7757-79-1	***	***	***	***
Potassium sulphate	7631-99-4	***	***	***	***
Poultry	98-95-3		*	*	
Propylene dichloride	/	***	**	*	
Quick lime	/	***	***	***	***
Shampoos	/		*	***	*
Silicates	/	***	***	***	***
Soda flakes	127-18-4		*	**	
Sodium bicarbonate	7722-64-7	***	***	***	***
Sodium bisulphite	10103-46-5	***	***	***	***
Sodium carbonate	/	***	***	***	***
Sodium chloride	/	***	***	***	***
Sodium chlorite	/	*	***	***	*
Sodium nitrate	/	***	***	**	***
Sodium phosphates	/	***	***	**	***
Sodium sulphate	/	***	***	***	***
Soybean oil	/		*	**	*
Stannic chloride	/		*	**	*
Stearic acid	/	***	***	***	***
Styrene	/	***	***	***	***
Sulphites, bisulphites, hyposulphites	/	***	***	*	*
Sulphuric ether (pharmacy)	/	***	***	*	*
Tartaric acid	100-42-5		*	*	*
Tetrachloroethylene	7778-80-5	***	***	***	***
THF = tetrahydrofurane	7757-82-6	***	***	***	***
Toluene	7733-02-0	***	***	***	***
Tributyl phosphate	/	***	***	***	***
Trichloroethylene	/	***	***	***	***
Tricresyl phosphate	56-23-5		*	**	*
Trinitrobenzene	109-99-9	**	*		
Trinitrotoluol	108-88-3	*	*	**	*
Triphenyl phosphate	126-73-8	*	**	**	*
Turbine oils	79-01-6		*	*	
Turnipseed oil	1330-78-5	***	**	***	**
Turpentine	102-71-6	***	***	***	***
Vinegar and condiments	/		*	**	*
Washing powders	/		*	**	*
Water paint	115-86-6	*	***	***	*
Weed killers	/	***	***	***	**
Wood turpentine	/	*	***	***	
Xylene	/		**	***	*
Xylophene	/		*	**	
Zinc sulphate	/		*	***	*

INTERNATIONAL MAINTENANCE
CODE FOR ARTICLES

TEXTILE	
	No treatment.
	Moderate treatment.
	Very light treatment.
WASHING	
	Maximum temperature 40°C. Normal mechanical treatment. Normal temperature rinsing. Normal spinning.
	Maximum temperature 40°C. Reduced mechanical treatment. Rinse at gradually decreasing temperature. Reduced spinning.
	Wash by hand. No machine washing. Maximum temperature 40°C. Treat with care.
	Do not wash. Treat with care when wet.
DRYING	
	Can be dried in rotating drum dryer. Normal program.
	Can be dried in rotating drum dryer. Moderate, low temperature program
	Do not dry in rotating drum dryer.
CHLORINATION	
	Chlorination (chlorine bleach).
	Chlorination possible solely in cold, diluted solution.
	No chlorination.
IRONING	
	Iron at the maximum iron sole plate temperature of 200°C.
	Iron at the maximum iron sole plate temperature of 150°C.
	Iron at maximum iron sole plate temperature of 110°C. Steam treatment presents risks.
	Do not iron. Steam treatment is forbidden.
DRY-CLEANING	
	Dry cleaning. The circle stands for dry-cleaning for textile articles (Leather and fur articles are excluded). It contains information on the various dry cleaning treatments.
	Dry-cleaning prohibited.



BODY PROTECTION

CHEMICAL PROTECTIVE CLOTHING



EN14126 ► PROTECTIVE CLOTHING AGAINST INFECTIVE AGENTS

This standard specifies the requirements and test methods concerning reusable protective clothing for limited use providing protection against infective agents.

Associated with standards for protective clothing against chemical products, the letter B is added after the garment type.

Examples: TYPE 6-B / TYPE 5-B / TYPE 4-B / TYPE 3-B



EN13034 ► PROTECTIVE CLOTHING TYPE 6 AGAINST LIQUID CHEMICALS

Requirements for chemical protection clothing offering limited performance against liquid chemical products (type 6 equipment), including clothing for partial body protection (Type PB [6]).

This standard sets out the minimum requirements for limited use and reusable limited performance chemical protective clothing. Limited use chemical protective clothing is intended for use in cases of a potential exposure to light sprays, liquid aerosols or low-pressure, low-volume splashes, against which a complete liquid permeation barrier (at the molecular level) is not required.



EN13982-1 ► PROTECTIVE CLOTHING TYPE 5 FOR USE AGAINST SOLID PARTICLES

Performance requirements for protective clothing against chemical products offering full body protection against air-borne solid particulates (type 5 clothing).

This standard sets out the minimum requirements for chemical protection clothing resisting penetration of solid particulates suspended in air (type 5). This clothing offers full body protection, including the torso, arms and legs, such as one or two-piece coveralls, with or without hood or face-shield, with or without foot protection.



EN14605 ► PROTECTIVE CLOTHING TYPE 4 AGAINST LIQUID CHEMICALS TYPE 3

Requirements for chemical protection clothing with liquid-tight (type 3) or spray-tight (type 4) connections, including items providing only partial body protection (types PB [3] and PB [4]).

This standard sets out the minimum requirements for the following types of limited use and re-useable chemical protective clothing:

- Clothing protecting the full body with liquid-tight connections between the various clothing parts (Type 3: liquid-tight clothing) ;

- Clothing protecting the full body with spray-tight connections between the various clothing parts (Type 4: spray-tight clothing) ;
Note: These standards were formerly entitled EN1512 (Type 4) and EN1511 (Type 3).

STANDARD	TYPE CHEMICAL	PROTECTION
EN13034	6	Against splashes
EN13982-1	5	Against dust (asbestos)
EN14605	4	Against mists
EN14605	3	Against sprays

EXAMPLES OF APPLICATIONS		
Applications	Risks	Level of protection
Work Maintenance	Fouling	Category I / Non PPE
Industrial cleaning	Exposure to hazardous chemical substances and particles	Type 6 Type 5
Asbestos abatement / removal (dust > 1 micron)	Contact with particles or fibres	Type 5
Agriculture and horticulture (Handling of herbicides / pesticides / fungicides / fertilizers...)	Contact with harmful elements	Type 4
Paint spraying (Solvents)	Contact with low-concentrate aerosols	Type 4
Paint spraying (Preparation / Mixing)	Contact with high concentrate aerosols	Type 3
Laboratories / Chemical Industries	Projection of chemical products	Type 3
Emergency / Rescue Personnel	Bacteriological contamination	Type 4-B Type 3-B

TESTS									
General performance	Tests & Specific performance	Level of protection							
		1a	1b	1c	2	3 ^a	4 ^a	5	6 ^a
Performance requirements for the whole garment	Internal pressure	X	X	X	-	-	-	-	-
	Leak to interior	-	X ^b	X	X	-	-	-	-
	Penetration by a jet of liquid	-	-	-	-	X	-	-	-
	Penetration by a spray	-	-	-	-	X	X	-	-
	Against solid particles	-	-	-	-	-	-	X	-
	Penetration by a spray	-	-	-	-	-	-	-	X
Performance requirements for the constituent materials of the garment	Abrasion / Tearing / Perforation / Seams	X	X	X	X	X	X	X	X
	Resistance to tensile strength	X	X	X	X	X	X	-	X
	Resistance to flame	X	X	X	X	X	X	X	X
	Resistance to cracking by bending	X	X	X	X	X	X	X	-
	Resistance to cracking by bending at -30°C	X	X	X	X	X	X	-	-
	Resistance to permeation according to:	X	X	X	X	X	X	-	-
	Resistance to penetration by liquids	-	-	-	-	-	-	-	X
	Impermeability to liquids (repulsion)	-	-	-	-	-	-	-	X

- a - When the protection equipment only protects certain parts of the body (torso, arms, legs), only the performance requirements for the constituent materials of the garment are required (type 6, 4 and 3).
- b - Applicable for suits whose respiratory mask is separate and removable.

HEAT PROTECTIVE CLOTHING

TASOUB



EN11611

A1 Class 2

This type of protective clothing is intended to protect the wearer against molten metal splash, short contact with flame and UV radiation. It is intended to be worn at ambient temperature, continuously for up to 8 hours.

Class 1	protection against low risks during welding techniques and situations producing fewer projections and low radiant heat
Class 2	protection against higher risks during welding techniques and situations producing more projections and a higher radiant heat.

PROTECTION USED IN WELDING AND ALLIED PROCESSES

This standard sets out the performance requirements for protective clothing for use by operators in welding and allied processes with comparable risks.

MAICO

EN14116



3 / 50l / 75

Indice : 1 / 2 or 3
Nb : Number of washes
T0 : Service temperature
I : Industrial wash

PROTECTION AGAINST HEAT AND FLAME

This standard sets out the performance requirements for limited flame spread materials and material assemblies used in protective clothing. Limited flame spread materials and material assemblies are used to make protective clothing in order to reduce the risks of flammability of the garment and the dangers it may cause. They are suitable for protection against accidental contact with small igniting flames, in conditions with no significant heat danger.

MATERIALS	MATERIALS WHICH DO NOT SPREAD FLAME...
index 1	...but which may form a hole on contact with a flame
index 2	...and do not form a hole on contact with a flame
index 3	...and do not form a hole on contact with a flame. They also give only limited after-flame (≤ 2s)

TONC3

EN11612



A1 B1 C1 D1 E1 X

MAICO

EN531



A B1 C1 X X

PROTECTION FOR WORKERS EXPOSED TO HEAT

Protection against heat and flame.

These standards specify the performance requirements of materials and protective clothing against heat and flames. They apply to clothing made of soft material, designed to protect the human body except the hands against heat and/ or flame. Tested are:

TESTS	CODES	PERFORMANCES
Limited flame spread	A	A1 and/ or A2
Convective heat	B	B1 to B3
Radiant heat	C	C1 to C4
Molten aluminium splash	D	D1 to D3
Molten metal splash	E	E1 to E3
Contact heat	F	F1 to F3



BODY PROTECTION

TECHNICAL PROTECTIVE CLOTHING

EN340 - EN ISO 13688 ► GENERAL REQUIREMENTS

Reference standard, not for use alone, but only in association with another standard containing the protection performance requirements.

This standard specifies general performance requirements for ergonomics, innocuousness, size designation, durability, ageing, compatibility and marking of protective clothing and the information to be supplied by the manufacturer with the protective clothing.



EN1149-5 ► PROTECTIVE CLOTHING TO DISSIPATE STATIC ELECTRICITY

This European Standard specifies requirements for materials and the design of protective electrostatic dissipation clothing used in conjunction with a grounded system in order to prevent incendiary discharges. **WARNING:** These requirements may be insufficient in oxygen enriched flammable environments. This standard is not applicable for protection against mains voltages.

The control of undesirable static electricity on the person is often necessary.

The electrostatic potential may, indeed, have serious consequences on the charged individual, because it can be high enough to cause dangerous sparks.

After a risk assessment, the wearing of protective electrical dissipation clothing may be necessary. The use of clothing certified according to EN1149-5 is then adapted.

The ATEX Directive 1999/92/EC, in its Annex II-A-2.3, requests that workers be equipped with work clothes made of materials that do not produce electrostatic discharges that can ignite explosive environments.

The electrostatic potential can also affect equipment sensitive to electric discharge. And antistatic clothing are often used on electronic manufacturing sites, assembling semiconductors for example. Finally, they are used on sites with controlled atmospheres such as automotive paint workshops, to avoid the emission of particles that may be deposited on the body paint.

The antistatic charge dissipation can be provided by a process limiting the build up of charge, or by adding carbon or metal wires. People wearing protective electrostatic charge dissipation clothing must always be grounded with a resistance of less than $10^8\Omega$, for example, by wearing appropriate footwear such as the safety shoes stated in EN ISO 20345, or by other suitable means.

EN13356 ► VISUAL ACCESSORIES FOR NON PROFESSIONAL USE

This standard specifies optical performance requirements for accessories that are worn, attached to, or carried by individuals and designed for non-professional use. The visualization accessories conforming to this standard are intended to visually indicate the presence of the user when illuminated by vehicle headlights on unlit roads. This standard does not apply to clothing.



EN381 ► PROTECTION FOR HAND-HELD CHAINSAWS

This standard specifies the requirements to be used to assess the resistance of protective clothing to cutting by hand-held chainsaws. It is divided into several parts:

- EN381-5** Specifies the requirements for leg protectors.
- EN381-7** Specifies the requirements for protective gloves.
- EN381-9** Specifies the requirements for protective gaiters.
- EN381-11** Specifies the requirements for upper body protectors.

The cut tests are conducted using 4 chain speeds:

16 m/s	Class 0
20 m/s	Class 1
24 m/s	Class 2
28 m/s	Class 3

The protective zone on leg protectors is coded using three letters A, B or C, corresponding to the coverage surface of the cut-proof material (Type A, Type B or Type C).

Marking:

EPICEA 3 EN381-11  Class 0	MELEZE 3 EN381-5  Type A - Class 1
--	--



EN1073-2 ► PROTECTIVE CLOTHING AGAINST RADIOACTIVE CONTAMINATION

This standard specifies the requirements and test methods for non ventilated protective clothing against radioactive contamination in the form of particles. Clothing of this type is designed only to protect the body, the arms and the legs of the wearer, but it may be used with accessories that protect other parts of the wearer's body (for example, boots, gloves, respiratory protective device - APR).

The garments are classified according to their nominal protection factor (ratio between the concentration of test particles in the ambient atmosphere and the concentration of test particles inside the garment), determined in relation to the total inward leakage (ratio between the concentrations of test particles inside the garment and inside the test chamber).

The classes are as follows:

CLASS	NOMINAL PROTECTION FACTOR
3	500
2	50
1	5



EN471
EN ISO 20471

► HIGH VISIBILITY CLOTHING

This standard specifies the requirements for protective clothing aiming to signal the presence of the wearer visually, so that he may be detected and seen in hazardous situations, in all conditions of daylight, and night under illumination of car headlights.

There are three classes of high-visibility clothing. Each class must have minimum surfaces of visible material constituting the garment; the higher the class, the more visible the garment:

	CLASS 3	CLASS 2	CLASS 1
Background material (Fluorescent)	0.80 m ²	0.50 m ²	0.14 m ²
Retroreflective material (Bands)	0.20 m ²	0.13 m ²	0.10 m ²

Background material:

Yellow, orange/red or red fluorescent material intended to be highly conspicuous.

Retroreflective material:

Classified into 2 levels. The highest level of retroreflection gives the best contrast and visibility of high-visibility clothing seen in darkness, under headlamps.

Marking:

X : Class of high visibility surface (from 1 to 3)

X : Performance level of the retro-reflective material (1 to 2)

STRADA

EN471



3.2

EN471

3 : Class of high visibility surface (from 1 to 3)

2 : Performance level of the retro-reflective material (1 to 2)

GILP2

EN ISO 20471



2

Max. 25x

EN ISO 20471

2 : Class of the visibility surface (1 to 3)

Max. 25x: Optional marking, number of maximum washes authorized for the model.

On this example: 25 washes maximum (see indication of service temperature on the garment tag).

FOUL WEATHER PROTECTIVE CLOTHING



EN342

► PROTECTIVE CLOTHING AGAINST COLD

This standard specifies the requirements and performance test methods for protective clothing against cold **at temperatures lower than -5°C** (cold store / extreme cold workers).

There are two types of garment:

Garments: covering part of the body, e.g. parka, jacket, coat.

Suits: covering the whole body (trunk + legs), e.g. coveralls, parka & dungarees.



EN14058

► PROTECTIVE CLOTHING AGAINST COOL ENVIRONMENTS

This standard specifies the requirements and performance test methods for protective garments (vests, jackets, coats, trousers) against cool environments.

These garments are for use in moderate low temperatures (**-5°C and over**) to protect against local body cooling and are not only for outdoor use such as in the construction industry, but may also be used for indoor activities, such as in the food processing industry.

These garments are not always necessarily made of air impermeable or watertight materials. Therefore, in this European standard, these requirements are optional.



EN343

► PROTECTIVE CLOTHING AGAINST RAIN

This standard specifies the requirements and test methods applicable to the materials and seams of protective clothing against foul weather (for example precipitation in the form of rain or snow), fog and ground humidity.

TESTS				
	Code	EN343	EN342	EN14058
Class of thermal resistance (in m ² .K/W)	R _{ct}	-	-	X
Class of water vapour resistance (in m ² .Pa/W)	R _{et}	X	-	-
Class of air permeability (in mm/s)	AP	-	X	X (optional)
Resistance to water penetration (in Pa)	WP	X	X (optional)	X (optional)
Resultant effective thermal insulation (in m ² .K/W) Measured on a moving manikin	I _{cler}	-	X	X (optional)
Effective thermal insulation (in m ² .K/W) Measured on a stationary manikin	I _{de}	-	X (optional)	X (optional)



BODY PROTECTION

• THERMAL RESISTANCE (Ret) IN M².K/W :

Measurement of the thermal insulation provided.

Divided into 3 classes (from 1 to 3) from the least insulating to the most insulating. The higher the value, the greater the thermal insulation.

• WATER VAPOUR RESISTANCE (Ret) IN (M².PA)/W :

Measures the evaporative resistance, i.e. the product's obstacle to the passage of water vapour, or the barrier it offers to evaporation of transpiration on the surface of the skin. The higher a product's water vapour resistance, the greater this product's barrier to the passage of water vapour: A breathing product has a low water vapour resistance. Divided into 3 classes (from 1 to 3) from the least breathable to the most breathable.

• AIR PERMEABILITY (AP) IN mm/s :

Determines the complex's permeability to air.

Divided into 3 classes (from 1 to 3) from the least airtight to the most airtight.

• RESISTANCE TO WATER PENETRATION (WP) IN PASCAL:

Measurement of the outer material and seams' resistance to water penetration under a water pressure of (980+/-50) Pa/min. Divided into 3 levels (1 to 3) from the least impermeable to the most impermeable.

• RESULTANT EFFECTIVE THERMAL INSULATION:

Measured on moving dummy ($\frac{I}{cle}$) or on non moving dummy ($\frac{I}{cle}$).

The thermal insulation coefficient, expressed in m².K/W, is used to determine the optimum usage temperature of the garment in relation to the individual's activity and his exposure time.

Thermal insulation is measured with undergarments of type :

- **(B) for ensembles** (Undershirt with long sleeves, long underpants, socks, bootee + thermo jacket, thermopants, knitted gloves, balaclava)

- **(R) for garments** (Undershirt with long sleeves, long underpants, socks, bootees, jacket, trousers, shirt, knitted gloves, balaclava)

- **((C) provided by the manufacturer**

AMBIENT TEMPERATURE CONDITIONS FOR HEAT BALANCE FOR DIFFERENT LEVELS OF ACTIVITY AND EXPOSURE DURATIONS

Standard applicable	ACTIVITY						
	Insulation m ² .K/W	Very light Stationary standing 75 W/m ²		Wearer moving lightly 115 W/m ²		Wearer moving medium 170 W/m ²	
		8h	1h	8h	1h	8h	1h
EN14058	0.170	19°C	11°C	11°C	2°C	0°C	-9°C
EN14058	0.230	15°C	5°C	5°C	-5°C	-8°C	-19°C
EN342	0.310	11°C	-2°C	-1°C	-15°C	-19°C	-32°C
EN342	0.390	7°C	-10°C	-8°C	-25°C	-28°C	-45°C
EN342	0.470	3°C	-17°C	-15°C	-35°C	-38°C	-58°C
EN342	0.540	-3°C	-25°C	-22°C	-44°C	-49°C	-70°C
EN342	0.620	-7°C	-32°C	-29°C	-54°C	-60°C	-83°C

Marking:



EN14058

X : Class of heat resistance, **R_{ct}**

X : Class of air permeability, **AP** (Optional)

X : Class of resistance to water penetration

WP (Optional)

X : $\frac{I}{cle}$ of the garment (Optional)

X : $\frac{I}{cle}$ of the garment (Optional)

DUNCAN	
EN14058	3
	3
	X
	0,271 m ² .K/W
	X



EN342

X (undergarment B/C/R) : $\frac{I}{cle}$ of the garment

X (undergarment B/C/R) : $\frac{I}{cle}$ of the garment

(Optional)

X : Class of air permeability, **AP**

X : Class of resistance to water penetration **WP** (Optional)

NORDLAND	
EN342	0,705 m ² .K/W (B)
	X
	3
	X



EN343

X : Resistance to water penetration, **Wp**

X : Water vapour resistance, **R_{et}**

EN400

EN343



3
1

EN14404

► KNEE PROTECTION

This European Standard provides the requirements and test methods for protective knee devices used by people that have kneel to carry out their work. This standard does not apply to the knee protection that are medical devices and are designed for sport.

KNEE PROTECTION

Type 1	Knee protection independent of other product and attached around the leg
Type 2	Plastic foam or other padding inserted in the pockets of trousers or permanently attached to the trousers
Type 3	Devices that are not attached to the body but implemented during the movement of the user. They can be provided for each knee or both knees together
Type 4	Protection of one or both knees, part of devices with additional functions, such as helping to stand or kneel. The knees protection can be worn on the body or independently

SAFETY SHOES-BOOTS

STANDARDS

EN ISO 20344

This standard defines the test methods for safety footwear, protective footwear, and occupational shoes.

It may be used only in conjunction with standards EN ISO 20345 and EN ISO 20347, which specify the requirements for the shoes as a function of specific levels of risk involved.

EN ISO 20345 ► SPECIFICATION FOR SAFETY FOOTWEAR FOR THE WORKPLACE

In reference to standard EN ISO 20344, this European standard defines the basic and the additional (optional) requirements for safety footwear for the workplace, marked «S».

The safety shoe is equipped with safety toe caps designed to withstand a maximum impact of 200 joules and crushing up to 15 kN.

EN ISO 20347 ► SPECIFICATION FOR OCCUPATIONAL SHOES MARKED «O»

These shoes are different from safety/protective footwear in that they have no protective toe cap for impact and crushing.

EN ISO 61340-4-3

This standard specifies the requirements and tests for electrostatic shoes with specific applications. It describes the test methods used to determine the electrical resistance of shoes used to control the electrostatic potential of the user's workstation.

EN ISO 20349

This standard specifies the requirements and tests for protective shoes against heat risks and molten metal splashes as in foundries or welding.

THE PARTS OF A SHOE



FOOT PROTECTION

SIZE CORRESPONDANCE TABLE

Europe	35	36	37	38	39	40	41	42	43	44	45	46	47	48
UK	2	3	4	5	6	6 1/2	7	8	9	10	10 1/2	11	12	13
Cm	23.1	23.7	24.4	25.1	25.7	26.4	27.1	27.8	28.4	29.1	29.7	30.3	31.0	31.6

• SB OR S1 TO S5 OR SBH (SAFETY FOOTWEAR) • OB OR O1 TO O5 OR OBH (OCCUPATIONAL SHOES)

CLASS 1 or 2	EN ISO 20345	EN ISO 20347
ALL MATERIALS	SB : basic properties	OB : basic properties
CLASS 1 Leather shoes and other materials, except rubber or polymer shoes	S1 : basic properties plus: - closed back - anti-static - energy absorbing heel - outsole resistance against hydrocarbons	O1 : basic properties plus: - closed back - hydrocarbon-resistant sole - anti-static - energy absorbing heel
	S2 : the same as S1 plus: - waterproof	O2 : the same as O1 plus: - waterproof
	S3 : the same as S2 plus: - puncture resistant sole - studded sole	O3 : the same as O2 plus: - puncture resistant sole - studded sole
CLASS 2 All rubber shoes (fully cured) or all polymer (fully moulded)	S4 : basic properties plus: - closed back - anti-static - energy absorbing heel - outsole resistance against hydrocarbons	O4 : basic properties plus: - anti-static - energy absorbing heel
	S5 : the same as S4 plus: - puncture resistant sole - studded sole	O5 : the same as O4 plus: - puncture resistant sole - studded sole
HYBRID SHOES Rubber foot (fully cured) or all polymer (fully moulded) / Top leather upper and other materials	SBH : properties specific to hybrid safety shoes	OBH : properties specific to hybrid work shoes

SYMBOLS FOR INDIVIDUAL SPECIFICATIONS
EN ISO 20345

Whole shoe	Puncture resistant sole	P
	Electrical properties :	
	Conductive shoe	C
	Antistatic shoe	A
	Insulating shoe	See EN50321
	Resistance to aggressive environments :	
	Heat-insulated sole	HI
	Sole insulated against cold	CI
	Energy absorbing heel	E
	Water-resistant of the whole shoe (waterproof shoes in leather and other materials, class 1)	WR
	Metatarsal impact protection	M
Upper	Ankle protection	AN
	Cut-resistant upper	CR
Outsole	Resistance of the rod penetration and water absorption (shoes in leather and other materials, class 1)	WRU
	Contact-heat resistant outsole	HRO
	Oil-resistant outsole	FO

SYMBOLS FOR INDIVIDUAL SPECIFICATIONS
EN ISO 20349

Floor types	Symbols
Resistance to molten metal splashes, with use of aluminum as molten metal during the test.	AL
Resistance to molten metal splashes, with use of cast-iron as molten metal during the test.	FE
Insulation of the sole against the heat. 150°C sandbox test, 30 minutes of exposure (HI-1).	HI-1
250°C sandbox test, 40 minutes of exposure (HI-3).	HI-3
WG indicates that the footwear complies with the requirements defined for welding footwear.	WG

RESISTANCE TO SLIPPING

Floor types	Symbols
Hard industrial floors, for indoor use (such as food industry tiled flooring)	SRA
Hard industrial type floors for indoor or outdoor uses (paint or resin type flooring in industry)	SRB
All types of hard floors for multiple uses indoors or outdoors	SRC

THE CORRECT SELECTION OF FALL ARREST PRODUCTS GIVES PERFECT SAFETY

Fall arrest equipment includes different products which have to be adapted for each risk to ensure the necessary protection. These products (full body harness, fall arrester on anchorage line, work positioning systems, energy absorbers, self-retractable fall arrester, accessories) are governed by the Directive 89/686/EEC and the European standards on Personal Protective Equipment (PPE).

THE HARMONIZED EUROPEAN STANDARDS

All protective equipment against falls from a height are submit to European standards. You will find, below, a summed up presentation of every standard.

GENERAL STANDARDS

EN363 ► FALL ARREST EQUIPMENT

Set of personal protective equipment against falls from height, linked to one another and intended to stop a fall. A fall arrest equipment must contain at least a full body harness and a fall arrest equipment.

EN364 ► TEST METHOD

Describes the different test methods of the various PPE against falls from height, as well as the test equipment.

EN365 ► GENERAL REQUIREMENTS FOR THE INSTRUCTIONS FOR USE AND THE MARKING

Description of the marking that must figure on the PPE against falls from height and of the information which must appear on the instructions for use.

SPECIFIC STANDARDS

EN361 ► FULL BODY HARNESS

Body securing device intended to stop falls. The full body harness can be made of straps, buckles and other elements; set and adjusted in a right way on the body of an individual to secure him during a fall and afterwards.

EN353-1 + CNB VG11.073 ► MOBILE FALL ARRESTER ON RIGID ANCHORAGE LINE

Equipment consisting of a mobile fall arrester with self-locking, integral with its rigid anchorage line (rail, cable...). An energy reducer can be built-in on the equipment.

EN353-2 ► MOBILE FALL ARRESTER ON FLEXIBLE ANCHORAGE LINE

Equipment consisting of a mobile fall arrester with self-locking, integral with its flexible anchorage line (rope, cable...). An energy reducer (absorber) can be built-in in the equipment.

EN355 ► ENERGY ABSORBER

Component of a fall arrest equipment, which guarantees the stop of a fall from a height in safety by reducing the impact of the shock. **WARNING:** If we associate a lanyard energy absorber, the total length of the entire device must not exceed 2 m.

EN360 ► SELF-RETRACTABLE FALL

Fall arrester with self-locking device and a self-retractable system for the lanyard. An energy reducer (absorber) can be built-in in the equipment.

EN362 ► CONNECTOR

Connection element or equipment component. A connector can be karabiner or a snap hook.

EN354 ► LANYARDS

Connection elements or equipment component. A lanyard can be in rope made of synthetic fibres, in metallic rope, in strap or in chain. Maximum length: 2m. **CAUTION:** A lanyard without energy absorber must not be used as a fall arrest equipment.

EN358 ► WORK POSITIONING SYSTEM

A work positioning system consists of components (work positioning belt and lanyard) linked to one another to form a complete equipment.

EN813 ► SEAT HARNESSES

EN1891 ► SHEATHED BRAIDED ROPE WITH A LOW COEFFICIENT OF ELONGATION (STATIC ROPES)

EN12841 ► ROPE ACCESS SYSTEM

A rope device for work positioning.

EN1496 ► RESCUE EQUIPMENT

Rescue lifting devices.

EN567 ► EQUIPMENT FOR MOUNTAINEERING AND CLIMBING

Safety requirements and test methods for blockers.

EN12275 ► MOUNTAINEERING AND CLIMBING EQUIPMENT

Safety requirements and test methods for connectors.



FALL PROTECTION

EN12278 ► MOUNTAINEERING AND CLIMBING EQUIPMENT

Safety requirements and test methods for pulleys.

EN341 ► PPE AGAINST FALLS FROM HEIGHT

Descending devices.

EN795 2012 ► ANCHORAGE DEVICES

Element to which a personal protective equipment can be fastened.
(Standard under development).

- TYPE A** ► Anchor device with one or more stationary anchor points with the need of a structural anchor.
- TYPE B** ► Anchor device with one or more stationary anchor points without the need of a structural anchor.
- TYPE C** ► Anchor device employing an flexible anchor line with maximum deviation of 15°.
- TYPE D** ► Anchor device employing an rigid anchor line with maximum deviation of 15°.
- TYPE E** ► Anchor device for use on surfaces with a maximum slope of 5°.



OTHER STANDARDS

EN1498 ► RESCUE STRAP

Directive 2006/42/CE for the machines or equipments with mobile function.

Directive 94/9/EC for equipment intended for use in potentially explosive environments.

EN13463-1 ► NON-ELECTRICAL EQUIPMENT FOR POTENTIALLY EXPLOSIVE ATMOSPHERES

basic method and requirements (risk analysis).

EN13463-5 ► NON-ELECTRICAL EQUIPMENT FOR POTENTIALLY EXPLOSIVE ATMOSPHERES

protection constructional safety "c" regarding the main mechanical devices: joints, bearings, gears, belts, clutch chains, brakes, coupling devices, conveyor belts

It sets out the requirements to be respected for the design and maintenance instructions.

It sets out the requirements and tests to be conducted according to the type of component.

Directive 93/42/CEE for the medical devices or accessories.



A

ABRASION

Abrasion means wear through the action of friction. For the mechanical standard EN388 for gloves, EN343 for clothing and EN ISO20344 for shoes, the test consists of knowing when the product will deteriorate. The level is thus used to provide an indication of resistance and longevity.

ABS

Acrylonitrile Butadiene Styrene (ABS) is a thermoplastic used in industry to make rigid, light and moulded products. Material used to make the shells of safety helmets.

ACCOMMODATIVE (REFLEX)

The crystallin acts as a lens enabling focusing in distance thanks to a muscle. Presbyopia (near-sightedness) is caused when it does not work properly. The accomodative reflex ensures clear vision.

ACETATE

A fibre obtained by the action of artificial resins on cellulose and with: low weight, excellent optical properties, heat stability, good resistance to most chemical products. It does have some disadvantages however: low resistance to abrasion and scratching, risk of ignition near a heat source greater than 100°C.

ACRYLIC

Synthetic fibre often resembling wool: Very high elasticity (so does not crease) - Very lightweight - Heat insulation equal to wool - Very high resistance to abrasion and traction. It is thermoplastic, has low absorbent power and dries very quickly.

ACTIVATED CARBON

Activated carbon, or absorbent carbon or medicinal carbon, is carbon which has been treated by pyrolysis to increase its absorbency. The basic material used is often coconut, but it can be wood, bone or some other carbon.

A grain of activated carbon has a network of pores and channels similar in dimension to molecules. Activated carbon creates a chemical principle enabling toxic gas / vapour molecules to be captured.

AEROFRESH CONTROL

System developed by Delta Plus, used to ventilate the shoe at the instep and ankle by means of an air vent.

AEROSOLS

In chemistry, an aerosol is a set of solid or liquid particles, in suspension in a gaseous medium. An aerosol is a suspension of very fine particle (colloidal size) in a gas (risk of contamination of the air ways).

A cloud is an example of an aerosol. Other examples are mist, smoke or the cloud of dust given off when you shake out a rug.

AEROSOLS AND AQUEOUS FOGS

Small droplets produced during pulverization.

ALUMINISED (LINING)

The DELTALU aluminised lining combines heat insulation performance with lightness ; polyester wad on aluminium foil batting (perforated). It is a real barrier inside garments protecting against the cold and the wind.

ANCHOR LINE

Element on which a sliding fall arrester moves. The anchor line can be a rope, a cable or a rail.

ANCHORAGE POINT

Element to which a fall arrest system can be connected.

ANTI-MIST (AB)

Surface treatment for lenses realized by dip coating the lens to prevent the formation of mist. This treatment is incompatible with mirror treatment of the lens itself.

ANTI-SCRATCH (AR)

Surface treatment of lenses to prevent superficial scratches. This treatment is obtained by dipping the lens in a «silicone» based solvent. It is colourless on the lense and does not alter vision.

ANTISTATIC

Property of a product, which prevents or limit the formation of static electricity. it is often requested in industrial environments for the risks of electrical discharge.

Antistatic protective clothing are mainly used in explosive risk environments such as: chemical plants, refineries, weapons factories, mines. They are also widely used to protect materials sensitive to electrical discharge such as on electronics manufacturing or semi-conductor assembly sites. Finally, they are used in controlled-atmosphere sites such as automobile paint workshops, the aim being to prevent the emission of particles which may be deposited on bodywork paint.

APV

Assumed Protection Value: complete and precise method for mesuring the hearing protector attenuation

- Attenuation per frequency (63Hz, 125Hz, 250Hz, 500Hz, 1000Hz, 2000Hz, 4000Hz & 8000Hz).
- Mean Attenuation: mean attenuation every 16 people tested.
- Standard Deviation: statistical presentation of the results.
- Assumed Protection: minimum attenuation at each Frequency level.

It is computed by subtracting the standard deviation from the mean attenuation for each considered frequency.

APV

Assigned Protection Value.

Formula used to define the level of protection achieved in the workplace by 95% of operators trained in the wearing of respiratory protective devices or RPD and properly using after control a well maintained and adjusted device.

Maximal concentration allowed corresponds to: $NPF \times OEL$.

AQL

Initials which mean «Average Quality Level». The standard ISO N° ISO2859 determines sampling for controls batch by batch, the AQL thus gives the maximum number of gloves with defects on 100.

ARAMIDES

Thermostable fibres used mainly in heat-proof applications . There are two types: para-aramides such as Kevlar® (anti-cut & resistant to flame and heat) and meta-aramides such as Nomex® (antistatic & resistant to flame and heat).



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ARCH SUPPORT SYSTEM

This is an anatomical piece which provides rigidity to the instep and gives greater stability to the foot.

ARMBAND

Armbands are pieces of fabric worn around the arm. Fluorescent armbands are accessories, used for greater visibility. Attention these are not PPE.

ASSEMBLY

Assembly is the stage which consists of assembling the shoe upper on the form with the insole. Manufacturing occurs when this is assembled to the various midsoles and outsoles.

ATEX

This European regulation, which aims to improve the health and safety of workers at risk from explosive environments, is the result of the application of 2 directives:

- Directive 1999/92/EC for the protection of workers potentially at risk from explosive environments.
- Directive 94/9/EC for machines intended for use in explosive environments.

PPE are not governed by these two directives, they are even explicitly excluded from the Directive 94/9/EC (Chapter I, Section 4). They may be used in ATEX regulated zones as part of an overall explosion risk prevention system.

Directive 89/686/EEC for PPE takes into account the risks of explosion in Annex II, paragraph 2.6. : "PPE for use in explosive environments.

PPE for use in explosive environments must be designed and manufactured in such a way that it cannot be the seat of an electric or electrostatic arc or result from an impact, capable of igniting an explosive mixture."

ATTACHMENT

(DORSAL) Connection point of a fall arrester on a harness.

(STERNAL) Connection point of a fall arrester on a harness.

(LATERAL) Connection point of a work restraint system or work positioning.

(VENTRAL) Connection point of a work restraint system or work positioning.

B

BACK PAD

Element of a harness used to cross the straps at the back and position the D-ring at the correct height.

BIAS (FABRIC ON THE)

It is the use of a fabric part in its transversality (angle 45°) in order to obtain a flexible and deformable part. Examples of applications: strips or ribbons to be adapted to rounded forms (edge of a cuff, inside belt of trousers, etc.).

BLOUSON

A blouson is a short garment which only covers the torso and hugs the waist. A long jacket is an alternative between a blouson and a parka.

BLUE (LIGHT)

Harmful light emitted between 380 and more than 500 nanometres.

Examples: intense sunlight, light used for the sedimentation of ceramics in dentistry, etc.

BRUSHED

Fabric on which one or both sides have a furry aspect obtained by the brushing operation.

The operation consists of passing the fabric over a rotating drum fitted with metal teasels. This treatment gives the article a soft, thick feel, making it warmer and bulkier, but removes toughness.

BUMP CAP

Bump cap and anti-scalp (EN812 standard). It is a PPE widely used in industry, especially for indoor use to protect the skull against shock contact with hard surfaces that could cause minor injuries.

It can not replace the helmet, in case it is required to wear a helmet with EN397 standard.

BUMPER CAP

Protective toecap designed to protect against premature wear on the front of the sole.

BURSITIS

Bursitis is an occupational illness of the knee, often occurring in tile layers, welders, floor covering layers, etc...

It comes in form of a gradual and slow increase in the volume of a bursa due to repeated microtraumas.

BUTT (LEATHER)

Part corresponding to the croup of the animal at the bottom of the skin (grain).

C

CANVAS (WEAVE)

The plain weave, is the basic fabric weave, and is characterised by inversed and alternating arrangement of the warp yarns on the weft yarns. There is no difference between the right and wrong sides of the fabric. This weave is particularly resistant to abrasion and very easy to waterproof.

CARBON (FIBRE)

The carbon fibre is used in materials for its anti-static properties.

CARROUSEL (INJECTION)

It's a machine with several injection stations (12 18 24 30 36) used to make soles.

CEMENTED (ASSEMBLY)

The most widely used manufacturing process for shoes in general: it consists of gluing the sole to the insole.



GLOSSARY

CEMENTED (SEAM)

Assembly procedure for seams by hot gluing to guarantee the sealing of seams for coated materials.

CHEST STRAP

Strap used in the design of a harness with the role of maintaining the position of the harness straps on the shoulders in order to prevent any risk of losing the harness in the event of a fall. The chest strap is not obligatory on a harness.

CHIN STRAP

Element used to prevent a safety helmet from falling. It may be simple or with a chin-cup, with two or four fastening points used for work at height.

CHLORINATED (GLOVE)

A washing process for the latex glove, washed in chlorinated water to produce unpowdered gloves. The advantages of unpowdered glove is: it is easier to put the glove on (a velvety contact), improves comfort and reduces the allergenic effect of the natural latex proteins carried by the powder.

CLEARANCE

The clearance is the height between the foot of a person equipped with a fall arrest system and the nearest obstacle.

CLOGGING

Phenomenon of dust filtre saturation. As respiratory protection is provided by a mechanical barrier (interlacing of fibres and electromagnetic reaction), when the filter is saturated, clogging occurs; the user feels difficulty in breathing.

CLOSING

This is the step during which the various parts of the upper, collar, vamp, quarters, gussets are assembled..

COATING

Coating is the operation by which the surface of a textile or leather is coated with a layer of chemical product with the aim of giving it properties of chemical resistance, or to enhance its mechanical resistance. They are mainly found in the form of polyvinyl chloride (PVC), polyurethane (PU), and natural (Latex) or synthetic (Nitrile, Neopren) elastomer. There are many applications, from tarpaulins to imitation leather including proofing of protective clothing.

CONCENTRATION

Quantities of chemical products in the air breathed by a worker at his workstation, and which may adversely affect his health. Hence the need to have concentration limits below which the risks of intoxication are low or non-existent (TLV/OEL).

CONFINED SPACE

A confined space is characterized by a volume/ dimension ratio such as the natural exchange of indoor air with outdoor air being reduced and able to cause asphyxiation, intoxication, fire or explosion. In these areas, the risks are increased by various gas or smoke fumes. Examples: wells, tanks, sewers, ditches, accessible collectors, valve chambers, tanks...

CONNECTOR

Connecting element. A connector can be a carabiner or a hook.

COTTON

Natural textile fibre made of silky filaments surrounding the cotton seed: it is comprised of about 94% cellulose. Comfort, easy cleaning and good absorbency are its main properties.

CUFF

15 cm gauntlet found on welding gloves to protect wrist and forearm against molten metal splash.

D

DECIBELS

Acoustic pressure, in other words the intensity or amplitude of sounds and noises, expressed in decibels (dB), and determines the danger to humans. The safety level has been fixed at 85 dB: above this, pain occurs, and injuries appear.

Decibels are usually measured using a sound meter which converts the sound signal into an electric current.

DEFLECTOR

This is the role played by the helmet because of its rounded shape, it deflects the trajectory of a moving object, without stopping it suddenly, preventing a violent impact.

DERMIS

The skin of the animal, comprised of two layers: the grain (external part of the dermis) and the flesh split (internal part of the dermis). Using the tanning process, the dermis is transformed into leather.

DESIGNER

Person in charge of creating the shoe design integrating all the technical design elements.

DIOPTER

Unit of power of optical systems used to determine the measurement of refraction, i.e. the ability of a medium or an object to deflect light rays. Unit of power equal to the inverse of the focal distance, expressed in metres. The focal distance is the distance between the lens or the refracting medium, and the point at which these rays converge (where they meet). The human visual system is 60 diopters (40 for the cornea and 20 for the cristallin).

DIPPED (GLOVE)

Glove manufacturing process by dipping the form of a ceramic hand in baths of various compositions depending on the material used. The next step is firing in ovens (vulcanisation).

DMF

Dimethylformamide N or N-dimethylformamide is a common solvent used in organic chemistry. DMF may be a carcinogenic substance, although the EPA (Environmental Protection Agency) does not consider it a cancer risk. The new innovative manufacturing process, also called PU Water, is 100% based on water. No solvents, such as DMF, are used, strengthening innocuousness.

DOLOMIA

Dolomia is a sedimentary carbonate rock comprised of at least 50% dolomite. It is a double calcium and magnesium carbonate, which crystallizes into lozenge-shaped prisms (rhombohedral). Dolomia is a sedimentary rock comprised mainly of the mineral dolomite (between 90 and 100%) and calcite, which do not have the same density (dolomite: 2.87; calcite: 2.71), playing a fundamental role in rock erosion.

The Dolomia test, conducted using Dolomia dust, is an optional test for filtering face pieces (EN149 :2001 A1:2009) guaranteeing longer lasting performances of resistance to penetration.

DRILEX®

Drilex® is a technical lining found in top of the range sports shoes. This lining is comprised of 2 fibres and enables absorption of perspiration and evacuation of humidity to the outside (antibacterial and anti-odour).

DUAL GRIP

Name of an outsole offering a grip system suited to smooth or friable surfaces, with a large contact tread pattern, and central channels to evacuate liquids.

DUAL-DENSITY (SOLE)

Dual-density means the sole is made of 2 superimposed parts; the underpart in contact with the ground is more rigid whereas the upper part is more flexible and shock absorbent.

DUNGAREE

Dungaree are work garments comprised of trousers and a bib on the chest with shoulder straps. More commonly known as dungarees.

DUSTS

Solid particles suspended in the air.

E

EAR DEFENDER

Element of ear defenders (with the headband and the foam) which provides the sound attenuating effect.

EARPLUGS

Disposable or reusable ear defenders (EN352-2): inserted in the ear canal to plug the conduit. Usually made of polyurethane or PVC, they can also come with a cord, a headband and a detectable metal insert (for use in the food processing industry).

ECO-DESIGNED

Delta Plus develops eco-designed products whose environmental impacts are reduced to a minimum. Thus, throughout the lifespan of the product, the use of energy is minimized, the use of raw materials such as organic cotton and reduced packaging are given priority.

EDGED (SEAM)

Seam consisting of covering another seam with a band of fabric compatible with that of the garment to provide better sealing.

ELASTANE

Extensible fibre made of synthetic elastomer yarns. Elastane is always mixed with other fibres to give the fabric its properties: suppleness, elasticity and crease-proofing.

ELECTRIC ARC

An electric arc is a visible electric current in a nonconductive media (gas, air, vacuum...).

The arc is created when the non-conductive material ionizes, which occurs more easily when conducting surfaces are nearby. The position of an electric arc is stable: once it has found the shortest path, it remains there (minimum energy principle). The whole difficulty for arc welding is therefore to master the arc using a continuous movement so that it keeps the desired form despite the fact that the emitting surface (or more rarely the receiving surface) is sometimes an acute angle.

Electrical arc welding produces a huge quantity of localized heat generating the fusion of materials, making strong joints that remain after cooling.

ELECTRIC FLASHOVER

Electric flashovers are electrical burns without the current passing through the body. In low voltage, following an electric arc, the skin injuries are superficial and mainly affect the hands and face.

Protection is provided by the polycarbonate of a thickness >1.4mm. The best protection is provided by a face shield.

ENERGY ABSORBER

Fall arrester composed of a lanyard with an energy dissipating device, which guarantees to stop a fall from height safely under normal conditions of use.

ENERGY DISSIPATOR

Component of a fall arrester designed to dissipate the kinetic energy accumulated during the fall.

ERGONOMICS

Studies and research into the methodical organisation of work and the arrangement of protective equipment according to the anatomical possibilities of people.

ESD

ELECTROSTATIC DISCHARGE, electrostatic discharge.

Any contact and any physical separation of solid materials may generate electrostatic charge. A person, or a garment worn by the person, may be electrically charged. Where appropriate, the ESD can cause damage, if the charged person or object comes into contact with an ESD sensitive device (microchips, semiconductors, printed circuit boards...).

EN 61340-5-1 (Protection of electronic devices against electrostatic phenomena) defines the general requirements of the areas protected against ESD, EPA (ESD Protected Areas).

To be admitted into an EPA area, depending on the configuration of the workstation, clothing and footwear must be subjected to specific electrical charge dissipation tests determined by European and American standards. Based on the results of these tests, the product will have the special ESD marking. Other PPE (gloves, head protection and fall arrest system) are not mentioned in this standard.

EUROPEAN DIRECTIVE

The directive is a community legal act taken by the Council of the European Union, alone or with the Parliament depending on the case. Member



GLOSSARY

states are bound by the directive in the objective to be reached, but are free to choose the means and way of reaching this objective within the time limits fixed by it.

F

FABRIC

Any material obtained by interlacing of the warp and weft yarns, and made on a loom or weaving machine. Fabric with a plain weave structure is usually called plain weave.

FALL ARREST HARNESS

Body harness system designed to stop falls, a harness is one element in a fall arrest system. It should be designed to hold the individual during and after the fall with an angle of 50° from the vertical.

FALL ARREST SYSTEM

Protective equipment against falls from height or fall-arrest systems are comprised of 3 elements:

- a body holding system designed to stop falls (fall arrest harness).
- a linking sub-system designed to stop a fall from height (self-retracting fall-arrester, sliding fall-arrester or energy absorbing lanyard).
- a safe anchorage point.

FALL INDICATOR

Mechanical and visual device that allow to identify if a fall arrester suffered a drop impact.

FILTERING MEDIA

Type of respiratory protection device used either in positive pressure (assisted ventilation) or in negative pressure (free ventilation).

FINISH

Finishes are treatments used on some fabrics or yarns, to give them special properties, such as flame proofing, antistatic, water repellent, etc.

FLAME PROOFING

Treatment of textile materials with non flammable substances to reduce the risks of fire or slow flame spread.

FLANNEL

Lightly brushed fabric, soft and fluffy to the touch, originally made of wool.

FLAP

See valve.

FLASH

Surface treatment of a lens giving it a mirror aspect. The mirror effect on lens reflects the intensity of the light and heat to reduce eye strain during exposure to bright light, and to limit headaches resulting from this exposure.

This treatment is not compatible with anti-fog treatment. The colour of the treatment can be gold or other.

FLEECE

Thick, soft fabric, brushed on both sides.

FLOCK (GLOVE)

Cotton fibers deposited as a finishing process. Flocking provides a pleasant and soft contact and reduces perspiration.

FLUCTUATING

Noise whose fluctuations are greater than 5dB during the period of measurement.

FOAM

Element of ear defenders (with the headband and the ear cups) which attenuates the noise and provides comfort. It's inside the ear cups.

FOOD (COMPATIBILITY)

The products must not pass on to foodstuffs components of a quantity which may pose a danger to human health, or lead to an unacceptable modification to their composition or a change in their organoleptic qualities. Directive 85/572/CEE provides a list of simulants to be used to check the migration of material components and plastic objects designed to be in contact with foodstuffs:

- Aqueous foodstuffs (pH > 4.5): Simulant A.
- Acid foodstuffs (pH ≤ 4.5): Simulant B.
- Alcoholic foodstuffs: Simulant C.
- Fatty foodstuffs: Simulant D.
- Dry foodstuffs: Simulant E.

FOOD (SOLE)

White or light-coloured sole to prevent marks on the floor; anti-slip sole as it is used on very slippery surfaces.

FREQUENCY

Frequency is expressed in hertz. Only sounds with frequencies of between 20 and 20 000 Hz are audible.

At a frequency of between 20 and 200 Hz, the audible sound is low-pitched. Below that, they are infrasounds.

At a frequency of between 2000 and 20 000 Hz, the audible sound is high-pitched. Above that, they are ultrasounds.

FUMES

Small particles suspended in the air (aerosols).

G

GAUGE

This is the width of the stitch. It corresponds to the number of needles used in 1 English inch (2.54 cm). Example: gauge 7 corresponds to 7 needles in 1 inch. The higher the gauge, the finer the stitch. Gauges are 7, 10, 13, 14.

GLASS FIBRE

Glass fibre is a very fine filament of glass. By extension, composite materials strengthened with this fibre (usually associated with polymers) are also called glass fibre.

Monolithic glass is a very fragile material but when spun to a diameter less than one tenth of a millimetre, it loses its fragility and becomes a highly mechanically resistant material.

GRAIN LEATHER

External part of the dermis, with no mechanical modifications. This is the most supple and resistant part of leather.

GUSSET

It is the part of the shoe on either side of the tongue. It protects and seals the closure.

H

HACCP

Hazard Analysis Critical Control Point. This a method of quality control in the food industry, used to:

- identify and analyse the risks associated with various stages in the production process of a foodstuff.
- define the means required to control them.
- ensure that these means are implemented effectively and efficiently.

It is a systematic and rational approach to controlling microbiological, physical and chemical hazards in food.

HARNESS

An element of the harness. The most of arm webbing are starshape with 4 or 6 arms. Webbing with 6 fixing points or more, ensure better distribution of the force exerted on the helmet. Webbing can be made of polyethylene, or textile for better absorption of perspiration.

HARNESS (SAFETY HELMET)

It can be made of textile material or polyethylene. Its role is to absorb the impact of a falling object. It is comprised of two elements: the headband and the webbing.

HEADBAND

Element of ear defenders (with the muffs and the foam), it maintains the pressure of the protection on the ears.

HEADGEAR

It is one of the elements of the harness of safety helmet. It is often made of low density polyethylene (LDPE). It is adjusted by a tightening system with rack (ratchet), or by a sliding system (tightening straps with notches).

HEAT SEALED (SEAM)

Seams covered on one side with a band of fabric compatible with that of the garment and hot-welded for increased protection and sealing.

HML

High Medium Low: 3 levels of frequency measurement.

HYDROPHILIC

A hydrophilic fabric is comprised of water-absorbent materials (e.g. cotton, wool, etc.).

HYDROPHOBIC

A hydrophobic fabric is comprised of materials that do not absorb water. (e.g. polyamide, acrylic, polyester...).

IMPACT FORCE

This is the force subjected to the body at the moment of the fall, expressed in daN (decaNewton).

IMPERMEABLE

An impermeable fabric is used to make products which is completely water and air tight.

Water proofing is usually done by the application of a coating. The coating is a deposit of a plastic film (PVC, polyurethane or acrylic) on the surface of a textile. For example, rain suits with their polyurethane or PVC coatings, boots in PVC or dipped glove.

IMPULSE

Noise the sound level of which increases considerably almost instantaneously.

IMPUTRESCIBLE (LEATHER)

After the tanning process, the leather becomes imputrescible, meaning it cannot rot.

INFRARED

Infrared (IR) radiation is electromagnetic radiation of a wavelength longer than that of visible light, but shorter than that of microwaves. Infrared radiation has wavelengths between about 750 nm and 1 mm, spanning five orders of magnitude.

INFRASOUNDS

Sounds of a frequency too low to be heard by humans (< 20 Hz). The average human ear only hears sounds within a certain range of frequencies between about 30 Hz (below that the sounds are called infrasounds) and 15 kHz (above which the sounds are called ultrasounds). Some physiologists even extend the limits of this range from 20 Hz to 20 kHz.

INJECTION (SOLE)

Sole or zip manufacturing system, liquid material is injected into a mould, this material then solidifies and takes the form of the mould.

INJECTION POINT

Point through which the press injects polyethylene into the mould and which is cut on removal from the mould.

INNOCUOUSNESS

The innocuousness of a product guarantees the fact that it contains no materials which may cause allergies to sensitive people. Innocuousness is an integral part of the basic requirements of protective clothing in EN340 or gloves in EN420. Usually, the pH of materials, the chromium VI content of leathers, the nickel emission of metallic materials, azoic dyes and the solidity of the dyes are tested.

INSOLE

This is the sole inside the shoe, in contact with the sole of the foot.

INTERLOCK

Basic knitting weave, each side are the same.

Interlock has good dimensional stability which doesn't ladder too much. Widely used to make sports clothing.

INTERMITTENT

Noise whose fluctuations fall to the ambient level several times.



GLOSSARY

J

JACKET

A jacket is a garment with sleeves, closed in the front, covering the torso to the waist or hips.

JERSEY

Light and supple knits with a different right and reverse side. Widely used to make t-shirts and undergarments. The advantages of jersey are suppleness and comfort.

K

KEVLAR®

Para-aramide fibre manufactured by DuPont de Nemours. It combines lightness and resistance. For equal weight, Kevlar® is five times tougher than steel. Its properties: very resistant to cutting, carbonises between 425°C and 475°C; does not melt; self-extinguishing; dimensional stability; chemical stability; alteration of colour under UV.

KINETIC ENERGY

Energy that a body has as a result of its motion.

KNIT

All fabrics made of stitches or interlaced loops, made using needles or hooks. Knits are extensible. The basic fabrics are: rib, interlock, jersey.

KNITTED CUFF

Flexible, elastic knitted band finishing a collar, sleeves, legs, bottom of some garments.

Used to tighten wrists, collars, etc.

- Integrated cuff (knitted at the same time as the main piece).
- Pieced-cuff (knitted separately and stitched).

L

LAMINATED (FABRIC)

A laminated fabric is a complex of several layers of woven, knit or non-wovens assembled to enhance their performances.

2-layer laminate is used to describe a fabric laminated on 2 layers with a waterproof fibre usually on the outer layer. The inner layer is usually thicker and softer for greater comfort against the skin.

3-layer laminate is a fabric laminated in 3 layers, usually with waterproofing on the outer layer, comfortable fabric on the inner layer and sandwiched between the two, a waterproof- breathable membrane.

LANYARD

Generic term, a lanyard can be made of synthetic fibre rope, metal cable, webbing or a chain. A lanyard may not exceed 2 m in length.

LAST

The last is the basis for any study of the shoe which determines the general look, the volume and fit. It is made of wood for the study and then in plastic for production. The length of the foot, perimeter at the joint, foot width, and instep height are used to determine the size of a shoe and make the basic last.

LIFELINE

This is an anchor line to which a fall arrest system is connected to safeguard the horizontal movements of a person working at height. The anchor line can be a rope, a strap, a cable or a rail.

LINING

This is the part in contact with the foot. Often made of leather or textile, it improves the solidity of the shoe and acts like a second skin for comfort.

LOOSE SOIL

Irregular, uneven surface.

M

MANUAL ADJUSTMENT

Tightening system for safety helmets, using a sliding plastic strap. This system differs from the rack and ratchet system.

MECHANICAL INSPECTION

For PPE of 3rd Category III, it is obligatory to review at least once a year the PPE to ensure its proper functioning. This mechanical inspection is also required after any fall.

MEMBRANE

This is a thin polymer film (PU or polyester) applied to the inner surface of a fabric to enhance waterproofing and breathability..

MESH

An alveolar fibre, used to enable air circulation and evacuate perspiration.

MICROFIBRE

Light, very fine and soft synthetic textile fibre with soft touch, skin of peach aspect.

MIDSOLE

The midsole is also called the comfort sole, whereas the outsole is in contact with the ground; together they make up the two parts of a shoe sole.

MIG/MAG (WELDING)

MIG (Metal-arc Inert Gas) or MAG (Metal-arc Active Gas) welding (the only difference between the two is the gas used to protect the welding bath), both indicated in AWS terminology as GMAW (Gas Metal Arc Welding), is a semi-automatic welding process.

The metals are melted by the heat energy released by an electric arc which erupts in a protected atmosphere between a fuse electrode wire and the parts to be assembled.

MIRRORED

See flash.

MOULDED

Moulding is a technique which consists of shaping an object using a mould which is hollow to hug the form of the desired object.

The moulded material must be able to change from the liquid to the solid state or be thick but sufficiently consistent to be able to be removed from the mould without deforming.

A wide range of materials can be moulded:

- metals
 - plastics. The manufacturing process for frames is injection moulding.
- A part production technique for large or very large production runs, this moulding can be in disk or in form.

N

NANOMETRES

Unit of measurement (1 millionth of a mm) used to calculate the wavelength of light. Maxwell in 1865 succeeded in demonstrating that light is an electromagnetic wave whose field is measured in nanometres, with a visible and invisible spectrum. The wavelength determines the colour of the light. The human eye is only sensitive to wavelengths between 400 and 700 nm.

NATURAL LATEX

This is a natural polyisoprene from the *Hevea brasiliensis*. It is part of the elastomer family, and is therefore elastic, supple and robust. It also has the properties of being impermeable to water, and resistant to detergents and some alcohols.

NBR (NITRILE)

This is a type of Nitrile: Nitrile Butadiene Rubber (NBR). **NEOPRENE** It is a synthetic latex. It is obtained by polymerization of a chlorinated compound: polychloroprene.

The neoprene has the same advantages as latex, namely impermeability, elasticity and resistances against alcohols and detergents. It is also an excellent protection against the chemicals, greases and hydrocarbons and has a good resistance against heat.

NITRILE

It is a synthetic latex. Its vulcanisation gives it properties similar to natural latex and many advantages (resistance to abrasion; excellent performance in oily and greasy environments; good resistance to chemical products).

NON WOVEN

Non-wovens are used to make numerous products: single-use garments, quilt padding, sleeping bags, cleaning cloths, baby's nappies, floor and wall coverings, reinforcements, garment padding, etc...

The three production processes for the lap of non-wovens are:

- dry spinning - the fibres are used directly off the cards to make mattresses of fibres.
- by wet spinning a process similar to paper manufacture is used.
- by melt spinning the synthetic filaments are extruded in a current of hot air then lapped.

NON-INVERTING DEVICE

Element added to a sliding fall arrester to prevent installing it upside down on the anchor line.

NOSE CLIP

A flexible piece located at the top of single-use half-masks (on the nose), to adjust the face piece to the user's morphology.

NOTIFIED BODY NOTIFIED ORGANIZATION

Element added to a sliding fall arrester to prevent installing it upside down on the anchor line.

NPF

Nominal Protective Factor.

Formula used to define the level of protection provided by wearing a respiratory protective mask, and in standard test conditions: $NPF = 100 / TIL (\%)$. The maximum exposure concentration corresponds to: $NPF \times MEV$.

NUBUCK (LEATHER)

Grain leather the surface of which has been buffed, giving it a fine velvety and silky aspect.

NYLON

Registered trade name of DuPont de Nemours. It is a polyamide.

O

OEL

Occupational Exposure Limit;

Concentration measured in mg/m³ or in ppm, for an exposure time equal to the work day (workday of 8 hours), corresponding to the toxic risk.

OIL-WATER REPELLENT

Leather treatment using mineral or synthetic oils or fluorinated resins, to make it resistant to water and/or oil penetration. This treatment gives the leather better mechanical performance for abrasion and increases the comfort (flexibility) of the glove, hence increased dexterity and lifespan.

OPTICAL BASE

This is the radius of curvature of the lens.

The most curved optical base is 9; the least curved is 4; the most common is 6.

OPTICAL CLASS

Parameter which measures the optical quality of the lens. There are 3 classes of optical quality. The 1st corresponds to the best quality and is recommended for permanent wearing of glasses. The 2nd class is used for intermittent wearing and the 3rd only for very brief wearing.

OUTSOLE

The sole, also called the outsole, is the part of the shoe in contact with the ground. As a result, it must be as tough as possible. With the midsole, it comprises the two parts of the sole of a shoe.

OUTSOLE

The sole is the under part of the shoe. It is in contact with the ground. Several soles can be used to make up protective footwear. The materials used to make them, their sculpture and the manufacturing process will ensure the ergonomic performance required, i.e.: Grip, Anti-slip, Safety & Wearer comfort.



GLOSSARY

OVERALL

Single-piece garment covering the whole body.

OVERCAST (SEAM)

Seams made using overcast stitch consisting of interlacing three threads around two edges of the fabric to be assembled.

OVERGLASSES

Protective glasses designed to be worn over spectacles.

OXFORD

Thick-yarned plain weave with a lustred finish similar to the Oxford weave of cotton shirts.

P

PANOFLEX®

Flexion zones integrated into the sole to enhance flexibility.

PANOSHOCK®

Delta Plus innovation: piece of expanded rubber which absorbs and reduces shock waves to the spinal column.

PARKA

A parka is by definition shorter than a coat, longer than a jacket or a blouson, and is impermeable.

PATTERN CUTTER

Person who makes the templates or patterns for garments: uppers for shoes, patterns for clothing, before cutting and assembly.

PERMEATION

Although the glove shows no porosity or imperfection, the chemical product may gradually pass through the glove, and come into contact with the skin. The standard EN374 assesses this performance: the time (in minutes) taken by the chemical substance to integrate and pass through the protective material is measured (1 mg/m²).

PHYLON®

PHYLON® is a synthetic materials, supple, ultra light, shock absorbent, used in running shoes by all the major sports brands; It is an EVA insert (Ethylene Vinyl Acetate) moulded, expanded.

PIGMENTED (SPLIT LEATHER)

Split leather coated with a layer of pigment. This is an economical, quality and resistant shoe leather.

PIQUE EFFECT (STITCH)

Knitted fabric with a raised waffle texture.

PLATING

Knitting process consisting of obtained two different fabric sides, each with a different type of yarn. Also used to combine two advantages: comfort and resistance for example.

POLAR FLEECE

Stitch brushed on one or both sides to obtain an aspect as soft as velvet. Polar fleece provides unrivalled comfort thanks to its lightness, its

softness, its breathability and its extensibility. As this stitch is not wind breaking, polar fleece complexes with microporous membranes have been developed.

POLO

Polos are originally sports shirts with a turned-down collar, more specifically of Jersey.

POLYAMIDE

Synthetic fibre resistant to traction and abrasion. This is an elastic fibre that recovers its original shape after deformation. It dries rapidly as it absorbs little water. It is insect-resistant (especially against mites).

POLYCARBONATE (PC)

Polycarbonate is a polymer (plastic) which has excellent mechanical properties and thermal resistance enabling it to be used at temperatures of up to 120°C. It has optimal shock resistance, hence its use in many sectors. It filters 99.9% of UV between 0 and 380 nm, UV 400 treatment extends this protection to 400 nm and absorbs part of the blue light in the light spectrum. Its sensitivity to chemical agents and to ultraviolet rays limits its use, however.

POLYESTER

Synthetic fibre with several advantages similar to those of polyamides: resistance to traction and friction; good elasticity; uncreasable; solidity of dyes; easy care; high resistance to abrasion, resistance to acids, bases and solvents, and to heat. It can be mixed with wool and cotton, which makes up for its inability to absorb transpiration, its rough texture and its tendency to pilling.

POLYETHYLENE

Polymer obtained by polymerisation of ethylene molecules. This is a material, with good chemical resistance, high stability, and easily recycled. Polyethylenes (PE) are classified according to their density:

- LDPE (low density) is a supple plastic, used for helmet harnesses for example.
- HDPE (high density) is a hard plastic, used for the shell of helmets for example.

HSPE (high strength) provides good mechanical performances in particular against cutting, such as the fibre TAEKI for example.

POLYMER

A polymer is the name of a chain of molecules used to make synthetic filaments before being melted and transformed into yarns. The polymerization operation is a process to manufacture a polymer by connecting small molecules (monomer) into a molecular chain of multiple molecular weight (mass).

POLYMERIZATION

Chemical process by which resins or plastics are fixed to textile materials by means of heat to obtain canvas with coating.

POLYPROPYLENE (PP)

Belongs to polyolefin fibres, structurally very similar to polyethylene. Polypropylene can be used as a plastic (helmets) or as a fibre (woven or non woven). This material is easily recyclable, resistant to friction (abrasion) and to traction. It is grease-resistant. Its melting point is higher than 160°.

POLYTEXTURE

Material effect by association of weaving. Example: Ripstop with a box-effect.

POLYURETHANE (PU)

Polyurethane is a polymer transformed into synthetic resin or foam used in coatings, in some membranes and in the manufacture of elastane yarns (Lycra®). Polyurethane is frequently used for coating, making fabrics waterproof. Garments made with such coatings are often breathable and very good alternative solutions to much more expensive products made using waterproof breathable membranes. It has very good mechanical resistance (wear, abrasion, tearing and micro-cuts).

PONGEE

Fabric with a silky, shiny finish.

POPLIN

Tightly woven cotton plain weave used primarily for shirts.

POWDERED (GLOVE)

Finishing process using a powder deposit (usually corn starch). The result is pleasant to the touch and soft which limits transpiration. For disposable gloves, the powdering facilitates donning and removal.

PPE

Personal Protective Equipment.

According to the European directive 89/686/EEC, any equipment designed to be worn or held by a worker to protect him against one or more risks which may threaten his occupational health or safety, and any additional element or accessory designed for the same purpose.

PRE-FILTER

Thin filter for protection against dust (P2 or P3), to be used on full and half-masks, associated with anti-gas filters (A/B/E/K) in order to obtain a combined gas and dust filter.

PU WATER (MANUFACTURING)

Innovative manufacturing process for PU coated gloves, 100% water-based, i.e. no solvents, such as DMF, are used to ensure the bonding of the polyurethane (PU) and the support. As well as limiting the environmental impact of manufacturing, this technology minimizes the quantity of coating that penetrates inside the glove, making the support softer and more comfortable, as it limits transpiration and the accumulation of heat.

PUPILLARY (REFLEX)

The eye's adaptation to light intensity: the pupil dilates or retracts.

PVC

Polyvinyl chloride is a polymer usually known by its abbreviation PVC. PVC resists many solvents, acids and chemical products (in particular hydrocarbons). Fabrics coated with PVC are real barriers against bad weather. However, they should be worn for a limited time depending on the temperature in the working environment.

Q

QUILTED

Insulating lining made by superimposing materials held together by decorative stitching (fleece + lining).

R

RAGLAN (SLEEVE)

Sleeve assembled on the bias, from the neck to the underarm. There are no shoulder or underarm seams, making for greater ease of movement.

RATCHET

Tightening system of the headband for safety helmet, for easier adjustment, using a ratchet.

REINFORCEMENT

Insert (often made of leather) stitched to the glove in the zones most exposed to the risks of abrasion and cutting (Palm reinforcement, Web reinforcement between the thumb and index finger) or lateral or in front of the shoes.

RESTRAINT (SYSTEM)

System designed to attach a person to an anchorage point so as to prevent any fall from height.

RETRO REFLECTIVE (BAND)

These are bands fixed to high-visibility garments. 3M Scotchlite™ uses 2 types of technologies, microprisms (better contrast, rigidity suited to some garments) and microbeads (resistant to washing, high flexibility), and offer several different types of bands (stitched or sealed). Retro reflective materials are used to reflect light by day and by night.

REVERSE GRAIN

Use of the inner part of the grain enabling considerable suppleness to be maintained, and significantly improving resistance to abrasion. Water-repellent treatment applied to reverse grain is ten times more effective than on the grain itself.

RIB

1x1 / 2x1 / 2x2 type knits (the first and the second figure respectively indicate the number of column in relief and column in hollow seen on the face place) used to make very elastic and reversible knits. Used mainly to make sweaters, cuffs and hose and undergarments.

RIPSTOP

This is a box-effect fabric weave (thicker yarn) that prevents tears from spreading while reducing the weight of the fabric.

ROLLING

Action of crushing leather on its whole surface with a roller to make it firmer and more flexible.

RUBBER

Synthetic elastomer made from oil and with elastic and resistance properties. The advantages of this material are to offer mechanical properties of good grip, good resistance to abrasion, contact heat and to oils and grease.



S

SATIN (WEAVE)

A fabric with a «satin» type weave is characterised by a shiny and smooth aspect. The yarn density gives it the advantage of not igniting as easily as «plain» weave. With special treatments, such as Proban®, flame retardants, it is a flame resistant material widely used for PPE.

SCIVING

Operation to thin the leather to prevent over-thickness during assembly.

SEAT STRAP

Strap used in the design of a harness with the dual role of seat and force distribution in the event of a fall, hence preventing too violent a force between the legs and any resulting consequences. The seat strap is not obligatory on a harness.

SELF-RELEASE (SYSTEM)

Chinstrap mechanism, ensure proper operation. According to standard EN397: the system should be triggered by a force > 150 N and < 250 N.

SELF-RETRACTABLE FALL ARRESTER

Device with automatic blocking system and an automatic lanyard tensioning system.

SHANK

Used to support the instep. Very often made of wood, then steel, it is also now made of composite material. Its role is to maintain the instep, or arch of the foot.

SHELL (SAFETY HELMET)

The shell is one of the components in a safety helmet (external part). Its role is to limit injuries by contact impacts (crushing and penetration). It is made by injection from two types of materials:

- HPDE (high density polyethylene), an efficient material, the most economical and widely used.
- ABS (acrylonitrile butadiene styrene), a more rigid material.

SILICONE (FREE GLOVE)

Silicones are polymers derived from sand. They are present more or less everywhere, in the form of mastics, glues, joints, anti-foam additives for washing powders, cosmetics, medical equipment, electrical cable insulation sheaths, high-performance grease, etc...

A certified silicone-free glove has a considerable advantage in industries requiring the total absence of silicone in their manufacturing or assembly process, for example in the automobile industry to guarantee paint without marks.

SIZE

Half pelt cut from head to tail along the line of the backbone.

Set of measurements of the shoe volume, usually determined by the length and width of the foot, measured around the joint of the toes (toe width). Additional measurement tables, such as the height of the instep, determine the various sizes.

There are three main measurement systems in use in the world:

- french sizes (from 17 to 48).
- english sizes (1 to 13 feet).
- american sizes (equivalent to the English sizes + 0.5).

SLIDING FALL ARRESTER

Fall arrester with an automatic blocking function and a guidance system. The fall arrester moves along an anchor line. It accompanies the user in his movements with no manual intervention needed by him. In the event of a fall, the fall arrester automatically blocks on the anchor line.

SNR

Single Number Rating: a simple and widely used method to measure the attenuation noise, even if not really precise (measurement of decibels without taking account of frequencies).

SOFTSHELL

Soft shell materials are hybrid materials. Between the polar fleece and the windbreaker, «softshells» combine several advantages: keep in body heat, evacuate humidity and act as a barrier to external aggressions, mainly wind and fine rain. It may be laminated to enhance performances (breathable, water repellant).

SOLVENT (FREE COATING)

A solvent is a liquid that has the property of dissolving and diluting other substances without changing them chemically and without changing itself. The new innovative manufacturing process, also called PU Water, is 100% based on water. No solvent, such as DMF, is used to ensure the bond between the polyurethane (PU) and the support.

SOUND

A sound is an acoustic vibration, a movement of particles in an elastic medium: the air.

Sound is characterised by its intensity (amplitude of variations in air pressure): high or low which is expressed in decibels (dB). Sound is also characterised by its height: high or low-pitched (number of oscillations per second) which is expressed in Hertz (Hz).

SPLICE

The process of weaving one end of a stranded rope or cable into the other in order to create a loop.

SPLIT

Internal part of the dermis, obtained by splitting or any other operation to remove the outer layer. The resistance to abrasion and heat are split advantages (after heat treatment).

STABLE

Noise whose fluctuations do not exceed 1dB during the measurement period.

STEEL

Use for the anti-puncture sole for its resistance to a force of 1100N and use for safety shoe toecap for its resistance to 100 or 200 joules.

STEL

Short term exposure limit.

Concentration measured in mg/m³ or in ppm over a maximum time of 15 minutes that it is advisable not to exceed.

STIFFENER

A semi-rigid part inserted between the upper and the lining, located at the back of the shoe to prevent flattening and hold the heel in place.

STRAPS (MAIN)

The main straps are elements which are used in the design of a fall arrest harness. They should support a person's body during and after the fall. Other straps in the design of a harness are called secondary straps.

STROEBEL (STITCH)

This stitch is just the over stitch known to seamstresses; a single thread is chain-stitched to assemble the insole to the upper...

STRUCTURE

In knitting, the method of interlacing stitches is called the structure. The three basic knit structures are jersey, interlock and rib.

STYLIST

Person in charge of creating the sketch for a product (shoe, garment, glasses...) integrating technical elements and design constraints.

SUEDE (LEATHER)

Split suede leather is made from the flesh and buffed to obtain the suede aspect, like Nubuck, but which is from the grain.

SUPPORTED (GLOVE)

The dipped form is covered (or not: non supported) with a jersey or interlock cotton knit glove. A supported glove has better mechanical protections and comfort than an unsupported glove.

SWEATBAND

Sheep or lambskin prepared by vegetable tanning, finished without dye and mainly used in linings.

SWIVELLING CONNECTOR

Element often added to a connector or a fall arrester enabling separate rotation of the two parts.

SYNTHETICS

Fibres of chemical origin: in this family are the polyesters, the polyamides, acrylics, para-aramides, polyethylenes, elasthanes, etc.

T

TAEKI (FIBRE)

Synthetic fibre made of high-strength polyethylene (PEHT). It has exceptional mechanical properties, in particular against abrasion and cutting. 2nd generation TAEKI fibre is much softer than the 1st generation, thus providing greater comfort.

TANNING

Tanning transforms the raw hide into an unfinished tanned hide, making it rot-proof, receptive to finishing treatments and chemically stable.

There are different types of tanning:

- vegetable tanning (natural plant extract tannins).
- mineral tanning (usually with chromium salts).
- mixed tanning (vegetable tanning retanned with chromium).

TASLON

Rough textured fabric. The very tight crossing of its fibres makes it a robust fabric.

THERMOFUSING

Bonding operation using pressure and heat (high visibility strip on a garment, interlining in a collar...

THIMBLE

Element added inside an end loop to protect from wear generated by the friction.

THINSULATE™

Registered trade mark of 3M. It is a web of synthetic insulating non-woven combining heat, comfort and finesse. It is water repellent.

THT (HEAT-PROOF LEATHER)

Treatment used to make the leather more resistant to contact heat and reduce shrinkage on contact with a flame. The leather remains supple despite contact with a heat source.

TIL

Total Inward Leakage.

It corresponds to the performance of the filtering face piece, and is expressed in %. The lower the %, the greater the protection performance.

FFP1: 22%

FFP2: 8%

FFP3: 2%

TOECAP (SAFETY)

Steel, aluminium or composite shell to protect against the risk of impact and crushing of the toes. Performance is measured at 100 or 200 joules. These are the two main tests; there is also rust resistance (metal toecap), resistance to heat, to hydrocarbons, and to cold for composite toecaps.

TRIPOD

Temporary and carrying anchorage device to be used for vertical movements in confined space.

T-SHIRT

T-shirts are cotton garments covering the torso, without a collar, most often short-sleeved, the shape of which is reminiscent of a T.

TWILL

A fabric with a «twill» weave is characterised by ribbing (diagonal relief) on the rightside of the fabric, the underside is different. «Twill» weave is a weave that resists wear and traction.

TYVEK®

The basic material in Tyvek® is polyethylene. Under the effects of pressure and heat (Flash spinning), a multitude of continuous filaments are obtained which are melt bonded to give a non-woven that is lightweight, flexible and resistant.

U

ULTRASOUNDS

Sounds of a frequency too high to be heard by humans (> 20 000Hz).

ULTRAVIOLET

Ultraviolet (UV) light is electromagnetic radiation with an intermediate wavelength between that of visible light and that of X-rays. Ultraviolet can be subdivided into near UV (380-200 nm wavelength) and extreme UV (200-10 nm). Sunburns are primarily due to UV-B. UV-A cause of sunburns during very long exposures. High intensity of UV-B (315-280 nm) are dangerous for eyes and can cause "welder's flash" or photokeratitis.



GLOSSARY

UNITS OF MEASUREMENT (YARNS)

The Tex, Decitex (Dtex), Denier (D) or Metric count (Nm) are units of measurement for yarns used to qualify their size also known as «Thread count».

UPPER

Top part of the shoe located above the sole, comprising the tongue, the collar and the quarters.

V

VALVE

Also called a flap, it provides additional comfort to the mask, by rapidly lowering its temperature at the moment of expiration and rejection of CO₂. It is on disposable masks (product code V), half masks or full face masks.

VAMP

Front part at the level of the instep and on the sides.

VENTILATION

Holes located at the top of the shell to enable better evacuation of heat and perspiration.

Ventilated helmets therefore do not pass the electric test (440 VAC), except for ventilations located at the bottom of the shell, as the test is conducted by immersing the shell to half-height.

VEST

A vest is a short garment without sleeve, which covers top of the body.

VINYL

Synthetic thermoplastic polymer. It is used for disposable gloves. It is impermeable to water, alcohol and detergents, but it is not elastic.

VISIBLE (LIGHT)

Visible light spectrum or optical spectrum is the part of the electromagnetic spectrum which is visible to the human eye. There is no definite limit to the visible spectrum: the human eye adapting to light usually has maximum sensitivity at light of wavelength about 550 nm, which corresponds to a yellow-green colour.

VISUAL INSPECTION

Visual inspection of PPE of 3rd Category

VULCANISATION

Vulcanisation is a process invented by Goodyear, which consists of heating the rubber at high temperature to obtain its transformation. This process is used for dipped gloves, placed in an oven after dipping in materials.

W

WADDED (LINING)

Lining associated with a thickness of fleece to enhance the heat performance of the garment.

WARP

It is the vertical yarns of knitted fabric in opposite to horizontal yarns.

WATER REPELLENT (FABRIC)

Finish deposited on the fabric to give it the property of not letting droplets of water penetrate the fibre, but allowing them to slide off. It can be said that the drops of water are repelled. The fabric is not waterproof.

WATER REPELLENT (LEATHER)

Leather treatment using mineral or synthetic oils or fluorinated resins, to make it resistant to water penetration. This treatment gives the leather better mechanical performance for abrasion and increases the comfort (flexibility) of the glove, hence increased dexterity and lifespan.

WATERPROOF (SEAMS)

Seam on which a waterproof plastic film is applied to prevent water penetration by capillarity (passage of water by absorption of yarns and/or stitching holes) into an assembly. Assembly seam covered using thermofusing of a band of material compatible with that of the garment to prevent infiltration of water and waterproof the garment.

WEAVE

Method of interlacing warp and weft yarns in woven materials. Each weave has its own aesthetic and mechanical properties. The main fabric weaves are plain, serge, satin. The three basic knit weaves are jersey, interlock, rib. In knitting, the method of interlacing stitches is called the structure.

WEFT

These are the horizontal yarns in woven fabrics, as opposed to vertical warp yarns.

WELDING

Glasses or hood with various shades of filters suitable for welding work; disposable masks with charcoal filter, welding goggles and helmets with special tinted filter, to protect the eyes and face during welding.

WINCH

Lifting device for lifting things (eg equipment) or people, according to the type of product, in rescue procedure

WORK POSITIONING (SYSTEM)

A system used to maintain a user at the workstation in a given position.

WRIST CUFF

Knitted finish of the glove wrist, to hold the glove on the wrist and prevent any penetration of dust and waste inside the glove.

Z

ZIP (REVERSE STITCH)

Zip whose stitch is placed on the reverse so that only the ribbon can be seen. It is used for an aesthetic effect and to prevent friction.

ZIP (WATERTIGHT)

Reverse stitch zip covered with a PU membrane to ensure watertightness. It is used on waterproof and technical products.

HEAD PROTECTION

AIR COLTAN	36	FORESTIER 2	33	M6000 A1B1E1K1	53	QUARTZ UP IV	32
ASO CLEAR	10	FUEGO	15	M6000 A2	53	RUIZ 1	21
ASO SMOKE	10	FUJI2 CLEAR	12	M6000 P2	53	SEPANG 2	43
BALBI 2	25	FUJI2 GRADIENT	12	M6000 P2 CLIP	53	SILVERSTONE 2	39
BARRIER	23	GALERAS	20	M6000 P3	53	SPA 3	43
BARRIER PLATE	23	GRANITE PEAK	26	M6000 PREP3	53	SPIDER REFILL FFP2	46
BASALPHA	35	GRANITE WIND	26	M6100 JUPITER	52	SPIDER REFILL FFP2W	47
BASEBALL DIAMOND V	29	HARNESS V	29	M6200 JUPITER	52	SPIDER REFILL FFP3	47
BASEBALL DIAMOND V UP	28	HEKLA	16	M6300 JUPITER	52	SPIDERMASK P2 X5	46
BASGAMMA	35	INTERLAGOS	40	M6400 JUPITER	52	SPIDERMASK P2W X5	46
BRAVA2 CLEAR	18	JUGALPHA	35	M9000 A2	51	SPIDERMASK P3 X5	46
BRAVA2 SMOKE	18	JUGGAMMA	26	M9000 A2B2E2K2	51	SUPER QUARTZ	30
BRAVA2 YELLOW	18	KILIMANDJARO CLEAR	19	M9000 A2P3	51	SUZUKA 2	43
CASOUD 2	23	KILIMANDJARO CLEAR AB	19	M9000 P3	51	THUNDER CLEAR	13
CASOUD2HE	23	KILIMANDJARO SMOKE	19	M9000 A2B2E2K2P3	51	THUNDER SMOKE	13
COLTAN	36	KISKA CLEAR	14	M9200 - ROTOR GALAXY	50	TOBA 2 T5	23
CONIC DISPLAY	45	KISKA SMOKE	14	M9300 - STRAP GALAXY	50	VISOR HOLDER	25
CONIC200	45	KJUNLUN	17	MAGNY HELMET	42	VISOR TORIC	24
CONIC500	45	LIPARI2 CLEAR	16	MAGNY-COURS	42	VISORG	24
CONICAP01	45	LIPARI2 T5	16	MEIA CLEAR	18	VISORG MINI	24
CONICAP01BR	45	M1100	49	MEIA SMOKE	18	VISOR-HOLD MINI	25
CONICCO200	45	M1100V	49	MENTALPHA	35	VISORPC	24
CONICFIR050	44	M1195B	49	MURIA 1	21	VISORPC MINI	24
CONICMOVE01	44	M1200	49	PACAYA CLEAR	14	VULCANO2 CLEAR	17
CONICMOVE01BR	44	M1200V	49	PACAYA LYVIZ	14	VULCANO2 PLUS CLEAR	17
DYNAMIC JUGALPHA	35	M1200VB	49	PACAYA SMOKE	14	VULCANO2 SMOKE	17
EGON CLEAR	15	M1200VPLUS	48	PICO 2	25	WINTER CAP	34
EGON SMOKE	15	M1200VW	49	PITON 2 CLEAR	19	YAS MARINA	39
FILM GOGGLE	20	M1300V	48	PITON CLEAR	19	ZIRCON 1	34
FILTER 11	22	M1300VB	49	PIT-STOP	38		
FILTER-IN	23	M1300V2	49	QUARTZ I	34		
FILTER-KIT	22	M6000 A1	53	QUARTZ UP III	33		

HAND PROTECTION

APOLLON VV733	74	NI150	77	TOUTRAVO VE511	84	VENICUT44G3	63
BASF PVC400	79	NI155	77	TP169	99	VENICUT50	60
CA515R	98	NI170	77	VE630	76	VENICUT52	60
CA615K	98	NI175	77	VE702	64	VENICUT55	61
CP149	99	NITREX VE801	89	VE702GR	64	VENICUT58G3	63
DC103	94	NITREX VE802	88	VE702P	65	VENICUT5M	61
DR605	94	NITREX VE803	87	VE702PG	65	VENITACTYL V1310	91
DS202RP	94	NITREX VE840	88	VE712GR	67	VENITACTYL V1371	91
DUOCOLOR VE330	89	NYSOS WV904	72	VE713	66	VENITACTYL V1400B100	90
EOS NOCUT VV910	68	PETRO VE760	82	VE715	67	VENIZETTE VE920	78
EOS OBM WV911	70	PETRO VE766	80	VE722	67	ZEPHIR VE210	89
EOS VV900	69	PETRO VE780	82	VE726	66		
FBN49	92	PVC7327	83	VE727	66		
FCN29	92	PVC7335	83	VE7300R	75		
FP159	92	TC716	98	VE799	76		
HERCULE WV750	73	TER250	96	VENICUT41	62		
KPG10	95	TERK400	96	VENICUT42	62		
NI015	77	TOUTRAVO VE509	86	VENICUT43G3	63		

DISPOSABLE WEAR

BLOUSPO	110	DT221	107	P0106	110
DT115	108	DT300	104	P0110	111
DT117	106	MANCHBE	111	SURCHPE	111
DT215	108	MASQU	111	TABPO02	110

WORKWEAR

ATOLL	141	M2GIL	133	M6VES	137	PALAO5	140
DMACHCOM	118	M2PAN	130	MCCHE	127	PALAO5 HV	140
DMACHPAN	119	M2SAL	132	MCCOM	124	PHPAN	142
DMACHSAL	120	M2VES	130	MCPAN	125	PHVES	142
DMACHVES	119	M6COM	136	MCSAL	126	VERONA	141
LAETITIA	141	M6GIL	138	MCVES	125		
M2BER	133	M6PAN	137	MSGIL	139		
M2COM	131	M6SAL	138	MSPAN	139		



OUTDOOR WEAR

304	156	DARWIN II	149	M2PAW	154	RENO	152
305	157	DUNCAN	148	MA400	157	SACHA	155
400	156	FIDJI	153	MILTON	148	SIERRA	155
BARI	152	HELSINKI	149	RANDERS	150	STOCKTON	154

TECHNICAL WEAR

BORCO	169	EASYVIEW	162	MAIVE	170	SSVFR	171
BORPA	169	FIDJI HV	163	MANTEAU19A	175	TABALPV	173
BORVE	169	GILP2	163	MANTEAU19N	175	TONC3	168
CAFR1	171	GILP4	163	NORDLAND	166	TONP3	168
CAGOULE19A	175	GUETRE19A	175	OPTIMUM	162	TONV3	168
CAGOULE19N	175	GUETRE19N	175	PANTA19A	174	VESFR	172
CHEFR	172	ICEBERG	166	PANTA19N	174	VESTE19A	174
CO600	173	MAICO	170	PHPAN	164	VESTE19N	174
COMBI19A	175	MAICO	171	PHVES	164		
COMBI19N	175	MAIPA	170	POLFR	172		

FOOT PROTECTION

22180	209	FRONTERA S3 SRC	197	MAUBEC 3 SBEA SRC	209	SAKHA S3 SRC	208
45400	209	GARGAS II ISO 18KV	204	MAZAN S1P SRC	201	SAMARA S3 SRC	208
AMAZONE S5 SRA	208	GARGAS II S1P SRC	204	MIAMI S1P SRC	194	SAULT S3 SRC	201
ASTI S1P SRC	193	GOULT II S1P SRC	204	MIRAGE S1P SRC	205	SAULT S3 SRC ESD	203
AURIBEAU3 S1P SRC	185	JET2 S1 SRC	207	MONTBRUN S3 SRC	201	TW400 S3 SRC	180
BRISBANE S1 SRC	205	JET2 S1P SRC	207	NAVARA S1P SRC	197	VIAGI S1P SRC ESD	203
CADEROUSSE S3 SRC	201	JET2 S3 SRC	206	OHIO3 S3 SRC	185	VIRAGE S1P SRC	193
CAMARO S3 SRC	197	JUMPER2 S1 SRC	207	ONTARIO S1P SRC	208	VOYAGER S1P SRC	205
CAROMB S1P SRC	201	JUMPER2 S1P SRC	207	PERTUIS3 S1P SRC	185	XR502 S3 SRC	182
COBRA 3 S3 SRC	205	JUMPER2 S3 BUMPER SRC	206	PHOCEA S3 SRC	189		
DELTA FUSION S3 SRC	198	JUMPER2 S3 FUR HC SRC	206	PHOENIX S3 SRC	189		
D-SPIRIT S1P SRC	191	JUMPER2 S3 FUR SRC	206	PRISM S1P SRC	189		
D-SPIRIT S3 SRC	191	JUMPER2 S3 SRC	206	PROTON S1P SRC	189		
D-STAR S3 SRC	191	KORANDA S3 SRC	197	RIMINI II S1P SRC	194		
FENNEC II S1 SRC	205	LACET XL	209	ROBION3 S2 SRC	209		
FENNEC II S1P SRC	205	LANTANA S1P SRC	197	SAGA S3 SRC	186		

FALL PROTECTION

AM022X2	251	ELARA140	231	HAR23	225	TC001	246
AM002X5	251	ELARA150	232	HAR23GILNO	225	TC002	246
AM025X2	251	ELARA160	233	HAR24	224	TC003	246
AN006	247	ELARA170	232	JAGUAR HAR36TCP	220	TC004	246
AN12006T	239	ELARA190	232	LO005200	245	TC005	247
AN12010T	239	ELARA270	231	LO007100	245	TC009	247
AN12015T	239	ELARA280	230	LO007150	245	TC012	246
AN201200CC	236	ELARA320	230	LO007150CD	245	TC015	247
AN201200CD	236	EOLIJEN HAR35	222	LO030	245	TC022	250
AN203200CC	237	EX021	228	LO031	245	TC029	247
AN203200CD	237	EX118200A	228	LO032	245	TC044	246
AN208150CC	235	EX118400A	228	LO045200	244	TC105	250
AN208RCDD	235	EX120	226	LO047100	244	TETRANCHOR LV115	242
AN211200CCC	236	EX220	224	LO047150	244	TRO0420	248
AN211200CDD	236	FENNEC AN06310	241	LO047150AD	244	TRO0430	248
AN213200CCC	237	FENNEC AN06320	241	LO147150	244	TRA101	248
AN213200CDD	237	FENNEC AN06330	241	LO147150CDD	244	TRA102	248
AN218150CCC	235	FIXBLOC AN105	239	LV100	242	TRA103	248
AN218RCDD	235	GALAGO HAR35TC	221	LV102100	243	TRA20	248
AN235200CD	234	GALAGO HAR35TCA	221	LV102150	243	TRA22	248
AN245200CDD	234	HA203	229	LV105	242	TRA30	248
AN315	240	HAR11	226	LV400	243	TRA32	248
AN317	240	HAR12	226	LV401	243	TRBAG	248
AN319	240	HAR12GIL	227	LV504A	242	TRBAG3	248
ANATOM HAR32	223	HAR12GILNO	227	MEDBLOC AN13006C	238		
ASCORD AN060	240	HAR12MFB	226	MINIBLOC AN102	239		
DAYAK LV120G	243	HAR14	226	RAH33	250		
ELARA130	233	HAR22	224	RIPLIGHT 2 HA201	229		