

# Trelleborg Fluid Handling Solutions

**Trelleborg Fluid Handling Solutions is part of Trelleborg Industrial Solutions.**

With over 1,000 employees and a head office located in Clermont-Ferrand, France, Trelleborg Fluid Handling Solutions is a leading developer, manufacturer and supplier of low and medium pressure industrial hoses, oil and marine hoses, rubber sheeting and matting and expansion joints based on advanced polymer technology.

We provide the optimum high performance solutions for every situation with production sites in France, Spain, Sweden, Brazil and Turkey.

Trelleborg Fluid Handling Solutions offers a very large range of competitive products, solutions and services that meet your needs and requirements for all types of applications.



## ► Your Partner for Fluid Handling

Trelleborg Fluid Handling Solutions is organized around nine applications areas:

- **Oil and Gas**
- **Construction and Mining Equipment**
- **Energy**
- **Chemical, Pharmaceutical and Food**
- **Agriculture and Farms**
- **Environment and Cleaning Waste Water**
- **Processing Equipment and Machine Tools**
- **Industrial Transportation**
- **Life Sciences**

This enables a better response to adapt our offering to your application or to design special solutions tailor-made for you. In all cases, meeting required standards and approvals.

## ► Our logistics platform: availability, reactivity and reliability

Over 5,000 different items are stored in our three logistic platforms in Clermont-Ferrand (France), Trelleborg (Sweden) and Izarra (Spain) to meet your need for immediate and reliable delivery.

## In order to help you to accelerate the development of your business, our service list also covers

- Compounding formulation
- Hose configuration modeling
- Finite element calculations
- Hose design
- Hose testing (pressure, bending, elongation resistance, etc.)
- Hose certification (PED, ADR, REACH, etc.)
- Handling and storage instructions
- Installation instruction and supports
- Hose inspection and refurbishment
- Hose failure analysis
- After sales support
- Training for sales team
- Training for assembly workshop operators



## ► Our research and development centers provide continuous innovations

Located in France and Brazil for oil & marine hoses, France, Sweden for industrial hoses and Spain for rubber sheeting and matting and expansion joints, our R&D centers provide innovating solutions for compound, finished products and customized solutions.

All production sites are well equipped with laboratories, test benches and calculation centers to provide ready-to-use solutions based on our experience of the applications and our competences.

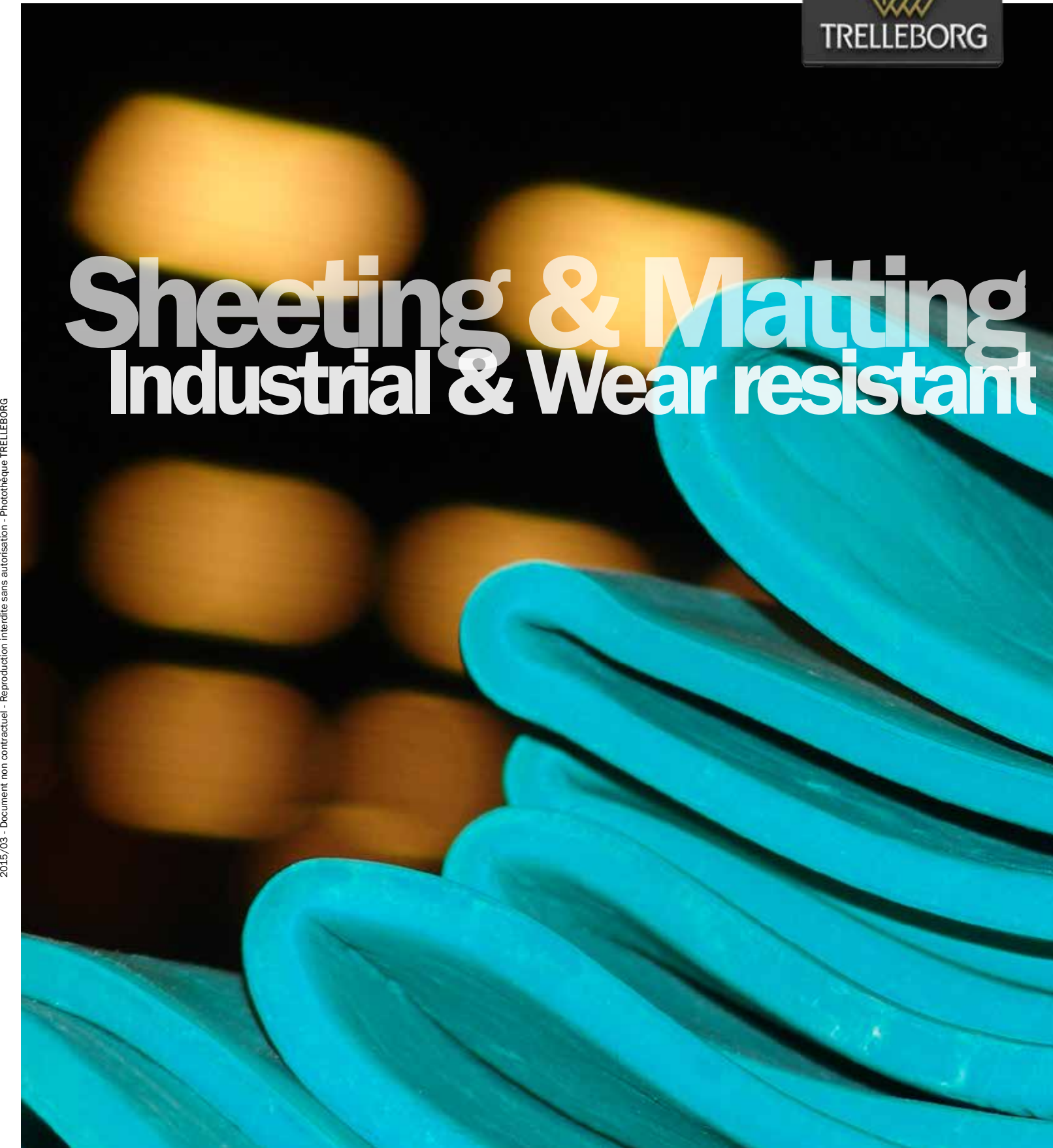
## ► Our couplings technical centers

With location all over Europe (Germany, Norway, Sweden and France), Brazil and China we offer a large range of rubber hose assembly, composite hose, stainless steel or PTFE hoses with dedicated service and 24 hour to 48 hour delivery, as well as accessories.



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WWW.TRELLEBORG.COM



# Sheeting & Matting Industrial & Wear resistant

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**Sheeting & Matting**  
Industrial & Wear resistant  
[www.trelleborg.com/elastomerlaminates](http://www.trelleborg.com/elastomerlaminates)

TRELLEBORG FLUID HANDLING SOLUTIONS

# Trelleborg group, leader in polymer solutions

Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments.

Its innovative engineered solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has annual sales of about SEK 22 billion (EUR 2.48 billion, USD 3.29 billion) in over 40 countries.

In addition, Trelleborg owns 50 percent of Trelleborg Vibracoustic, a global leader within

antivibration solutions for light and heavy vehicles, with annual sales of approximately SEK 16 billion (EUR 1.78 billion, USD 2.36 billion) in about 20 countries.

The Trelleborg share has been listed on the Stock Exchange since 1964 and is listed on NASDAQ OMX Stockholm, Large Cap.

[www.trelleborg.com](http://www.trelleborg.com)

## The group comprises 5 business areas

### ► Trelleborg Coated Systems



► Trelleborg Industrial Solutions

### ► Trelleborg Offshore & Construction



► Trelleborg Sealing Solutions

### ► Trelleborg Wheel Systems



# Seal, damp and protect

# Sheeting

## Industrial

## Wear resistant

# Matting



Trelleborg rubber sheeting and matting range is suitable for most areas of use. Main applications are sealing (gaskets), protection (machine and process), safety (electric insulation, fire/smoke) and flooring (industrial matting).

We invest heavily in R&D. Our sales staff, chemists and engineers work to find better solutions for customers through continuous development of new materials, composites, designs and production methods. Certificates are available under request (food quality, drinking water, dielectric, fire and smoke resistance). Trelleborg is certified ISO 9001 and ISO 14001.

Trelleborg rubber sheeting and matting range is especially designed for:

- Chemical** (acids, bases, oils)
- Energy** (electrical insulation, fire protection)
- Food** (FDA and (EC) 1935/2004 certificates)
- Drinking water** (several certificates as ACS, WRAS, BELGAQUA, AS/NZS, etc.)
- Steel industry** (high temperature)
- Automotive** (acids, bases, oils)
- Construction & environment** (fire/smoke matting, bearings)
- Mining & quarries** (skirting, dust sealing)
- Sport centres** (shooting gallery, locker rooms)



## Standard manufacturing dimensions and tolerances

Thickness (mm)	Thickness tolerance (mm)	Width (mm)	Length (m)	Thickness (mm)										
			<b>Industrial</b>	<b>Wear resistant</b>										
1	± 0.3	1400 ± 2%	20 ± 2%	20 ± 2%										
1.5	± 0.3		15 ± 2%	15 ± 2%										
2			10 ± 2%	10 ± 2%										
3	5 ± 2%				5 ± 2%									
4						2.5 ± 2%	2.5 ± 2%							
5			1.5	1.5										
6								1.2	1.2					
8	1.0				1.0									
10										0.7	0.7			
12						0.5	0.5							
15		0.4										0.4		
20			0.3	0.3										
25													0.2	0.2
30/40								0.1	0.1					

NR SBR	Basic quality	R608	1P	2P	Color	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Working temperature (°C)	Diluted acids	Concentrated acids and bases	Ozone	Oil and hydrocarbons
NR: Natural rubber. Excellent mechanical and dynamic properties, abrasion resistance, resilience and elasticity. Flexible at low temperatures. High elongation and deformation capacity. Not resistant to oils and petroleum based products.	Standard level quality	R608	1P	2P	Black	1.50	65	4	200	-25 +70	Orange	Red	Orange	Red
	White standard level quality	R661	1P	2P	White	1.67	68	5	220	-25 +70	Green	Yellow	Yellow	Red
	White food quality natural rubber	R642	1P	2P	White	1.30	65	10	600	-45 +80	Green	Yellow	Yellow	Red
	High performance natural rubber	R490	1P	2P	Black	1.05	45	16	600	-40 +85	Green	Yellow	Yellow	Red
	High performance natural rubber	R499	1P	2P	Black	1.00	43	20	650	-40 +80	Green	Yellow	Yellow	Red

EPDM	Standard level quality	EF51	Color	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Working temperature (°C)	Diluted acids	Concentrated acids and bases	Ozone	Oil and hydrocarbons
Excellent ageing properties (heat, ozone, weathering). Good resistance to acids, bases, solvents and steam. Remains flexible at low temperature. Not resistant to hydrocarbons and fat products.	White food quality	E569	White	1.27	60	8	350	-40 +115	Green	Yellow	Yellow	Red
	Technical applications 50 Shore	E550	Black	1.17	50	9	450	-40 +115	Green	Yellow	Yellow	Red
	Technical applications 60 Shore	E502	Black	1.30	60	7	500	-40 +120	Green	Yellow	Yellow	Red
	Technical applications 70 Shore	E501	Black	1.31	70	7	300	-40 +120	Green	Yellow	Yellow	Red
	High temperature applications	E503	Black	1.24	70	10	200	-40 +125	Green	Yellow	Yellow	Red

IIR (Butyl)	Technical applications 60 Shore	T620	Color	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Working temperature (°C)	Diluted acids	Concentrated acids and bases	Ozone	Oil and hydrocarbons
Very good resistance to acids, bases, and steam. Good resistance to animal or vegetable fats and oils. Weathering, ozone and UV resistant.		T620	Black	1.27	60	8	400	-40 +130	Green	Yellow	Yellow	Red

CR (Polychloroprene)	Basic quality	C609	1P	2P	Color	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Working temperature (°C)	Diluted acids	Concentrated acids and bases	Ozone	Oil and hydrocarbons
Good mechanical and physical properties, low compression set values and good bending. Very good resistance to weathering, ozone and UV. Good resistance to diluted acids, aliphatic solvents, oils and petroleum based products.	Standard level quality	CF49	1P	2P	Black	1.40	65	6	250	-25 +90	Orange	Red	Orange	Red
	Technical applications 40 Shore	C400	Black	1.33	40	4	450	-30 +90	Orange	Red	Orange	Red	Orange	Red
	Technical applications 50 Shore	C500	Black	1.35	50	4.5	400	-30 +100	Orange	Red	Orange	Red	Orange	Red
	Technical applications 60 Shore	CF03	1P	2P	Black	1.40	60	7	250	-25 +100	Orange	Red	Orange	Red
	Technical applications 70 Shore	CS40	1P	2P	Black	1.45	70	6	300	-20 +100	Orange	Red	Orange	Red
	High performance	CF14	Black	1.30	60	10	250	-35 +120	Yellow	Yellow	Yellow	Red	Yellow	Red

CSM	Technical applications 60 Shore	H630	Color	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Working temperature (°C)	Diluted acids	Concentrated acids and bases	Ozone	Oil and hydrocarbons
Good chemical resistance against acids and bases.		H630	Black	1.30	60	9	350	-35 +125	Green	Yellow	Yellow	Red

NBR	Basic quality	B609	1P	2P	Color	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Working temperature (°C)	Diluted acids	Concentrated acids and bases	Ozone	Oil and hydrocarbons
Excellent resistance to oils, fats, petroleum based products and organic solvents. Low resistance to weathering, ozone and UV.	Standard level quality	BF50	1P	2P	Black	1.35	65	5	300	-25 +90	Green	Yellow	Yellow	Red
	White food quality	B571	1P	2P	White	1.44	65	10	400	-35 +110	Green	Yellow	Yellow	Red
	Technical applications 50 Shore	B511	Black	1.20	50	8	450	-30 +70	Green	Yellow	Yellow	Red		
	Technical applications 60 Shore	B533	Black	1.28	60	10	350	-25 +110	Green	Yellow	Yellow	Red		
	Technical applications 70 Shore	B508	Black	1.30	70	10	250	-30 +100	Green	Yellow	Yellow	Red		
	High performance	B668	Black	1.25	70	13	250	-30 +120	Green	Yellow	Yellow	Red		
	For transformer oil	BF31	Black	1.30	70	13	300	-40 +130	Green	Yellow	Yellow	Red		

Viton® (FKM)	High technical applications	V733	Color	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Working temperature (°C)	Diluted acids	Concentrated acids and bases	Ozone	Oil and hydrocarbons
Excellent chemical resistance. Excellent resistance to very high temperatures. Good mechanical and physical properties.	White food quality	V732	White	2.16	70	10	200	-20 +250	Green	Yellow	Yellow	Red

Consult the technical datasheet or consult us for any specific application or product in contact with Trelleborg sheeting.

1P 1 ply 2P 2 plies ● Very good ● Good ● Medium ● Non suitable

Sand and gravel quarries, steel industry, foundries, metal industry, aggregate and cement industries, concrete plants, sawmills, food and pharmaceutical industry, agriculture, sewer cleaning, industrial waste and road maintenance.

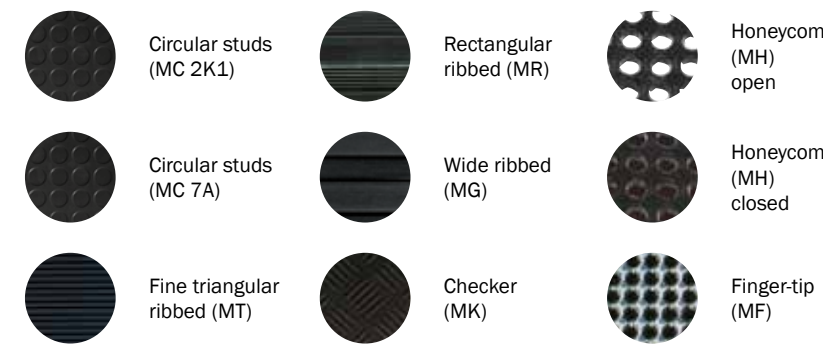


High wear sheeting	Rubber compound	Color	Option (bonding layer)	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Abrasion (mm)	Working temperature (°C)
Fine grain size material (dry or wet conditions)	REDFINE +	NR R397	Black	0.95	35	24	700	60	-40 +80
Round grain material	BLACKROCK +	NR R650	Black	1.12	60	18	400	90	-50 +85
Crushed material	ARMURITE	NR RF20	Black	1.12	65	25	400	100	-40 +70

Medium wear sheeting	Rubber compound	Color	Option (bonding layer)	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Abrasion (mm)	Working temperature (°C)
Fine grain size material (dry or wet conditions)	REDFINE/YELLOWFINE	NR R492/NR R491	Black	1.05	45	16	600	83	-40 +85
	BLACKFINE	NR R353	Black	1.00	40	20	650	80	-40 +90
	GREYFINE	NR R488	Grey	1.05	40	16	600	100	-40 +70
	WHITEFINE	NR R320	White	0.95	40	20	600	110	-40 +80
Round grain material	BLACKROCK	NR R698	Black	1.21	60	15	400	130	-40 +85
	BLACKHARD	NR R847	Black	1.15	80	15	240	120	-40 +80

Special wear sheeting	Rubber compound	Color	Option (bonding layer)	Density (g/cm³)	Hardness (Shore A)	Tensile strength (Mpa)	Elongation at break (%)	Abrasion (mm)	Working temperature (°C)
Fire resistant	BLACKFIRE	CR C738	Black	1.47	70	10	250	200	-30 +120
Dust sealing	BLACKDUST	NR R431	Black	1.03	45	16	600	90	-50 +85
Skirting	BLACKSKIRT	NR R439	Black	1.18	50	8.5	400	125	-40 +70
	GREENSKIRT	NR R570	Green	1.20	55	13	450	170	-40 +80
Scrapers	SANDWICH	NR R698/R492/R698	Black/Red/Black	1.15	60/45/60	15	400	130	-40 +85

Vehicles step treads, workbenches, shelves, racks covers, walls, columns, staircases, step stools, car trunks, vessels corridors, halls, corridors, ramps, stairs, elevators in industrial premises, flooring and matting for industrial site (aisles, warehouses, locker rooms).



Standard matting	Color	Thickness (mm)	Width (mm)	Length (m)
<b>CIRCULAR</b>				
Circular studs (MC 2K1)	Black	3	1000/1200	10
Fine triangular ribbed (MT)	Black	3	1000/1200	10
<b>GROOVED</b>				
Rectangular ribbed (MR)	Black	2.5	1500	15
Wide ribbed (MG)	Black	5.8	1000/1200	10
<b>CHECKER</b>				
Checker (MK)	Black	3	1400	10
<b>RING</b>				
Honeycomb (MH) open	Black	14/22	800/1000	1.8/1.2/1.5
Honeycomb (MH) closed	Black	14	1000	1.8
<b>PINS</b>				
Finger-tip (MF)	Black	10/16	1000	10/8

Technical matting (other colors under request)	Color	Thickness (mm)	Width (mm)	Length (m)
<b>CIRCULAR +</b>				
Circular studs (MC 2K1)	Black, Blue, Orange, Green, Grey	3	1000/1200	10
Circular studs (MC 7A)	Black	4.5	1000	10
<b>GROOVED +</b>				
Wide ribbed M39 (MG)	Black	5	1400	10
<b>CHECKER +</b>				
Checker (MK)	Black	3/5	1400	10
<b>OILMAT</b>				
Oil and hydrocarbon resistant	Black	3	1000/1200	10
Circular studs (MC 2K1)	Black	3	1000/1200	10
Circular studs (MC 7A)	Black	4.5	1000	10
Checker (MK)	Black	3	1400	10
<b>FIREMAT</b>				
Fire resistant	Black	3	1000/1200	10
Circular studs (MC 2K1)	Black	3	1000/1200	10
<b>ELECMAT</b>				
Electric insulation	Black	3/4.5	1000/1200	10
Fine triangular ribbed (MT)	Black	3/4.5	1000/1200	10
Wide ribbed M39 (MG)	Black	5	1200	10
Checker (MK)	Black	3	1400	10