



VALMEX® MEHATOP® F1

HIGH-VALUE TEXTILES FOR
PERMANENT STRUCTURES

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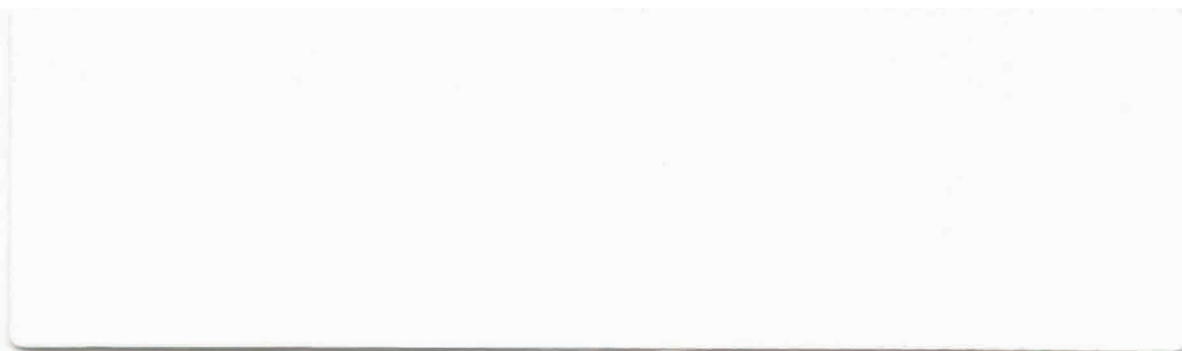
VALMEX® MEHATOP® F1 TiO₂ lacquered

700 g/m²



VALMEX® FR 700 MEHATOP® F1, Type I

900 g/m²



VALMEX® FR 900 MEHATOP® F1, Type II

1050 g/m²



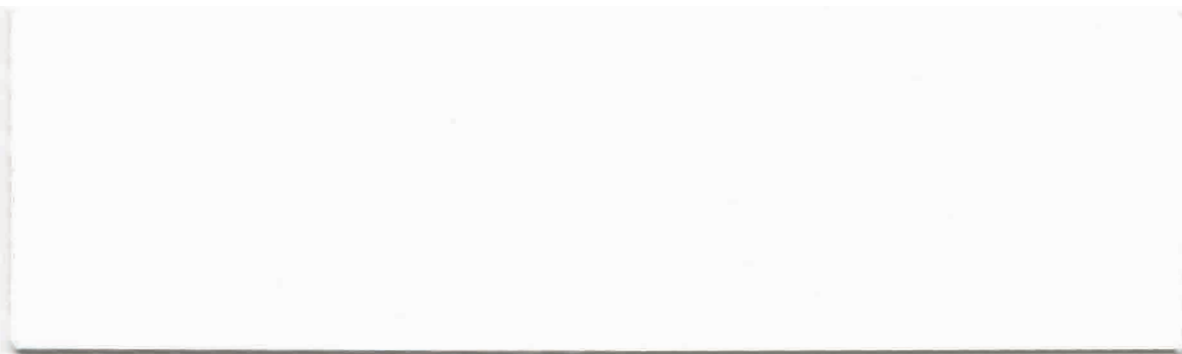
VALMEX® FR 1000 MEHATOP® F1, Type III

1350 g/m²



VALMEX® FR 1400 MEHATOP® F1, Type IV

1550 g/m²



VALMEX® FR 1600 MEHATOP® F1, Type V



Opaque version for no light transmission



HTL (high translucency) version for maximum light transmission

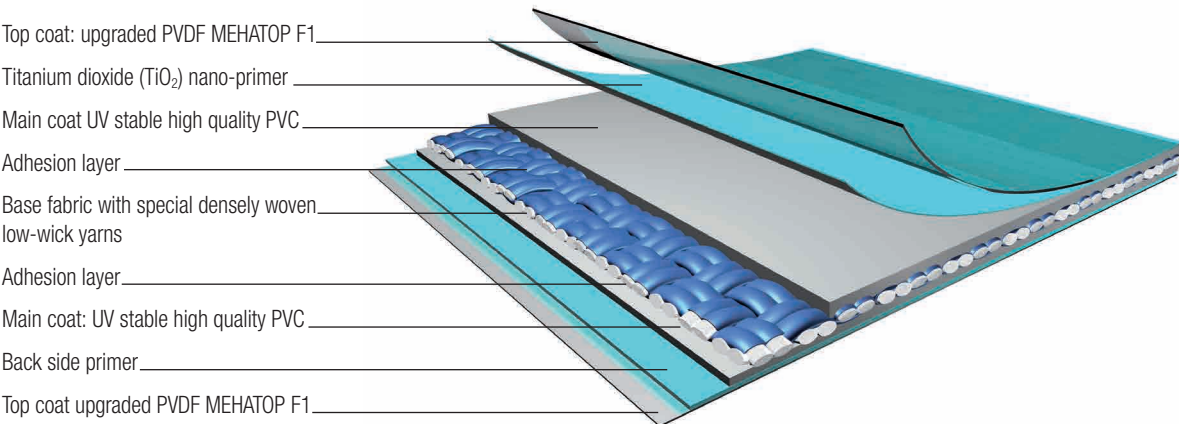
Mehler Technologies **VALMEX**® membranes with implemented **MEHATOP**® F1 top coat lacquering system is a multi-layer composite material with special densely woven low-wick yarns in the base fabric.

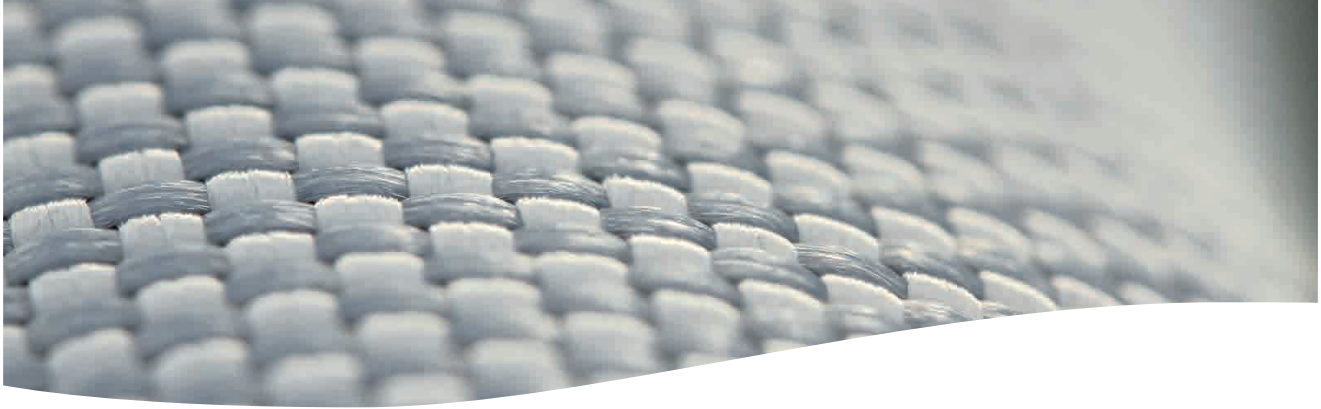
developed protection layer of 'titanium dioxide (TiO₂) nano-primer'. This further increases the double-top coat performance, enhancing the protection and aesthetic effect, while remaining perfectly weldable by high-frequency and hot air.

The surface lacquering has been implemented with a new blend of highly concentrated polyvinylidene fluoride, developed by Low & Bonar, and reinforced with an 'in-house'

This coating system is available as standard on all Mehler Technologies **VALMEX**® structure coated technical textiles and also on specialities.

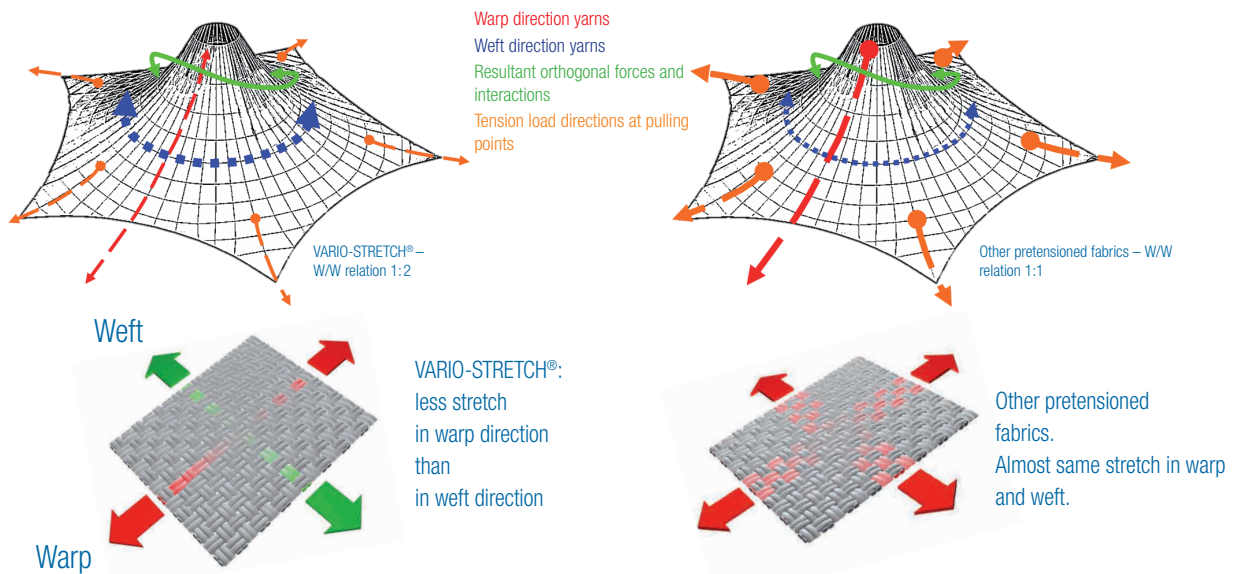
A schematic view of the multilayered material composition:





Mehler Technologies **VALMEX**[®] membranes are woven exclusively from high tenacity and pre-treated low-wick yarns. The fabric, thanks to outstanding constant mechanical behavior, ensures longstanding maintenance-free and reliable performances.

Engineered pretension with higher anisotropic stress-strain relationship to facilitate the distensile process – the **VARIO-STRETCH**[®] solution in comparison with other pretensioned fabrics:



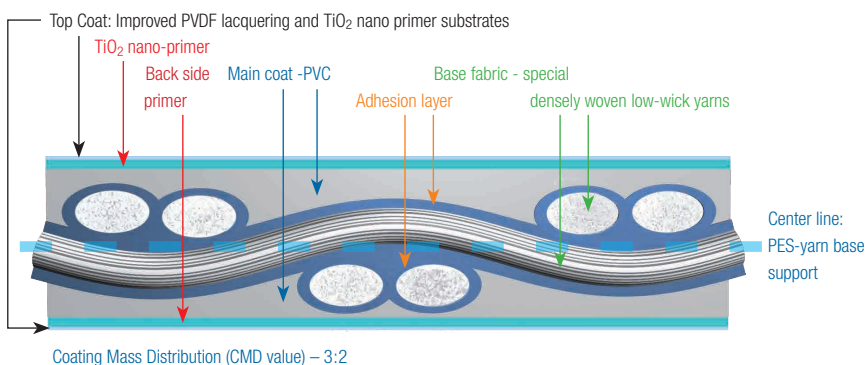
In comparison to other pre-stressed fabrics, **VARIO-STRETCH**[®] greatly reduces the tensional loads at pre-tension stage in all directions, so that during execution the fabric can be stretched

homogenously. Extra elongation in the weft enables the orthogonal forces to be distributed more evenly and also reduces the lateral load peak at the pulling points.

Mehler Technologies **VALMEX**[®] with implemented **MEHATOP**[®] F1 top coat lacquering system and titanium dioxide (TiO₂) nano-primer are engineered to perform functionally.

The weldable multi-layered coating compound ensures outstanding aesthetic and durable performances.

Schematic view of a **VALMEX**[®] **MEHATOP**[®] F1 membrane with TiO₂ nano-primer – section view:



A top coat lacquering performs at its best, if:

- The fluorine content and its constant homogeneity exceeds the one of a standard acrylic/pvdf mixed lacquer
- The lacquer component is as thin as possible to remain flexible and bonded to other components
- The primer prevents delamination and protects the PVC top coat from discolouration and migration

VALMEX® MEHATOP® F1 TiO₂ lacquered

Base fabric sample

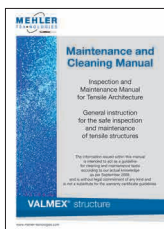
Unlacquered sample

Lacquered sample

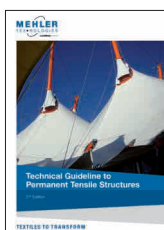




Low & Bonar is your reliable partner for tensile architecture applications. With over 60 years experience in the coating industry we can offer our customers unbeatable support in this field of application.



Our detailed inspection and maintenance manual for tensile architecture enables us to support our customers in maintaining the material's initial aesthetical characteristics.



A dedicated guideline on tensile architecture application, written in cooperation with the IMS institute of Germany, with many interesting information about material properties, design, manufacture and installation tasks.

Low & Bonar takes their contribution to a sustainable future serious. Improving the sustainability of our products starts with 'state-of-the-art' manufacturing facilities and careful selection of raw materials.



Registration, Evaluation and Authorisation of Chemicals

MEHLER
eco-care 

Low & Bonar strictly selects all product components in conjunction with the most stringent EU directives and is fulfilling them as a pioneer in this industry.

We are participating in VinylPlus. This is a voluntary commitment by the PVC industry and covers the entire lifecycle of PVC and PVC products. It represents for Low & Bonar a set of guidelines for acting in a sustainable manner.



verified + traceable

LCA+EPD

We collaborate with the German IBU (Institute for environment and construction) and participate in the European EPD program, which defines the ecological standards for construction materials with the new EN15804.

Life Cycle Analysis and Environmental Product Declaration for Mehler Technologies architectural fabrics are available on request.



Institut Bauen
und Umwelt e.V.



VALMEX®

Product No.

FR 700 Type I
7205

FR 900 Type II
7211

FR 1000 Type III
7269

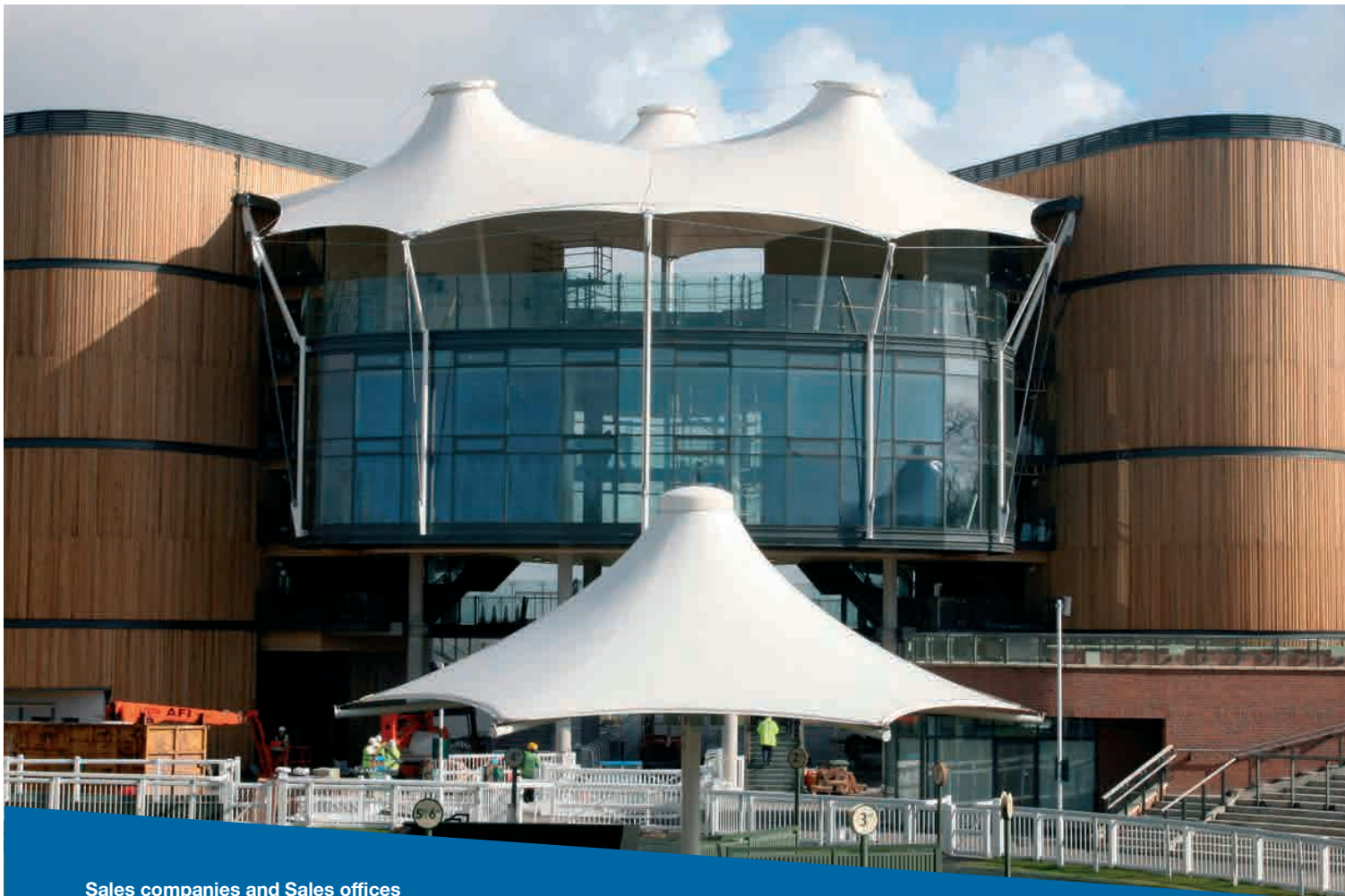
FR 1400 Type IV
7270

FR 1600 Type V
7274

	Measurement methods/ Classifications	Unit	FR 700 Type I 7205	FR 900 Type II 7211	FR 1000 Type III 7269	FR 1400 Type IV 7270	FR 1600 Type V 7274
Material composition							
Finish	Multi-composed top coating lacquering with Titaniumdioxide (TiO ₂) reinforcement and highly concentrated PVDF mixture on both sides, weldable without grinding.						
Base fabric	DIN ISO 2076		Polyester Plain Weave L1/1	Polyester Panama Weave P 2/2	Polyester Panama Weave P 2/2	Polyester Panama Weave P 3/3	Polyester Panama Weave P 3/4
Yarn count	DIN ISO 2060	dtex	1100	1100	1670	1670	2200
Low-wick yarn treatment	Methylenblue liquid method	mm	< 5	< 5	< 5	< 5	< 5
Total weight	EN ISO 2286-2	g/m ²	700	900	1050	1350	1550
Fabric thickness		mm	0.6	0.8	0.9	1.1	1.3
CMD ratio (Front:Back)			3:2	3:2	3:2	3:2	3:2
Mechanical properties							
Tensile strength (warp/weft)	DIN EN ISO 1421/V1	N/50 mm	3000 / 3000	4300 / 4200	6000 / 5500	8000 / 7000	10000 / 9000
Elongation at break (warp/weft)	DIN EN ISO 1421/V1	%	22 / 30	23 / 29	24 / 32	24 / 33	27 / 29
Tear strength (warp/weft)	DIN 53363	N	300 / 300	500 / 500	900 / 800	1200 / 1200	2000 / 2000
Adhesion	PA 09.03	N/cm	20	25	25	26	30
Crack resistance	DIN 53359 A	No. of folding	100,000 T - no cracks	100,000 T - no cracks	100,000 T - no cracks	100,000 T - no cracks	100,000 T - no cracks
Physical properties							
Light fastness	DIN EN ISO 105 B02		> 6	> 6	> 6	> 6	> 6
White index	CIE		≥ 90	≥ 90	≥ 90	≥ 90	≥ 90
Solar transmission	ASHRAE 74 1988 / ISO EN 410	%	9 / 9	7 / 7	6 / 6	5 / 5	3 / 3
Solar reflection	ASHRAE 74 1988 / ISO EN 410	%	83 / 81	85 / 82	84 / 82	86 / 84	86 / 84
Solar absorption	ASHRAE 74 1988 / ISO EN 410	%	8 / 10	8 / 11	10 / 12	9 / 11	11 / 13
UV transmission	DIN EN 410	%	0	0	0	0	0
Shading coefficient Fc, single glazing (external/internal)	DIN EN 13363-1		0.12 / 0.30	0.10 / 0.28	0.10 / 0.27	0.08 / 0.26	0.06 / 0.55
Solar reflectance index (SRI)	ASTM E 1980-01		114	113	112	113	110
Global thermal resistivity, R-value (vertical/horizontal)	DIN EN ISO 6946	[m ² K/W]	0.175 / 0.206	0.176 / 0.207	0.177 / 0.208	0.178 / 0.209	0.179 / 0.210
Global thermal transmittance, U-value, (vertical/horizontal)	DIN EN ISO 6946	[W/m ² K]	5.711 / 4.852	5.677 / 4.827	5.658 / 4.813	5.617 / 4.783	5.596 / 4.769
Cold resistance	DIN EN 1876-1	°C	-40	-40	-40	-40	-40
Heat resistance	PA 07.04	°C	+70	+70	+70	+70	+70
Fire resistance	Classification		DIN 4102-1:B1 EN 13501-1:B S2 DC UNI 9177:CL2 NFP 92507:M2 BS 7837 California T19 SIS 650082 NFPA 701 Method 2 GOST	DIN 4102-1:B1 EN 13501-1:B S2 DC UNI 9177:CL2 NFP 92507:M2 BS 7837 California T19 NFPA 701 Method 2 GOST	DIN 4102-1:B1 EN 13501-1:B S2 D0 UNI 9177:CL2 BS 7837 California T19 CAN ULC S109 GOST	DIN 4102-1:B1 EN 13501-1:B S3 D0 UNI 9177:CL2 BS 7837 California T19 GOST	DIN 4102-1:B1 EN 13501-1:B S2 D0 BS 7837 California T19 GOST
Standard roll width		cm	250 on request: 300 cm				
Warranty			15 years				
Quality and environment			All MEHATOP range product have been submitted to a Life Cycle Analysis, results are available on request. All products comply with European REACH directives and we are ISO 9001 certified.				

Solartechnical data/ CIE white index measurements are based on colour 958

These indicated technical data are based on average results. Due to production procedures slight deviations can occur. All technical data are in accordance with the present standard of knowledge and give product information without legal binding. All data apply to new products. All values are generated according to standards at established laboratories. Results may vary if executed at different laboratories or due to different standard interpretations. Applications suggested here do not release the customer from testing material for its intended application.



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