PRECONTRAINT
TX30

MAIN FEATURES

- Proven Design life 30 years +
- Comfort optimization : natural light and solar protection
- Texyloop recycling: production of 2nd generation materials

APPLICATIONS

- Major construction projects
- Tensile roofs and structures
- Large free span and anti clastic shapes

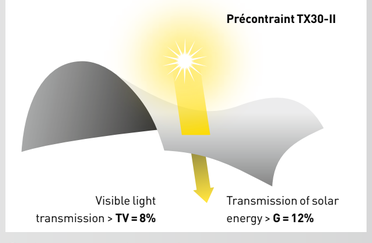
Durability of mechanical and aesthetical performances

Choose 30 year design life and above

The new generation of Précontraint TX30 composite materials has been developed to match the requirements of the most demanding projects.

This technology combines:

- a CROSSLINK PVDF surface treatment highly resistant to photo-oxidation,
- a 30YEAR PVC coating formula engineered to resist erosion for more than 30 years,
- an outstanding dimensional stability thanks to the Précontraint technology.



Optimum operating and energy cost

Optimize natural light input and solar protection

Précontraint TX30 is engineered to optimize the comfort of the building users:

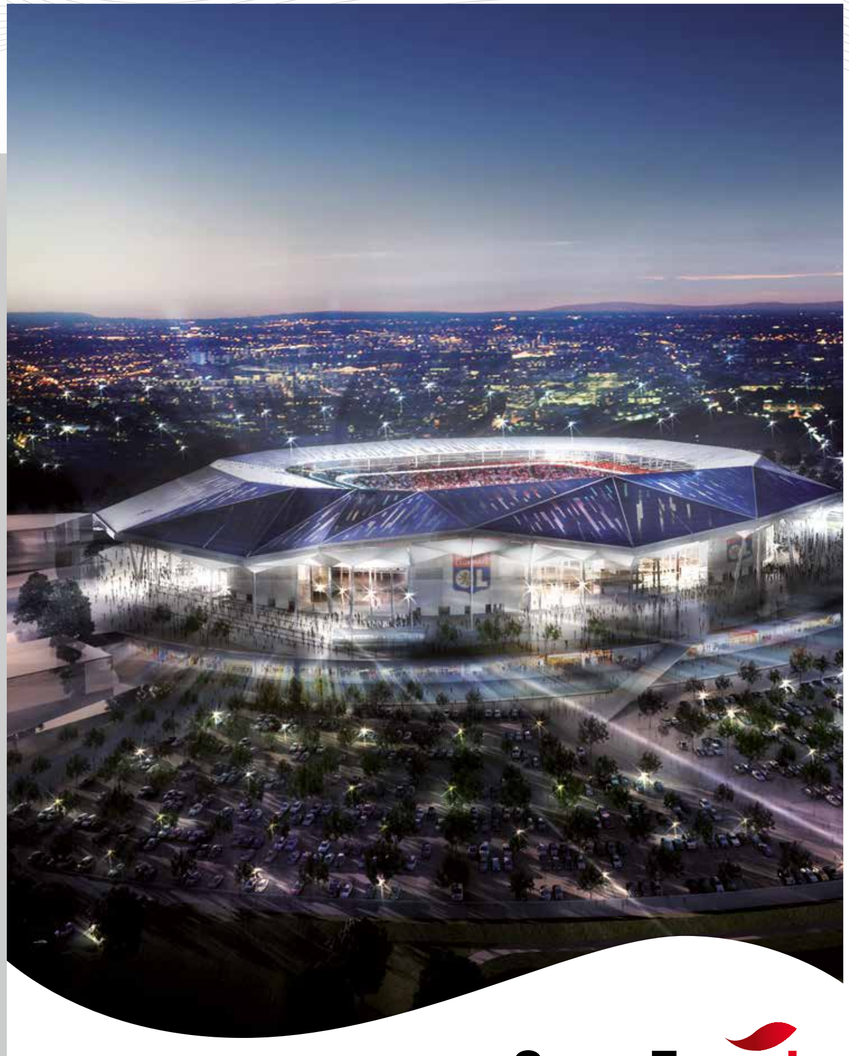
- brings in more natural light than the standard PVC composites (Tv 5%),
- protects better against solar heat than the PTFE composites (G = 20%).

Dismantling before recycling via Texyloop : 50% environmental impact reduction

Select an eco-responsible material

Précontraint TX30 is part of the Serge Ferrari eco-design policy including end of life management:

- Texyloop® unique and operational recycling solution,
- Life Cycle Assessment,
- Health and Environmental performance: Eco IDentity.



Serge Ferrari

PRECONTRAINT
TX30

	Précontraint TX30 - II	Précontraint TX30 - III	Précontraint TX30 - IV	Précontraint TX30 - V	Standards
Application	**Static and permanent structures - Tropical climates**				
Surface coating	CROSSLINK PVDF				
Life expectancy	**> 30 years**				
Technical properties					
HT polyester cables	1100 Dtex	1100/1670 Dtex	1100/2200 Dtex	1670/2200 Dtex	
Weight	1050 g/sqm	1050 g/sqm	1350 g/sqm	1500 g/sqm	EN ISO 2286-2
Width	178 cm	178 cm	178 cm	178 cm	(+1mm /-1mm)
Tensile strength (warp/weft)	430/430 daN/5cm	560/560 daN/5cm	800/700 daN/5cm	1000/800 daN/5cm	EN ISO 1421
Tear strength (warp/weft)	55/50 daN	80/65 daN	120/110 daN	160/140 daN	DIN 53.363
Adhesion	12 daN/5cm	12 daN/5cm	13 daN/5cm	15 daN/5cm	EN ISO 2411
Flame retardancy					
Euroclass	**B-s2,d0**	**B-s2,d0**	**C-s2,d0**	**C-s2,d0**	EN 13501-1
Rating	Depending on the type, other fire certificate/country on demand **M2**/NFP 92503, **B1**/DIN4102-1, NFPA 701, CSFM T19,...				

> **The technical data here above are average values with a +/-5% tolerance**

ADDITIONAL INFORMATION					
Assembly	Weldable after abrasion				
Total thickness	0.78 mm	0.78 mm	1.02 mm	1.14 mm	
Micro organism resistance	Degree 0, excellent	Degree 0, excellent	Degree 0, excellent	Degree 0, excellent	EN ISO 846 Method A
Dimensional stability					
Elongation 24h - 10 daN/5 cm (warp/weft)	<1%/<1%	<1%/<1%	<1%/<1%	<1%/<1%	EN15977
Residual elongation	<0.4%/<0.4%	<0.4%/<0.4%	<0.4%/<0.4%	<0.4%/<0.4%	EN15977
Solar optical values					
Solar Transmittance (Ts)	10 %	9 %	7 %	6 %	EN 410
Solar reflectance (Rs)	75 %	75 %	76 %	76 %	
Solar Factor (g)	14 %	13 %	11.5 %	10.5 %	
Visible light Transmittance (Tv)	8 %	7.5 %	5.5 %	5 %	
Visible light Reflectance (Rv)	84 %	84 %	85 %	85 %	
UV transmission	0%	0%	0%	0%	
Thermal and Acoustic performances					
Thermal conductivity (vertical/ horizontal)	ca. U=5.6 / 6.4 W/sqm/°C				Calculated
Acoustic weakening index	ca. 14dBA	ca. 14dBA	ca. 15dBA	ca. 16dBA	ISO 140-3 & ISO 717-1
LEED Heat island Effect					
Solar reflectance index	SRI > 90%	SRI > 90%	SRI > 90%	SRI > 90%	SSc 7.2/7.1 (Roof/Non Roof)
Management systems					
Quality in conformity with					ISO 9001
Certifications, labels, recycling capacity					

Environmental impacts: LCA and LEED reports available on request

ECO IDentity Profil
See the brochure

> **The values here above are given as an indication. Our products are subject to changes prompted by technological developments. We reserve the right to modify their characteristics at any time. The buyer of our products is responsible for checking the validity of the above data.**

→ Contact

- Headquarters: + 33 (0)4 74 97 41 33
- Your local representative: www.sergeferrari.com

→ TEXYLOOP®

- The Serge Ferrari operational recycling chain
- Secondary raw materials of high intrinsic value compatible with multiple processes
- A quantified response to combat depletion of natural resources

www.texyloop.com

www.sergeferrari.com

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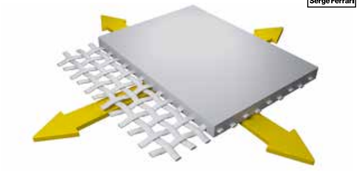
PRECONTRAINT TX30

The new generation of composite material Précontraint TX30 has been developed to meet the mechanical and aesthetical longevity requirements of the most demanding projects. In addition to the proprietary Précontraint technology benefits, the Précontraint TX 30 material combines an ultra resistant 30YEAR PVC coating formula and a CROSSLINK PVDF top coat.

Exclusive Précontraint Serge Ferrari® technology

The Serge Ferrari exclusive technology, patented worldwide, provides unique properties to the Précontraint composite membrane compared to conventionally coated materials.

- The polyester micro-cables are tensionned in both directions during the coating process for greater dimensional stability and consistency.
- The Précontraint base cloth is therefore more flat and better protected by a high thickness coating at the top of the polyester micro-cables.



Natural light for architecture

To observe the Précontraint TX 30-II translucency here under, hold this page up against a light source.

TX30-II 3000

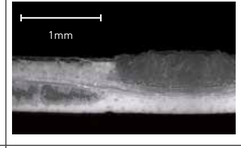
TX 30 I - II – III – IV and V samples are available on demand.

The 30YEAR PVC coating formula provides and outstanding mechanical longevity

The mechanical longevity is directly linked to the quality of the coating which protects the yarns. The Précontraint TX30 longevity is served by:

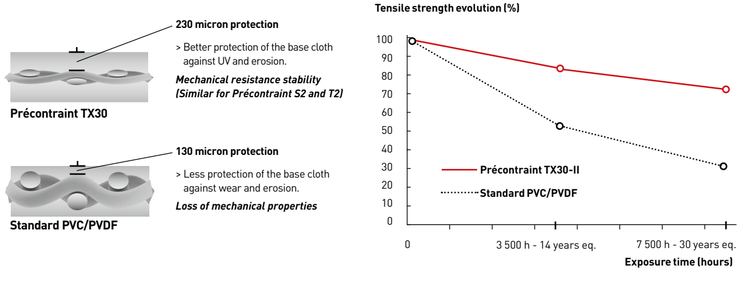
- A 30YEAR PVC coating formula resistant to the erosion generated by weather agressions (UV, rain...),
- A thicker coating at the top of micro-cables thanks to the Serge Ferrari Précontraint technology®.

30YEAR PVC – A coating formula to stand the test of time

Product reference	Standard PVC	Précontraint TX30
Top coat treatment	Standard PVC Formula	30YEAR PVC Formula
Cross section after accelerated Weathering test **7500 H - 30 Year Florida Eq**		
Coating thickness at the top of the yarns **7500 H - 30 Year Florida Eq**	Exposed yarns, not protected High erosion	Highly protected yarns Very limited erosion

Mechanical strength evolution

The mechanical strength has been measured at different intervals during the accelerated weathering.



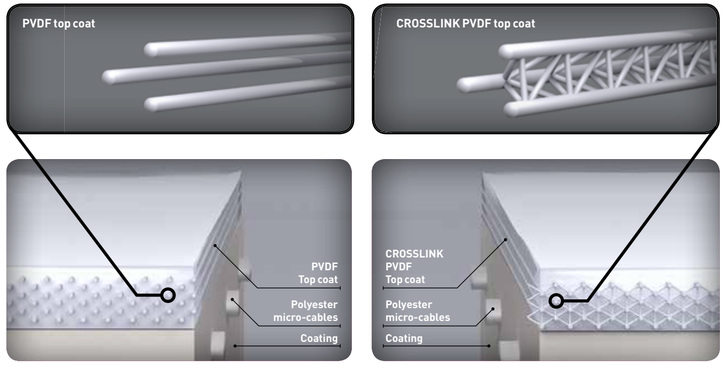
Précontraint TX30 maintains a better mechanical resistance after 30 years thanks to a better protection of the polyester micro-cables.

CROSSLINK TOP COAT for durable aesthetics

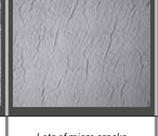
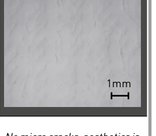
The CROSSLINK top coat formula generates irreversible links between molecular chains. This tridimensionnal network provides long term benefits:

- higher resistance to photo oxidation and micro-cracks,
- stable and smoother surface to prevent dirt in-grain,
- easier and more efficient cleaning of the even surface.

CROSSLINK Top coat formula



Surface evolution: Microscopic observation

Product reference	Standard PVC	Précontraint S2	Précontraint T2	Précontraint TX30
Top coat	PVDF weldable without abrasion	PVDF weldable without abrasion	Calibrated PVDF weldable after abrasion	CROSSLINK PVDF weldable after abrasion
Accelerated weathering **2.500 H - 10 year Florida Eq**				
Accelerated weathering **7.500 H - 30 year Florida Eq**				
LARGE SHOT Yarns protection 7.500 H – 30 year Florida Eq				
	Lots of micro cracks and exposed yarns – Irreversible degradation	*Lots of micro cracks and dirt build up*	*Limited micro cracks and dirt build up*	*No micro cracks, aesthetics is preserved, easy cleaning*

The here above data are extracts from a long term accelerated weathering test based on ISO 10640. The weathering protocol was validated by comparing outdoor exposed and artificially weathered materials. Study available on demand.