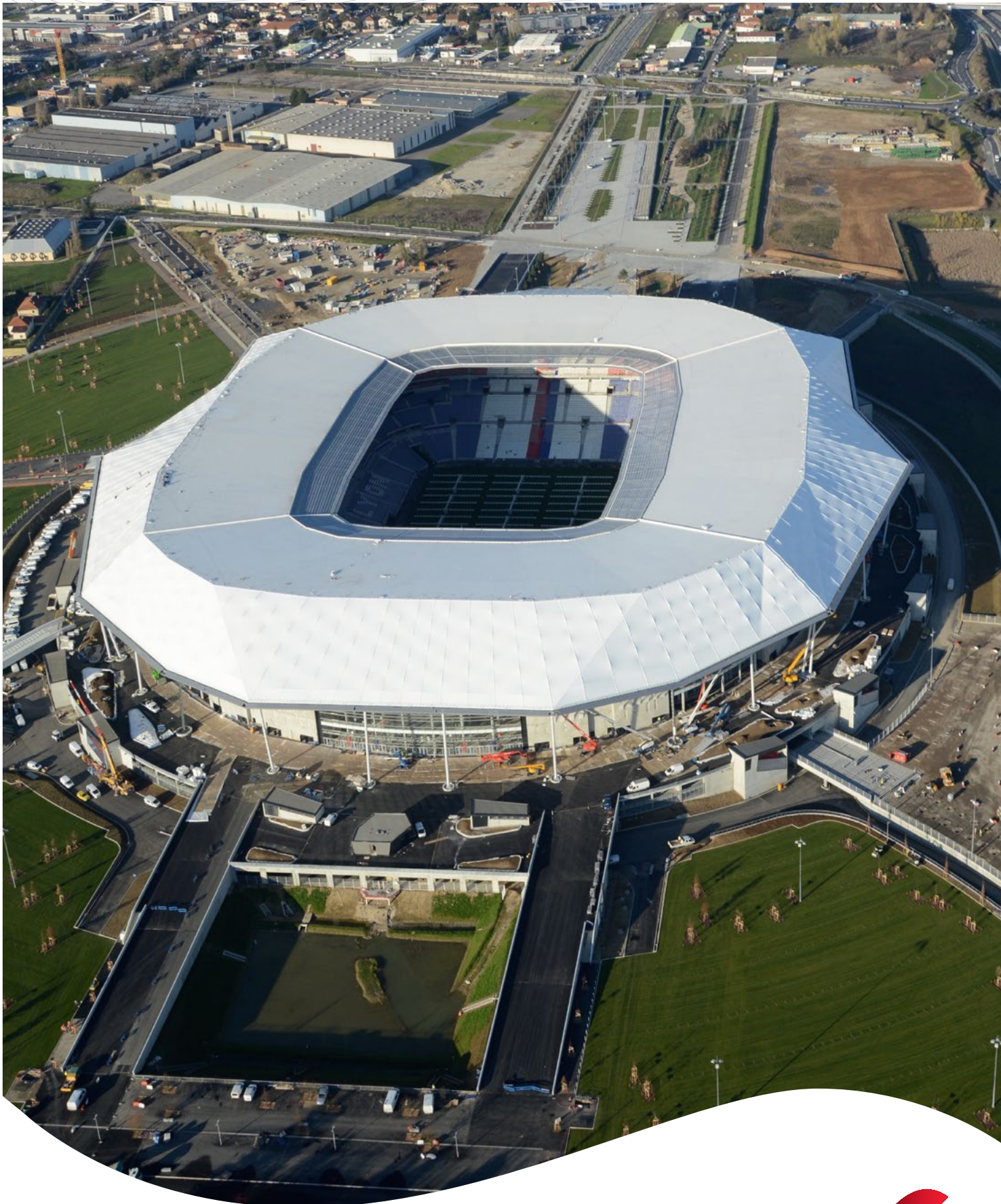


# PRECONTRAIN

TX30



**Serge Ferrari** 

# PRECONTRAIT

## TX30

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 TX30 material combines an ultra resistant 30 YEAR coating formula and a CROSSLINK PVDF top coat.

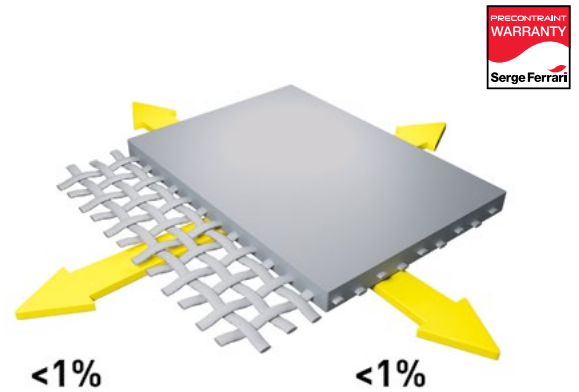
### Dimensional stability / Low maintenance

The Serge Ferrari exclusive **Précontraint technology** provides unique dimensional stability compared to conventionally coated composites. It avoids re-tensioning and sagging.

- The polyester micro-cables are tensioned in both directions during the coating process resulting in flatter micro-cables and lower elongation and creep in both directions.

Elongation (EN 15997) : <1% / <1% (warp/weft direction)

**Approx. 3 times lower elongation than Non Précontraint composites.**



### Natural light for architecture

Hold this section up to a light source to gauge the translucency of new Précontraint TX30-II



TX30-II 3000

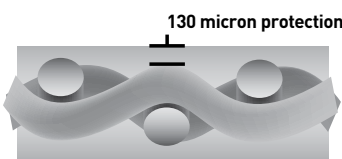
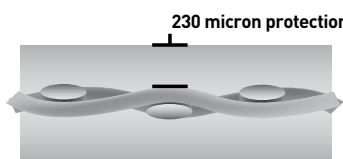
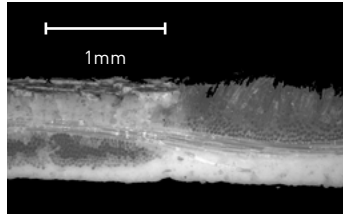
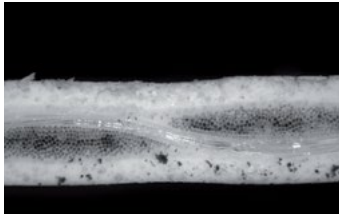
TX 30 I - II - III - IV and V samples are available on demand.

# The 30 YEAR coating formula provides outstanding mechanical longevity

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

- **A 30 YEAR coating formula** that is highly resistant to the erosion generated by weather aggressions ( UV, rain...),
- A thicker coating protection at the top of the flat micro-cables resulting from the Serge Ferrari **Précontraint technology**.

## 30 YEAR coating formula to stand the test of time

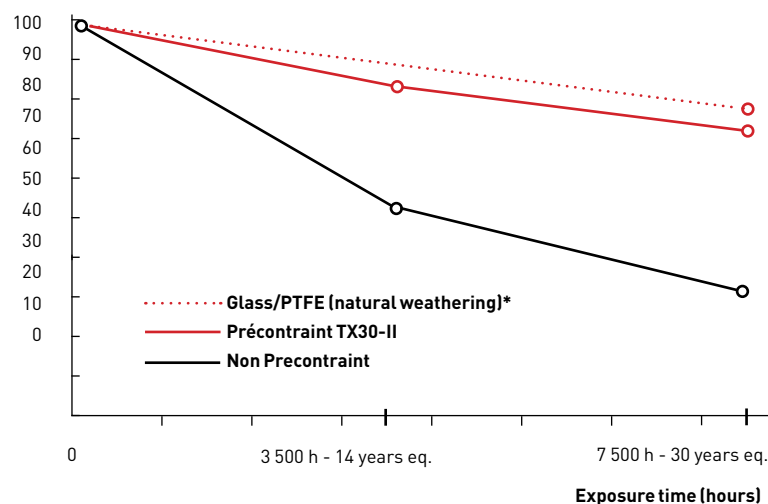
Product reference	Non Précontraint	Précontraint TX30
Before weathering	 <p>130 micron protection</p> <p>&gt; Less protection of the polyester micro-cables against UV</p>	 <p>230 micron protection</p> <p>&gt; Greater protection of the polyester micro-cables against UV</p>
After weathering 7500 h – 30 Year Florida Eq	 <p>1mm</p> <p>Erosion of the coating - Polyester micro-cables are naked and exposed to UV degradation.</p> <p>&gt; <b>Drop of mechanical properties (see below)</b></p>	 <p>Limited erosion - Polyester micro-cables are still well protected against UV by the coating.</p> <p>&gt; <b>Better mechanical longevity (see below)</b></p>

## 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.

Tensile strength evolution (%)



\*Data from industry technical specification

The above data are extracts from a long term accelerated weathering test based on ISO 10640. The weathering protocol was validated by comparing

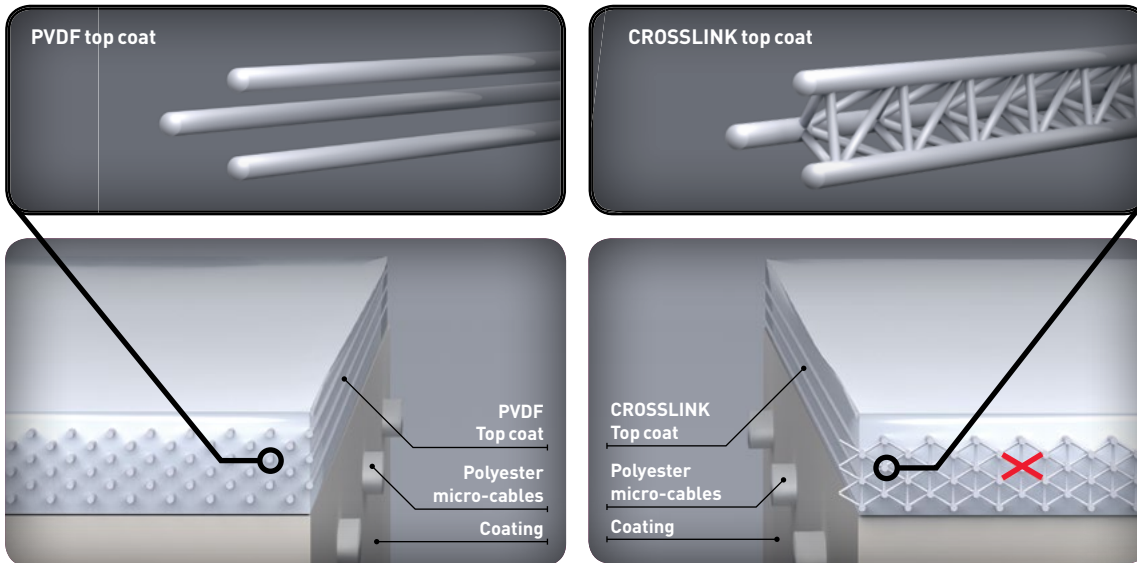
# TX30 CROSSLINK TOP COAT

## for durable aesthetics

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

- durable aspect due to higher resistance to photo oxidation and micro-cracks,
- smoother surface to minimise ingrained dirt,
- easier and more efficient cleaning of the even surface.

### TX30 CROSSLINK Top



### Extreme surface resistance

Product	Standard	High end & durable composites	
	Non Précontraint Weldable PVDF	Précontraint TX30 CROSSLINK Weldable after abrasion	Glass / PTFE Weldable with additional tape
Friction coefficient*	0.59	0.27	0.23
Accelerated weathering 4.500 H - 18 year Florida Eq.			
Accelerated weathering 7.500 H - 30 year Florida Eq.			
<b>CLOSE UP</b> Yarn protection 7.500 H - 30 year Florida Eq			
	Lots of micro cracks and exposed yarns - Irreversible degradation	No micro cracks, aesthetics is preserved, easy cleaning	No micro cracks, aesthetics is preserved, easy cleaning

\* a lower friction coefficient minimises the accumulation of dirt and pollution resulting in self cleaning properties.

## MAIN FEATURES

- Proven design life > 30 years
- Remain bright and clean, minimal maintenance
- Optimized comfort: natural light and heat protection
- Texyloop recycling

## APPLICATIONS

- Major construction projects
- Demanding structures requiring long life
- Large-scale permanent tensile structures



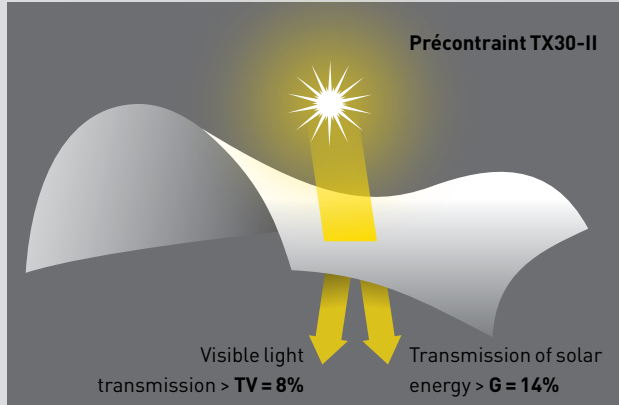
Mechanical and aesthetical longevity

Choose a design life in excess of 30 years

Précontraint TX30 matches the requirements of the most demanding projects.

This technology combines:

- Aesthetical longevity thanks to the **CROSSLINK PVDF surface treatment**
- Mechanical longevity thanks to the **30 YEAR coating formula**
- Outstanding dimensional stability through the **PRECONSTRAINT technology**

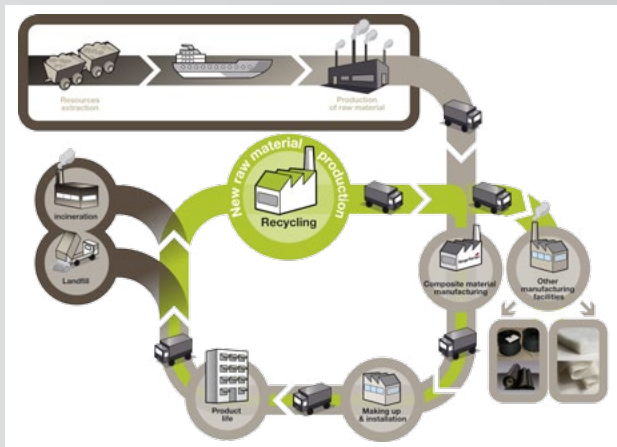


Optimum operating and energy costs

Optimise natural light and heat protection

Précontraint TX30 is engineered to optimise comfort and energy savings:

- **2 times more natural light transmission** than standard weldable pvdf membranes (Tv = 8% vs Tv = 4% for type II)
- **2 times more heat protection** than Glass /PTFE (solar factor G = 14 vs G = 23% for type II)



Recycling: 50% environmental impact reduction

Select an eco-responsible material

Précontraint TX30 is conform to the Serge Ferrari eco-design policy:

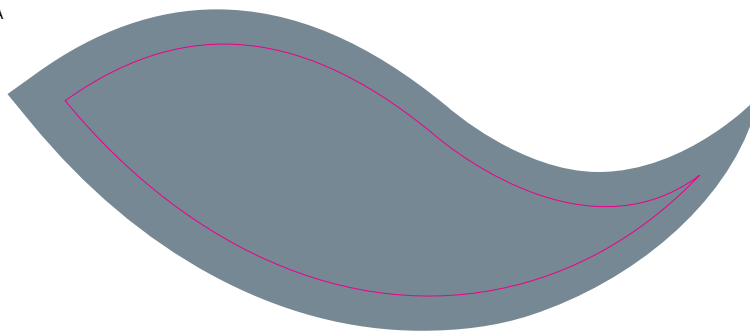
- **Reduced environmental impact** through its eco-conception (see life cycle assessment)
- **Recycling via Texyloop** to extend the life of the raw material and reduce the environmental impact.

# PRECONTRAIN TX30

	Précontraint TX30 - II	Précontraint TX30 - III	Précontraint TX30 - IV	Précontraint TX30 - V	Standards
Application	<b>Static and permanent structures - Tropical climates</b>				
Surface coating	CROSSLINK PVDF				
Life expectancy	<b>&gt; 30 years</b>				
<b>Technical properties</b>					
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
<b>Flame retardancy</b>					
Euroclass	<b>B-s2,d0</b>	<b>C-s2,d0</b>	<b>C-s2,d0</b>	<b>C-s2,d0</b>	EN 13501-1
Rating	Depending on the type and country, additional fire certificates available upon request <b>M2/NFP 92507, B1/DIN4102, NFPA 701, CSFM T19, AS/NZS 1530-3, AS/NZS 3837 Group1</b>				
<b>&gt; The technical data (above) are average values with a +/-5% tolerance</b>					
<b>ADDITIONAL INFORMATION</b>					
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
<b>Dimensional stability</b>					
<b>Elongation 24h - 10 daN/5 cm (warp/weft)</b>	<b>&lt;1%/&lt;1%</b>	<b>&lt;1%/&lt;1%</b>	<b>&lt;1%/&lt;1%</b>	<b>&lt;1%/&lt;1%</b>	<b>EN15977</b>
Residual elongation	<0.4%/<0.4%	<0.4%/<0.4%	<0.4%/<0.4%	<0.4%/<0.4%	EN15977
<b>Solar optical values</b>					
Visible light Reflectance (Rv)	84 %	84 %	85 %	85 %	
<b>Visible light Transmittance (Tv)</b>	<b>8%</b>	<b>7,5%</b>	<b>5,5%</b>	<b>5%</b>	
<b>Solar Factor (g)</b>	<b>14 %</b>	<b>13 %</b>	<b>11.5 %</b>	<b>10.5 %</b>	EN 410
<b>Thermal and Acoustic performances</b>					
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
<b>LEED Heat island Effect</b>					
Solar reflectance index	SRI > 84%	SRI > 84%	SRI > 84%	SRI > 84%	SSc 7.2/7.1 (Roof/Non Roof)
<b>Environmental Impact (Life Cycle Assessment)</b>					
Energy consumption: Landfill scenario	103.3	107.1	132.9	144.6	Megajoul eq.
Energy consumption: Recycling scenario	59.7	60.2	71.0	73.6	Megajoul eq.
<b>Management systems</b>					
Quality in conformance with					ISO 9001
<b>Certifications, labels, recycling capacity &amp; warranty*</b>					



Environmental impacts: LCA and LEED reports available on request



**> The ADDITIONAL INFORMATION here above is 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.**

\*Warranty: Please refer to the text of our warranty. The warranty is valid only after a written confirmation on a case-by-case basis of warranty application. The warranty will not apply to mobile structures. The buyer of our products is fully responsible for their application or their transformation concerning any possible third party. The buyer of our products is responsible for their implementation and installation according to the standards, use and customs and safety rules of the countries where they are used.

## → Contact

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- Your local representative:  
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## → 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

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