

PRODUCT DATA SHEET

DESCRIPTION

All grades of Toray PMC CFRT® (TL-2100) consist of the same composition resin, carbon fiber, and laminate concept of our proprietary sandwich construction. The carbon fiber (graphite) provides strength, stiffness, and durability. TL-2100 Semi-Flex, Semi-Rigid, Rigid, and Ultra differ only in terms of the volume of carbon fiber used and the thickness of the sheet material. TL-2100's custom-designed weave provides high-strength carbon fiber in the longitudinal direction of an orthotic.

FEATURES

- › “Thin and Light” for proper fit within the shoe without raising the foot
- › Custom-designed weave provides high-strength carbon fiber in the longitudinal direction of an orthotic to enhance stability
- › A full radius on one end for enhanced forming of heel cups for ease of distribution to podiatry laboratories
- › Produced and sold in dried pre-cut rectangular plates in moisture-resistant bags that are ready for fabrication into orthotics
- › Five standard sizes cover the full range of orthotic requirements but is also available in full sheet format (1220 mm x 910 mm). All products have a .007” film on the outside to improve durability



PRODUCT TYPE AND COMPOSITION

CFRT® (Continuous Fiber Reinforced Thermoplastic) composite with carbon fiber and modified Polymethylmethacrylate (acrylic) resin

TYPICAL APPLICATIONS

- › Foot Supports
- › Orthotics
- › Preforms

SHELF LIFE

Stable indefinitely at 25°C (77°F)

TL-2100 must be kept dry, please refer to processing information.

Materials must be dried prior to heating and thermoforming. Please refer to the TPMC Processing Instructions.



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Size	Dimensions	
1	76.2 x 177.8 mm	3.0 x 7.0 in
3	88.9 x 190.5 mm	3.5 x 7.5 in
4	101.6 x 203.2 mm	4.0 x 8.0 in
5	101.6 x 215.9 mm	4.0 x 8.5 in
6	127 x 228.6 mm	5.0 x 9.0 in

Sizes 1 and 3 are not available in the Ultra Strength grade.

Additional sheet sizes are available on a factory special order basis only. Contact your materials distributor for further information.

TYPICAL LAMINATE PROPERTIES: THICKNESS VS. RIGIDITY

Properties	Semi-Flex *based on 0.177 cm thickness	Semi-Rigid *based on 0.228 cm thickness	Rigid *based on 0.279 cm thickness	Ultra *based on 0.292 cm thickness
Thickness (cm/in)	0.1778 cm/0.070 in	0.2286 cm/0.090 in	0.2794 cm/0.110 in	0.2921 cm/0.115 in
Inner core (mm/in)	0.33 mm/0.013 in	0.64 mm/0.025 in	1.27 mm/0.050 in	1.27 mm/0.050 in
Carbon fiber tow size	3K x 6K	3K x 6K	3K x 6K	6K x 3K
Rigidity*	495 N-cm	835 N-cm	1600 N-cm	2075 N-cm
Flex load (kg/lbs)*	75 kg/165 lbs	127 kg/280 lbs	159 kg/350 lbs	186 kg/410 lbs
Modulus (GPa)*	11.0 GPa	8.6 GPa	8.2 GPa	9.5 GPa
Strength (MPa)*	275 MPa	230 MPa	240 MPa	235 MPa
Polypro replacement	1/8–3/16"	3/16–1/4"	1/4" +	1/4" +
	3.2–4.8 mm	4.8–6.4 mm	6.4 mm +	6.45 mm +

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