

Celstran® CFR-TP HDPE GF70-01

Celanese Corporation - High Density Polyethylene

Sunday, November 17, 2019

General Information

Product Description

Celstran® CFR-TP HDPE GF70-01 is a 70% E-glass by weight HDPE (high density polyethylene) continuous fiber (uni-directional) reinforced thermoplastic composite tape. The material exhibits a high strength-to-weight ratio, excellent toughness and chemical resistance. It is well suited for industrial, automotive and sporting goods applications where cost and process ability are critical. The material is available in natural and black colors. Alternate tape widths and thicknesses may be available.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 70% Filler by Weight, 47% Filler by Volume		
Features	• Chemical Resistant	• Good Toughness	• High Strength
Uses	• Automotive Applications	• Industrial Applications	• Sporting Goods
Appearance	• Black • Natural Color		
Forms	• Unidirectional Prepreg		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.71	g/cm ³	ISO 1183
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	35300	MPa	ASTM D3039M
Tensile Strength ²	864	MPa	ASTM D3039M
Tensile Elongation ² (Break)	2.7	%	ASTM D3039M
Flexural Modulus ²	34700	MPa	ASTM D790
Flexural Strength ²	465	MPa	ASTM D790
Flexural Elongation (Break) ²	1.36		ASTM D790
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature ³	-109	°C	ISO 11357-2
Melting Temperature ³	127	°C	ISO 11357-3
CLTE - Flow ⁴ (23 to 50°C)	1.2E-5	cm/cm/°C	ISO 11359-2
CLTE - Transverse ⁴ (23 to 50°C)	1.2E-4	cm/cm/°C	ISO 11359-2
Specific Heat	1.18	J/kg/°C	ASTM E1461
Thermal Conductivity			ASTM E1461
-- ⁵	0.72	W/m/K	
-- ⁶	0.98	W/m/K	
Additional Information	Nominal Value	Unit	
Fiber Areal Weight	308	g/m ²	
Tape Areal Weight	440	g/m ²	
Tape Thickness	250.0	µm	
Tape Width	305	mm	

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Notes

¹ Typical properties: these are not to be construed as specifications.

² 0°, Tape

³ 10°C/min

⁴ above Tg

⁵ Crossflow

⁶ Flow