

# NOVADURAN™ SEF-515X

Polybutylene Terephthalate

Mitsubishi Engineering-Plastics Corp

# PROSPECTOR®

www.ulprospector.com

## Technical Data

### Product Description

GF-reinforced / Flame Retardant (Bromine Free), Tracking resistant, Low gas emission, GF 15%

### General

Material Status	• Commercial: Active
UL Yellow Card <sup>1</sup>	• E53664-100403197
Search for UL Yellow Card	• Mitsubishi Engineering-Plastics Corp • NOVADURAN™
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight
Features	• Bromine Free • Flame Retardant • Low to No Outgassing • Tracking Resistant
Uses	• Automotive Applications • Automotive Electronics • Electrical/Electronic Applications • General Purpose

Physical	Nominal Value Unit	Test Method
Density	1.44 g/cm <sup>3</sup>	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/5.0 kg)	20.0 cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage		Internal Method
Across Flow : 2.00 mm	1.2 %	
Flow : 2.00 mm	0.50 %	
Water Absorption (Saturation, 23°C)	0.070 %	ISO 62

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	6400 MPa	ISO 527-2/1
Tensile Stress (Break)	80.0 MPa	ISO 527-2/5
Tensile Strain (Break)	3.0 %	ISO 527-2/5
Flexural Modulus <sup>3</sup>	6300 MPa	ISO 178
Flexural Stress <sup>3</sup>	123 MPa	ISO 178

Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.0 kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength (23°C)	40 kJ/m <sup>2</sup>	ISO 179

Thermal	Nominal Value Unit	Test Method
Heat Deflection Temperature		
0.45 MPa, Annealed	> 220 °C	ISO 75-2/B
1.8 MPa, Annealed	208 °C	ISO 75-2/A
Melting Temperature	224 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow : -30 to 35°C	3.4E-5 cm/cm/°C	
Flow : -30 to 120°C	2.9E-5 cm/cm/°C	
Flow : 35 to 120°C	2.6E-5 cm/cm/°C	
Transverse : -30 to 35°C	8.0E-5 cm/cm/°C	
Transverse : -30 to 120°C	1.1E-4 cm/cm/°C	
Transverse : 35 to 120°C	1.3E-4 cm/cm/°C	
RTI Elec (0.75 mm)	75.0 °C	UL 746
RTI Imp (0.75 mm)	75.0 °C	UL 746
RTI Str (0.75 mm)	75.0 °C	UL 746



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Electrical	Nominal Value Unit	Test Method
Surface Resistivity	2.0E+16 ohms	IEC 60093
Volume Resistivity	4.0E+15 ohms·cm	IEC 60093
Electric Strength (2.00 mm)	27 kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	3.60	IEC 60250
Dissipation Factor (1 MHz)	0.015	IEC 60250
Comparative Tracking Index (CTI)	PLC 0	UL 746
Flammability	Nominal Value Unit	Test Method
Flame Rating (0.75 mm)	V-0	UL 94
Injection	Nominal Value Unit	
Drying Temperature - Hot Air Dryer	120 °C	
Drying Time - Hot Air Dryer	5.0 to 8.0 hr	
Rear Temperature	235 °C	
Middle Temperature	240 °C	
Front Temperature	255 °C	
Nozzle Temperature	250 °C	
Mold Temperature	80 to 100 °C	
Injection Pressure	20.0 to 150 MPa	
Injection Rate	Moderate-Fast	
Screw Speed	80 to 150 rpm	

**Notes**

<sup>1</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> 2.0 mm/min



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### Where to Buy

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#### Supplier

**Mitsubishi Engineering-Plastics Corp**

, Japan

**Telephone:** +81-463-21-8610

**Web:** <http://www.m-ep.co.jp/>

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#### Distributor

**Nexeo Solutions - Europe**

*Nexeo Solutions is a Pan European distribution company. Contact Nexeo for availability of individual products by country.*

**Telephone:** +34-93-480-9125

**Web:** <http://www.nexeosolutions.com/>

**Availability:** Belgium, Bulgaria, Czech Republic, France, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Russian Federation, Slovakia, Spain, United Kingdom

