

NOVADURAN™ 5010N1

Mitsubishi Engineering-Plastics Corp - Polybutylene Terephthalate

General Information

Product Description

Un-reinforced / Flame Retardant V-0, Toughness

General

Features	- Flame Retardant - Good Toughness
Uses	- Automotive Applications - Electrical/Electronic Applications - Automotive Electronics - General Purpose

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.43	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	20	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Across Flow : 2.00 mm	1.8	%	
Flow : 2.00 mm	1.9	%	
Water Absorption (Saturation, 23°C)	0.080	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2970	MPa	ISO 527-1/1
Tensile Stress (Yield)	63.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	6.0	%	
Break	20	%	
Flexural Modulus ²	2780	MPa	ISO 178
Flexural Stress ²	96.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	2.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	110	kJ/m ²	ISO 179
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	165	°C	ISO 75-2/B
1.8 MPa, Annealed	67.0	°C	ISO 75-2/A
Melting Temperature	224	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow : -30 to 35°C	8.0E-5	cm/cm/°C	
Flow : -30 to 120°C	1.2E-4	cm/cm/°C	
Flow : 35 to 120°C	1.4E-4	cm/cm/°C	
Transverse : -30 to 35°C	8.8E-5	cm/cm/°C	
Transverse : -30 to 120°C	1.2E-4	cm/cm/°C	
Transverse : 35 to 120°C	1.5E-4	cm/cm/°C	
RTI Elec (0.71 mm)	150	°C	UL 746B

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Thermal	Nominal Value	Unit	Test Method
RTI Imp (0.71 mm)	130	°C	UL 746B
RTI Str (0.71 mm)	130	°C	UL 746B
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
1.00 mm	21	kV/mm	
2.00 mm	18	kV/mm	
Dielectric Constant (1 MHz)	3.20		IEC 60250
Dissipation Factor (1 MHz)	0.020		IEC 60250
Comparative Tracking Index (CTI)	PLC 3		UL 746A
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.71 mm	V-0		
1.5 mm	V-0		
3.0 mm	V-0		

Processing Information

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	250	°C
Nozzle Temperature	245	°C
Mold Temperature	60 to 80	°C
Injection Pressure	20.0 to 150	MPa
Injection Rate	Moderate-Fast	
Screw Speed	80 to 120	rpm

Notes

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

² 2.0 mm/min

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