NOVADURAN®

Polybutylene Terephtalate Resin

Properties	Test Method	Terms	Units	GF Reinforced Flame Retardant **5010CTN33** Tracking Tesistance GF+TD 33	 **5010GPN33** Tracking Tesistance GF+Filler 33
Physical properties					
Density	ISO 1183	-	g/cm^3	1.71	1.64
Water absorption	-	23degC, Underwater	%	0.10	0.07
Rheological properties					
Melt Mass-flow Rate Melt Volume-flow Rate	ISO 1133	 Temperature Load	g/10min cm^3/10min degC kg	11 8 265 2.16	7 6 250 2.16
Moulding shrinkage (1mmt)	-	MD TD	%	0.4 0.8	0.4 0.8
Moulding shrinkage (3mmt)	-	MD TD	%	0.6 1.1	0.4 1.4
Mechanical properties					
Tensile modulus Yield stress Yield strain Nominal strain at break Stress at 50% strain Stress at break Strain at break	ISO 527-1 , 527-2	-	MPa % MPa %	9000 - - - - 81 2.3	7200 - - - - 85 1.5
Flexural strength Flexural modulus	ISO 178	-	MPa	137 8000	110 6700
Charpy impact strength	ISO 179-1 , 179-2	23 degC	kJ/m^2	-	39
Charpy notched impact strength		23 degC	kJ/m^2	4	6
Thermal properties					
Melting temperature	ISO 11357-3		degC	-	224
Temperature of deflection under load	ISO 75-1 , 75-2	1.80MPa 0.45MPa	degC	209 220	160 190
Coefficient of Linear thermal expansion	ISO 11359-2	MD TD	1/degC	— —	2.E-05 6.E-05
Flammability	UL94	0.4mmt	-	-	V-0
Flammability	UL94	0.8mmt	-	V-0	V-0
Flammability	UL94	1.6mmt	-	V-0	V-0
Flammability	UL94	3.2mmt	-	V-0	V-0
GWFI(Glow-wire flammability test method for materials)	IEC 60695-2-12	3.0mmt	-	equal to 960degC	equal to 960degC
GWIT(Glow-wire ignitability test method for materials)	IEC 60695-2-13	3.0mmt	-	equal to 725degC	equal to 800degC
Electrical properties					
Relative permittivity	IEC 60250	1MHz	-	3.3	3.6
Dissipation factor	IEC 60250	1MHz	-	0.014	0.016
Volume resistivity	IEC 60093	-	ohm-m	1.E+14	1.E+13
Surface resistivity	IEC 60093	-	ohm	1.E+15	1.E+15
Electric strength	IEC 60243-1	1mmt 2mmt 3mmt	MV/m	- - -	25 - -
Comparative tracking index	UL746A	-	-	PLC 1	PLC 0