

NILAMID XT1 GF50 BK 9005/W/FA - PPA

Description

PPA, 50% glass fiber reinforced, high rigidity and creep resistance, for drinking water application

NILAMID XT1 compounds are designed for engineering applications requiring a maximum service temperature higher than that of standard polyamides. The most relevant characteristics are the following: High stiffness and strength at elevated temperatures Excellent creep behavior Small influence on mechanical properties after moisture uptake Good dimensional stability Low warpage

Physical properties	dry / cond	Unit	Test Standard
Density	1640 / -	kg/m ³	ISO 1183
Molding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577
Humidity absorption, 23°C/50%RH	0.15 / *	%	ISO 62

Mechanical properties	dry / cond	Unit	Test Standard
Tensile modulus	18500 / -	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	260 / -	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	1.95 / -	%	ISO 527-2/1A
Flexural modulus, 23°C	18000 / -	MPa	ISO 178
Flexural stress at max. force	400 / -	MPa	ISO 178
Charpy impact strength, 23°C	80 / -	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	78 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	9.5 / -	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	8.5 / -	kJ/m ²	ISO 179/1eA
Izod impact notched, 23°C	11 / -	kJ/m ²	ISO 180/1A

Thermal properties	dry / cond	Unit	Test Standard
Melting point, peak	322	°C	ISO 3146
DTUL at 1.8 MPa	280 / *	°C	ISO 75-1, -2
Flammability @3.2mm nom. thickn.	HB / *	class	UL 94
Flammability @1.6mm nom. thickn.	HB / *	class	UL 94
Flammability @0.8mm nom. thickn.	HB / *	class	UL 94
Flammability @0.4mm nom. thickn.	HB / *	class	UL 94
Continuous service temperature	140 / *	°C	DIN/IEC 60216-1

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	1E13 / -	Ohm*m	IEC 60093
Electric strength	22 / -	kV/mm	IEC 60243-1
Comparative tracking index	550 / -	-	IEC 60112

