

ForTii® F12

DSM Engineering Plastics - Polyphthalamide

Saturday, January 18, 2020

General Information

Product Description

40% Glass Reinforced, PA4T, Flame Retardant, Halogen free and free of red phosphorous

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight		
Additive	• Flame Retardant		
Features	• Flame Retardant	• Halogen Free	• Low (to None) Phosphorus Content
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PPA-GF40 FR(40)		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.55	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.85	--	%	
Flow	0.30	--	%	
Water Absorption				ISO 62
Equilibrium, 23°C, 50% RH	1.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	13500	13500	MPa	ISO 527-2
Tensile Stress (Break)	170	170	MPa	ISO 527-2
Tensile Strain (Break)	1.9	1.9	%	ISO 527-2
Flexural Modulus	14500	14500	MPa	ISO 178
Flexural Stress	280	260	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
23°C	11	11	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
23°C	65	65	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/A
1.8 MPa, Unannealed	305	--	°C	
Melting Temperature ²	325	--	°C	ISO 11357-3
CLTE - Flow	3.0E-5	--	cm/cm/°C	ASTM D696
CLTE - Transverse	3.5E-5	--	cm/cm/°C	ASTM D696
RTI Elec (0.35 mm)	140	--	°C	UL 746
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	> 1.0E+15	> 1.0E+15	ohms-cm	IEC 60093
Electric Strength	33	33	kV/mm	IEC 60243-1

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Electrical	Dry	Conditioned	Unit	Test Method
Relative Permittivity				IEC 60250
100 Hz	4.20	4.20		
1 MHz	3.90	3.90		
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
0.200 mm	V-0	--		
1.5 mm	V-0	--		

Notes

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

² 10°C/min