



Grivory® HT XE 10811 NATURAL

EMS-GRIVORY - Polyamide 6I/6T Copolymer

Monday, November 4, 2019

General Information

Product Description

Grivory HT XE 10811 Natural is a 40 wt.-% glass fibre reinforced engineering thermoplastic material based on a semi-crystalline, partially aromatic copolyamide. Grivory HT XE 10811 Natural is an injection moulding material.

Acc. to ISO: PA 6T/6I

Acc. to ASTM: PPA, polyphthalamide

The main distinguishing feature of Grivory HT XE 10811 Natural, when compared to other polyamides, is its good performance at high temperatures. Particular properties are:

- chemical resistance
- optimised hydrolysis resistance
- creep resistance
- mechanical properties at high temperatures

Grivory HT XE 10811 Natural is suitable for all engineering thermoplastic applications with the requirement of approvals in contact with food and/or drinking water in combination with high hydrolysis resistance and creep resistance.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight		
Features	• Aromatic • Chemical Resistant • Creep Resistant	• Food Contact Acceptable • High Heat Resistance • Hydrolysis Resistant	• Semi Crystalline
Uses	• Non-specific Food Applications • Potable Water Applications		
Agency Ratings	• ACS Unspecified Rating • EU No 10/2011	• KTW Unspecified Rating • NSF STD-61	• WRAS Unspecified Rating
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Granules		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.53	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.55	--	%	
Flow	0.10	--	%	
Water Absorption				ISO 62
Saturation, 73°F	3.5	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.5	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2.10E+6	2.10E+6	psi	ISO 527-2
Tensile Stress (Break)	36300	33400	psi	ISO 527-2

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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Strain (Break)	2.0	2.0	%	ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	5.2	5.2	ft·lb/in ²	
73°F	5.2	5.2	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	31	31	ft·lb/in ²	
73°F	33	33	ft·lb/in ²	
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	43500	43500	psi	ISO 2039-1
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	536	--	°F	
Heat Deflection Temperature				ISO 75-2/C
1160 psi, Unannealed	320	--	°F	
Continuous Use Temperature				
-- ²	284	--	°F	ISO 2578
-- ³	482	--	°F	Internal Method
Melting Temperature (DSC)	617	--	°F	ISO 11357
CLTE - Flow (73 to 131°F)	8.3E-6	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	2.5E-5	--	in/in/°F	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+11	ohms	IEC 60093
Volume Resistivity	1.0E+13	1.0E+13	ohms·cm	IEC 60093
Electric Strength	760	760	V/mil	IEC 60243-1
Comparative Tracking Index	--	600	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.031 in)	HB	--		ISO 1210
Additional Information	Dry	Conditioned	Unit	Test Method
ISO Type	PA6T/6I, MH, 12-140, GF40	--		ISO 1874

Processing Information

Injection	Dry	Unit
Drying Temperature		
Desiccant Dryer	< 176	°F
Vacuum Dryer	< 212	°F
Drying Time		
Desiccant Dryer	4.0 to 12	hr
Vacuum Dryer	4.0 to 12	hr
Suggested Max Moisture	0.10	%
Rear Temperature	626 to 644	°F
Middle Temperature	626 to 653	°F
Front Temperature	626 to 653	°F
Nozzle Temperature	626 to 644	°F
Processing (Melt) Temp	644	°F
Injection Rate	Moderate-Fast	
Holding Pressure	7250 to 10900	psi

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Notes

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

² Long Term

³ Short Term