

Grilon® XE 5017 (Dry)

Polyamide 66/6 Copolymer

EMS-GRIVORY

Product Description

Grilon XE 5017 is a heat stabilised, flame-retardant, self-extinguishing engineering thermoplastic, reinforced with glass-fiber 30% (by weight) based on a semi-crystalline PA66/PA6 alloy.

Grilon XE 5017 is a halogen-free and free of red phosphorus. The unpigmented material is of light inherent color.

Besides its advantageous flame behavior, Grilon XE 5017 exhibits high toughness and generally good mechanical properties.

Grilon XE 5017 complies with regulations acc. to RoHS (2002/95/EC, Restriction of Hazardous Substances).

Parts made of Grilon XE 5017 are not affected by the demands for "selective recycling" acc. guideline 2002/96/EC for Electro and Electronic Appliances.

Grilon XE 5017 is particularly suited for technical injection molded parts in the field of Electro and Electronics which require a flammability rating of V-0 acc. UL 94.

General

Material Status	• Commercial: Active
Availability	• Europe • North America
Filler / Reinforcement	• Glass Fiber Reinforcement, 30% Filler by Weight
Additive	• Heat Stabilizer
Features	• Flame Retardant • Low (to None) Phosphorus Content • Self Extinguishing • Semi Crystalline • Ultra High Toughness
Uses	• Appliances • Electrical/Electronic Applications
Agency Ratings	• EU 2002/96/EC
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Nominal Value	Unit	Test Method
Density	1.39	g/cm³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.65	%	
Flow	0.20	%	
Water Absorption			ISO 62
Saturation, 23°C	4.0	%	
Equilibrium, 23°C, 50% RH	1.5	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	10500	MPa	ISO 527-2/1
Tensile Stress (Break)	150	MPa	ISO 527-2/50
Tensile Strain (Break)	2.5	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	9.00	kJ/m²	
23°C	9.50	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	60.0	kJ/m²	
23°C	65.0	kJ/m²	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 961/30)	255	MPa	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, Unannealed	235	°C	ISO 75-2/A
8.0 MPa, Unannealed	165	°C	ISO 75-2/C
Melting Temperature (DSC)	260	°C	ISO 3146
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+10	ohm·cm	IEC 60093



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Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index			IEC 60695-2-12
1.00 mm	960	°C	
3.00 mm	960	°C	

Additional Information

The value listed as Melting Point, ISO 3146, was tested in accordance with ISO 11357.
Maximum Usage Temperature, ISO 2578, Long Term: 100 to 120°C
Maximum Usage Temperature, ISO 2578, Short Term: 220°C

Injection	Nominal Value	Unit
Drying Temperature	< 80.0	°C
Drying Time	4.0 to 12	hr
Rear Temperature	270	°C
Middle Temperature	265	°C
Front Temperature	265	°C
Nozzle Temperature	260	°C
Processing (Melt) Temp	270 to 280	°C
Mold Temperature	80.0 to 100	°C
Injection Rate	Moderate-Fast	
Holding Pressure	30.0 to 80.0	MPa
Back Pressure	0.500 to 1.50	MPa
Screw Speed	50 to 100	rpm
Clamp Tonnage	7.5	kN/cm ²
Screw L/D Ratio	18.0:1.0 to 22.0:1.0	
Screw Compression Ratio	2.0:1.0 to 2.5:1.0	
Vent Depth	0.020	mm

Injection Notes

Dew Point of the Dryer: -25°C
The drying conditions listed above are for a desiccant dryer.
Vacuum Oven Drying Temperature: max. 100°C
Vacuum Oven Drying Time: 4 to 12 hr
Flange Temperature: 60 to 80°C

Notes

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

