

EMS-Grivory Grivory® XE 4185 black 9453 PA*

Category : Polymer , Thermoplastic , Nylon

Material Notes:

Product description: Grivory XE 4185 is a non-reinforced heat stabilized engineering thermoplastic material based on a semicrystalline, partially aromatic copolyamide. ISO polymer designation: PA 10T/X ASTM designation: PPA, polyphthalamide The main distinguishing features of Grivory HT, when compared to other polyamides, are its good performance at high temperatures providing parts which are stiffer, stronger, have better heat distortion and dimensional stability as well as excellent chemical resistance and low moisture absorption. Grivory XE 4185 is especially suitable for injection molded components in electrical and electronic applications. The material is suitable for lead-free SMT reflow soldering e.g. JEDEC J-STD-020C (peak temperature 260°C). Components conforming to JEDEC MSL1 are achievable. Information provided by EMS Grivory

Order this product through the following link:

http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-XE-4185-black-9453-PA.php

Physical Properties	Metric	English	Comments
Density	1.18 g/cc	0.0426 lb/in ³	ISO 1183
Water Absorption	3.9 %	3.9 %	ISO 62
Moisture Absorption	1.70 %	1.70 %	ISO 62
Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.020 cm/cm	0.020 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	150 MPa	21800 psi	dry; ISO 2039-1
	150 MPa	21800 psi	conditioned; ISO 2039-1
Tensile Strength at Break	60.0 MPa	8700 psi	dry; ISO 527-1/-2
	60.0 MPa	8700 psi	conditioned; ISO 527-1/-2
Elongation at Break	6.5 %	6.5 %	dry; ISO 527-1/-2
	12 %	12 %	conditioned; ISO 527-1/-2
Tensile Modulus	3.00 GPa	435 ksi	conditioned; ISO 527-1/-2
	3.00 GPa	435 ksi	dry; ISO 527-1/-2
Charpy Impact Unnotched	3.50 J/cm ²	16.7 ft-lb/in ²	conditioned; ISO 179/1eU
	4.00 J/cm ²	19.0 ft-lb/in ²	dry; ISO 179/1eU
	3.00 J/cm ²	14.3 ft-lb/in ²	conditioned; ISO 179/1eU

Mechanical Properties	@Temperature 30.0 °C Metric	@Temperature 86.0 °F English	Comments
	3.50 J/cm ²	16.7 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Charpy Impact, Notched	0.500 J/cm ²	2.38 ft-lb/in ²	dry; ISO 179/1eA
	0.500 J/cm ²	2.38 ft-lb/in ²	conditioned; ISO 179/1eA
	0.300 J/cm ²	1.43 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	0.300 J/cm ²	1.43 ft-lb/in ²	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 µm/m-°C	44.4 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	80.0 µm/m-°C	44.4 µin/in-°F	ISO 11359-1/-2
Melting Point	315 °C	599 °F	10°C/min; ISO 11357-1/-3
Maximum Service Temperature, Air	140 °C	284 °F	long term; EMS
Deflection Temperature at 0.46 MPa (66 psi)	185 °C	365 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	110 °C	230 °F	ISO 75-1/-2
Flammability, UL94	V-0	V-0	IEC 60695-11-10
	V-0	V-0	IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+11 ohm-cm	1.00e+11 ohm-cm	dry; IEC 60093
	1.00e+11 ohm-cm	1.00e+11 ohm-cm	conditioned; IEC 60093
Surface Resistance	1.00e+11 ohm	1.00e+11 ohm	IEC 60093
Dielectric Strength	30.0 kV/mm	762 kV/in	dry; IEC 60243-1
	30.0 kV/mm	762 kV/in	conditioned; IEC 60243-1
Comparative Tracking Index	600 V	600 V	conditioned; IEC 60112

Descriptive Properties	Value	Comments
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Automotive Descriptive Properties	Air intake systems Value	Comments
	Automotive electr. and electronics, lighting	
	Compressed air systems	
	Fuel systems	
	Hydraulic systems	
	Interior	
Electricals & Electronics	Connectors	
	Electrical appliances	
	Electrical equipment	
	Energy distribution	
	Lighting	
	Mobile phones and other portable devices	
Form	Granules	
Industry & Consumer goods	Hydraulics & Pneumatics	
	Mechanical Engineering	
	Power transmission	
	Tools & Accessories	
Processing	Injection Molding	
Product Attributes	Bio based Polyamide	
	Co Polyamide	
	Hydrolysis resistant	
	Improved alcohol resistance	
	Improved flowability and demoulding	
	Partially aromatic Polyamide	
Special Characteristics	Flame retardant	
	Improved heat resistance	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China