

## EMS-Grivory Grivory® TSGL-60/4 black 9839 PA666-GF60

Category : Polymer , Thermoplastic , Nylon , Nylon 6/66 , Nylon 66/6 , 60% Glass Fiber Reinforced

### Material Notes:

Product description: Grilon TSGL-60/4 black 9839 is based on a heat stabilized semi-crystalline Polyamide PA66+PA6 and 60% long glass fibers. Grilon TSGL-60/4 black 9839 is characterized by the following key-properties: high stiffness and strength even after conditioning and over a wide temperature range excellent notched impact resistance also at low Temperatures low creep high heat distortion temperatures good dimensional stability and little warpage excellent surface appearance and ease of processing The product has been designed for injection molding of technical parts especially in the area of die-cast metal replacement. Grilon TSGL-60/4 black 9839 is used in the following market segments: automotive mechanical engineering household and appliances The glass-fibers are aligned in parallel and are just as long as the pellets (usually 10 mm). Information provided by EMS Grivory

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_EMS-Grivory-Grivory-TSGL-604-black-9839-PA666-GF60.php](http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-TSGL-604-black-9839-PA666-GF60.php)

Physical Properties	Metric	English	Comments
Density	1.68 g/cc	0.0607 lb/in <sup>3</sup>	ISO 1183
Water Absorption	4.0 %	4.0 %	ISO 62
Moisture Absorption	1.20 %	1.20 %	ISO 62
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0020 cm/cm	0.0020 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	230 MPa	33400 psi	conditioned; ISO 2039-1
	340 MPa	49300 psi	dry; ISO 2039-1
Tensile Strength at Break	200 MPa	29000 psi	conditioned; ISO 527-1/-2
	275 MPa	39900 psi	dry; ISO 527-1/-2
Elongation at Break	2.1 %	2.1 %	dry; ISO 527-1/-2
	2.2 %	2.2 %	conditioned; ISO 527-1/-2
Tensile Modulus	16.5 GPa	2390 ksi	conditioned; ISO 527-1/-2
	22.0 GPa	3190 ksi	dry; ISO 527-1/-2
Charpy Impact Unnotched	11.0 J/cm <sup>2</sup>	52.3 ft-lb/in <sup>2</sup>	dry; ISO 179/1eU
	11.0 J/cm <sup>2</sup>	52.3 ft-lb/in <sup>2</sup>	conditioned; ISO 179/1eU
	9.50 J/cm <sup>2</sup>	45.2 ft-lb/in <sup>2</sup>	conditioned; ISO 179/1eU

Mechanical Properties	@Temperature 30.0 °C Metric	@Temperature 86.0 °F English	Comments
	10.5 J/cm <sup>2</sup>	50.0 ft-lb/in <sup>2</sup>	dry; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Charpy Impact, Notched	4.00 J/cm <sup>2</sup>	19.0 ft-lb/in <sup>2</sup>	dry; ISO 179/1eA
	4.50 J/cm <sup>2</sup>	21.4 ft-lb/in <sup>2</sup>	conditioned; ISO 179/1eA
	4.00 J/cm <sup>2</sup>	19.0 ft-lb/in <sup>2</sup>	dry; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	4.50 J/cm <sup>2</sup>	21.4 ft-lb/in <sup>2</sup>	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	20.0 µm/m-°C	11.1 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	40.0 µm/m-°C	22.2 µin/in-°F	ISO 11359-1/-2
Melting Point	260 °C	500 °F	10°C/min; ISO 11357-1/-3
Maximum Service Temperature, Air	120 - 130 °C	248 - 266 °F	long term; EMS
	220 °C	428 °F	short term; EMS
Deflection Temperature at 1.8 MPa (264 psi)	255 °C	491 °F	ISO 75-1/-2
Deflection Temperature at 8.0 MPa	235 °C	455 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	IEC 60695-11-10

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	conditioned; IEC 60093
	1.00e+13 ohm-cm	1.00e+13 ohm-cm	dry; IEC 60093
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	IEC 60093
Dielectric Strength	22.0 kV/mm	559 kV/in	conditioned; IEC 60243-1
	27.0 kV/mm	686 kV/in	dry; IEC 60243-1
Comparative Tracking Index	600 V	600 V	conditioned; IEC 60112

Descriptive Properties	Value	Comments
Automotive	Automotive electr. and electronics, lighting	

Descriptive Properties	Cooling and climate control Value	Comments
	Exterior	
	Interior	
	Powertrain and Chassis	
Electricals & Electronics	Connectors	
	Electrical appliances	
	Electrical equipment	
	Energy distribution	
Form	Granules	
Industry & Consumer goods	Housewares	
	Hydraulics & Pneumatics	
	Mechanical Engineering	
	Power transmission	
	Sports & Leisure	
	Tools & Accessories	
Processing	Injection Molding	
Product Attributes	Improved flowability and demoulding	
	Long Fiber Reinforced	
Special Characteristics	Improved heat resistance	

## Contact Songhan Plastic Technology Co.,Ltd.

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