

## Grilon TSGL-60/4 black 9833

PA666-GF60

EMS-GRIVORY | a unit of EMS-CHEMIE AG

### Product Texts

Product designation according to ISO 1874:

PA66+PA6, MH, 14-220N, GF60

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	<b>22500 / 17000</b>	MPa	ISO 527-1/-2
Stress at break	<b>275 / 200</b>	MPa	ISO 527-1/-2
Strain at break	<b>2 / 2.2</b>	%	ISO 527-1/-2
Charpy impact strength (+23°C)	<b>100 / 110</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength (-30°C)	<b>95 / 90</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength (+23°C)	<b>35 / 40</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength (-30°C)	<b>35 / 40</b>	kJ/m <sup>2</sup>	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Ball indentation hardness	<b>350 / 240</b>	MPa	ISO 2039-1

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	<b>260 / -</b>	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	<b>255 / -</b>	°C	ISO 75-1/-2
Temp. of deflection under load (8.00 MPa)	<b>235 / -</b>	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	<b>20 / -</b>	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	<b>40 / -</b>	E-6/K	ISO 11359-1/-2
Burning Behav. at thickness h	<b>HB / -</b>	class	IEC 60695-11-10
Thickness tested	<b>0.8 / -</b>	mm	IEC 60695-11-10
Max. usage temperature (long term)	<b>120 - 130</b>	°C	ISO 2578
Max. usage temperature (short term)	<b>220</b>	°C	EMS

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	<b>1E11 / 1E10</b>	Ohm*m	IEC 60093
Surface resistivity	<b>- / 1E12</b>	Ohm	IEC 60093
Electric strength	<b>27 / 22</b>	kV/mm	IEC 60243-1
Comparative tracking index	<b>- / 500</b>	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	<b>4 / -</b>	%	Sim. to ISO 62
Humidity absorption	<b>1.2 / -</b>	%	Sim. to ISO 62
Density	<b>1680 / -</b>	kg/m <sup>3</sup>	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	<b>0.1 / -</b>	%	ISO 294-4, 2577
Molding shrinkage (normal)	<b>0.2 / -</b>	%	ISO 294-4, 2577

### Characteristics

#### Processing

Injection Molding

#### Product Attributes

Long Fiber Reinforced

#### Delivery form

Granules

#### Automotive

Automotive electr. and electronics, lighting, Cooling and climate control, Powertrain and Chassis , Interior, Exterior

**Special Characteristics**

Improved heat resistance

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America,  
Near East/Africa

**Electricals & Electronics**

Electrical appliances, Electrical equipment, Connectors, Energy  
distribution

**Industry & Consumer goods**

Housewares, Hydraulics & Pneumatics, Mechanical Engineering,  
Power transmission, Sports & Leisure, Tools & Accessories