

**Grilamid TRVX-50X9 black 9230**

PAMACM12-GF50

EMS-GRIVORY | a unit of EMS-CHEMIE AG

**Product Texts**

 Product-nomenclature according to ISO 1874:  
 PA MACM12+X, MH, 12-120, GF50

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	- / <b>12500</b>	MPa	ISO 527-1/-2
Stress at break	- / <b>160</b>	MPa	ISO 527-1/-2
Strain at break	- / <b>2</b>	%	ISO 527-1/-2
Charpy impact strength (+23°C)	- / <b>65</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength (-30°C)	- / <b>60</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength (+23°C)	- / <b>16</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength (-30°C)	- / <b>15</b>	kJ/m <sup>2</sup>	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Ball indentation hardness	- / <b>190</b>	MPa	ISO 2039-1

Thermal properties	dry / cond	Unit	Test Standard
Glass transition temperature (10°C/min)	<b>125 / -</b>	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	<b>115 / -</b>	°C	ISO 75-1/-2
Temp. of deflection under load (8.00 MPa)	<b>105 / -</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>80 / -</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>80 - 110</b>	°C	EMS
Max. usage temperature (short term)	<b>120</b>	°C	EMS

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	- / <b>1E11</b>	Ohm*m	IEC 60093
Surface resistivity	- / <b>1E12</b>	Ohm	IEC 60093
Electric strength	- / <b>32</b>	kV/mm	IEC 60243-1
Comparative tracking index	- / <b>600</b>	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	<b>1 / -</b>	%	Sim. to ISO 62
Humidity absorption	<b>0.3 / -</b>	%	Sim. to ISO 62
Density	<b>1500 / -</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>0.1 / -</b>	%	ISO 294-4, 2577

**Characteristics**
**Processing**

Injection Molding

**Delivery form**

Granules

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America,

**Automotive**

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

**Electricals & Electronics**

Electrical appliances, Electrical equipment, Energy distribution, Mobile phones and other portable devices

Near East/Africa

**Industry & Consumer goods**

Heating systems, Housewares, Hydraulics & Pneumatics,  
Mechanical Engineering, Medical devices, Power transmission,  
Tools & Accessories