

**Grilamid XE 4180 black 9992**  
PA1010

EMS-GRIVORY | a unit of EMS-CHEMIE AG

**Product Texts**

Product-nomenclature according to ISO 1874:  
PA1010-HIP, E, 24-005

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	<b>600 / 480</b>	MPa	ISO 527-1/-2
Stress at 50% strain	<b>30 / 30</b>	MPa	ISO 527-1/-2
Strain at break	<b>&gt;50 / &gt;50</b>	%	ISO 527-1/-2
Charpy impact strength (+23°C)	<b>N / N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength (-30°C)	<b>N / N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength (+23°C)	<b>N / N</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength (-30°C)	<b>5 / 5</b>	kJ/m <sup>2</sup>	ISO 179/1eA

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	<b>194 / -</b>	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	<b>55 / -</b>	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	<b>115 / -</b>	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	<b>170 / -</b>	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	<b>120 / -</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

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	<b>1E9 / 1E9</b>	Ohm*m	IEC 60093
Surface resistivity	<b>- / 1E10</b>	Ohm	IEC 60093
Electric strength	<b>35 / 35</b>	kV/mm	IEC 60243-1
Comparative tracking index	<b>- / 600</b>	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	<b>1.5 / -</b>	%	Sim. to ISO 62
Humidity absorption	<b>0.6 / -</b>	%	Sim. to ISO 62
Density	<b>1050 / -</b>	kg/m <sup>3</sup>	ISO 1183

**Characteristics**

**Processing**

Injection Molding

**Delivery form**

Granules

**Special Characteristics**

High impact or impact modified, Light stabilized or stable to light, Improved UV resistance (outdoor use)

**Regional Availability**

North America, Europe, Asia Pacific

**Product Attributes**

Improved flowability and demoulding, Bio based Polyamide

**Automotive**

Compressed air systems, Hydraulic systems, Automotive electr. and electronics, lighting, Fuel systems, Powertrain and Chassis , Interior, Exterior

**Electricals & Electronics**

Electrical appliances, Electrical equipment, Connectors, Lighting, Mobile phones and other portable devices

**Industry & Consumer goods**

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