

**Grilamid XE 4129 black 9020**

PA610

EMS-GRIVORY | a unit of EMS-CHEMIE AG

**Product Texts**

Product-nomenclature according to ISO 1874:

PA610+X-HI, EH, 22-020

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	<b>1700 / 700</b>	MPa	ISO 527-1/-2
Yield stress	<b>45 / -</b>	MPa	ISO 527-1/-2
Yield strain	<b>5 / -</b>	%	ISO 527-1/-2
Stress at break	<b>40 / 35</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>20 / 21</b>	kJ/m <sup>2</sup>	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Ball indentation hardness	<b>105 / 50</b>	MPa	ISO 2039-1

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	<b>220 / -</b>	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	<b>50 / -</b>	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	<b>90 / -</b>	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	<b>150 / -</b>	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	<b>150 / -</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 (short term)	<b>160</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>33 / 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>4.1 / -</b>	%	Sim. to ISO 62
Humidity absorption	<b>1.5 / -</b>	%	Sim. to ISO 62
Density	<b>1050 / -</b>	kg/m <sup>3</sup>	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	<b>1.6 / -</b>	%	ISO 294-4, 2577
Molding shrinkage (normal)	<b>1.4 / -</b>	%	ISO 294-4, 2577

**Characteristics**

**Processing**

Other Extrusion

**Product Attributes**

Bio based Polyamide

**Delivery form**

Granules

**Automotive**

Air intake systems, Compressed air systems, Hydraulic systems

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**Special Characteristics**

Improved heat resistance

**Industry & Consumer goods**

Hydraulics & Pneumatics

**Regional Availability**

North America, Europe, Asia Pacific

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