

EMS-Grivory Grivory® HTV-5X1 Black 9205 Partially Aromatic Nylon, 50% Glass Fiber Filled, As Conditioned (Unverified Data)**

Categories: [Polymer](#); [Thermoplastic](#); [Nylon \(Polyamide PA\)](#); [Nylon, Aromatic](#)

Material Notes: Grivory HTV-5X1 black 9205 is a 50% glass fiber reinforced engineering thermoplastic material based on a semi-crystalline, partially aromatic copolyamide.



Grivory HTV-5X1 is a specially heat stabilized injection molding material. It is particularly suitable and approved for parts in house-hold appliances in contact with food and drinking water.

The main distinguishing feature of Grivory HT-PPA, when compared to other polyamides, is its good performance values at high temperatures providing parts which are stiffer, stronger and have better heat distortion stability and chemical resistance.

Information provided by EMS-Grivory

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.65 g/cc	0.0596 lb/in ³	ISO 1183
Moisture Absorption	1.3 %	1.3 %	23°C / 50% r.h.; ISO 62
Water Absorption at Saturation	3.0 %	3.0 %	ISO 62
Linear Mold Shrinkage	0.00050 cm/cm	0.00050 in/in	ISO 294
Linear Mold Shrinkage, Transverse	0.0045 cm/cm	0.0045 in/in	ISO 294

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	340 MPa	49300 psi	ISO 2039-1
Tensile Strength at Break	240 MPa	34800 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	17.5 GPa	2540 ksi	1 mm/min; ISO 527
Charpy Impact Unnotched	8.00 J/cm ²	38.1 ft-lb/in ²	ISO 179/1eU
	8.00 J/cm ²	38.1 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.10 J/cm ²	5.24 ft-lb/in ²	ISO 179/1eA
	1.00 J/cm ²	4.76 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	IEC 60093
Dielectric Strength	35.0 kV/mm	889 kV/in	IEC 60243-1
Comparative Tracking Index	600 V	600 V	IEC 60112

Thermal Properties	Metric	English	Comments
Melting Point	325 °C	617 °F	ISO 11357
Flammability, UL94	HB	HB	ISO 1210
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 - 100 °C	176 - 212 °F	Flange
	140 - 160 °C	284 - 320 °F	Tool
Rear Barrel Temperature	330 - 345 °C	626 - 653 °F	Zone 3
Middle Barrel Temperature	330 - 345 °C	626 - 653 °F	Zone 2
Front Barrel Temperature	330 - 340 °C	626 - 644 °F	Zone 1
Nozzle Temperature	330 - 340 °C	626 - 644 °F	
Melt Temperature	340 °C	644 °F	Basic Machine Settings
Drying Temperature	<= 80.0 °C	<= 176 °F	Desiccant Dryer (dew point at -40°C)
	<= 100 °C	<= 212 °F	Vacuum Oven
Dry Time	4 - 12 hour	4 - 12 hour	Vacuum Oven
	4.00 - 12.0 hour	4.00 - 12.0 hour	Desiccant Dryer (dew point at -40°C)
Hold Pressure	50.0 - 75.0 MPa	7250 - 10900 psi	

Back Pressure

[0.200](#) - [1.20](#) MPa

[14.2](#) - [418](#) psi

Screw Speed

[50](#) - [100](#) rpm

[50](#) - [100](#) rpm

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