

MatWeb, The Online Materials Database**EMS-Grivory Grilon AS Unreinforced Nylon 66 (Conditioned)****Subcategory:** Nylon; Nylon 66; Polymer; Thermoplastic**Material Notes:****Description:** General purpose unreinforced nylon 66 injection molding resin offering fast cycling and easy flow characteristics.**Application Examples:** Electrical components, automotive parts, internal appliance parts, power tool components and cable ties.

Data provided by EMS-Grivory.

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	0.0412 lb/in ³	ASTM D792
Water Absorption	1.3 %	1.3 %	24 hr immersion; ASTM D570
Moisture Absorption at Equilibrium	2 %	2 %	23°C/50% RH; DIN 53495
Water Absorption at Saturation	8 %	8 %	in water; DIN 53495
Linear Mold Shrinkage	0.012 cm/cm	0.012 in/in	EMS
Linear Mold Shrinkage	0.024 cm/cm	0.024 in/in	Parallel; ASTM D955
Linear Mold Shrinkage, Transverse	0.015 cm/cm	0.015 in/in	EMS
Linear Mold Shrinkage, Transverse	0.027 cm/cm	0.027 in/in	ASTM D955
Mechanical Properties			
Hardness, Shore D	66	66	
Tensile Strength at Break	63 MPa	9140 psi	ASTM D638
Elongation at Break	300 %	300 %	ASTM D638
Flexural Modulus	0.72 GPa	104 ksi	ASTM D790
Flexural Strength	28 MPa	4060 psi	ASTM D790
Izod Impact, Notched	1.6 J/cm	3 ft-lb/in	ASTM D256
Electrical Properties			
Volume Resistivity	1e+013 ohm-cm	1e+013 ohm-cm	IEC 93
Surface Resistance	1e+012 ohm	1e+012 ohm	IEC 93
Dielectric Strength	27 kV/mm	686 kV/in	IEC 243-1
Comparative Tracking Index	600 V	600 V	IEC 112
Thermal Properties			
Melting Point	260 °C	500 °F	DSC
Maximum Service Temperature, Air	70 - 100 °C	158 - 212 °F	Long Term; EMS
Maximum Service Temperature, Air	200 °C	392 °F	Short Term; EMS
Deflection Temperature at 0.46 MPa (66 psi)	200 °C	392 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	64 °C	147 °F	ASTM D648
Flammability, UL94	HB	HB	0.8 mm

Processing Properties

Rear Barrel Temperature	255 °C	491 °F	
Middle Barrel Temperature	260 °C	500 °F	
Front Barrel Temperature	265 °C	509 °F	
Nozzle Temperature	255 - 265 °C	491 - 509 °F	
Melt Temperature	280 °C	536 °F	
Mold Temperature	80 °C	176 °F	
Drying Temperature	100 °C	212 °F	Vacuum Oven
Drying Temperature	80 °C	176 °F	Circulating Air Oven
Drying Temperature	80 °C	176 °F	Dehumidifying Dryer (dew point at -40°F)
Dry Time	6 - 16 hour	6 - 16 hour	Circulating Air Oven
Dry Time	4 - 16 hour	4 - 16 hour	Dehumidifying Dryer (dew point at -40°F)
Dry Time	4 - 16 hour	4 - 16 hour	Vacuum Oven