

BASF Ultramid® 8231G HS 14% Glass Filled PA6 (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , 10% Glass Fiber Filled

Material Notes:

Ultramid 8231G HS is a heat stabilized, 14% glass fiber reinforced nylon 6 injection molding compound. It is also available in non-heat stabilized (Ultramid 8231) and/or pigmented versions. The glass fiber reinforcement enhances performance such as strength, stiffness and heat deflection temperature. The heat stabilizer system extends the properties at elevated temperatures. It also has excellent chemical resistance to greases, oils and hydrocarbons. Injection molding compound possessing a balance of engineering properties combined with excellent processability and surface aesthetics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultramid-8231G-HS-14-Glass-Filled-PA6-Dry.php

Physical Properties	Metric	English	Comments
Density	1.067 g/cc	0.03855 lb/in ³	Melt; ISO 1183
	1.23 g/cc	0.0444 lb/in ³	ISO 1183
Water Absorption	1.4 %	1.4 %	24 hour; ISO Test
	8.1 %	8.1 %	ISO 62
Moisture Absorption at Equilibrium	2.3 %	2.3 %	23°C/50% R.H.; ISO 62
Viscosity Measurement	50	50	Formic Acid
Linear Mold Shrinkage	0.0050 cm/cm	0.0050 in/in	ASTM Data; MD

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	121	121	ASTM Test
Tensile Strength at Break	140 MPa	20300 psi	0.2 in/min; ASTM Test
	50.0 MPa	7250 psi	ISO Data
	@Temperature 120 °C	@Temperature 248 °F	
	50.0 MPa	7250 psi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	60.0 MPa	8700 psi	ASTM Test
	@Temperature 80.0 °C	@Temperature 176 °F	
	60.0 MPa	8700 psi	ISO Data
	@Temperature 80.0 °C	@Temperature 176 °F	
	160 MPa	23200 psi	ISO Data

Mechanical Properties	@Temperature -40.0 °C Metric	@Temperature -40.0 °F English	Comments
	160 MPa	23200 psi	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Tensile Strength, Ultimate	140 MPa	20300 psi	5mm/min; ISO 527
Elongation at Break	4.0 %	4.0 %	5mm/min; ISO 527
	4.0 %	4.0 %	0.2 in/min; ASTM Test
	3.0 %	3.0 %	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	3.0 %	3.0 %	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	7.0 %	7.0 %	ISO Data
	@Temperature 120 °C	@Temperature 248 °F	
	7.0 %	7.0 %	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	8.0 %	8.0 %	ASTM Test
	@Temperature 80.0 °C	@Temperature 176 °F	
	8.0 %	8.0 %	ISO Data
	@Temperature 80.0 °C	@Temperature 176 °F	
Tensile Modulus	5.96 GPa	864 ksi	1mm/min; ISO 527
	2.09 GPa	303 ksi	ISO Data
	@Temperature 120 °C	@Temperature 248 °F	
	2.47 GPa	358 ksi	ISO Data
	@Temperature 80.0 °C	@Temperature 176 °F	
	5.95 GPa	863 ksi	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Strength	160 MPa	23200 psi	ISO Data
	172 MPa	24900 psi	ASTM Test
	76.0 MPa	11000 psi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	90.0 MPa	13100 psi	ASTM Test

Mechanical Properties	@Temperature 93.0 °C Metric	@Temperature 199 °F English	Comments
	116 MPa	16800 psi	ASTM Test
	@Temperature 65.0 °C	@Temperature 149 °F	
	214 MPa	31000 psi	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Modulus	4.77 GPa	692 ksi	ISO Data
	5.31 GPa	770 ksi	ASTM Test
	1.93 GPa	280 ksi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	2.40 GPa	348 ksi	ASTM Test
	@Temperature 65.0 °C	@Temperature 149 °F	
Izod Impact, Notched	0.590 J/cm	1.11 ft-lb/in	ASTM Test
	@Thickness 3.17 mm	@Thickness 0.125 in	
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	ISO Test
Charpy Impact Unnotched	4.00 J/cm ²	19.0 ft-lb/in ²	ISO 179
Charpy Impact, Notched	0.650 J/cm ²	3.09 ft-lb/in ²	ISO 179
	0.550 J/cm ²	2.62 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 µm/m-°C	27.8 µin/in-°F	ASTM Test
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	
CTE, linear, Parallel to Flow	39.0 µm/m-°C	21.7 µin/in-°F	ISO 11359
CTE, linear, Transverse to Flow	78.0 µm/m-°C	43.3 µin/in-°F	ISO 11359
Specific Heat Capacity	2.728 J/g-°C	0.6520 BTU/lb-°F	Melt
Thermal Conductivity	0.230 W/m-K	1.60 BTU-in/hr-ft ² -°F	Melt
Melting Point	220 °C	428 °F	10 K/min
	220 °C	428 °F	ASTM Test
Deflection Temperature at 0.46 MPa (66 psi)	217 °C	423 °F	ISO 75
Deflection Temperature at 1.8 MPa	195 °C	383 °F	

Thermal Properties	Metric	English	ISO 75 Comments
	200 °C	392 °F	ASTM Test
Flammability, UL94	HB	HB	
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	IEC 60093
Dielectric Constant	3.4	3.4	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	3.6	3.6	
	@Frequency 100 Hz	@Frequency 100 Hz	IEC 60250
	3.7	3.7	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM Data
	4.0	4.0	
	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	ASTM Data
Dielectric Strength	40.0 kV/mm	1020 kV/in	IEC 60243-1
Dissipation Factor	0.010	0.010	
	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	ASTM Data
	0.010	0.010	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM Data
	0.010	0.010	
	@Frequency 100 Hz	@Frequency 100 Hz	IEC 60250
	0.020	0.020	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250

Processing Properties	Metric	English	Comments
Melt Temperature	275 °C	527 °F	Injection molding
Mold Temperature	95.0 °C	203 °F	Injection molding

Processing Properties	Metric	English	Comments
Descriptive Properties		Value	Comments
Color		Natural	
Commercial Status		Active America	
Form		Pellets	
Impact Modified		No	
Primary Processing Technique		Injection Molding	
Processing		Injection Molding	
Special characteristic		Heat stabilized or stable to heat	
UL.UL-C		Yes	

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