

## BASF Ultramid® 8233G HS 33% Glass Filled PA6 (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , 30% Glass Fiber Filled

### Material Notes:

Ultramid 8233G HS is a heat stabilized, 33% glass fiber reinforced nylon 6 molding compound offering excellent strength, stiffness, high temperature performance and dimensional stability. It is also available in non-heat stabilized and/or pigmented versions.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_BASF-Ultramid-8233G-HS-33-Glass-Filled-PA6-Dry.php](http://www.lookpolymers.com/polymer_BASF-Ultramid-8233G-HS-33-Glass-Filled-PA6-Dry.php)

Physical Properties	Metric	English	Comments
Density	1.136 g/cc	0.04104 lb/in <sup>3</sup>	Melt; ISO 1183
	1.39 g/cc	0.0502 lb/in <sup>3</sup>	ISO 1183
Water Absorption	1.1 %	1.1 %	24 hour; ISO Test
	6.4 %	6.4 %	ISO 62
Moisture Absorption at Equilibrium	1.8 %	1.8 %	23°C/50% R.H.; ISO 62
Relative Viscosity	2.6 cP	2.6 cP	ISO Test; 96 % SAV
Viscosity Measurement	50	50	Formic Acid
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	ASTM Data; MD

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	121	121	ASTM Test
Tensile Strength at Break	195 MPa	28300 psi	0.2 in/min; ASTM Test
	83.0 MPa @Temperature 120 °C	12000 psi @Temperature 248 °F	ASTM Test
	83.0 MPa @Temperature 120 °C	12000 psi @Temperature 248 °F	ISO Data
	110 MPa @Temperature 80.0 °C	16000 psi @Temperature 176 °F	ISO Data
	110 MPa @Temperature 80.0 °C	16000 psi @Temperature 176 °F	ASTM Test
	283 MPa @Temperature -40.0 °C	41000 psi @Temperature -40.0 °F	ASTM Test
	283 MPa	41000 psi	

Mechanical Properties	Metric @Temperature -40.0 °C	English @Temperature -40.0 °F	ISO Data Comments
Tensile Strength, Ultimate	185 MPa	26800 psi	5mm/min; ISO 527
Elongation at Break	3.5 %	3.5 %	5mm/min; ISO 527
	3.5 %	3.5 %	0.2 in/min; ASTM Test
	3.6 %	3.6 %	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	3.6 %	3.6 %	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 %	ISO Data
	@Temperature 80.0 °C	@Temperature 176 °F	
	7.0 %	7.0 %	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	7.0 %	7.0 %	ASTM Test
	@Temperature 80.0 °C	@Temperature 176 °F	
Tensile Modulus	10.1 GPa	1460 ksi	1mm/min; ISO 527
	3.55 GPa	515 ksi	ISO Data
	@Temperature 120 °C	@Temperature 248 °F	
	4.43 GPa	643 ksi	ISO Data
	@Temperature 80.0 °C	@Temperature 176 °F	
	10.5 GPa	1520 ksi	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Strength	260 MPa	37700 psi	ISO Data
	297 MPa	43100 psi	ASTM Test
	112 MPa	16200 psi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	140 MPa	20300 psi	ASTM Test
	@Temperature 93.0 °C	@Temperature 199 °F	
	160 MPa	23200 psi	

Mechanical Properties	Metric @ Temperature 65.0 °C	English @ Temperature 149 °F	ASTM Test Comments
	380 MPa	55100 psi	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Modulus	8.20 GPa	1190 ksi	ISO Data
	9.04 GPa	1310 ksi	ASTM Test
	3.32 GPa	482 ksi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	3.75 GPa	544 ksi	ASTM Test
	@Temperature 93.0 °C	@Temperature 199 °F	
	4.02 GPa	583 ksi	ASTM Test
	@Temperature 65.0 °C	@Temperature 149 °F	
Izod Impact, Notched	1.07 J/cm	2.00 ft-lb/in	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.48 J/cm	2.77 ft-lb/in	ASTM Test
	@Thickness 3.17 mm	@Thickness 0.125 in	
Izod Impact, Unnotched	13.7 J/cm	25.7 ft-lb/in	ASTM Test
Izod Impact, Notched (ISO)	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	ISO Test
	8.50 kJ/m <sup>2</sup>	4.04 ft-lb/in <sup>2</sup>	ISO Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Charpy Impact Unnotched	8.80 J/cm <sup>2</sup>	41.9 ft-lb/in <sup>2</sup>	ISO 179
Charpy Impact, Notched	1.50 J/cm <sup>2</sup>	7.14 ft-lb/in <sup>2</sup>	ISO 179
	1.00 J/cm <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	38.0 µm/m-°C	21.1 µin/in-°F	ASTM Test
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	
CTE, linear, Parallel to Flow	21.0 µm/m-°C	11.7 µin/in-°F	ISO 11359
CTE, linear, Transverse to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359
Specific Heat Capacity	2.434 J/g-°C	0.5817 BTU/lb-°F	Melt

Thermal Properties	Metric	English	Comments
Melting Point	220 °C	428 °F	10 K/min
	220 °C	428 °F	ASTM Test
Deflection Temperature at 0.46 MPa (66 psi)	215 °C	419 °F	ISO 75
	218 °C	424 °F	ASTM Test
Deflection Temperature at 1.8 MPa (264 psi)	205 °C	401 °F	ISO 75
	210 °C	410 °F	ASTM Test
Flammability, UL94	HB	HB	
	@Thickness 0.710 mm	@Thickness 0.0280 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	3.6	3.6	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.7	3.7	ASTM Data
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.8	3.8	ASTM Data
	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	
	4.2	4.2	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	44.0 kV/mm	1120 kV/in	IEC 60243-1
Dissipation Factor	0.010	0.010	ASTM Data
	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	
	0.010	0.010	ASTM Data
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.020	0.020	

Electrical Properties	Metric	English	IEC 60250 Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.020	0.020	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	

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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