

BASF Ultramid® B3S HP PA6 (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Unreinforced

Material Notes:

Ultramid B3S HP is a easy flowing, finely crystalline, injection molding PA6 for fast processing

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultramid-B3S-HP-PA6-Dry.php

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	ISO 1183
Water Absorption	9.0 - 10 %	9.0 - 10 %	ISO 62
Moisture Absorption at Equilibrium	2.6 - 3.4 %	2.6 - 3.4 %	23°C/50% R.H.; ISO 62
Viscosity Test	145 cm ³ /g	145 cm ³ /g	Viscosity number; ISO 307
Linear Mold Shrinkage	0.0050 cm/cm	0.0050 in/in	
Melt Flow	198 g/10 min @Load 5.00 kg, Temperature 275 °C	198 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength	10.0 MPa	1450 psi	ISO 527
	@Strain 1.00 %, Temperature 100 °C	@Strain 1.00 %, Temperature 212 °F	
	18.0 MPa	2610 psi	ISO 527
	@Strain 3.00 %, Temperature 100 °C	@Strain 3.00 %, Temperature 212 °F	
	20.0 MPa	2900 psi	ISO 527
	@Strain 1.00 %, Temperature 60.0 °C	@Strain 1.00 %, Temperature 140 °F	
	30.0 MPa	4350 psi	ISO 527
	@Strain 1.00 %, Temperature 23.0 °C	@Strain 1.00 %, Temperature 73.4 °F	
40.0 MPa	5800 psi	ISO 527	
@Strain 3.00 %, Temperature 60.0 °C	@Strain 3.00 %, Temperature 140 °F		
40.0 MPa	5800 psi	ISO 527	
@Strain 1.00 %, Temperature -20.0 °C	@Strain 1.00 %, Temperature -4.00 °F		

Mechanical Properties	Metric ^{Pa}	English ^{psi}	Comments
	@Strain 3.00 %, Temperature 23.0 °C	@Strain 3.00 %, Temperature 73.4 °F	ISO 527
	100 MPa	14500 psi	
	@Strain 3.00 %, Temperature -20.0 °C	@Strain 3.00 %, Temperature -4.00 °F	ISO 527
Tensile Strength, Yield	90.0 MPa	13100 psi	50mm/min; ISO 527
Elongation at Yield	4.0 %	4.0 %	50mm/min; ISO 527
Modulus of Elasticity	3.40 GPa	493 ksi	ISO 527
Flexural Modulus	3.00 GPa	435 ksi	ISO 178
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	ISO 180/A
	5.00 kJ/m ²	2.38 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 180/A
Charpy Impact Unnotched	25.0 J/cm ²	119 ft-lb/in ²	ISO 179/1eU
	20.0 J/cm ²	95.2 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	ISO 179/1eA
	0.300 J/cm ²	1.43 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 - 100 µm/m-°C	38.9 - 55.6 µin/in-°F	ISO 11359-1/-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Specific Heat Capacity	1.70 J/g-°C	0.406 BTU/lb-°F	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft ² -°F	DIN 52612
Melting Point	220 °C	428 °F	DIN 53752
Maximum Service Temperature, Air	87.0 °C	189 °F	for 50% loss of tensile strength after 20,000 hr
	97.0 °C	207 °F	for 50% loss of tensile strength after 5,000 hr
	180 °C	356 °F	ISO 11359-1/-2
Deflection Temperature at 0.46 MPa			

(66 psi) Thermal Properties	180 °C Metric	356 °F English	ISO 75 Comments
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ISO 75
Flammability, UL94	V-2 @Thickness >=38.1 mm	V-2 @Thickness >=1.50 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
Dielectric Constant	3.3 @Frequency 1.00e+6 Hz	3.3 @Frequency 1.00e+6 Hz	IEC 60250
Dissipation Factor	0.030 @Frequency 1.00e+6 Hz	0.030 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	Test Solution A; IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	250 - 270 °C	482 - 518 °F	Injection-molding/Extrusion
Mold Temperature	40.0 - 60.0 °C	104 - 140 °F	Injection-molding

Descriptive Properties	Value	Comments
Color	Natural	
Commercial Status	North America and Europe	
Impact Modified	No	
Primary Processing Technique	Injection Molding	

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