

BASF Ultramid® 8253 PA6 (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Impact Grade

Material Notes:

Ultramid 8253 is an unfilled, impact modified type 6 graft copolymer developed for both injection molding and extrusion applications. It is also available in heat stabilized (Ultramid 8253 HS) and/or pigmented versions. Copolymerization results in improved dry as molded toughness and increased flexibility to meet higher impact performance compared to conventional unreinforced homopolymers. Good nylon thermal and chemical properties are maintained along with good strength and stiffness retention.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultramid-8253-PA6-Dry.php

Physical Properties	Metric	English	Comments
Density	1.09 g/cc	0.0394 lb/in ³	ISO 1183
Water Absorption	1.5 %	1.5 %	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
Linear Mold Shrinkage	0.012 cm/cm	0.012 in/in	ASTM Data; MD

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	82	82	ASTM Test
Tensile Strength at Break	60.0 MPa	8700 psi	0.2 in/min; ASTM Test
	100 MPa	14500 psi	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Tensile Strength, Yield	100 MPa	14500 psi	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	60.0 MPa	8700 psi	50mm/min; ISO 527
Tensile Strength, Yield	65.0 MPa	9430 psi	2 in/min; ASTM Test
	20.0 MPa	2900 psi	ISO Data
	@Temperature 120 °C	@Temperature 248 °F	
Tensile Strength, Yield	20.0 MPa	2900 psi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	25.0 MPa	3630 psi	ASTM Test
	@Temperature 80.0 °C	@Temperature 176 °F	

Mechanical Properties	25.0 MPa Metric	3630 psi English	Comments ISO Data
	@Temperature 80.0 °C	@Temperature 176 °F	
	117 MPa	17000 psi	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	117 MPa	17000 psi	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Elongation at Break	40 %	40 %	50mm/min, Nominal strain; ISO 527
	>= 100 %	>= 100 %	2 in/min; ASTM Test
	9.0 %	9.0 %	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	9.0 %	9.0 %	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Elongation at Yield	4.0 %	4.0 %	50mm/min; ISO 527
	4.0 %	4.0 %	2 in/min; ASTM Test
	7.0 %	7.0 %	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	7.0 %	7.0 %	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	29 %	29 %	ISO Data
	@Temperature 80.0 °C	@Temperature 176 °F	
	29 %	29 %	ASTM Test
	@Temperature 80.0 °C	@Temperature 176 °F	
	34 %	34 %	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	34 %	34 %	ISO Data
	@Temperature 120 °C	@Temperature 248 °F	
Tensile Modulus	2.30 GPa	334 ksi	1mm/min; ISO 527
	0.295 GPa	42.8 ksi	ISO Data
	@Temperature 120 °C	@Temperature 248 °F	
	0.400 GPa	58.0 ksi	ISO Data

Mechanical Properties	@Temperature 80.0 °C Metric	@Temperature 176 °F English	Comments
	2.84 GPa	412 ksi	ISO Data
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Strength	65.0 MPa	9430 psi	ISO Data
	87.0 MPa	12600 psi	ASTM Test
	14.0 MPa	2030 psi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	20.0 MPa	2900 psi	ASTM Test
	@Temperature 93.0 °C	@Temperature 199 °F	
	25.0 MPa	3630 psi	ASTM Test
	@Temperature 65.0 °C	@Temperature 149 °F	
	148 MPa	21500 psi	ASTM Test
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Modulus	1.90 GPa	276 ksi	ISO Data
	2.21 GPa	321 ksi	ASTM Test
	0.260 GPa	37.7 ksi	ASTM Test
	@Temperature 120 °C	@Temperature 248 °F	
	0.325 GPa	47.1 ksi	ASTM Test
	@Temperature 93.0 °C	@Temperature 199 °F	
	0.415 GPa	60.2 ksi	ASTM Test
	@Temperature 65.0 °C	@Temperature 149 °F	
Izod Impact, Notched	0.800 J/cm	1.50 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	
Charpy Impact Unnotched	NB	NB	ISO 179
Charpy Impact, Notched	1.80 J/cm ²	8.57 ft-lb/in ²	ISO 179
	0.500 J/cm ²	2.38 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	99.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	55.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM Test
	@Temperature -30.0 - 30.0 $^\circ\text{C}$	@Temperature -22.0 - 86.0 $^\circ\text{F}$	
CTE, linear, Parallel to Flow	88.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	48.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359
CTE, linear, Transverse to Flow	93.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	51.7 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359
Melting Point	220 $^\circ\text{C}$	428 $^\circ\text{F}$	10 K/min
	220 $^\circ\text{C}$	428 $^\circ\text{F}$	ASTM Test
Deflection Temperature at 0.46 MPa (66 psi)	160 $^\circ\text{C}$	320 $^\circ\text{F}$	ISO 75
	168 $^\circ\text{C}$	334 $^\circ\text{F}$	ASTM Test
Deflection Temperature at 1.8 MPa (264 psi)	55.0 $^\circ\text{C}$	131 $^\circ\text{F}$	ISO 75
	60.0 $^\circ\text{C}$	140 $^\circ\text{F}$	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	$\geq 1.00\text{e}+13$ ohm-cm	$\geq 1.00\text{e}+13$ ohm-cm	IEC 60093
Comparative Tracking Index	600 V	600 V	IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	280 $^\circ\text{C}$	536 $^\circ\text{F}$	Injection molding
Mold Temperature	70.0 $^\circ\text{C}$	158 $^\circ\text{F}$	Injection molding

Descriptive Properties	Value	Comments
Color	Natural	
Commercial Status	Active America	
Form	Pellets	
Impact Modified	Yes	

Primary Processing Technique Descriptive Properties	Injection Molding Value	Comments
Processing	Injection Molding	
UL.UL-C	Yes	

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