

Ultramid® 8202 HS

Polyamide 6

BASF Corporation

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

Ultramid 8202 HS is a heat stabilized, low viscosity, general purpose PA6 injection molding. It possesses the combination of strength and toughness and has excellent chemical and abrasion resistance. The heat stabilizer system extends the retention of properties at the more elevated temperatures. Excellent in filling thin walls or areas.

Applications

Ultramid 8202 HS is generally recommended for drapery hardware, gears, fittings, furniture casters, bearings, handles, clips, fasteners and thin parts.

General

Material Status	• Commercial: Active
Literature ¹	• Processing - Injection Molding (English) • Technical Datasheet - ASTM (English) • Technical Datasheet - ISO (English)
Search for UL Yellow Card	• BASF Corporation • Ultramid®
Availability	• Asia Pacific • North America
Additive	• Heat Stabilizer
Features	• General Purpose • Good Strength • Good Abrasion Resistance • Good Toughness • Good Chemical Resistance • Heat Stabilized • Homopolymer • Low Viscosity
Uses	• Bearings • Furniture • Fasteners • Gears • Fittings • Handles • Thin-walled Parts
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1) • Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity				
--	1.13	--	(g/cm ³)	ASTM D792
--	1.13	--	g/cm ³	ISO 1183
Molding Shrinkage - Flow (0.125 in (3.18 mm))	0.012 (1.2)	--	in/in (%)	
Water Absorption				
24 hr	1.6	--	%	ASTM D570
73°F (23°C), 24 hr	1.6	--	%	ISO 62
Saturation	9.5	--	%	ASTM D570
Saturation, 73°F (23°C)	9.5	--	%	ISO 62
Equilibrium, 50% RH	2.7	--	%	ASTM D570
Equilibrium, 73°F (23°C), 50% RH	2.7	--	%	ISO 62



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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
				ISO 527-2
73°F (23°C)	392000 (2700)	141000 (970)	psi (MPa)	
176°F (80°C)	70300 (485)	79800 (550)	psi (MPa)	
250°F (121°C)	52200 (360)	46400 (320)	psi (MPa)	
Tensile Strength				
Yield, -40°F (-40°C)	18300 (126)	16000 (110)	psi (MPa)	ASTM D638 ISO 527-2
Yield, 73°F (23°C)	11500 (79.0)	5220 (36.0)	psi (MPa)	ASTM D638
Yield, 176°F (80°C)	5080 (35.0)	4350 (30.0)	psi (MPa)	ASTM D638 ISO 527-2
Yield, 250°F (121°C)	3630 (25.0)	2900 (20.0)	psi (MPa)	ASTM D638 ISO 527-2
Yield, 73°F (23°C)	11300 (78.0)	5220 (36.0)	psi (MPa)	ISO 527-2
Break, 73°F (23°C)	10900 (75.0)	8700 (60.0)	psi (MPa)	ASTM D638
Tensile Elongation				
Yield, 73°F (23°C)	4.0	16	%	ASTM D638 ISO 527-2
Yield, 176°F (80°C)	42	35	%	ASTM D638
Yield, 250°F (121°C)	36	40	%	ASTM D638
Break, 73°F (23°C)	55	> 100	%	ASTM D638
Nominal Tensile Strain at Break				
				ISO 527-2
73°F (23°C)	25	> 50	%	
Flexural Modulus				
-40°F (-40°C)	437000 (3010)	531000 (3660)	psi (MPa)	ASTM D790
73°F (23°C)	410000 (2830)	107000 (740)	psi (MPa)	ASTM D790
149°F (65°C)	72500 (500)	--	psi (MPa)	ASTM D790
194°F (90°C)	50800 (350)	--	psi (MPa)	ASTM D790
250°F (121°C)	44200 (305)	--	psi (MPa)	ASTM D790
73°F (23°C)	348000 (2400)	112000 (770)	psi (MPa)	ISO 178
Flexural Strength				
-40°F (-40°C)	24700 (170)	22300 (154)	psi (MPa)	ASTM D790
73°F (23°C)	15700 (108)	5080 (35.0)	psi (MPa)	ASTM D790
149°F (65°C)	4350 (30.0)	--	psi (MPa)	ASTM D790
194°F (90°C)	2900 (20.0)	--	psi (MPa)	ASTM D790
250°F (121°C)	2470 (17.0)	--	psi (MPa)	ASTM D790
73°F (23°C)	12300 (85.0)	3630 (25.0)	psi (MPa)	ISO 178



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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (73°F (23°C))	1.7 (3.5)	--	ft·lb/in ² (kJ/m ²)	ISO 179
Charpy Unnotched Impact Strength				ISO 179
-22°F (-30°C)	24 (51)	--	ft·lb/in ² (kJ/m ²)	
73°F (23°C)	No Break	--		
Notched Izod Impact				ASTM D256
-40°F (-40°C)	0.90 (48)	0.81 (43)	ft·lb/in (J/m)	
73°F (23°C)	1.1 ft·lb/in (58 J/m)	No Break		
Drop Impact Resistance (73°F (23°C))	105 (142)	> 200 (> 271)	ft·lb (J)	Internal Method
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness (R-Scale)	119	--		ASTM D785
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
66 psi (0.45 MPa), Unannealed	352 (178)	--	°F (°C)	ASTM D648
264 psi (1.8 MPa), Unannealed	149 (65.0)	--	°F (°C)	ASTM D648
264 psi (1.8 MPa), Unannealed	140 (60.0)	--	°F (°C)	ISO 75-2/A
Peak Melting Temperature	428 (220)	--	°F (°C)	ASTM D3418 ISO 3146
CLTE - Flow	4.6E-5 (8.3E-5)	--	in/in/°F (cm/cm/°C)	ASTM E831
RTI Elec				UL 746
0.0280 in (0.710 mm)	266 (130)	--	°F (°C)	
0.0591 in (1.50 mm)	266 (130)	--	°F (°C)	
0.118 in (3.00 mm)	266 (130)	--	°F (°C)	
0.236 in (6.00 mm)	266 (130)	--	°F (°C)	
RTI Imp				UL 746
0.0280 in (0.710 mm)	203 (95.0)	--	°F (°C)	
0.0591 in (1.50 mm)	221 (105)	--	°F (°C)	
0.118 in (3.00 mm)	221 (105)	--	°F (°C)	
0.236 in (6.00 mm)	221 (105)	--	°F (°C)	
RTI Str				UL 746
0.0280 in (0.710 mm)	203 (95.0)	--	°F (°C)	
0.0591 in (1.50 mm)	221 (105)	--	°F (°C)	
0.118 in (3.00 mm)	221 (105)	--	°F (°C)	
0.236 in (6.00 mm)	221 (105)	--	°F (°C)	



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Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
0.0591 in (1.50 mm)	> 1.0E+13	--	ohm·cm	ASTM D257
--	> 1.0E+13	--	ohm·cm	IEC 60093
Dielectric Strength				
0.0591 in (1.50 mm) ³	560 (22)	--	V/mil (kV/mm)	ASTM D149
--	940 (37)	--	V/mil (kV/mm)	IEC 60243-1
Comparative Tracking Index	600	--	V	IEC 60112

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.0280 in (0.710 mm)	V-2	--		
0.0591 in (1.50 mm)	V-2	--		
0.118 in (3.00 mm)	V-2	--		
0.236 in (6.00 mm)	V-2	--		

Injection	Dry (English)	Dry (SI)
Drying Temperature	176 °F	80.0 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.15 %	0.15 %
Processing (Melt) Temp	464 to 545 °F	240 to 285 °C
Mold Temperature	149 to 176 °F	65.0 to 80.0 °C
Injection Pressure	508 to 1810 psi	3.50 to 12.5 MPa
Injection Rate	Fast	Fast

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² Typical properties: these are not to be construed as specifications.

³ Method A (Short-Time)



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Supplier

BASF Corporation

Wyandotte, MI USA

Telephone: 800-527-TECH

Web: <http://www.plasticsportal.com/usa>

Distributor

Amco Polymers

Telephone: 800-262-6685

Web: <http://www.amcopolymers.com/>

Availability: North America

Entec Polymers

Telephone: 800-375-5440

Web: <http://www.entecpolymers.com/>

Availability: North America

M. Holland Canada Company

Telephone: 905-665-1168

Web: <http://www.mholland.com/>

Availability: Canada

M. Holland Company

Telephone: 855-497-1403

Web: <http://www.mholland.com/>

Availability: Mexico, United States

Nexeo Solutions

Telephone: 888-594-6009

Web: <http://www.nexeosolutions.com/>

Availability: North America

Reseller

A Reseller is not a distributor authorized by the Supplier.

Honrun International Co., Ltd.

Telephone: 852-69575415

Web: <http://www.ponci.com.cn/eng/>

Availability: China

