



Ultramid® 8202 HS

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

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		
Availability	• Asia Pacific	• North America	
Additive	• Heat Stabilizer		
Features	• Abrasion Resistant • Chemical Resistant • General Purpose	• Good Strength • Good Toughness • Heat Stabilized	• Low Viscosity
Uses	• Bearings • Fasteners • Fittings	• Furniture • Gears • Handles	• Thin-walled Parts
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• ASTM D4066 PA0222 VA040 • CHRYSLER MS-DB-41 CPN1868 Color: 100% Color Match • CHRYSLER MS-DB-41 CPN2047 Color: Natural • CHRYSLER MS-DB-41 CPN3299 Color: Black • CHRYSLER MS-DB-41 CPN3300 Color: Color As Noted On Drawing • GM GMP.PA6.008 Color: Black • GM GMP.PA6.008 Color: Natural • GM GMP.PA6.044 Color: Black • GM GMP.PA6.044 Color: Natural		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

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

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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				ISO 527-2
73°F	392000	141000	psi	
176°F	70300	79800	psi	
248°F	52200	46400	psi	
302°F	42100	45000	psi	
Tensile Strength				ASTM D638
Yield, -40°F	18300	16000	psi	
Yield, 73°F	11500	5220	psi	
Yield, 176°F	5080	4350	psi	
Yield, 250°F	3630	2900	psi	
Tensile Stress				ISO 527-2
Yield, -40°F	18300	16000	psi	
Yield, 73°F	11300	5220	psi	
Yield, 176°F	5080	4350	psi	
Yield, 248°F	3630	2900	psi	
Yield, 302°F	2900	2180	psi	
Tensile Strength (Break, 73°F)	10900	8700	psi	ASTM D638
Tensile Elongation				ASTM D638
Yield, 73°F	4.0	16	%	
Yield, 176°F	42	35	%	
Yield, 250°F	36	40	%	
Tensile Strain (Yield, 73°F)	4.0	16	%	ISO 527-2
Tensile Elongation (Break, 73°F)	55	> 100	%	ASTM D638
Nominal Tensile Strain at Break				ISO 527-2
73°F	25	> 50	%	
Flexural Modulus				ASTM D790
-40°F	437000	531000	psi	
73°F	410000	107000	psi	
149°F	72500	--	psi	
194°F	50800	--	psi	
250°F	44200	--	psi	
Flexural Modulus (73°F)	348000	112000	psi	ISO 178
Flexural Strength				ASTM D790
-40°F	24700	22300	psi	
73°F	15700	5080	psi	
149°F	4350	--	psi	
194°F	2900	--	psi	
250°F	2470	--	psi	
Flexural Stress (73°F)	12300	3630	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
73°F	1.7	--	ft-lb/in²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	24	--	ft-lb/in²	
73°F	No Break	--		
Notched Izod Impact				ASTM D256
-40°F	0.90	0.81	ft-lb/in	
73°F	1.1 ft-lb/in	No Break		

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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, Unannealed	352	--	°F	ASTM D648
Heat Deflection Temperature 66 psi, Unannealed	302	--	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed	149	--	°F	ASTM D648
Heat Deflection Temperature 264 psi, Unannealed	140	--	°F	ISO 75-2/A
Peak Melting Temperature	428	--	°F	ASTM D3418
Melting Temperature (DSC)	428	--	°F	ISO 3146
CLTE - Flow	4.6E-5	--	in/in/°F	ASTM E831
RTI Elec				UL 746
0.028 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
0.24 in	266	--	°F	
RTI Imp				UL 746
0.028 in	203	--	°F	
0.06 in	221	--	°F	
0.12 in	221	--	°F	
0.24 in	221	--	°F	
RTI Str				UL 746
0.028 in	203	--	°F	
0.06 in	221	--	°F	
0.12 in	221	--	°F	
0.24 in	221	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0591 in)	> 1.0E+15	--	ohms·cm	ASTM D257
Volume Resistivity	> 1.0E+15	--	ohms·cm	IEC 60093
Dielectric Strength 0.0591 in, Method A (Short-Time)	560	--	V/mil	ASTM D149
Electric Strength	940	--	V/mil	IEC 60243-1
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.028 in	V-2	--		
0.06 in	V-2	--		
0.12 in	V-2	--		
0.24 in	V-2	--		
Additional Information	Dry	Conditioned	Unit	Test Method
Drop Weight Impact Strength 73°F	105	> 200	ft·lb	Internal Method

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Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.15	%
Processing (Melt) Temp	464 to 545	°F
Mold Temperature	149 to 176	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

¹ Typical properties: these are not to be construed as specifications.