

Ultramid® 8202 HS

Polyamide 6

BASF Corporation

Message:

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 Information				
Additive	Heat Stabilizer			
Features	General Purpose			
	Good Abrasion Resistance			
	Good Chemical Resistance			
	Good Strength			
	Good Toughness			
	Heat Stabilized			
	Homopolymer			
	Low Viscosity			
Uses	Bearings			
	Fasteners			
	Fittings			
	Furniture			
	Gears			
	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)			
	Secant Modulus vs. Strain (ISO 11403-1)			
	Shear Modulus vs. Temperature (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, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	1.2	--	%	

Water Absorption				
24 hr	1.6	--	%	ASTM D570
23°C, 24 hr	1.6	--	%	ISO 62
Saturation	9.5	--	%	ASTM D570
Saturation, 23°C	9.5	--	%	ISO 62
Equilibrium, 50% RH	2.7	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	2.7	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness (R-Scale)	119	--		ASTM D785
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				ISO 527-2
23°C	2700	970	MPa	
80°C	485	550	MPa	
121°C	360	320	MPa	
Tensile Strength				
Yield, -40°C	126	110	MPa	ASTM D638, ISO 527-2
Yield, 23°C	79.0	36.0	MPa	ASTM D638
Yield, 80°C	35.0	30.0	MPa	ASTM D638, ISO 527-2
Yield, 121°C	25.0	20.0	MPa	ASTM D638, ISO 527-2
Yield, 23°C	78.0	36.0	MPa	ISO 527-2
Break, 23°C	75.0	60.0	MPa	ASTM D638
Tensile Elongation				
Yield, 23°C	4.0	16	%	ASTM D638, ISO 527-2
Yield, 80°C	42	35	%	ASTM D638
Yield, 121°C	36	40	%	ASTM D638
Break, 23°C	55	> 100	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	25	> 50	%	ISO 527-2
Flexural Modulus				
-40°C	3010	3660	MPa	ASTM D790
23°C	2830	740	MPa	ASTM D790
65°C	500	--	MPa	ASTM D790
90°C	350	--	MPa	ASTM D790
121°C	305	--	MPa	ASTM D790
23°C	2400	770	MPa	ISO 178
Flexural Strength				
-40°C	170	154	MPa	ASTM D790
23°C	108	35.0	MPa	ASTM D790
65°C	30.0	--	MPa	ASTM D790
90°C	20.0	--	MPa	ASTM D790
121°C	17.0	--	MPa	ASTM D790

23°C	85.0	25.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	3.5	--	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength				ISO 179
-30°C	51	--	kJ/m ²	
23°C	No Break	--		
Notched Izod Impact				ASTM D256
-40°C	48	43	J/m	
23°C	58 J/m	No Break		
Drop Impact Resistance (23°C)	142	> 271	J	Internal Method
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	178	--	°C	ASTM D648
1.8 MPa, Unannealed	65.0	--	°C	ASTM D648
1.8 MPa, Unannealed	60.0	--	°C	ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE - Flow	8.3E-5	--	cm/cm/°C	ASTM E831
RTI Elec				UL 746
0.710 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
6.00 mm	130	--	°C	
RTI Imp				UL 746
0.710 mm	95.0	--	°C	
1.50 mm	105	--	°C	
3.00 mm	105	--	°C	
6.00 mm	105	--	°C	
RTI Str				UL 746
0.710 mm	95.0	--	°C	
1.50 mm	105	--	°C	
3.00 mm	105	--	°C	
6.00 mm	105	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	> 1.0E+13	--	ohms · cm	ASTM D257
--	> 1.0E+13	--	ohms · cm	IEC 60093
Dielectric Strength				
1.50 mm ¹	22	--	kV/mm	ASTM D149
--	37	--	kV/mm	IEC 60243-1

Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.710 mm	V-2	--		
1.50 mm	V-2	--		
3.00 mm	V-2	--		
6.00 mm	V-2	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.15		%	
Processing (Melt) Temp	240 to 285		°C	
Mold Temperature	65.0 to 80.0		°C	
Injection Pressure	3.50 to 12.5		MPa	
Injection Rate	Fast			
NOTE				

1. Method A (Short-Time)

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