

Ultramid® 8200 HS

Polyamide 6

BASF Corporation

Message:

Ultramid 8200 HS is a heat stabilized, medium viscosity, PA6 injection molding homopolymer, exhibiting resistance to sink-mark formation in thick sections, and improved toughness over conventional lower viscosity grades. It possesses a combination of strength, stiffness and toughness properties as well as excellent heat, chemical and abrasion resistance. It is available in natural and pigmented versions.

Applications

Ultramid 8200 HS is generally recommended for application such as wiring devices, plugs, receptacles, gears, connectors, convoluted tubing, filter housings, hinges, and textile components.

General Information				
Additive		Heat Stabilizer		
Features	Good Abrasion Resistance			
	Good Chemical Resistance			
	Good Stiffness			
	Good Strength			
	Good Toughness			
	Heat Stabilized			
	High Heat Resistance			
	Homopolymer			
	Medium Viscosity			
Uses	Connectors			
	Filters			
	Gears			
	Housings			
	Plugs			
	Textile Applications			
	Tubing			
	Wire & Cable Applications			
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS Compliant		
Appearance	Colors Available			
	Natural Color			
Forms		Pellets		
Processing Method		Injection Molding		
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 (23°C)	2700	--	MPa	ISO 527-2
Tensile Strength				
Yield, -40°C	136	120	MPa	ASTM D638, ISO 527-2
Yield, 23°C	85.0	39.0	MPa	ASTM D638
Yield, 121°C	23.0	--	MPa	ASTM D638, ISO 527-2
Yield, 23°C	80.0	39.0	MPa	ISO 527-2
Tensile Elongation				
Yield, -40°C	3.0	3.0	%	ASTM D638
Yield, 23°C	20	16	%	ASTM D638
Yield, 121°C	15	--	%	ASTM D638
Yield, 23°C	5.0	16	%	ISO 527-2
Break, -40°C	8.0	4.0	%	ASTM D638
Break, 23°C	60	> 100	%	ASTM D638
Break, 121°C	> 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	460	--	MPa	ASTM D790
90°C	350	--	MPa	ASTM D790
121°C	305	--	MPa	ASTM D790
23°C	2400	--	MPa	ISO 178
Flexural Strength				
-40°C	168	161	MPa	ASTM D790
23°C	110	37.0	MPa	ASTM D790
65°C	30.0	--	MPa	ASTM D790
90°C	20.0	--	MPa	ASTM D790
121°C	18.0	--	MPa	ASTM D790

23°C	82.0	--	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 (23°C)	No Break	--		ISO 179
Notched Izod Impact				ASTM D256
-40°C	48	43	J/m	
23°C	65 J/m	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	175	--	°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	
1.30 mm	130	--	°C	
3.00 mm	130	--	°C	
6.00 mm	130	--	°C	
RTI Imp				UL 746
0.710 mm	95.0	--	°C	
1.30 mm	105	--	°C	
3.00 mm	105	--	°C	
6.00 mm	105	--	°C	
RTI Str				UL 746
0.710 mm	95.0	--	°C	
1.30 mm	105	--	°C	
3.00 mm	105	--	°C	
6.00 mm	105	--	°C	
Flammability	Dry	Conditioned		Test Method
Flame Rating				UL 94
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

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