Ultramid® 8202

Polyamide 6

BASF Corporation

Message:

Ultramid 8202 is a low viscosity, general purpose PA6 injection molding homopolymer exhibiting excellent melt fluidity for filling thin sections. It is also available in heat stabilized (Ultramid 8202 HS) and/or pigmented versions. It combines good strength, stiffness and toughness as well as excellent heat, chemical and abrasion resistance.
Applications
Ultramid 8202 is generally recommended for applications such as gears, fittings, casters, beatings, clips, fasteners, plugs, caps, and filter bowls.

General Information	
UL YellowCard	E36632-231111
Features	General Purpose Good Abrasion Resistance Good Chemical Resistance Good Stiffness Good Strength Good Toughness High Flow High Heat Resistance Homopolymer Low Viscosity
Uses	Bearings Caps Fasteners Filters Fittings Gears Plugs
Agency Ratings	EC 1907/2006 (REACH)
RoHS Compliance	RoHS Compliant
Appearance	Colors Available
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/cm³	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	125	--	°C	
1.50 mm	125	--	°C	
3.00 mm	125	--	°C	
6.00 mm	125	--	°C	
RTI Imp				UL 746
1.50 mm	75.0	--	°C	
3.00 mm	75.0	--	°C	
6.00 mm	75.0	--	°C	
RTI Str				UL 746
1.50 mm	85.0	--	°C	
3.00 mm	85.0	--	°C	
6.00 mm	85.0	--	°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
Dielectric Constant				IEC 60250
100 Hz	3.50	--		
1 MHz	3.30	--		
Dissipation Factor				IEC 60250
100 Hz	0.010	--		
1 MHz	0.020	--		
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)

Recommended distributors for this material

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