Ultramid® 8202C

Polyamide 6

BASF Corporation

Message:

Ultramid 8202C is a modified crystalline and low viscosity, PA6 injection molding homopolymer. It is also available in heat stabilized (Ultramid 8202C HS) and/or pigmented versions. Its unique crystalline structure results in increased strength, stiffness, heat distortion temperature and performance under load as a homopolymer. It also cycles faster while maintaining properties and chemical resistance.
Applications
Ultramid 8202C is ideally suited for applications such as: furniture casters, gears, window hardware, and fittings, insulators, bushings, valves, relays, wiring devices, and other electrical components.

General Information	
UL YellowCard	E36632-231112
Features	Low viscosity
	Crystallization
	Homopolymer
	Workability, good
	Fast molding cycle
	Good chemical resistance
Uses	Bushing
	Gear
	Electrical/Electronic Applications
	Electrical components
	Valve/valve components
	Furniture
	Accessories
Agency Ratings	EC 1907/2006 (REACH)
RoHS Compliance	RoHS compliance
Appearance	Available colors
Forms	Particle
Processing Method	Injection molding
Multi-Point Data	Isothermal Stress vs. Strain (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/cm³	ASTM D792, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	0.90	--	%	
Water Absorption				

24 hr	1.6	--	%	ASTM D570
23°C, 24 hr	1.6	--	%	ISO 62
Saturation	9.3	--	%	ASTM D570
Saturated, 23°C	9.3	--	%	ISO 62
Balance, 50% RH	2.6	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	2.6	--	%	ISO 62
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	120	--		ASTM D785
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus				ISO 527-2
-40°C	4090	--	MPa	ISO 527-2
23°C	3700	1360	MPa	ISO 527-2
80°C	750	--	MPa	ISO 527-2
120°C	550	--	MPa	ISO 527-2
150°C	445	--	MPa	ISO 527-2
Tensile Strength				
Yield, -40°C	137	142	MPa	ASTM D638, ISO 527-2
Yield, 23°C	90.0	48.0	MPa	ASTM D638
Yield, 80°C	40.0	30.0	MPa	ASTM D638, ISO 527-2
Yield, 121°C	30.0	25.0	MPa	ASTM D638
Yield, 23°C	88.0	43.0	MPa	ISO 527-2
Yield, 120°C	30.0	25.0	MPa	ISO 527-2
Yield, 150°C	25.0	--	MPa	ISO 527-2
Fracture, -40°C	130	80.0	MPa	ASTM D638
Fracture, 23°C	90.0	70.0	MPa	ASTM D638
Fracture, 80°C	35.0	30.0	MPa	ASTM D638
Fracture, 121°C	25.0	20.0	MPa	ASTM D638
Tensile Elongation				
Yield, -40°C	3.0	3.0	%	ASTM D638
Yield, 23°C	4.0	22	%	ASTM D638, ISO 527-2
Yield, 80°C	25	25	%	ASTM D638
Yield, 121°C	27	30	%	ASTM D638
Fracture, -40°C	5.0	3.0	%	ASTM D638
Fracture, 23°C	12	> 100	%	ASTM D638
Fracture, 80°C	> 100	> 100	%	ASTM D638
Fracture, 121°C	> 100	> 100	%	ASTM D638
Nominal Tensile Strain at Break				ISO 527-2
-40°C	5.0	3.0	%	ISO 527-2
23°C	7.0	> 50	%	ISO 527-2
80°C	> 100	> 100	%	ISO 527-2

120°C	> 100	> 100	%	ISO 527-2
Flexural Modulus				
-40°C	3370	4200	MPa	ASTM D790
23°C	3170	970	MPa	ASTM D790
65°C	600	--	MPa	ASTM D790
90°C	440	--	MPa	ASTM D790
121°C	385	--	MPa	ASTM D790
23°C	2800	--	MPa	ISO 178
Flexural Strength				
-40°C	183	168	MPa	ASTM D790
23°C	110	42.0	MPa	ASTM D790
65°C	30.0	--	MPa	ASTM D790
121°C	21.0	--	MPa	ASTM D790
23°C	95.0	--	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	32	21	J/m	ASTM D256
23°C	48	170	J/m	ASTM D256
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load				
0.45 MPa, not annealed	190	--	°C	ASTM D648
0.45 MPa, not annealed	165	--	°C	ISO 75-2/B
1.8 MPa, not annealed	75.0	--	°C	ASTM D648
1.8 MPa, not annealed	65.0	--	°C	ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE - Flow	8.1E-5	--	cm/cm/°C	ASTM E831
RTI Elec				UL 746
0.71 mm	125	--	°C	UL 746
1.5 mm	125	--	°C	UL 746
3.0 mm	125	--	°C	UL 746
6.0 mm	125	--	°C	UL 746
RTI Imp				UL 746
0.71 mm	65.0	--	°C	UL 746
1.5 mm	75.0	--	°C	UL 746
3.0 mm	75.0	--	°C	UL 746
6.0 mm	75.0	--	°C	UL 746
RTI				UL 746
0.71 mm	65.0	--	°C	UL 746

1.5 mm	85.0	--	°C	UL 746
3.0 mm	85.0	--	°C	UL 746
6.0 mm	85.0	--	°C	UL 746
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] (1.50 mm)	30	--	kV/mm	ASTM D149
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.71 mm	V-2	--		UL 94
1.5 mm	V-2	--		UL 94
3.0 mm	V-2	--		UL 94
6.0 mm	V-2	--		UL 94
Additional Information	**Dry**	**Conditioned**	**Unit**	**Test Method**
Drop Weight Impact Strength (23°C)	122	> 271	J	Internal method
Injection	**Dry**	**Unit**		
Drying Temperature	80		°C	
Drying Time	2.0 - 4.0		hr	
Suggested Max Moisture	0.15		%	
Processing (Melt) Temp	240 - 285		°C	
Mold Temperature	65 - 80		°C	
Injection Pressure	3.50 - 12.5		MPa	
Injection Rate	Fast			
NOTE				
1.	Method A (short time)			

Recommended distributors for this material

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