

Product Information

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Ultramid® 8202C **Polyamide 6**


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Product Description

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.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.13	
Mold Shrinkage (1/8" bar, in/in)		0.009	
Moisture, %	D-570		
(24 Hour)		1.6	
(50% RH)		2.6	
(Saturation)		9.3	
MECHANICAL	ASTM Test Method	Dry	Conditioned
Tensile Strength, Yield, MPa (psi)	D-638		
-40°C (-40°F)		137 (19,900)	142 (20,600)
23°C (73°F)		90 (13,100)	48 (6,960)
80°C (176°F)		40 (5,800)	30 (4,350)
121°C (250°F)		30 (4,350)	25 (3,620)
Tensile Strength, Break, MPa (psi)	D-638		
-40°C (-40°F)		130 (18,900)	80 (11,600)
23°C (73°F)		90 (13,100)	70 (10,200)
80°C (176°F)		35 (5,070)	30 (4,350)
121°C (250°F)		25 (3,620)	20 (2,900)
Elongation, Yield, %	D-638		
-40°C (-40°F)		3	3
23°C (73°F)		4	22
80°C (176°F)		25	25
121°C (250°F)		27	30
Elongation, Break, %	D-638		
-40°C (-40°F)		5	3
23°C (73°F)		12	>100
80°C (176°F)		>100	>100
121°C (250°F)		>100	>100
Flexural Modulus, MPa (psi)	D-790		
-40°C (-40°F)		3,370 (489,000)	4,200 (609,000)
23°C (73°F)		3,170 (460,000)	970 (141,000)
65°C (149°F)		600 (87,000)	-
90°C (194°F)		440 (63,800)	-
121°C (250°F)		385 (55,800)	-
Flexural Strength, MPa (psi)	D-790		
-40°C (-40°F)		183 (26,500)	168 (24,400)
23°C (73°F)		110 (16,000)	42 (6,090)
65°C (149°F)		30 (4,350)	-
121°C (250°F)		21 (3,040)	-
Rockwell Hardness, R Scale	D-785	120	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40°C (-40°F)		32 (0.6)	21 (0.4)
23°C (73°F)		48 (0.9)	171 (3.2)
Drop Weight Impact, ft-lbs, 23°C	BASF Drop Weight Impact Test	90	>200
THERMAL	ASTM Test Method	Dry	Conditioned
Melting Point, °C(°F)	D-3418	220 (428)	-
Heat Deflection @ 264 psi (1.8 MPa) °C(°F)	D-648	75 (167)	-
Heat Deflection @ 66 psi (.45 MPa) °C(°F)	D-648	190 (374)	-
Coef. of Linear Thermal Expansion, mm/mm °C (in/in °F)	E-831	0.81 X10-4	-
UL RATINGS	UL Test Method	Property Value	
Flammability Rating, .71mm	UL94	V-2	
Relative Temperature Index, .71mm	UL746B		
Mechanical w/o Impact, °C		65	
Mechanical w/ Impact, °C		65	
Electrical, °C		125	

Flammability Rating, 1.5mm	UL94	V-2	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, °C		85	
Mechanical w/ Impact, °C		75	
Electrical, °C		125	
Flammability Rating, 3.0mm	UL94	V-2	
Relative Temperature Index, 3.0mm	UL746B		
Mechanical w/o Impact, °C		85	
Mechanical w/ Impact, °C		75	
Electrical, °C		125	
Flammability Rating, 6.0mm	UL94	V-2	
Relative Temperature Index, 6.0mm	UL746B		
Mechanical w/o Impact, °C		85	
Mechanical w/ Impact, °C		75	
Electrical, °C		125	
ELECTRICAL	ASTM Test Method	Dry	Conditioned
Volume Resistivity, 1.5 mm	D-257	>1E13	-
Dielectric Strength, Short Time, 1.5 mm	D-149	30	-

Processing Guidelines

Material Handling

Max. Water content: 0.15%

Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80°C (176°F) is recommended. Drying time is dependent on moisture level, however 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 240-285°C (464-545°F)

Mold Temperature 65-80°C (149-176°F)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures

A mold temperature of 65-80°C (149-176°F) is recommended, however temperatures of as low as 10°C (50°F) can be used where applicable.

Pressures

Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Fill Rate

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing.

Note

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