

Ultramid® 8202

Polyamide 6

Product Description

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.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.13	
Mold Shrinkage (1/8" bar, in/in)		0.012	
Moisture, %	D-570		
(24 Hour)		1.6	
(50% RH)		2.7	
(Saturation)		9.5	
MECHANICAL	ASTM Test Method	Dry	Conditioned
Tensile Strength, Yield, MPa (psi)	D-638		
-40°C (-40°F)		126 (18,300)	110 (15,900)
23°C (73°F)		79 (11,500)	36 (5,220)
80°C (176°F)		35 (5,070)	30 (4,350)
121°C (250°F)		25 (3,630)	20 (2,900)
Tensile Strength, Break, MPa (psi)	D-638		
23°C (73°F)		75 (10,900)	60 (8,700)
Elongation, Yield, %	D-638		
23°C (73°F)		4	16
80°C (176°F)		42	35
121°C (250°F)		36	40
Elongation, Break, %	D-638		
23°C (73°F)		55	>100
Flexural Modulus, MPa (psi)	D-790		
-40°C (-40°F)		3,010 (436,000)	3,660 (531,000)
23°C (73°F)		2,830 (410,000)	740 (107,000)
65°C (149°F)		500 (72,500)	-
90°C (194°F)		350 (50,700)	-
121°C (250°F)		305 (44,200)	-
Flexural Strength, MPa (psi)	D-790		
-40°C (-40°F)		170 (24,600)	154 (22,300)
23°C (73°F)		108 (15,700)	35 (5,070)
65°C (149°F)		30 (4,350)	-
90°C (194°F)		20 (2,900)	-

121°C (250°F)		17 (2,460)	-
Rockwell Hardness, R Scale	D-785	119	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40°C (-40°F)		48 (0.9)	43 (0.8)
23°C (73°F)		58 (1.1)	NB
Drop Weight Impact, ft-lbs, 23°C	BASF Drop Weight Impact Test	105	>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	65 (149)	-
Heat Deflection @ 66 psi (.45 MPa) °C(°F)	D-648	178 (352)	-
Coef. of Linear Thermal Expansion, mm/mm °C (in/in °F)	E-831	0.83 X10-4	-
UL RATINGS	ASTM Test Method	Dry	Conditioned
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	
ELECTRICAL	ASTM Test Method	Dry	Conditioned
Volume Resistivity, 1.5 mm	D-257	>1E13	-
Dielectric Strength, Short Time, 1.5 mm	D-149	22	-

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, but 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

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

Mold Temperature 65-80 °C (176-203 °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, but 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

Note

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