

Ultramid® 8200 HS

Polyamide 6



Product Description

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.

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		
-40C (-40F)		136 (19,700)	120 (17,400)
23C (73F)		85 (12,300)	39 (5,660)
121C (250F)		23 (3,340)	-
Elongation, Yield, %	D-638		
-40C (-40F)		3	3
23C (73F)		20	16
121C (250F)		15	-
Elongation, Break, %	D-638		
-40C (-40F)		8	4
23C (73F)		60	>100
121C (250F)		>100	-
Flexural Modulus, MPa (psi)	D-790		
-40C (-40F)		3,010 (436,000)	3,660 (531,000)
23C (73F)		2,830 (410,000)	740 (107,000)
65C (149F)		460 (66,700)	-
90C (194F)		350 (50,700)	-
121C (250F)		305 (44,200)	
Flexural Strength, MPa (psi)	D-790		
-40C (-40F)		168 (24,400)	161 (23,300)
23C (73F)		110 (16,000)	37 (5,360)
65C (149F)		30 (4,350)	-
90C (194F)		20 (2,900)	-
121C (250F)		18 (2,610)	-



BASF Corporation
Engineering Plastics
609 Biddle Avenue
Ypsilanti, MI 48192



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Rockwell Hardness, R Scale	D-785	119	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40C (-40F)		48 (0.9)	43 (0.8)
23C (73F)		65 (1.2)	NB
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	175 (347)	-
Coef. of Linear Thermal Expansion, mm/mm C (in/in F)	E-831	0.83 X10-4	-

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 degC (176 degF) 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 degC (464-545 degF)

Mold Temperature 65-80 degC (149-176 degF)

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

Mold Temperatures

A mold temperature of 65-80 degC (149-176 degF) is recommended, but temperatures of as low as 10 degC (50 degF) 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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