Product Information

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Ultramid® 8202C HS
Polyamide 6

BASF The Chemical Company

Product Description

Ultramid 8202C HS is a heat stabilized, low viscosity, PA6 injection molding homopolymer possessing a modified crystalline structure for increased property performance and faster cycles. It is also available in pigmented versions.

Applications

Ultramid 8202C HS is generally recommended for applications such as gears, valves, fittings, insulators, bushings, slides, window hardware, wiring devices, textile components and furniture casters.

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		
-40C (-40F)		137 (19,900)	142 (20,600)
23C (73F)		90 (13,100)	48 (6,960)
80C (176F)		40 (5,800)	30 (4,350)
121C (250F)		30 (4,350)	25 (3,620)
Tensile Strength, Break, MPa (psi)	D-638		
-40C (-40F)		130 (18,900)	80 (11,600)
23C (73F)		90 (13,100)	70 (10,200)
80C (176F)		35 (5,070)	30 (4,350)
121C (250F)		25 (3,620)	20 (2,900)
Elongation, Yield, %	D-638		
-40C (-40F)		3	3
23C (73F)		4	22
80C (176F)		25	25
121C (250F)		27	30
Elongation, Break, %	D-638		
-40C (-40F)		5	3
23C (73F)		12	>100
80C (176F)		>100	>100
121C (250F)		>100	>100
Flexural Modulus, MPa (psi)	D-790		
-40C (-40F)		3,370 (489,000)	4,200 (609,000)
23C (73F)		3,170 (460,000)	970 (141,000)
65C (149F)		600 (87,000)	-
90C (194F)		440 (63,800)	-

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121C (250F)		385 (55,800)	-
Flexural Strength, MPa (psi)	D-790		
-40C (-40F)		183 (26,500)	168 (24,400)
23C (73F)		110 (16,000)	42 (6,090)
65C (149F)		30 (4,350)	-
121C (250F)		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		
-40C (-40F)		32 (0.6)	21 (0.4)
23C (73F)		48 (0.9)	171 (3.2)
Drop Weight Impact, ft-lbs, 23C	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, 1.5mm	UL94	V-2	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, C		105	
Mechanical w/ Impact, C		105	
Electrical, C		130	
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 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.

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

Note

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