

Product Information

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Ultramid® 8272G HS BK102 **Polyamide 6**


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Product Description

Ultramid 8272G HS BK102 is a 12% glass fiber reinforced, black pigmented, thermally modified, PA6 blow molding compound offering an excellent balance of engineering properties combined with the melt strength ideally suited for blow molding and other applications requiring ultra high melt viscosity. It exhibits improved strength, stiffness and creep resistance compare to standard blow molding grades. Outstanding permeability and chemical resistance to oils, hydrocarbons and most solvents are other advantages along with excellent stiffness ad the ability to fabricate complex shapes for cost effective metal replacements.

Applications

Ultramid 8272G HS BK102 is designed for blow molding applications requiring improved short term thermal performance as well as extrusions. It is ideal for air ducts, reservoirs and covers.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.22	
Mold Shrinkage (1/8" bar, in/in)		0.003	
Moisture, %	D-570		
(24 Hour)		1.4	
(50% RH)		2.3	
(Saturation)		8.3	
MECHANICAL	ASTM Test Method	Dry	Conditioned
Tensile Strength, Break, MPa (psi)	D-638		
-40°C (-40°F)		115 (16,700)	110 (16,000)
23°C (73°F)		110 (16,000)	60 (8,700)
121°C (250°F)		45 (6,520)	25 (3,620)
Elongation, Break, %	D-638		
-40°C (-40°F)		2	2
23°C (73°F)		3	-
121°C (250°F)		15	20
Flexural Modulus, MPa (psi)	D-790		
-40°C (-40°F)		5,200 (754,000)	5,580 (809,000)
23°C (73°F)		4,650 (674,000)	1,970 (286,000)
121°C (250°F)		995 (144,000)	-
Flexural Strength, MPa (psi)	D-790		
-40°C (-40°F)		200 (29,000)	265 (38,400)
23°C (73°F)		165 (23,900)	80 (11,600)
121°C (250°F)		50 (7,250)	-
Rockwell Hardness, R Scale	D-785	121	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40°C (-40°F)		40 (0.7)	40 (0.7)
23°C (73°F)		45 (0.8)	155 (2.9)
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	197 (386)	-
Coef. of Linear Thermal Expansion, mm/mm °C (in/in °F)	E-831	0.97 X10-4	-
ELECTRICAL	ASTM Test Method	Dry	Conditioned
Volume Resistivity, 1.5 mm	D-257	>1E13	>1E13

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 245-260°C (473-500°F)

Mold Temperature 60°C (140°F)

Blow Ratio 2:1

Mold Temperatures

Mold temperatures of 60°C (140°F) are generally recommended; however, surface temperatures of 10-95°C (50-203°F) can be used where applicable. The degree of crystallinity of thin polyamide wall sections, 0.6mm (.023") or less, may be controlled by the temperature of the mold. A cold mold, 5-30°C (41-86°F), will rapidly quench the section producing a clear, relatively flexible part, while a hot mold, over 40°C (104°F), will produce an opaque part with increased stiffness.

Blow Ratio

A diametrical blow ratio of 2:1 is generally recommended for plain symmetrical parts. As part complexity increases, lower blow ratios should be utilized to prevent thin wall cross sections, especially in corners.

Note

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BASF Corporation
Engineering Plastics
1609 Biddle Avenue
Wyandotte, MI 48192

General Information: 800-BC-RESIN
Technical Assistance: 800-527-TECH (734-324-5150)
Web address: <http://www.plasticsportal.com/usa>

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