

Ultramid® B3WG6 GPX BK23238

Polyamide 6

Ultramid B3WG6 GPX BK23238 is a 30% glass fiber reinforced, heat stabilized injection molding PA6 grade for primary use in welded air intake manifolds. This grade has been engineered to provide improved burst pressure strengths with excellent long-term burst strength retention.

Applications

Typical applications include automotive manifolds and other powertrain components.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm ³	1183	1.35	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23°C		9,600	-
Tensile stress at break, MPa	527		
23°C		185	-
Tensile strain at break, %	527		
23°C		3.5	-
Flexural Strength, MPa	178		
23°C		265	-
Flexural Modulus, MPa	178		
23°C		8,300	-
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m²	179		
23°C		13	-
Charpy Unnotched, kJ/m²	179		

23°C		95	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, °C	3146	220	-
HDT A, °C	75	202	-

Processing Guidelines

Material Handling

Max. Water content: 0.15%

Material is supplied in sealed containers and drying prior to molding in a dehumidifying or desiccant dryer is recommended.

Drying parameters are dependent upon the actual percentage of moisture in the pellets and typical pre-drying conditions are 2-4 hours at 180F (83C). Recommended moisture levels for achieving optimum surface qualities and mechanical properties is 0.05% - 0.12%. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet (MSDS), or by contacting your BASF representative.

Typical Profile

Melt Temperature 270-290°C (518-554°F)

Mold Temperature 80-90°C (176-194°F)

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

Mold Temperatures

This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics are critical, a mold surface temperature of 80-95°C (176-203°F) is recommended.

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.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. Minimal back pressure should be utilized to prevent glass breakage.

Fill Rate

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

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>