Product Information

Ultramid® HPN 9233G HS BK-102

Polyamide 6

BASF The Chemical Company

Product Description

Ultramid HPN 9233G HS BK-102 is a heat stabilized, pigmented black, 33% glass reinforced PA6 injection molding grade resin in the High Productivity Nylon Series developed for improved cycle times while maintaining excellent properties. It exhibits high strength, rigidity and heat resistance. Surface appearance has been improved, cycle times reduced and creep resistance retained. This heat stabilizer version extends the retention of mechanical properties at elevated temperatures while maintaining excellent chemical resistance to greases, oils and hydrocarbons.

Applications

Ultramid HPN 9233G HS BK-102 is generally recommended for applications such as window locks, valve bodies, chair shells, door and window hardware, connectors, switch components, relay parts, terminal blocks, power tool housings, gears, chainsaws, blowers, trimmer housings and automotive housings.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.39	
Moisture, %	62		
(24 Hour)		1.1	
(50% RH)		1.8	
(Saturation)		6.4	
MECHANICAL	**ISO Test Method**	**Dry**	**Conditioned**
Tensile stress at break, MPa	527		
23C		175	-
Tensile strain at break, %	527		
23C		3	-
Flexural Modulus, MPa	178		
23C		8,400	-
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Izod Notched Impact, kJ/m^2	180		
23C		9.5	-
-40C		7	-
THERMAL	**ISO Test Method**	**Dry**	**Conditioned**
Melting Point, C	3146	220	-
HDT A, C	75	54	-
HDT B, C	75	174	-
ELECTRICAL	**ISO Test Method**	**Dry**	**Conditioned**
Volume Resistivity	IEC 60093	>1E13	-
UL RATINGS	**UL Test Method**	**Property Value**	
Flammability Rating, 1.5mm	UL94	HB	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, C		140	
Mechanical w/ Impact, C		115	
Electrical, C		140	

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Processing Guidelines

Material Handling
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 Material Safety Data Sheet (MSDS), or by contacting your BASF representative.

Typical Profile
Melt Temperature 270-295 degC (518-563 degF)
Mold Temperature 80-95 degC (176-203 degF)
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 degC (176-203 degF) 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