

BASF Capron® HPN 9233G HS BK-102 33% Glass-Filled Nylon 6 (Dry) (discontinued **)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , 30% Glass Fiber Filled

Material Notes:

Capron HPN 9233G HS BK-102 is a heat stabilized, pigmented black, 33% glass reinforced nylon 6 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. Capron 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 ZZZ ASTM Callout PA220G 33A 43370. Data provided by Allied Signal. Processing: Max. water content 0.12%. Product is supplied in sealed containers and drying is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 85°C (185 °F). Is recommended. Drying time is dependent on moisture level. Melt Temperature: 270-295 degC (518-563 degF). Mold Temperature: 80-95 degC (176-203 degF). Injection and Packing Pressure: 35-125 bar (500-1500psi) This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics critical, a mold surface temperature of 80-95 degC (176-203 degF) is required. 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. A maximum of 3.5 bar (50 psi) is recommended to minimize glass fiber breakage. Fast fill rates are recommended to insure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate. Capron® is no longer a part of the BASF standard line. The BASF nylon products have been consolidated in the Ultramid ® line.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Capron-HPN-9233G-HS-BK-102-33-Glass-Filled-Nylon-6-Dry-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.39 g/cc	0.0502 lb/in ³	ISO data
Water Absorption	1.1 %	1.1 %	24 hrs; ISO data
Moisture Absorption at Equilibrium	1.8 %	1.8 %	50% RH; 23°C; ISO data
Water Absorption at Saturation	6.4 %	6.4 %	in water; 23°C; ISO data
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	ASTM data MD
	0.013 cm/cm	0.013 in/in	ISO data
Linear Mold Shrinkage, Transverse	0.017 cm/cm	0.017 in/in	ISO Data

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	175 MPa	25400 psi	Same value from ASTM and ISO tests; 5 mm/min.

Mechanical Properties	Metric	English	Comments
Elongation at Break	3.0 %	3.0 %	ASTM, 5 mm/min
Flexural Yield Strength	265 MPa	38400 psi	ASTM Data
Flexural Modulus	8.40 GPa	1220 ksi	ISO Value
	9.38 GPa	1360 ksi	ASTM Value
Poissons Ratio	0.35	0.35	ISO data

Thermal Properties	Metric	English	Comments
CTE, linear	38.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	21.1 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM data
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Melting Point	220 °C	428 °F	ASTM and ISO test
Deflection Temperature at 0.46 MPa (66 psi)	174 °C	345 °F	ISO data
Deflection Temperature at 1.8 MPa (264 psi)	208 °C	406 °F	ASTM Data
Flammability, UL94	HB	HB	
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\geq 1.00\text{e}+15$ ohm-cm	$\geq 1.00\text{e}+15$ ohm-cm	ISO data
Dielectric Strength	22.0 kV/mm	559 kV/in	ISO data

Processing Properties	Metric	English	Comments
Processing Temperature	260 °C	500 °F	See Materials Notes
Mold Temperature	80.0 °C	176 °F	See Materials Notes
Drying Temperature	85.0 °C	185 °F	See Materials Notes

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