DBL International Inc.

Clos Marie-Therese 6
B-1970 Wezembeek-Oppem, Belgium
Tel: 02-731-3341
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Duramid N6-33 BK-106

Description:
Duramid N6-33 BK-106 is a U.V. resistant 33% glass reinforced, jet black nylon 6 injection moulding compound offering a balance of engineering properties combined with excellent impact performance.

Properties:
The addition of glass fibre reinforcement to a nylon moulding compound enhances its performance characteristics. Duramid N6-33 BK-106 exhibits high strength and rigidity while maintaining excellent impact. Like conventional nylons, Duramid N6-33 BK-106 maintains its inherent chemical resistance, particularly to greases, oils and hydrocarbons.

Processing Guidelines

Melt Temperature:
Duramid N6-33 BK-106 exhibits a crystalline melting point of 420°F, 215°C and a melt temperature range of 520-560°F, 271-293°C is recommended for most applications.

Typical Temperature Profile:

Zone	°C
Rear	249-271
Middle	260-282
Front	271-293
Nozzle	271-293

Mould Temperature:
Duramid N6-33 BK-106 can be processed over a wide range of mould temperatures, however for applications where aesthetics are critical, a mould surface temperature of 82°-93°C is required.

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Pressures:
Injection and packing pressures are generally within the limits of 500-1800 psi. Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final dimensions and can be effectively used 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 back pressure of 50 psi is recommended to minimize glass fibre 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. The fast fill enables the glass fibres to become displaced by a resin-inch surface at the mould interface. Injection speeds of one inch of ram travel per second are generally required for obtaining good surface qualities.

Regrind:
Recommended regrind levels are no more than 25-30%. Higher levels may affect part performance due to excessive glass fibre breakage.

Material Handling:
Duramid N6-33 BK-106 is supplied in sealed containers and drying prior to moulding is not required. If drying becomes necessary a dehumidifying or desiccant dryer operating at 180°F, 82°C is recommended. Drying time is dependent upon moisture level and resin should be dried to less than 0.12% moisture. Further information on safe handling procedures can be obtained from the product Material Safety Data Sheet.

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Typical Physical Properties	DAM		ASTM Test
Tensile Strength, yield	150 MPa	27,000 psi	D-638
Flexural Strength	220 MPa	38,500 psi	D-790
Flexural Modulus	11000 MPa	1,360,000 psi	D-790
Ultimate Elongation	3.0 %		D-638
Notched Izod Impact Strength	73 J/m	2.5 ft·lbs/in	D-256
Specific Gravity	1.38		D-792
Mould Shrinkage (1/8" bar)		0.003 in/in	
Melting Point	215 °C	420 °F	D-789
Heat Deflection @ 265 psi	210 °C	410 °F	D-648