

## Duramid N6 IM BK-104

### Description:

Duramid N6 IM BK-104 is a pigmented black, nylon 6 graft copolymer developed for both injection moulding and extrusion applications requiring improved dry as moulded toughness and increased flexibility.

### Properties:

Copolymerisation of Duramid nylon results in a polymer structure exhibiting varying levels of toughness and flexibility combined with the excellent thermal and chemical properties provided by the polyamide backbone. Duramid N6 IM BK-104 exhibits impact performance more than double that of conventional nylon homopolymers while maintaining good strength and retention of stiffness.

## Processing Guidelines

### Melt Temperature:

Duramid N6 BK-104 exhibits a crystalline melting point of 215°C and a melt temperature range of 249-282°C is recommended for most applications.

### Typical Temperature Profile:

Zone	°C
Rear	227-260
Middle	238-271
Front	249-282
Nozzle	249-282

### Mould Temperature:

Mould temperatures of 82°C are generally recommended, however surface temperatures of 10-93°C can be used where applicable.

### 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 warpage caused by differential shrinkage. It should be applied and maintained until the gate area is completely frozen off.

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## Fill Rate:

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Injection speeds of one inch ram travel per second serves as a guide.

## Regrind:

Recommended regrind levels are no more than 25-30%.

## Material Handling:

Duramid N6 IM BK-104 is supplied in sealed containers and drying prior to moulding is not generally required. If drying becomes necessary a dehumidifying or desiccant drier operating at 82°C is recommended. Drying time is dependent upon moisture level and resin should be dried to less than 0.2% moisture. Further information concerning safe handling procedures can be obtained from the Product Material Safety Data Sheet.

Typical Physical Properties	DAM	ASTM Test
Tensile Strength	65 MPa	D-638
Flexural Strength	85 MPa	D-790
Flexural Modulus	2205 MPa	D-790
Notched Izod Impact Strength	115 J/m	D-256
Specific Gravity	1.09	D-792
Mould Shrinkage (1/8" bar)	0.012 in/in	
Melting Point	215 °C	D-789
Heat Deflection @ 264 psi	60 °C	D-648
Melt Index	3-5 g / 10 min	D-1238

The above specification are believed to be accurate. They are not intended as a representation of fact or warranty of any kind. Buyers must make their own representative test and assume all risks of use whether used alone or in combination with other products.