

Ultramid® B3K

Polyamide 6

Product Description

Ultramid B3K is an easy flowing, stabilized PA6 product for fast processing.

Applications

Typical applications include technical parts with wall thicknesses greater than 2 mm.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm ³	1183	1.13	
Moisture, %	62		
(50% RH)		3	
(Saturation)		9.5	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (275 °C/5 Kg), cc/10min.	1133	160	-
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23°C		3,000	1,000
Tensile stress at yield, MPa	527		
23°C		85	40
Tensile stress at break, MPa	527		
23°C		80	-
Tensile strain at yield, %	527		
23°C		3.7	20
Nominal strain at break, %	527		
23°C		20	>50
Flexural Modulus, MPa	178		
23°C		2,600	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
23°C		5.6	-
Charpy Notched, kJ/m ²	179		
23°C		5.5	60
-30°C		4	-
Charpy Unnotched, kJ/m ²	179		
23°C		N	N
-30°C		100	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, °C	3146	220	-
HDT A, °C	75	65	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm °C		0.85 X10-4	-
ELECTRICAL	ISO Test Method	Property Value	
Comparative Tracking Index	IEC 60112	600	-

Volume Resistivity	IEC 60093	1E13	-
Dielectric Constant (100 Hz)	IEC 60250	4	-
Dielectric Constant (1 MHz)	IEC 60250	3.5	-
Dissipation Factor (100 Hz)	IEC 60250	100	-
Dissipation Factor (1 MHz)	IEC 60250	230	-
UL RATINGS	ISO Test Method	Dry	Conditioned
Flammability Rating, 1.5mm	UL94	HB	-
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, °C		115	-
Mechanical w/ Impact, °C		75	-
Electrical, °C		130	-

Processing Guidelines

Material Handling

Max. Water content: 0.15%

Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80 °C (176 °F) is recommended. Drying time is dependent on moisture level, but 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 240-285 °C (464-545 °F)

Mold Temperature 65-80 °C (176-203 °F)

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

Mold Temperatures

A mold temperature of 65-80 °C (149-176 °F) is recommended, but temperatures of as low as 10 °C (50 °F) can be used where applicable.

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.

Fill Rate

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing.

Note

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