

Ultramid[®] B3K Polyamide 6

Ultramid B3K is an easy flowing, heat 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		
Tensile strain at yield, %	527		
23 °C		3.7	20
Nominal strain at break, %	527		
23 °C		20	>50
Flexural Strength, MPa	178		

Flexural Modulus, MPa

178

IMPACT		ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²		180		
Charpy Notched, kJ/m ²		179		
-30°C			4	-
23°C			5.5	60
Charpy Unnotched, kJ/m ²		179		
-30°C			100	-
23°C			N	N
THERMAL		ISO Test Method	Dry	Conditioned
Melting Point, °C		3146	220	-
HDT A, °C		75	65	-
HDT B, °C		75	180	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm °C			0.85 X10 ⁻⁴	-
ELECTRICAL		ISO Test Method	Dry	Conditioned
Comparative Tracking Index		IEC 60112	600	600
Volume Resistivity (Ohm-m)		IEC 60093	1E13	1E10
Dielectric Constant (100 Hz)		IEC 60250	4	-
Dielectric Constant (1 MHz)		IEC 60250	3.5	7
Dissipation Factor (100 Hz), E-4		IEC 60250	100	-
Dissipation Factor (1 MHz), E-4		IEC 60250	230	3,000
UL RATINGS		UL Test Method	Property Value	
Relative Temperature Index, 0.71mm		UL746B		
Electrical, °C			130	
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
Flammability Rating, 3.0mm	UL94	V-2
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, °C		115
Mechanical w/ Impact, °C		75
Electrical, °C		130
Flammability Rating, 6.0mm	UL94	V-2
Relative Temperature Index, 6.0mm	UL746B	
Mechanical w/o Impact, °C		115
Mechanical w/ Impact, °C		75
Electrical, °C		130

Processing Guidelines

Material Handling

Max. Water content: 0.15%

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). Further information concerning safe handling procedures can be obtained from the Safety Data Sheet (MSDS), or by contacting your BASF representative.

Typical Profile

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

Mold Temperature: 65-80°C (149-176°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, however 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

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.

BASF Corporation

Engineering Plastics
1609 Biddle Avenue
Wyandotte, MI 48192



General Information

800-BC-RESIN

Technical Assistance

800-527-TECH (734-324-5150)

Web address

<http://www.plasticsportal.com/usa>