

# Ultramid® B3L

## Polyamide 6

Ultramid B3L is an impact-modified, easy flowing injection molding PA6 grade for fast processing.

### Applications

Typical applications include impact-resistant articles such as housings, fittings, small parts and anchors.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm <sup>3</sup>	1183	1.1	
<b>Moisture, %</b>	62		
(50% RH)		2.5	
(Saturation)		9	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (275 °C/5 Kg), cc/10min.	1133	100	-
MECHANICAL	ISO Test Method	Dry	Conditioned
<b>Tensile Modulus, MPa</b>	527		
23 °C		2,800	900
<b>Tensile stress at yield, MPa</b>	527		
23 °C		70	35
<b>Tensile strain at yield, %</b>	527		
23 °C		4	18
<b>Nominal strain at break, %</b>	527		
23 °C		25	>50
<b>Flexural Modulus, MPa</b>	178		
23 °C		2,300	-

IMPACT		ISO Test Method	Dry	Conditioned
<b>Izod Notched Impact, kJ/m<sup>2</sup></b>		180		
23°C			15	-
<b>Charpy Notched, kJ/m<sup>2</sup></b>		179		
-30°C			6	-
23°C			10	N
<b>Charpy Unnotched, kJ/m<sup>2</sup></b>		179		
-30°C			N	-
23°C			N	N
THERMAL		ISO Test Method	Dry	Conditioned
Melting Point, °C		3146	220	-
HDT A, °C		75	65	-
HDT B, °C		75	150	-
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	6.4
Dissipation Factor (100 Hz), E-4		IEC 60250	100	-
Dissipation Factor (1 MHz), E-4		IEC 60250	240	2,400
UL RATINGS		UL Test Method	Property Value	
Flammability Rating, 0.4mm		UL94	HB	
<b>Relative Temperature Index, 0.4mm</b>		UL746B		
Mechanical w/o Impact, °C			65	
Mechanical w/ Impact, °C			65	

Electrical, °C		65
Flammability Rating, 0.8mm	UL94	HB
<b>Relative Temperature Index, 0.8mm</b>	UL746B	
Mechanical w/o Impact, °C		65
Mechanical w/ Impact, °C		65
Electrical, °C		65
Flammability Rating, 1.5mm	UL94	HB
<b>Relative Temperature Index, 1.5mm</b>	UL746B	
Mechanical w/o Impact, °C		65
Mechanical w/ Impact, °C		65
Electrical, °C		65
Flammability Rating, 3.0mm	UL94	HB
<b>Relative Temperature Index, 3.0mm</b>	UL746B	
Mechanical w/o Impact, °C		65
Mechanical w/ Impact, °C		65
Electrical, °C		65

## 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.

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## Note

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