

Ultramid® A3W BK00464

Polyamide 66

Ultramid A3W BK00464 is an unreinforced easy flowing, pigmented black, heat aging resistant injection molding PA66 grade for fast processing.

Applications

Typical applications include highly stressed parts such as bearings, bearing cages, gear-wheels, coil formers and cable connectors.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm ³	1183	1.14	
Moisture, %	62		
(50% RH)		2.8	
(Saturation)		8.5	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23°C		3,300	-
Tensile stress at yield, MPa	527		
23°C		88	-
Tensile strain at yield, %	527		
23°C		4.7	-
Flexural Modulus, MPa	178		
23°C		3,100	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m²	180		
-40°C		4	-
23°C		4.5	-

Charpy Notched, kJ/m ²	179		
-30°C		3	-
23°C		4.6	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, °C	3146	260	-
HDT A, ° C	75	75	-
HDT B, ° C	75	210	-
UL RATINGS	UL Test Method	Property Value	
Flammability Rating, 0.75mm	UL94	V-2	
Relative Temperature Index, 0.75mm	UL746B		
Mechanical w/o Impact, °C		105	
Mechanical w/ Impact, °C		105	
Electrical, °C		130	
Flammability Rating, 1.5mm	UL94	V-2	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, °C		105	
Mechanical w/ Impact, °C		105	
Electrical, °C		130	
Flammability Rating, 3.0mm	UL94	V-2	
Relative Temperature Index, 3.0mm	UL746B		
Mechanical w/o Impact, °C		110	
Mechanical w/ Impact, °C		105	
Electrical, °C		130	
Flammability Rating, 6.0mm	UL94	V-2	
Relative Temperature Index, 6.0mm	UL746B		
Mechanical w/o Impact, °C		110	
Mechanical w/ Impact, °C		105	

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 280-300°C (536-572°F)

Mold Temperature 40-80°C (104-176°F)

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

Mold Temperatures

This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics are critical, a mold surface temperature of 40-80°C (104-176°F) is recommended.

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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