

Product Description

Ultramid C3U is an injection molding, general purpose PA6/66 grade with improved flame retardance. The product is UL recognized as 94V0 at 0.4 mm minimum thickness.

Applications

It is used for impact resistant electrical insulating parts such as contact bases and plug connector strips.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.16	
Mold Shrinkage (1/8" bar, in/in)		0.008	
Moisture, %	D-570		
(50% RH)		2.9	
(Saturation)		8.5	
MECHANICAL	ASTM Test Method	Dry	Conditioned
Tensile Strength, Yield, MPa (psi)	D-638		
23°C (73°F)		83 (12,000)	-
Elongation, Yield, %	D-638		
23°C (73°F)		5	-
Elongation, Break, %	D-638		
23°C (73°F)		50	-
Flexural Modulus, MPa (psi)	D-790		
23°C (73°F)		3,000 (435,000)	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40°C (-40°F)		32 (0.6)	-
23°C (73°F)		43 (0.8)	-
THERMAL	ASTM Test Method	Dry	Conditioned
Melting Point, °C(°F)	D-3418	243 (469)	-
Heat Deflection @ 264 psi (1.8 MPa) °C(°F)	D-648	91 (195)	-
Heat Deflection @ 66 psi (.45 MPa) °C(°F)	D-648	224 (435)	-
Coef. of Linear Thermal Expansion, mm/mm °C (in/in °F)	E-831	0.4 X10-4	-
UL RATINGS	UL Test Method	Property Value	
Flammability Rating, 0.38mm	UL94	V-0	
Relative Temperature Index, 0.38mm	UL746B		
Mechanical w/o Impact, °C		65	
Mechanical w/ Impact, °C		65	
Electrical, °C		110	
Flammability Rating, 0.75mm	UL94	V-0	
Relative Temperature Index, 0.75mm	UL746B		
Mechanical w/o Impact, °C		115	
Mechanical w/ Impact, °C		105	
Electrical, °C		120	
Flammability Rating, 1.5mm	UL94	V-0	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, °C		120	
Mechanical w/ Impact, °C		105	
Electrical, °C		120	
Flammability Rating, 3.0mm	UL94	V-0	
Relative Temperature Index, 3.0mm	UL746B		
Mechanical w/o Impact, °C		120	
Mechanical w/ Impact, °C		105	
Electrical, °C		120	
ELECTRICAL	ASTM Test Method	Dry	Conditioned
Volume Resistivity, 1.5 mm	D-257	1E13	1E9

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 degC (176 degF) 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 degC (464-545 degF)

Mold Temperature 65-80 degC (149-176 degF)

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

Mold Temperatures

A mold temperature of 65-80 degC (149-176 degF) is recommended, but temperatures of as low as 10 degC (50 degF) 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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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>

