

Ultramid® A3WC8

Polyamide 66

Product Description

Ultramid A3WC8 is a 40 wt. % short carbon fiber reinforced, heat stabilized, high flow PA66 injection molding grade.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm ³	1183	1.328	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		38,100	27,400
80C		19,400	17,200
120C		15,200	13,100
150C		13,500	11,400
Tensile stress at break, MPa	527		
23C		295	255
80C		203	168
120C		155	130
150C		130	110
Tensile strain at break, %	527		
23C		1.2	2.1
80C		2.1	2.3
120C		2.3	2.4
150C		2.4	2.6
Flexural Strength, MPa	178		
23C		484	-
Flexural Modulus, MPa	178		
23C		34,700	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
-40C		9	-
Charpy Notched, kJ/m ²	179		
-40C		9	-
23C		11	-
Charpy Unnotched, kJ/m ²	179		
-40C		81	-
23C		84	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	260	-
HDT A, C	75	256	-

Processing Guidelines

Material Handling

Max. Water content: 0.08%

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 80C (176F) is recommended. Drying time is dependent on moisture level, however about 4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Please contact your BASF representative if you have any questions.

Typical Profile

Melt Temperature 285-315C (545-599F) Flat profile is best
Mold Temperature 80-95C (176-203F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures

A mold temperature of 80-95C (176-203F) is recommended, however temperatures of as low as 55C (131F) and as high as 105C (221F) can be used where applicable.

Pressures

Injection pressure controls the filling of the part and should be applied for 95% 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.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. Minimal back pressure is recommended to preserve carbon fiber integrity, 3.4-5.2 bar(50-75 psi)

Fill Rate

Medium fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

Note

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