Product Information

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Ultramid® Endure D3G7 BK20560

Polyamide 66

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Product Description

Ultramid Endure D3G7 BK20560 is a glass fiber reinforced injection molding grade with high stiffness, very good flowability, and excellent heat aging resistance up to at least 220 degC (428 degF).

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm³	1183	1.43	
Mold Shrinkage, parallel, %	294-4	0.3	
Mold Shrinkage, normal, %	294-4	0.87	
MECHANICAL	**ISO Test Method**	**Dry**	**Conditioned**
Tensile Modulus, MPa	527		
23C		11,300	7,600
150C		4,200	-
Tensile stress at break, MPa	527		
23C		200	130
150C		84	-
Tensile strain at break, %	527		
23C		2.9	5.1
150C		6.7	-
Flexural Strength, MPa	178		
23C		300	200
Flexural Modulus, MPa	178		
23C		10,600	7,400
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Charpy Notched, kJ/m²	179		
-30C		10.7	13.9
23C		10.2	13.4
Charpy Unnotched, kJ/m²	179		
-30C		60	60
23C		80	90
THERMAL	**ISO Test Method**	**Dry**	**Conditioned**
Melting Point, C	3146	260	-
HDT A, C	75	240	-
HDT B, C	75	260	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		.14 to .20 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C		.80 to 1.3 X10-4	-
ELECTRICAL	**ISO Test Method**	**Dry**	**Conditioned**
Comparative Tracking Index	IEC 60112	250	225
Volume Resistivity (Ohm-m)	IEC 60093	3E12	4E08
Dielectric Strength, KV/mm	IEC 60243-1	48	29

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Processing Guidelines

Material Handling
Max. Water content: 0.12%, Moisture Optimal: <0.05%
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 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile
Melt Temperature 280-300C (536-572F)
Mold Temperature 80-90C (176-194F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures
A mold temperature of 80-90C (176-194F) is recommended, however temperatures of as low as 45C (113F) 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 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.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. Minimal back pressure should be utilized to prevent glass breakage.

Fill Rate
Fast 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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