Ultradur® B 4300 G3 High Speed Unc.

Polybutylene Terephthalate (PBT)

Ultradur B 4300 G3 High Speed Unc. is a high flow, fast cycling with low warpage, 15% glass filled injection molding PBT for industrial parts, rigid tough and dimensional stable applications.

Applications

Typical applications include windshield wiper arms, printed circuit boards, housing, consoles, contact carriers, covers.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm³	1183	1.41
Mold Shrinkage, parallel, %	294-4	0.6
Mold Shrinkage, normal, %	294-4	1.1
Moisture, %	62	
(50% RH)		0.2
(Saturation)		0.4
RHEOLOGICAL	**ISO Test Method**	**Property Value**
Melt Volume Rate (250 °C/2.16 Kg), cc/10min.	1133	25
MECHANICAL	**ISO Test Method**	**Property Value**
Tensile Modulus, MPa	527	
23°C		5,750
Tensile stress at break, MPa	527	
23°C		100
Tensile strain at break, %	527	
23°C		3.4
IMPACT	**ISO Test Method**	**Property Value**
Charpy Notched, kJ/m²	179	

23°C		3.5
THERMAL	**ISO Test Method**	**Property Value**
Melting Point, °C	3146	223
HDT A, ° C	75	200
HDT B, ° C	75	220
Coef. of Linear Thermal Expansion, Parallel, mm/mm °C		0.35 X10-4
ELECTRICAL	**ISO Test Method**	**Property Value**
Volume Resistivity (Ohm-m)	IEC 60093	>1E13
Surface Resistivity (Ohm)	IEC 60093	1E13
Dielectric Constant (100 Hz)	IEC 60250	3.7
Dielectric Constant (1 MHz)	IEC 60250	3.7
Dissipation Factor (100 Hz), E-4	IEC 60250	12
Dissipation Factor (1 MHz), E-4	IEC 60250	150

Processing Guidelines

Material Handling
Max. Water content: 0.04%
To ensure optimum part performance, this product must be dried prior to molding and maintained at a moisture level of less than 0.04%. Dehumidifying or desiccant dryers operating at 100-120°C (212-248°F) for 4 hours drying time are recommended. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile
Melt Temperature 250-270°C (482-518°F)
Mold Temperature 60-100°C (140-212°F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures
This product can be processed over mold temperatures of 60-100°C (140-212°F); however, for optimizing surface appearance, dimensional stability and part performance, mold surface temperatures of at least 80°C (176°F) are preferred.

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. A maximum of 10 bar (145 psi) is recommended due to the risk of excessive shear.

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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