Product Information

Ultradur® B 4300 G4
PBT (Polybutylene Terephthalate)

BASF The Chemical Company

Product Description

Ultradur B 4300 G4 is an easy flowing injection molding PBT with 20% glass fiber reinforcement for rigid, tough, and dimensionally stable parts.

Applications

Typical applications include car door handles, housings for small electric motors, headlight retainers and drum controllers.

PHYSICAL	ASTM Test Method	Property Value
Specific Gravity	D-792	1.45
Mold Shrinkage (1/8" bar, in/in)		0.003
Moisture, %	D-570	
(50% RH)		0.2
(Saturation)		0.4
MECHANICAL	**ASTM Test Method**	**Property Value**
Tensile Strength, Break, MPa (psi)	D-638	
23C (73F)		120 (17,400)
Elongation, Break, %	D-638	
23C (73F)		3
Flexural Modulus, MPa (psi)	D-790	
23C (73F)		6,140 (890,000)
IMPACT	**ASTM Test Method**	**Property Value**
Notched Izod Impact, J/M (ft-lbs/in)	D-256	
23C (73F)		64 (1.2)
THERMAL	**ASTM Test Method**	**Property Value**
Melting Point, C(F)	D-3418	223 (433)
Heat Deflection @ 264 psi (1.8 MPa) C(F)	D-648	205 (401)
Heat Deflection @ 66 psi (.45 MPa) C(F)	D-648	220 (428)
UL RATINGS	**UL Test Method**	**Property Value**
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		130
Mechanical w/ Impact, C		125
Electrical, C		130
ELECTRICAL	**ASTM Test Method**	**Property Value**
Volume Resistivity, 1.5 mm	D-257	>1E13
Surface Resistivity, 1.5 mm	D-257	1E13

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 degC (212-248 degF) for 4 hours drying time are recommended. 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 250-270 degC (482-518 degF)
Mold Temperature 60-100 degC (140-212 degF)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

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