Product Information

Ultradur® B 4300 G4 FC
PBT (Polybutylene Terephthalate)

BASF
The Chemical Company

Product Description

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

PHYSICAL	ISO Test Method	Property Value
Density, g/cm	1183	1.45
Viscosity Number, cm/g	1628	107
Mold Shrinkage, parallel, %	294-4	0.43
Mold Shrinkage, normal, %	294-4	1.16
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	14
MECHANICAL	**ISO Test Method**	**Property Value**
Tensile Modulus, MPa	527	
23C		7,000
Tensile stress at break, MPa	527	
23C		115
Tensile strain at break, %	527	
23C		3.5
Flexural Strength, MPa	178	
23C		170
IMPACT	**ISO Test Method**	**Property Value**
Charpy Notched, kJ/m^2	179	
23C		6
Charpy Unnotched, kJ/m^2	179	
23C		58
-30C		54
THERMAL	**ISO Test Method**	**Property Value**
Melting Point, C	3146	223
HDT A, C	75	205
HDT B, C	75	220
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.35 X10-4
ELECTRICAL	**ISO Test Method**	**Property Value**
Comparative Tracking Index	IEC 60112	300
Volume Resistivity	IEC 60093	1E14
Surface Resistivity	IEC 60093	1E13
Dielectric Constant (100 Hz)	IEC 60250	3.7
Dielectric Constant (1 MHz)	IEC 60250	3.7
Dissipation Factor (100 Hz)	IEC 60250	12
Dissipation Factor (1 MHz)	IEC 60250	150

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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.