Product Information

Oct 2019

Ultradur® B 4300 G6 FC Aqua Polybutylene Terephthalate (PBT)



Product Description

Ultradur B 4300 G6 FC Aqua is a easy flowing injection molding food and drinking water contact PBT with 30% glass fiber reinforcement for rigid, tough, and dimensionally stable parts.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm ³	1183	1.53
Viscosity Number, cm³/g	1628	102
Mold Shrinkage, parallel, %	294-4	0.34
Mold Shrinkage, parallel, % Mold Shrinkage, normal, %	294-4	1.07
Moisture, %	62	1.07
(50% RH)	02	0.2
(Saturation)		0.4
RHEOLOGICAL	ISO Test Method	** :
		Property Value
Melt Volume Rate (250 C/2.16 Kg), cc/10min.	1133	11
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	0.000
23C		9,800
Tensile stress at break, MPa	527	110
23C		140
Tensile strain at break, %	527	
23C		3.0
Flexural Strength, MPa	178	
23C		200
IMPACT	ISO Test Method	Property Value
Charpy Notched, kJ/m ²	ISO Test Method 179	
Charpy Notched, kJ/m ² 23C	179	Property Value 9.5
Charpy Notched, kJ/m ² 23C Charpy Unnotched, kJ/m ²		9.5
Charpy Notched, kJ/m ² 23C	179	9.5
Charpy Notched, kJ/m ² 23C Charpy Unnotched, kJ/m ² -30C 23C	179 179	9.5 74 70
Charpy Notched, kJ/m ² 23C Charpy Unnotched, kJ/m ² -30C	179	9.5
Charpy Notched, kJ/m ² 23C Charpy Unnotched, kJ/m ² -30C 23C	179 179	9.5 74 70
Charpy Notched, kJ/m ² 23C Charpy Unnotched, kJ/m ² -30C 23C THERMAL	179 179 ISO Test Method	9.5 74 70 Property Value
Charpy Notched, kJ/m ² 23C Charpy Unnotched, kJ/m ² -30C 23C THERMAL Melting Point, C	179 179 ISO Test Method 3146	9.5 74 70 Property Value 223
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C	179 179 ISO Test Method 3146 75	9.5 74 70 Property Value 223 215
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C HDT B, C Coef. of Linear Thermal Expansion, Parallel,	179 179 ISO Test Method 3146 75	9.5 74 70 Property Value 223 215 220
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C HDT B, C Coef. of Linear Thermal Expansion, Parallel, mm/mm C	179 179 ISO Test Method 3146 75 75	9.5 74 70 Property Value 223 215 220 0.25 X10-4
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C HDT B, C Coef. of Linear Thermal Expansion, Parallel, mm/mm C ELECTRICAL	179 179 ISO Test Method 3146 75 75	9.5 74 70 Property Value 223 215 220 0.25 X10-4 Property Value
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C HDT B, C Coef. of Linear Thermal Expansion, Parallel, mm/mm C ELECTRICAL Comparative Tracking Index	179 179 180 Test Method 3146 75 75 ISO Test Method IEC 60112	9.5 74 70 Property Value 223 215 220 0.25 X10-4 Property Value 375
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C HDT B, C Coef. of Linear Thermal Expansion, Parallel, mm/mm C ELECTRICAL Comparative Tracking Index Volume Resistivity (Ohm-m)	179 179 179 ISO Test Method 3146 75 75 ISO Test Method IEC 60112 IEC 60093	9.5 74 70 Property Value 223 215 220 0.25 X10-4 Property Value 375 1E14
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C HDT B, C Coef. of Linear Thermal Expansion, Parallel, mm/mm C ELECTRICAL Comparative Tracking Index Volume Resistivity (Ohm-m) Surface Resistivity (Ohm)	179 179 180 Test Method 3146 75 75 ISO Test Method IEC 60112 IEC 60093 IEC 60093	9.5 74 70 Property Value 223 215 220 0.25 X10-4 Property Value 375 1E14 1E13
Charpy Notched, kJ/m² 23C Charpy Unnotched, kJ/m² -30C 23C THERMAL Melting Point, C HDT A, C HDT B, C Coef. of Linear Thermal Expansion, Parallel, mm/mm C ELECTRICAL Comparative Tracking Index Volume Resistivity (Ohm-m) Surface Resistivity (Ohm) Dielectric Constant (100 Hz)	179 179 180 Test Method 3146 75 75 ISO Test Method IEC 60112 IEC 60093 IEC 60093 IEC 60250	9.5 74 70 Property Value 223 215 220 0.25 X10-4 Property Value 375 1E14 1E13 4

Dissipation Factor (1 MHz), E-4

General Information: 800-BC-RESIN Technical Assistance: 800-527-TECH (734-324-5150) Web address: http://www.plasticsportal.com/usa

IEC 60250

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Ultradur® B 4300 G6 FC Aqua



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 100-120C (212-248F) for 4 hours drying time are recommended. Further information concerning safe handling prCedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

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

Mold Temperatures

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