



Ultradur® B 4520 FC Aqua

BASF Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Ultradur B 4520 FC Aqua is a medium viscosity, rapidly freezing injection molding grade approved for food contact and drinking water contact

General

Material Status	• Commercial: Active
Availability	• North America
Features	• Drinking Water Contact Acceptable • Food Contact Acceptable • Medium Viscosity
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	21	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.7	%	
Flow	1.5	%	
Water Absorption (Saturation, 73°F)	0.50	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.25	%	ISO 62
Viscosity Number (Reduced Viscosity)	130.0	ml/g	ISO 1628
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	348000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	7980	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	3.7	%	ISO 527-2
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2
Flexural Modulus (73°F)	348000	psi	ISO 178
Flexural Stress (73°F)	12300	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-22°F	1.4	ft-lb/in ²	
73°F	2.4	ft-lb/in ²	
Charpy Unnotched Impact Strength (73°F)	No Break		ISO 179
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	329	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	149	°F	ISO 75-2/A
Melting Temperature (DSC)	433	°F	ISO 3146
CLTE - Flow	7.2E-5 to 8.9E-5	in/in/°F	

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+13	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Dielectric Constant			IEC 60250
100 Hz	3.40		
1 MHz	3.30		
Dissipation Factor			IEC 60250
100 Hz	2.0E-3		
1 MHz	0.020		
Comparative Tracking Index	550	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.030 in		HB	
0.06 in		HB	
0.11 in		HB	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	212 to 248	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.040	%
Processing (Melt) Temp	482 to 518	°F
Mold Temperature	104 to 176	°F
Injection Pressure	500 to 1500	psi
Injection Rate	Fast	
Back Pressure	< 145	psi

Notes

¹ Typical properties: these are not to be construed as specifications.