

Durethan® BF 4212 00000

Polybutylene Terephthalate

LANXESS GmbH

Message:

PBT, 15 % glass fibers, injection molding, flame retardant

General Information			
Filler / Reinforcement	Glass Fiber, 15% Filler by Weight		
Additive	Flame Retardant		
Features	Flame Retardant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.53	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (260°C/2.16 kg)	14.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow : 260°C, 2.00 mm ¹	1.1	%	
Across Flow : 120°C, 4 hr, 2.00 mm ²	0.10	%	
Flow : 260°C, 2.00 mm ³	0.70	%	
Flow : 120°C, 4 hr, 2.00 mm ⁴	0.10	%	
Water Absorption			ISO 62
Saturation, 23°C	0.40	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	7000	MPa	ISO 527-2/1
Tensile Stress (Break, 23°C)	110	MPa	ISO 527-2/5
Tensile Strain (Break, 23°C)	2.6	%	ISO 527-2/5
Flexural Modulus ⁵ (23°C)	6500	MPa	ISO 178/A
Flexural Stress ⁶ (23°C)	170	MPa	ISO 178/A
Flexural Strain at Flexural Strength ⁷ (23°C)	3.5	%	ISO 178/A
ISO Shortname	PBT, GFHMR, 09-070, GF15; ISO 1043-PBT GF FR (17)		ISO 7792
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	< 10	kJ/m ²	
23°C	< 10	kJ/m ²	
Charpy Unnotched Impact Strength (23°C)	40	kJ/m ²	ISO 179/1eU
Notched Izod Impact Strength			ISO 180/1A
-30°C	< 10	kJ/m ²	
23°C	< 10	kJ/m ²	
Unnotched Izod Impact Strength (23°C)	30	kJ/m ²	ISO 180/1U

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	215	°C	ISO 75-2/B
1.8 MPa, Unannealed	190	°C	ISO 75-2/A
Vicat Softening Temperature	212	°C	ISO 306/B50
Ball Pressure Test (212°C)	Pass		IEC 60695-10-2
Melting Temperature ⁸	222	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow : 23 to 55°C	4.0E-5	cm/cm/°C	
Transverse : 23 to 55°C	1.1E-4	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+17	ohms	IEC 60093
Volume Resistivity (23°C)	> 1.0E+16	ohms·cm	IEC 60093
Electric Strength (23°C, 1.00 mm)	29	kV/mm	IEC 60243-1
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index (Solution A)	200	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.750 mm	V-0		
1.50 mm	V-0		
3.00 mm	V-0		
Glow Wire Flammability Index			IEC 60695-2-12
0.750 mm	960	°C	
1.50 mm	960	°C	
3.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.750 mm	850	°C	
1.50 mm	750	°C	
3.00 mm	725	°C	
Oxygen Index ⁹	28	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature - Dry Air Dryer	120	°C	
Drying Time - Dry Air Dryer	4.0 to 8.0	hr	
Processing (Melt) Temp	240 to 260	°C	
Mold Temperature	80.0 to 100	°C	
NOTE			
1.	60x60x2mm, 80°C MT, 600 bar		
2.	60x60x2mm		
3.	60x60x2mm, 80°C MT, 600 bar		
4.	60x60x2mm		
5.	2.0 mm/min		
6.	2.0 mm/min		

7.	2 mm/min
8.	10°C/min
9.	Procedure A

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