

POCAN® B 2505 000000

Polybutylene Terephthalate

LANXESS GmbH

Message:

PBT, non-reinforced, injection molding, flame retardant

General Information			
Features	Flame retardancy		
Agency Ratings	EC 1907/2006 (REACH)		
Processing Method	Injection molding		
Multi-Point Data	Shear Modulus vs. Temperature (ISO 11403-1)		
	Viscosity vs. Shear Rate (ISO 11403-2)		

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.47	g/cm³	ISO 1183
Apparent Density	0.90	g/cm³	ISO 60
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	18.0	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Vertical flow direction: 250°C, 2.00mm ¹	2.2	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm ²	0.20	%	ISO 294-4
Flow direction: 250°C, 2.00mm ³	2.2	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm ⁴	0.20	%	ISO 294-4
Water Absorption			ISO 62
Saturated, 23°C	0.40	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62

Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	150	MPa	ISO 2039-1

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	2760	MPa	ASTM D638
23°C	3000	MPa	ISO 527-2/1
Tensile Stress			
Yield, 23°C	50.0	MPa	ISO 527-2/50
Fracture, 23°C	48.3	MPa	ASTM D638
Tensile Strain			
Yield, 23°C	3.0	%	ISO 527-2/50
Fracture, 23°C	16	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	8.0	%	ISO 527-2/50
Tensile Creep Modulus			ISO 899-1

1 hr	2800	MPa	ISO 899-1
1000 hr	1800	MPa	ISO 899-1
Flexural Modulus			
23°C	2560	MPa	ASTM D790
23°C ⁵	3000	MPa	ISO 178/A
Flexural Strength			
23°C	85.5	MPa	ASTM D790
3.5% strain ⁶	80.0	MPa	ISO 178/A
23°C ⁷	90.0	MPa	ISO 178
Flexural Strain at Flexural Strength (23°C) ⁸	5.0	%	
Halving Interval			IEC 60216
-- ⁹	12.4	°C	IEC 60216
1.50 mm ¹⁰	9.2	°C	IEC 60216
1.50 mm ¹¹	11.7	°C	IEC 60216
Temperature index ¹²			IEC 60216
Electric Strength	145		IEC 60216
Tensile Impact Strength : 1.50 mm	135		IEC 60216
Tensile Strength : 1.50 mm	140		IEC 60216
Electrolytical Corrosion	A 1		IEC 60426
ISO Shortname	PBT, GFMHR, 11-030; ISO 1043-PBT FR(17)		ISO 7792
Residual Moisture Content	0.0 - 0.020	%	Karl Fisher
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	< 10	kJ/m ²	ISO 179/1eA
23°C	< 10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	90	kJ/m ²	ISO 179/1eU
23°C	100	kJ/m ²	ISO 179/1eU
Notched Izod Impact			ISO 180/1A
-40°C	< 10	kJ/m ²	ISO 180/1A
-30°C	< 10	kJ/m ²	ISO 180/1A
23°C	< 10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength			ISO 180/1U
-30°C	65	kJ/m ²	ISO 180/1U
23°C	80	kJ/m ²	ISO 180/1U
Multi-Axial Instrumented Impact Peak Force (23°C)	40.0	N	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	170	°C	ISO 75-2/B
1.8 MPa, not annealed	70.0	°C	ISO 75-2/A
8.0 MPa, not annealed	48.0	°C	ISO 75-2/C

Vicat Softening Temperature	190	°C	ISO 306/B120
Ball Pressure Test (190°C)	Pass		IEC 60695-10-2
Melting Temperature ¹³	225	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 55°C	1.0E-4	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	1.0E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.25	W/m/K	ISO 8302
RTI Elec	130	°C	UL 746
RTI Imp (1.50 mm)	130	°C	UL 746
RTI (1.50 mm)	140	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength (23°C, 1.00 mm)	28	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.40		IEC 60250
23°C, 1 MHz	3.20		IEC 60250
Comparative Tracking Index (Solution A)	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.750 mm	V-0		UL 94
1.60 mm	V-0		UL 94
Glow Wire Flammability Index (2.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index ¹⁴	32	%	ISO 4589-2
Injection	Nominal Value	Unit	Test Method
Drying Temperature - Circulation Dryer	120	°C	
Drying Time - Circulation Dryer	4.0 - 8.0	hr	
Processing (Melt) Temp	240 - 260	°C	
Mold Temperature	80.0 - 100	°C	
NOTE			
1.	60x60x2; WZ 80°C; 600 Bar		
2.	60x60x2		
3.	60x60x2; WZ 80°C; 600 Bar		
4.	60x60x2		
5.	2.0 mm/min		
6.	2.0 mm/min		
7.	2.0 mm/min		
8.	Pull Rate: 2 mm/min; 50% RH		
9.	Electric Strength		
10.	Tensile Impact Strength		
11.	Tensile Strength		
12.	20000 h		
13.	10°C/min		
14.	Procedure A		

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