

POCAN® B1600 000000

Polybutylene Terephthalate
LANXESS GmbH

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

PBT, non-reinforced, injection molding, extrusion, suitable for food-contact

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe
Features	• Food Contact Acceptable
Processing Method	• Extrusion • Injection Molding
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2)

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density (73°F (23°C))	1.30 g/cm ³	1.30 g/cm ³	ISO 1183
Apparent (Bulk) Density	0.80 g/cm ³	0.80 g/cm ³	ISO 60
Melt Volume-Flow Rate (MVR) (260°C/2.16 kg)	0.854 in ³ /10min	14.0 cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow : 302°F (150°C), 0.118 in (3.00 mm) ²	0.50 %	0.50 %	
Across Flow : 500°F (260°C), 0.118 in (3.00 mm) ³	1.8 %	1.8 %	
Flow : 302°F (150°C), 0.118 in (3.00 mm) ²	0.50 %	0.50 %	
Flow : 500°F (260°C), 0.118 in (3.00 mm) ³	1.8 %	1.8 %	
Water Absorption			ISO 62
Saturation, 73°F (23°C)	0.50 %	0.50 %	
Equilibrium, 73°F (23°C), 50% RH	0.20 %	0.20 %	
Viscosity Number (Reduced Viscosity)	140.0 ml/g	140.0 ml/g	ISO 1628

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	377000 psi	2600 MPa	ISO 527-2/1
Tensile Stress (Yield, 73°F (23°C))	7980 psi	55.0 MPa	ISO 527-2/50
Tensile Strain (Yield, 73°F (23°C))	4.0 %	4.0 %	ISO 527-2/50
Nominal Tensile Strain at Break 73°F (23°C)	> 50 %	> 50 %	ISO 527-2/50
Tensile Creep Modulus			ISO 899-1
1 hr	319000 psi	2200 MPa	
1000 hr	189000 psi	1300 MPa	
Flexural Modulus ⁴ (73°F (23°C))	384000 psi	2650 MPa	ISO 178/A
Flexural Stress ⁴			ISO 178/A
73°F (23°C)	12300 psi	85.0 MPa	
3.5% Strain, 73°F (23°C)	10900 psi	75.0 MPa	
Flexural Strain at Flexural Strength ⁵			ISO 178/A
73°F (23°C)	6.0 %	6.0 %	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	< 4.8 ft·lb/in ²	< 10 kJ/m ²	
73°F (23°C)	< 4.8 ft·lb/in ²	< 10 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	95 ft·lb/in ²	200 kJ/m ²	
73°F (23°C)	No Break	No Break	



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Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact Strength			ISO 180/1A
-40°F (-40°C)	< 4.8 ft·lb/in ²	< 10 kJ/m ²	
-22°F (-30°C)	< 4.8 ft·lb/in ²	< 10 kJ/m ²	
73°F (23°C)	< 4.8 ft·lb/in ²	< 10 kJ/m ²	
Unnotched Izod Impact Strength			ISO 180/1U
-22°F (-30°C)	76 ft·lb/in ²	160 kJ/m ²	
73°F (23°C)	No Break	No Break	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F (-30°C)	961 lbf	4280 N	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Ball Indentation Hardness	17400 psi	120 MPa	ISO 2039-1
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	320 °F	160 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	140 °F	60.0 °C	ISO 75-2/A
1160 psi (8.0 MPa), Unannealed	113 °F	45.0 °C	ISO 75-2/C
Vicat Softening Temperature	356 °F	180 °C	ISO 306/B50
Ball Pressure Test (374°F (190°C))	Pass	Pass	IEC 60695-10-2
Melting Temperature ⁶	437 °F	225 °C	ISO 11357-3
CLTE			ISO 11359-2
Flow : 73 to 131°F (23 to 55°C)	6.7E-5 in/in/°F	1.2E-4 cm/cm/°C	
Transverse : 73 to 131°F (23 to 55°C)	7.2E-5 in/in/°F	1.3E-4 cm/cm/°C	
Thermal Conductivity (73°F (23°C))	1.7 Btu·in/hr/ft ² /°F	0.25 W/m/K	ISO 8302
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Electric Strength			IEC 60243-1
73°F (23°C), 0.0394 in (1.00 mm)	760 V/mil	30 kV/mm	
Relative Permittivity			IEC 60250
73°F (23°C), 100 Hz	3.40	3.40	
73°F (23°C), 1 MHz	3.20	3.20	
Comparative Tracking Index			IEC 60112
Solution A	600 V	600 V	
Solution B	425 V	425 V	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.030 in (0.75 mm)	HB	HB	
0.06 in (1.5 mm)	HB	HB	
Glow Wire Flammability Index			IEC 60695-2-12
0.08 in (2.0 mm)	1380 °F	750 °C	
Oxygen Index ⁷	24 %	24 %	ISO 4589-2
Burning Behavior - US FMVSS302	passed	passed	ISO 3795
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
Electrolytical Corrosion (73°F (23°C))	A 1	A 1	IEC 60426
Gottfert Melt Viscosity ⁸ (500°F (260°C))	570 Pa·s	570 Pa·s	Internal Method
ISO Shortname	ISO 7792-1-PBT, G, 11-030	ISO 7792-1-PBT, G, 11-030	
Injection	Nominal Value (English)	Nominal Value (SI)	Test Method
Drying Temperature - Circulation Dryer	248 °F	120 °C	
Drying Time - Circulation Dryer	4.0 to 8.0 hr	4.0 to 8.0 hr	
Residual Moisture Content	0.0 to 0.020 %	0.0 to 0.020 %	Karl Fisher



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Notes

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

² 150x105x3mm, 1 hr

³ 150x105x3mm, 80°C MT, 600 bar

⁴ 0.079 in/min (2.0 mm/min)

⁵ 2 mm/min

⁶ 10°C/min

⁷ Procedure A

⁸ 165 1/s



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Where to Buy

Supplier

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Distributor

ALBIS Plastic

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