

POCAN® B 1305 000000

Polybutylene Terephthalate

LANXESS GmbH

Message:

PBT, non-reinforced, injection molding

General Information	
UL YellowCard	E245249-474010
Agency Ratings	EC 1907/2006 (REACH)
Processing Method	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)
	Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.31	g/cm³	ISO 1183
Apparent Density	0.80	g/cm³	ISO 60
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	47.0	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Vertical flow direction: 250°C, 2.00mm ¹	2.0	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm ²	0.30	%	ISO 294-4
Flow direction: 250°C, 2.00mm ³	2.0	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm ⁴	0.30	%	ISO 294-4
Water Absorption			ISO 62
Saturated, 23°C	0.50	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	120	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	2660	MPa	ASTM D638
23°C	2800	MPa	ISO 527-2/1
Tensile Strength			
Yield, 23°C	52.4	MPa	ASTM D638
Yield, 23°C	60.0	MPa	ISO 527-2/50

Tensile Strain (Yield, 23°C)	9.0	%	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	> 10	%	ISO 527-2/50
Tensile Creep Modulus			ISO 899-1
1 hr	2400	MPa	ISO 899-1
1000 hr	1400	MPa	ISO 899-1
Flexural Modulus			
23°C	2280	MPa	ASTM D790
23°C ⁵	2700	MPa	ISO 178/A
Flexural Strength			
23°C	84.8	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	6.0	%	
Halving Interval			IEC 60216
-- ⁹	12.6	°C	IEC 60216
-- ¹⁰	12.0	°C	IEC 60216
-- ¹¹	12.6	°C	IEC 60216
Temperature index ¹²			IEC 60216
Electric Strength	150		IEC 60216
Tensile Impact Strength	135		IEC 60216
Tensile Strength	150		IEC 60216
Burning Behavior ¹³	passed		ISO 3795
Electrolytical Corrosion	A 1		IEC 60426
ISO Shortname	PBT, GHMR, 09-030		ISO 7792
Residual Moisture Content	0.0 - 0.020	%	Karl Fisher
Films	Nominal Value	Unit	Test Method
Film Puncture Force ¹⁴	2240	N	ISO 6603-2
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	150	kJ/m ²	ISO 179/1eU
23°C	180	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
Unnotched Izod Impact Strength			ISO 180/1U
-30°C	90	kJ/m ²	ISO 180/1U
23°C	130	kJ/m ²	ISO 180/1U
Multi-Axial Instrumented Impact Peak Force (23°C)	100	N	ISO 6603-2

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	155	°C	ISO 75-2/B
1.8 MPa, not annealed	65.0	°C	ISO 75-2/A
8.0 MPa, not annealed	45.0	°C	ISO 75-2/C
Vicat Softening Temperature	185	°C	ISO 306/B120
Ball Pressure Test (190°C)	Pass		IEC 60695-10-2
Melting Temperature ¹⁵	225	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 55°C	1.1E-4	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	1.1E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.25	W/m/K	ISO 8302
RTI Elec	140	°C	UL 746
RTI Imp	125	°C	UL 746
RTI	140	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity (23°C)	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength (23°C, 1.00 mm)	30	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
Dissipation Factor			IEC 60250
23°C, 100 Hz	1.5E-3		IEC 60250
23°C, 1 MHz	0.019		IEC 60250
Comparative Tracking Index (Solution A)	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.800 mm	HB		UL 94
1.60 mm	HB		UL 94
Glow Wire Flammability Index (2.00 mm)	750	°C	IEC 60695-2-12
Oxygen Index ¹⁶	24	%	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	250 - 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.	US-FMVSS302
14.	-30°C
15.	10°C/min
16.	Procedure A

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