

POCAN® B 1305 000000

Polybutylene Terephthalate
LANXESS GmbH

Message:
PBT, non-reinforced, injection molding

General Information			
UL YellowCard	E245249-474010		
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
	1.31		
Density (23°C)	1.31	g/cm ³	ISO 1183
Apparent Density	0.80	g/cm ³	ISO 60
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	47.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow : 250°C, 2.00 mm ¹	2.0	%	
Across Flow : 120°C, 4 hr, 2.00 mm ²	0.30	%	
Flow : 250°C, 2.00 mm ³	2.0	%	
Flow : 120°C, 4 hr, 2.00 mm ⁴	0.30	%	
Water Absorption			ISO 62
	0.50		
Saturation, 23°C	0.50	%	
	0.20		
Equilibrium, 23°C, 50% RH	0.20	%	

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	
1000 hr	1400	MPa	
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, 23°C	80.0	MPa	ISO 178/A
23°C ⁶	90.0	MPa	ISO 178/A
Flexural Strain at Flexural Strength (23°C) ⁷	6.0	%	ISO 178/A
Halving Interval			IEC 60216
Electric Strength	12.6	°C	
Tensile Impact Strength	12.0	°C	
Tensile Strength	12.6	°C	
Temperature Index			IEC 60216
Electric Strength, 20000 hr	150	°C	
Tensile Impact Strength, 20000 hr	135	°C	
Tensile Strength, 20000 hr	150	°C	
Burning Behavior ⁸	passed		ISO 3795
Electrolytical Corrosion (23°C)	A 1		IEC 60426
ISO Shortname	PBT, GHMR, 09-030		ISO 7792
	0.0 to 0.020		
Residual Moisture Content	0.0 to 0.020	%	Karl Fisher
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			ISO 179/1eU

-30°C	150	kJ/m ²	
23°C	180	kJ/m ²	
Notched Izod Impact Strength			ISO 180/1A
-40°C	< 10	kJ/m ²	
-30°C	< 10	kJ/m ²	
Unnotched Izod Impact Strength			ISO 180/1U
-30°C	90	kJ/m ²	
23°C	130	kJ/m ²	
Multi-Axial Instrumented Impact Energy (23°C, Energy to Peak Force)	100	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (-30°C)	2240	N	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	155	°C	ISO 75-2/B
1.8 MPa, Unannealed	65.0	°C	ISO 75-2/A
8.0 MPa, Unannealed	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 ⁹	225	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow : 23 to 55°C	1.1E-4	cm/cm/°C	
Transverse : 23 to 55°C	1.1E-4	cm/cm/°C	
Thermal Conductivity (23°C)	0.25	W/m/K	ISO 8302
RTI Elec	140	°C	UL 746
RTI Imp	125	°C	UL 746
RTI Str	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
Electric Strength (23°C, 1.00 mm)	30	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.40		
23°C, 1 MHz	3.20		
Dissipation Factor			IEC 60250
23°C, 100 Hz	1.5E-3		
23°C, 1 MHz	0.019		
Comparative Tracking Index (Solution A)	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.800 mm	HB		
1.60 mm	HB		
Glow Wire Flammability Index (2.00 mm)	750	°C	IEC 60695-2-12

Oxygen Index ¹⁰	24	%	ISO 4589-2
Injection	Nominal Value	Unit	Test Method
Drying Temperature - Circulation Dryer	120	°C	
	4.0 to 8.0		
Drying Time - Circulation Dryer	4.0 to 8.0	hr	
Processing (Melt) Temp	250 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.	US-FMVSS302		
9.	10°C/min		
10.	Procedure A		

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