

## Technical Data

Product Description				
Pocan® B1204	Unreinforced, Injection Molding, Excellent Surface Properties			
Generic PBT	This data represents typical values that have been calculated from all products classified as: Generic PBT			
	This information is provided for comparative purposes only.			
General	Pocan® B1204	Generic PBT		
Manufacturer / Supplier	• Envalior	• Generic		
Generic Symbol	• PBT	• PBT		
Material Status	• Commercial: Active	• Commercial: Active		
Literature <sup>1</sup>	• <a href="#">Technical Datasheet (English)</a> • <a href="#">White Paper - High Performance Plastics in Automotive Actuator Applications (English)</a>	--		
UL Yellow Card <sup>2</sup>	• <a href="#">E245249-103624880</a>	--		
Search for UL Yellow Card	• <a href="#">Envalior</a> • <a href="#">Pocan®</a>	--		
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America		
Features	• Good Surface Finish • Outstanding Surface Finish	--		
Processing Method	• Injection Molding	--		
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403)	--		
Resin ID	• PBT	--		
Physical	Pocan® B1204	Generic PBT	Unit	Test Method
Density / Specific Gravity				
--	--	1.26 to 1.55	g/cm <sup>3</sup>	ASTM D792
--	1.31	1.29 to 1.32	g/cm <sup>3</sup>	ISO 1183
--	--	1.31	g/cm <sup>3</sup>	ASTM D1505
Apparent (Bulk) Density	--	0.80 to 0.81	g/cm <sup>3</sup>	ISO 60
Melt Mass-Flow Rate (MFR)				
250°C/2.16 kg	--	8.0 to 56	g/10 min	ASTM D1238
250°C/2.16 kg	--	3.0 to 72	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR)				ISO 1133
250°C/2.16 kg	--	3.7 to 52	cm <sup>3</sup> /10min	
260°C/2.16 kg	60	--	cm <sup>3</sup> /10min	
Molding Shrinkage				
Flow	--	0.54 to 2.1	%	ASTM D955
Across Flow	--	0.99 to 2.0	%	ASTM D955
--	--	0.19 to 2.3	%	ISO 294-4
Across Flow	2.0	--	%	ISO 294-4
Flow	2.0	--	%	ISO 294-4



Physical	Pocan® B1204	Generic PBT	Unit	Test Method
Water Absorption				
24 hr	--	0.050 to 0.11	%	ASTM D570
24 hr, 23°C	--	0.040 to 0.20	%	ISO 62
Saturation	--	0.20 to 0.50	%	ASTM D570
Saturation, 23°C	--	0.077 to 0.52	%	ISO 62
Equilibrium	--	0.070 to 0.090	%	ASTM D570
Equilibrium, 23°C, 50% RH	--	0.054 to 0.27	%	ISO 62
Viscosity Number (Reduced Viscosity)	--	0.6 to 160.0	ml/g	ISO 1628
Viscosity Number	--	1.23 to 160	cm³/g	ISO 307
Intrinsic Viscosity	--	0.74 to 1.3	dl/g	
Mechanical	Pocan® B1204	Generic PBT	Unit	Test Method
Tensile Modulus				
--	--	2110 to 2860	MPa	ASTM D638
--	2600	2100 to 2880	MPa	ISO 527-1
Tensile Strength				
Yield	--	45.5 to 120	MPa	ASTM D638
Yield	60.0	38.4 to 61.7	MPa	ISO 527-2
Break	--	22.0 to 142	MPa	ASTM D638
Break	--	33.6 to 60.6	MPa	ISO 527-2
--	--	44.4 to 60.4	MPa	ASTM D638
--	--	31.5 to 60.3	MPa	ISO 527-2
Tensile Elongation				
Yield	--	1.0 to 16	%	ASTM D638
Yield	9.0	1.8 to 11	%	ISO 527-2
Break	--	0.50 to 110	%	ASTM D638
Break	--	1.6 to 23	%	ISO 527-2
Nominal Tensile Strain at Break	--	2.5 to 52	%	ISO 527-2
Tensile Creep Modulus				ISO 899-1
1 hr	--	2400	MPa	
1000 hr	--	1580	MPa	
Flexural Modulus				
--	--	1700 to 2980	MPa	ASTM D790
--	2700	2090 to 2920	MPa	ISO 178
Flexural Strength				
--	--	58.3 to 98.9	MPa	ASTM D790
--	90.0	8.00 to 113	MPa	ISO 178
Yield	--	74.6 to 85.8	MPa	ASTM D790
Break	--	2.00 to 205	MPa	ASTM D790
Flexural Strain at Flexural Strength	6.0	--	%	ISO 178/A
Compressive Strength	--	19.3 to 124	MPa	ASTM D695
Poisson's Ratio	--	0.38		ASTM E132
Coefficient of Friction	--	0.12 to 0.41		ASTM D1894
Taber Abrasion Resistance	--	9.00 to 55.2	mg	ASTM D1044



Impact	Pocan® B1204	Generic PBT	Unit	Test Method
Charpy Notched Impact Strength				
--	--	1.5 to 10	kJ/m <sup>2</sup>	ISO 179
23°C	3.0	--	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength				
--	--	12 to 200	kJ/m <sup>2</sup>	ISO 179
23°C	180	--	kJ/m <sup>2</sup>	ISO 179/1eU
Notched Izod Impact				
--	--	29 to 100	J/m	ASTM D256
--	--	2.0 to 11	kJ/m <sup>2</sup>	ISO 180
Notched Izod Impact (Area)	--	3.30 to 40.0	kJ/m <sup>2</sup>	ASTM D256
Unnotched Izod Impact				
--	--	23 to 3200	J/m	ASTM D4812
--	--	24 to 150	kJ/m <sup>2</sup>	ISO 180
23°C	130	--	kJ/m <sup>2</sup>	ISO 180/1U
Instrumented Dart Impact				
--	--	2.00 to 61.4	J	ASTM D3763
--	--	3.20 to 120	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force	--	2240 to 5190	N	ISO 6603-2
Gardner Impact	--	36.0 to 43.0	J	ASTM D3029
Hardness	Pocan® B1204	Generic PBT	Unit	Test Method
Rockwell Hardness				
--	--	117 to 122		ASTM D785
--	--	71 to 125		ISO 2039-2
Shore Hardness	--	75 to 81		ISO 868
Ball Indentation Hardness	--	118 to 163	MPa	ISO 2039-1
Thermal	Pocan® B1204	Generic PBT	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	--	139 to 226	°C	ASTM D648
0.45 MPa, Unannealed	160	111 to 221	°C	ISO 75-2/B
0.45 MPa, Annealed	--	155 to 181	°C	ISO 75-2/B
1.8 MPa, Unannealed	--	46.0 to 214	°C	ASTM D648
1.8 MPa, Unannealed	70.0	49.3 to 207	°C	ISO 75-2/A
1.8 MPa, Annealed	--	57.0 to 78.0	°C	ISO 75-2/A
8.0 MPa, Unannealed	--	45.0 to 45.1	°C	ISO 75-2/C
Continuous Use Temperature	--	120 to 122	°C	ASTM D794
Glass Transition Temperature	--	54.7 to 61.5	°C	ISO 11357-2
Vicat Softening Temperature				
--	--	166 to 220	°C	ASTM D1525
--	--	168 to 223	°C	ISO 306



Thermal	Pocan® B1204	Generic PBT	Unit	Test Method
Melting Temperature				
--	--	222 to 226	°C	
--	--	222 to 225	°C	DSC
-- <sup>4</sup>	225	--	°C	ASTM D3418
--	--	225 to 226	°C	ISO 11357-3
--	--	210 to 226	°C	ISO 3146
CLTE				
Flow	--	2.9E-5 to 9.3E-5	cm/cm/°C	ASTM D696
Flow	--	1.9E-5 to 1.4E-4	cm/cm/°C	ASTM E831
Flow	1.1E-4	1.4E-5 to 4.4E-4	cm/cm/°C	ISO 11359-2
Transverse	--	7.5E-5 to 1.2E-4	cm/cm/°C	ASTM E831
Transverse	1.1E-4	1.4E-5 to 4.3E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity	--	0.25 to 0.28	W/m/K	ISO 8302
RTI Elec	--	72.5 to 140	°C	UL 746B
RTI Imp	--	74.8 to 140	°C	UL 746B
RTI Str	--	138 to 140	°C	UL 746B
Electrical	Pocan® B1204	Generic PBT	Unit	Test Method
Surface Resistivity				
--	--	1.0E+3 to 2.5E+15	ohms	ASTM D257
--	--	1.0E+2 to 2.5E+15	ohms	IEC 60093
--	--	9.8E+14 to 1.0E+15	ohms	IEC 62631-3-2
Volume Resistivity				
--	--	2.5 to 2.5E+17	ohms·cm	ASTM D257
--	--	13 to 2.5E+17	ohms·cm	IEC 60093
--	--	1.0E+11 to 2.5E+13	ohms·m	IEC 62631-3-1
Dielectric Strength				
--	--	2.0 to 26	kV/mm	ASTM D149
--	--	15 to 31	kV/mm	IEC 60243-1
Dielectric Constant				
--	--	2.91 to 3.44		ASTM D150
--	--	3.18 to 4.02		IEC 60250
--	--	3.16		IEC 60250
--	--	3.35		IEC 62631-2-1
Dissipation Factor				
--	--	1.0E-3 to 0.078		ASTM D150
--	--	7.8E-4 to 0.020		IEC 60250
--	--	4.0E-4 to 0.024		IEC 62631-2-1
Arc Resistance	--	69.5 to 180	sec	ASTM D495
Comparative Tracking Index	--	587 to 600	V	IEC 60112



Flammability	Pocan® B1204	Generic PBT	Unit	Test Method
Burning Rate	--	0.0 to 100	mm/min	ISO 3795
Flame Rating				
3.0 mm	HB	--		UL 94 IEC 60695-11-10, -20
1.5 mm	HB	--		UL 94 IEC 60695-11-10, -20
0.75 mm	HB	--		IEC 60695-11-10, -20
Glow Wire Flammability Index	--	743 to 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	--	650 to 852	°C	IEC 60695-2-13
Oxygen Index				
--	--	19 to 32	%	ASTM D2863
--	--	22 to 30	%	ISO 4589-2
Fill Analysis	Pocan® B1204	Generic PBT	Unit	Test Method
Melt Density	--	1.04 to 1.11	g/cm³	
Melt Viscosity	--	90.9 to 219	Pa·s	ASTM D3835
Melt Specific Heat	--	2260	J/kg/°C	ASTM C351
Melt Thermal Conductivity	--	0.11	W/m/K	ASTM C177
Ejection Temperature	--	171	°C	
Injection	Pocan® B1204	Generic PBT	Unit	Test Method
Drying Temperature				
--	--	109 to 121	°C	
Circulation Dryer	120	--	°C	
Drying Time				
--	--	2.8 to 6.2	hr	
Circulation Dryer	4.0 to 8.0	--	hr	
Drying Time, Maximum	--	10	hr	
Suggested Max Moisture	--	0.020 to 0.043	%	
Suggested Shot Size	--	60	%	
Hopper Temperature	--	35 to 51	°C	
Rear Temperature	--	235 to 250	°C	
Middle Temperature	--	234 to 261	°C	
Front Temperature	--	238 to 266	°C	
Nozzle Temperature	--	239 to 261	°C	
Processing (Melt) Temp	250 to 270	244 to 266	°C	
Mold Temperature	80 to 100	60 to 92	°C	
Injection Pressure	--	77.0 to 87.5	MPa	
Holding Pressure	--	58.6 to 80.0	MPa	
Back Pressure	--	0.147 to 1.64	MPa	
Screw Speed	--	45 to 300	rpm	
Vent Depth	--	0.019 to 0.032	mm	
Residual Moisture Content	0.00 to 0.02	--	%	Karl Fisher



Injection Notes

Generic PBT	This data represents typical values that have been calculated from all products classified as: Generic PBT		
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Extrusion	Pocan® B1204	Generic PBT	Unit
Drying Temperature	--	110 to 120	°C
Drying Time	--	3.0 to 4.0	hr
Suggested Max Moisture	--	0.040	%
Melt Temperature	--	249 to 263	°C

Extrusion Notes

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Notes

- <sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.
- <sup>2</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.
- <sup>3</sup> Typical properties: these are not to be construed as specifications.
- <sup>4</sup> 10°C/min