

HYDEX® 4101 PBT - Stock Shapes (rods, plates, tubes)

Chemical Designation

PBT (Polybutylene terephthalate)

Colour

white

Density

1.31 g/cm³

Main features

- resistant to cleaning agents
- very good chemical resistance
- good wear resistance
- good impact strength
- low moisture absorption

Target Industries

- food engineering
- food processing
- food technology
- engineering for beverage filling systems
- packaging and paper machinery
- semiconductor technology
- cleanroom technology
- conveyor technology
- pharmaceutical industry
- automotive industry

Mechanical properties	condition	value		test method	comment
Tensile strength	@ 73 °F	9,400	psi	ASTM D 638	(1) Data obtained from public source
Modulus of elasticity (tensile test)	@ 73 °F	430,000	psi	ASTM D 638	(2) LNP EPALP-TB001 (3) LNP EPALP-TB001 (4) LNP EPALP-TB001
Elongation at yield	@ 73 °F	6	%	ASTM D 638	1)
Elongation at break	@ 73 °F	50	%	ASTM D 638	
Flexural strength	@ 73 °F	13,000	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	430,000	psi	ASTM D 790	
Compression strength	@ 73 °F, 10% strain	11,500	psi	ASTM D 695	
Compression strength	@ 73 °F, 1% strain	2,800	psi	ASTM D 695	
Compression modulus	@ 73 °F	315,000	psi	ASTM D 695	
Impact strength (Izod)		0.7	ft-lbs/in	ASTM D 256	
Rockwell hardness	M Scale	87		ASTM D 785	
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.25		-	2)
Coefficient of friction	Static	0.19		-	3)
Wear rate	@ 2000 PV	2.10*10 ⁻⁷	in ³ -min/ft-lbs-hr	-	4)
Thermal properties	condition	value		test method	comment
Deflection temperature	@264 psi	200	°F	ASTM D 648	(1) Data obtained from public source
Deflection temperature	@ 66 psi	310	°F	ASTM D 648	1) (2) Data obtained from public source
Service temperature	Long Term	221	°F	-	
Thermal expansion (CLTE)		6.1	*10 ⁻⁵ in/in/°F	-	2)
Other properties	condition	value		test method	comment
Limiting PV	@ 100 fpm	6,000	psi-fpm	-	1) (2) Data obtained from public source
Moisture absorption	@ 24 hrs, 73 °F	0.02	%	ASTM D 570	
Flammability (UL94)		HB		-	2)

→ Resin specification:
ASTM D5927-09 TPES0111
Shapes specification:
ASTM D6261-10 S-TPES0111

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com.