



## HYDEX® 4101 & 4101L PBT-P

(POLYBUTYLENE TERAPHALATE POLYESTER)

Hydex® 4101 and 4101L are PBT polyesters (PolyButylene Teraphalate Polyester), which are semi-crystalline thermoplastics that offer outstanding machinability. Hydex® 4101L is an internally lubricated grade that is designed for use in higher wear resistance, PV range, and lower coefficient of friction applications. Hydex® 4101 and 4101L have excellent mechanical properties, no center line porosity, and a low coefficient of friction and wear. Their excellent chemical resistance is an improvement over acetals and will not crack or craze in chlorine. They also have a very low moisture absorption rate, as much as 15 times less than nylon. They outperform UHMW because they are able to withstand steam cleaning temperatures. Overall, Hydex® 4101 and 4101L make good replacements for brass, aluminum, steel, UHMW, and acetal. Hydex® 4101 and 4101L are tough materials that are less brittle than PET so they will not chip or contaminate food products. This makes them FDA, USDA, and 3A Dairy compliant in a natural white color. Hydex® 4101 and 4101L are also available in a black color and come in the forms of rod and sheet.

Applications	Properties
<ul style="list-style-type: none"><li>• Food piston pumps</li><li>• Valves and valve bodies</li><li>• Feeder blocks</li><li>• Timing screws</li><li>• Gears</li><li>• Cams</li><li>• Bushings and bearings</li><li>• Wear strips</li><li>• Fuel pump components</li><li>• Fuel system connectors and rotors</li></ul>	<ul style="list-style-type: none"><li>• No center line porosity</li><li>• Superior chemical resistance</li><li>• Outstanding machinability</li><li>• Excellent wear properties</li><li>• Very low moisture absorption</li><li>• Low coefficient of friction</li><li>• Good impact strength and ductility</li><li>• Hard and durable surface</li><li>• FDA, USDA, and 3A Dairy compliant (natural)</li></ul>

Order Hydex® 4101 Online:

<http://www.professionalplastics.com/HYDEX4101PBT>

[www.professionalplastics.com](http://www.professionalplastics.com)

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<b>PROPERTIES of HYDEX® 4101 PBT-P</b>			
<b>ASTM or UL test</b>	<b>Property</b>	<b>Hydex® 4101</b>	<b>Hydex® 4101L</b>
<b>PHYSICAL</b>			
D792	Density (lb/in <sup>3</sup> ) (g/cm <sup>3</sup> )	0.047 1.31	0.049 1.36
D570	Water Absorption, 24 hrs (%)	0.07	0.07
<b>MECHANICAL</b>			
D638	Tensile Strength (psi)	9,400	7,200
D638	Tensile Modulus (psi)	425,000	380,000
D638	Tensile Elongation at Break (%)	50	40
D790	Flexural Strength (psi)	11,600	10,600
D790	Flexural Modulus (psi)	420,000	390,000
D695	Compressive Strength (psi)	11,000	11,000
D695	Compressive Modulus (psi)	-	-
D785	Hardness, Rockwell	R120	R110
D256	IZOD Notched Impact (ft-lb/in)	0.7	0.7
<b>THERMAL</b>			
D696	Coefficient of Linear Thermal Expansion (x 10 <sup>-5</sup> in./in./°F)	4.5	5.0
D648	Heat Deflection Temp (°F / °C) at 264 psi	200 / 93	195 / 89
D3418	Melting Temperature (°F / °C)	420 / 215	420 / 215
-	Max Operating Temp (°F / °C)	221 / 105	221 / 105
C177	Thermal Conductivity (BTU-in/ft <sup>2</sup> -hr-°F) (x 10 <sup>-4</sup> cal/cm-sec-°C)	- -	- -
UL94	Flammability Rating	HB	HB
<b>ELECTRICAL</b>			
D149	Dielectric Strength (V/mil) short time, 1/8" thick	410	-
D150	Dielectric Constant at 60 Hz	3.3	-
D150	Dissipation Factor at 60 Hz	0.002	-
D257	Volume Resistivity (ohm-cm)at 50% RH	4.5 x 10 <sup>16</sup>	-

The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.

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