

HYDEX® 4101 PBT

KEY FEATURES

- Good Chemical Resistance Properties
- High Impact Strength
- A Wear Factor Up To 50% Better Than PET-P
- Very Low Moisture Absorption Rate
- Excellent Machining Qualities
- No Center Line Porosity

DESCRIPTION

HYDEX® 4101 PBT (Polybutylene Terephthalate Polyester) is a very stable chemical compound that can withstand high impact without deterioration. It is approved for direct contact with food by the FDA and is ideal for machined parts in food processing equipment. HYDEX® 4101 has excellent resistance to typical cleaning chemicals such as chlorine and caustic solutions and has a very low moisture absorption rate, as much as 15 times less than nylon.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PBT	
	Filler				
	Density		g/cm ³	1.31	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	430,000	D638
	Tensile Strength @ Yld	@ 73 °F	PSI	9,400	D638
	Tensile Strength @ Brk	@ 73 °F	PSI		
	Shear Strength	@ 73 °F	PSI		
	Elongation @ Yld	@ 73 °F	%	6	D638
	Elongation @ Brk	@ 73 °F	%	50	D638
	Flexural Modulus	@ 73 °F	PSI	430,000	D790
	Flexural Strength	@ 73 °F	PSI	13,000	D790
	Compressive Modulus	@ 73 °F	PSI	315,000	D695
	Compressive Strength	@ 73 °F, 10% strain	PSI	11,500	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	0.7	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	87	D785
	Coefficient of Friction	Static		0.19	D3702
	Coefficient of Friction	Dynamic, 40 PSI, 50 FPM		0.25	D3702
	Wear (K) Factor		in ³ -min/ft-lbs-hr	210*10 ⁻¹⁰	D3702
Limiting PV		psi-fpm	6,000	D3702	

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F		
	Heat Deflection Temperature	@ 66	°F	310	D648
	Heat Deflection Temperature	@ 264	°F	200	D648
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°F	221	
	Thermal Expansion (CLTE)		in/in/°F	6.1*10 ⁻⁵	D696
	Specific Heat		BTU/lb-°F		
	Thermal Conductivity		BTU-in/hr-ft_-°F		
Other	Moisture Absorption	@ 24 hrs, 73 °F	%	0.2	D570
	Moisture Absorption	@ Saturation, 73 °F	%	0.9	D570
	Flammability	UL 94		HB	
	Food Grade			Y	
	Relative Cost			\$\$	

*The data stated above are typical values intended for reference and comparison purposes only.

*The data should not be used as a basis for design specifications or quality control.

*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

*Testing under individual application circumstances is recommended.