

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

### Chemical Designation

PBT (Polybutylene terephthalate)

### Colour

black

### Density

1.31 g/cm<sup>3</sup>

### Main features

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

### Target Industries

- gear manufacturing
- mechanical engineering
- chemical plant engineering
- packaging and paper machinery
- conveyor technology
- semiconductor technology
- cleanroom technology
- automotive industry

### Mechanical properties

#### condition

#### value

#### test method

#### comment

Tensile strength	@ 73 °F	9,400	psi	ASTM D 638	
Modulus of elasticity (tensile test)	@ 73 °F	430,000	psi	ASTM D 638	
Elongation at yield (tensile test)	@ 73 °F	6	%	ASTM D 638	1)
Elongation at break (tensile test)	@ 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, 1% strain	2,800	psi	ASTM D 695	
Compression strength	@ 73 °F, 10% strain	11,500	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	210*10 <sup>-10</sup>	in <sup>3</sup> -min/ft-lbs-hr	-	4)

### Thermal properties

#### condition

#### value

#### test method

#### comment

Deflection temperature	@ 66 psi	310	°F	ASTM D 648	1)
Deflection temperature	@ 264 psi	200	°F	ASTM D 648	
Service temperature	Long Term	221	°F	-	
Thermal expansion (CLTE)		6.1	*10 <sup>-5</sup> in/in/°F	-	2)

### Other properties

#### condition

#### value

#### test method

#### comment

Limiting PV	@ 100 fpm	6,000	psi-fpm	-	1)
Moisture absorption	@ 24 hrs, 73 °F	0.02	%	ASTM D 570	
Flammability (UL94)		HB		-	2)

→ Resin specification:

ASTM D5927-09 TPES0111 with black

Shapes specification:

ASTM D6261-10 S-TPES0111

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Date: 2019/08/26

Version: A2