

HYDEX® 4101 PBT - Stock Shapes

Chemical Designation

PBT (Polybutylene terephthalate)

Colour

white black

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

| <i>Mechanical properties</i> | <i>condition</i> | <i>value</i> | <i>test method</i> | <i>comment</i> |
|---------------------------------------|-------------------------|---|--------------------|--|
| Modulus of elasticity (tensile test) | @ 73 °F | 430,000 psi | ASTM D 638 | (1) Data obtained from public source |
| Tensile strength | @ 73 °F | 9,400 psi | ASTM D 638 | (2) LNP EPALP-TB001 |
| Elongation at yield | @ 73 °F | 6 % | ASTM D 638 | (3) LNP EPALP-TB001 (4) LNP EPALP-TB001 |
| 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 | 2.0*10 ⁻⁷ in ³ -min/ft-lbs-hr | - | 4) |
| <i>Thermal properties</i> | <i>condition</i> | <i>value</i> | <i>test method</i> | <i>comment</i> |
| Deflection temperature | @ 66 psi | 310 °F | ASTM D 648 | 1) |
| Deflection temperature | @264 psi | 200 °F | ASTM D 648 | (2) Data obtained from public source |
| Service temperature | Long Term | 221 °F | - | |
| Thermal expansion (CLTE) | | 6.1 *10 ⁻⁵ in/in/°F | - | 2) |
| <i>Other properties</i> | <i>condition</i> | <i>value</i> | <i>test method</i> | <i>comment</i> |
| Limiting PV | @ 100 fpm | 6,000 psi-fpm | - | 1) |
| Moisture absorption | @ 24 hrs, 73 °F | 0.02 % | ASTM D 570 | (2) Data obtained from public source |
| Flammability (UL94) | | HB | - | 2) |

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

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