

DELIN 511 Series Acetal Homopolymer - Stock Shapes

Chemical Designation

POM-H (Polyacetal (Homopolymer))

Colour

white

Density

1.42 g/cm³

Main features

- good machinability
- high stiffness
- high fatigue strength
- high creep resistance
- good wear properties
- very good abrasion resistance

Target Industries

- automotive industry
- food engineering
- construction industry
- conveyor technology
- mechanical engineering
- electronics
- fixture construction
- home appliances
- gear manufacturing

| Mechanical properties | condition | value | test method | comment |
|---------------------------------------|------------------------------|-----------------------------------------------------|-------------------|-----------------------------------------------------|
| Modulus of elasticity (tensile test) | | 450,000 psi | ASTM D 638 | (1) public source data (2) publicly sourced data |
| Tensile strength at yield | | 10,000 psi | ASTM D 638 | |
| Elongation at yield | @ 73 °F | 18 % | ASTM D 638 | |
| Elongation at break | @ 73 °F | 25 % | ASTM D 638 | |
| Flexural strength | @ 73 °F | 16,000 psi | ASTM D 790 | |
| Modulus of elasticity (flexural test) | @ 73 °F | 520,000 psi | ASTM D 790 | |
| Compression strength | @ 73 °F, 1% strain | 2,100 psi | ASTM D 695 | |
| Compression strength | @ 73 °F, 10% strain | 16,500 psi | ASTM D 695 | |
| Impact strength (Izod) | @ 73 °F | 1.25 ft-lbs/in | ASTM D 256 | |
| Rockwell hardness | @ 73 °F M Scale (R Scale) | 95 | ASTM D 785 | |
| Coefficient of friction | Static 40 psi | 0.20 % | ASTM D 3702 | 1) |
| Coefficient of friction | Dynamic 40 psi, 50 fpm | 0.35 | ASTM D 3702 | 2) |
| Wear rate | 40 psi, 50 fpm | 55*10 ⁻¹⁰ in ³ -min/ft-lbs-hr | ASTM D 3702 | |
| Thermal properties | condition | value | test method | comment |
| Melting temperature | | 352 °F | DIN EN ISO 11357 | 1) |
| Deflection temperature | @ 66 psi | 325 °F | ISO-R 75 Method B | 2) |
| Deflection temperature | @264 psi | 225 °F | ISO-R 75 Method A | 3) |
| Service temperature | Intermittent | 300 °F | - | |
| Service temperature | Long Term | 185 °F | - | 4) |
| Thermal expansion (CLTE) | | 6.8*10 ⁻⁵ in/in/°F | ASTM D 696 | |
| Specific heat | | 0.35 BTU/lb-F° | - | |
| Electrical properties | condition | value | test method | comment |
| Volume resistivity | | > 10 ¹⁵ Ω*cm | ASTM D257 | |
| Other properties | condition | value | test method | comment |
| Moisture absorption | @ saturation, 73 °F | .90 % | ASTM D 570 | |
| Moisture absorption | @ 24 hrs, 73 °F | 0.20 % | ASTM D 570 | |

→ Resin specification:
ASTM D6778 POM0113 (ASTM D4181 withdrawn 2005, Replaced by D6778)
Shapes specification:
ASTM D6100 S-POM0112

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