

Polystal® - GRP P26

High-performance composite profiles

Polystal® GRP is a composite of glassfibres and synthetic resin. The distinctive Polystal® surface is sealed with resin and lubricant free owing to the state-of-the-art manufacturing procedure. The material can thus be easily up-jacketed with thermoplastics and offers the most excellent processing performance.

PHYSICAL PROPERTIES

| | | | |
|---|----------------------|------------------------|--------------------|
| Glass Content | (%) | 80 ± 2.5 % | (DIN EN ISO 1172) |
| Density | (g/cm ³) | 2.1 | (DIN 53479) |
| Modulus of elasticity | (N/mm ²) | > 50,000 | (DIN EN ISO 527-4) |
| Tensile strength of area | (N/mm ²) | 1,500 ± 5 % | (DIN EN ISO 527-4) |
| Elongation at break | (%) | > 2.5 | (DIN EN ISO 527-4) |
| Ovality | (%) | < 6 | |
| Coefficient of Thermal Expansion (CTE) | (1/°C) | 6.6 x 10 ⁻⁶ | (DIN ISO 7991) |
| Absorption of Water | (%) | ≤ 0.1 | (DIN EN ISO 62) |
| Electrical Resistance | (Ω cm) | 1.6 x 10 ¹⁶ | (ASTM D 257) |
| Electrical Surface Resistance | (Ω) | 1.3 x 10 ¹⁴ | (ASTM D 257) |
| Dielectric Coefficient at 1 MHz | (E _r) | 4.9 | (ASTM D 150) |
| Loss Factor at 1 MHz | (tan δ) | 0.0093 | (ASTM D 150) |

CHARACTERISTIC VALUES

| | | | |
|--|------------------|--|--------------------|
| Outside Diameter (tolerance) | (mm) (inches) | 2.57 (± 0.08) 0.10118 (± 0.00315) | |
| Performance Diameter | (mm) (inches) | 2.53 0.09961 | |
| Weight | (g/m) | 10.50 ± 4 % | |
| Force at Break | (N) | 7,800 ± 5 % | (DIN EN ISO 527-4) |
| Tensile Force at 0.5 % Elongation at 1.0 % Elongation | (N) (N) | 1,220 2,480 | (DIN EN ISO 527-4) |
| Minimum Bend Diameter at 25 °C | (mm) (inches) | 128.5 5.05905 | |
| Longtime Flexion Test at 1 % RFD and 80 °C after 24 h at 2 % RFD and 25 °C after 24 h | | without break or delamination without break or delamination | Siemens-Method |

RFD Strain of the egde fibers

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