

## TECASON® S natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PSU (Polysulfone)

### Colour

light yellow transparent

### Density

1.24 g/cm<sup>3</sup>

### Main features

- high thermal and mechanical capacity
- good chemical resistance
- high creep resistance
- high strength
- autoclavable

### Target Industries

- medical technology
- electronics
- pharmaceutical industry
- semiconductor technology
- food engineering
- food processing

| Mechanical properties                 | condition               | value                | unit      | test method | comment                        |
|---------------------------------------|-------------------------|----------------------|-----------|-------------|--------------------------------|
| Modulus of elasticity (tensile test)  | @ 73 °F                 | 375,000              | psi       | ASTM D 638  | (1) Injection molded specimens |
| Tensile strength at break             | @ 73 °F                 | 11,800               | psi       | ASTM D 638  |                                |
| Elongation at break (tensile test)    | @ 73 °F                 | 50                   | %         | ASTM D 638  |                                |
| Flexural strength                     | @ 73 °F                 | 18,500               | psi       | ASTM D 790  |                                |
| Modulus of elasticity (flexural test) | @ 73 °F                 | 375,000              | psi       | ASTM D 790  |                                |
| Compression strength                  | @1% strain, 73 °F       | 1,800                | psi       | ASTM D 695  |                                |
| Compression strength                  | @ 73 °F, 10% strain     | 13,000               | psi       | ASTM D 695  |                                |
| Compression modulus                   | @ 73 °F                 | 245,000              | psi       | ASTM D 695  |                                |
| Impact strength (Izod)                | @ 73 °F                 | 1.3                  | ft-lbs/in | ASTM D 256  |                                |
| Rockwell hardness                     | @ 73 °F, M scale        | 120                  |           | ASTM D 785  |                                |
| Coefficient of friction               | Dynamic, 40 psi, 50 fpm | 0.37                 |           | ASTM D 3702 | 1)                             |
| Thermal properties                    | condition               | value                | unit      | test method | comment                        |
| Deflection temperature                | @264 psi                | 345                  | °F        | ASTM D 648  | 1)                             |
| Deflection temperature                | @ 66 psi                | 358                  | °F        | ASTM D 648  | 2)                             |
| Service temperature                   | Intermittent            | 340                  | °F        | -           | (1) Injection molded specimens |
| Service temperature                   | Long Term               | 285                  | °F        | -           | (2) Injection molded specimens |
| Thermal expansion (CLTE)              |                         | 3.1*10 <sup>-5</sup> | in/in/°F  | ASTM D 696  | (3) Injection molded specimens |
| Electrical properties                 | condition               | value                | unit      | test method | comment                        |
| volume resistance                     | @ 73 °F                 | 5*10 <sup>16</sup>   | Ω*cm      | ASTM D 257  |                                |
| Dielectric strength                   |                         | 425                  | V/mil     | ASTM D 149  |                                |
| Dissipation factor                    | @ 60 Hz, 73 °F          | 0.001                |           | ASTM D 150  |                                |
| Dielectric constant                   | @ 60 Hz, 73 °F, 50% RH  | 3.1                  |           | ASTM D 150  |                                |
| Other properties                      | condition               | value                | unit      | test method | comment                        |
| Moisture absorption                   | @ 24 hrs, 73 °F         | 0.30                 | %         | ASTM D 570  |                                |
| Flammability (UL94)                   |                         | V0                   |           | -           |                                |

→ Resin specification:  
ASTM D 6394-10 SP0112  
Shapes specification:  
NONE

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