

SABIC Innovative Plastics Cycloy® IP1000 PC+ABS

Category : Polymer , Thermoplastic , ABS Polymer , Polycarbonate/ABS Alloy, Unreinforced , Polycarbonate (PC)

Material Notes:

Automotive applications: High impact and ductility to -22F for interior trim and instrument panel applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-IP1000-PCABS.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|---|---|--------------|
| Specific Gravity | 1.13 g/cc | 1.13 g/cc | ASTM D792 |
| Linear Mold Shrinkage, Flow | 0.0050 - 0.0070 cm/cm @Thickness 3.20 mm | 0.0050 - 0.0070 in/in @Thickness 0.126 in | SABIC Method |
| Linear Mold Shrinkage, Transverse | 0.0050 - 0.0070 cm/cm @Thickness 3.20 mm | 0.0050 - 0.0070 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 13.5 g/10 min @Load 5.00 kg, Temperature 260 °C | 13.5 g/10 min @Load 11.0 lb, Temperature 500 °F | ASTM D1238 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|------------------------------------|--|-----------------------------------|
| Tensile Strength at Break | 54.0 MPa | 7830 psi | Type I, 50 mm/min; ASTM D638 |
| Tensile Strength, Yield | 52.0 MPa | 7540 psi | Type I, 50 mm/min; ASTM D638 |
| Elongation at Break | 120 % | 120 % | Type I, 50 mm/min; ASTM D638 |
| Elongation at Yield | 5.0 % | 5.0 % | Type I, 50 mm/min; ASTM D638 |
| Tensile Modulus | 2.20 GPa | 319 ksi | 50 mm/min; ASTM D638 |
| Flexural Yield Strength | 85.0 MPa | 12300 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Flexural Modulus | 2.23 GPa | 323 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched | 6.70 J/cm | 12.6 ft-lb/in | ASTM D256 |
| | 5.00 J/cm @Temperature -30.0 °C | 9.37 ft-lb/in @Temperature -22.0 °F | ASTM D256 |
| Dart Drop, Total Energy | 50.0 J @Temperature 23.0 °C | 36.9 ft-lb @Temperature 73.4 °F | ASTM D3763 |
| | 56.0 J | 41.3 ft-lb | ASTM D3763 |

| Mechanical Properties | @Temperature -30.0 °C Metric | @Temperature -22.0 °F English | Comments |
|---|--|---|-----------------------|
| Thermal Properties | Metric | English | Comments |
| CTE, linear, Parallel to Flow | 80.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature -40.0 - 40.0 °C | 44.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature -40.0 - 104 °F | ASTM E 831 |
| CTE, linear, Transverse to Flow | 80.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature -40.0 - 40.0 °C | 44.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature -40.0 - 104 °F | ASTM E 831 |
| Deflection Temperature at 0.46 MPa (66 psi) | 129 °C @Thickness 3.20 mm | 264 °F @Thickness 0.126 in | unannealed; ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 108 °C @Thickness 3.20 mm | 226 °F @Thickness 0.126 in | unannealed; ASTM D648 |
| Vicat Softening Point | 126 °C | 259 °F | Rate B/50; ASTM D1525 |

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