

SABIC Innovative Plastics Cycloy® XCM830 PC+ABS

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

Material Notes:

PC/ABS with high stiffness and impact performance

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-XCM830-PCABS.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|--|--|---|
| Specific Gravity | 1.22 g/cc | 1.22 g/cc | ASTM D792 |
| Density | 1.22 g/cc | 0.0441 lb/in ³ | ISO 1183 |
| Moisture Absorption | 0.100 % | 0.100 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.40 % | 0.40 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0070 - 0.0080 cm/cm @Thickness 3.20 mm | 0.0070 - 0.0080 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 11 g/10 min @Load 5.00 kg, Temperature 260 °C | 11 g/10 min @Load 11.0 lb, Temperature 500 °F | ASTM D1238 |
| Melt Index of Compound | 9.0 g/10 min @Load 5.00 kg, Temperature 260 °C | 9.0 g/10 min @Load 11.0 lb, Temperature 500 °F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|----------|-----------------------------|
| Tensile Strength at Break | 55.0 MPa | 7980 psi | Type I, 5 mm/min; ASTM D638 |
| | 55.0 MPa | 7980 psi | 5 mm/min; ISO 527 |
| Tensile Strength, Yield | 56.0 MPa | 8120 psi | 5 mm/min; ISO 527 |
| | 60.0 MPa | 8700 psi | Type I, 5 mm/min; ASTM D638 |
| Elongation at Break | 100 % | 100 % | Type I, 5 mm/min; ASTM D638 |
| | 100 % | 100 % | 5 mm/min; ISO 527 |
| Elongation at Yield | 5.0 % | 5.0 % | Type I, 5 mm/min; ASTM D638 |
| | 5.0 % | 5.0 % | 5 mm/min; ISO 527 |
| Tensile Modulus | 3.10 GPa | 450 ksi | 1 mm/min; ISO 527 |
| | 3.40 GPa | 493 ksi | 5 mm/min; ASTM D638 |

| Mechanical Properties | Metric ^{Pa} | English ^{psi} | Comments |
|----------------------------|------------------------|----------------------------|------------------------------------|
| | 95.0 MPa | 13800 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 3.10 GPa | 450 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 3.10 GPa | 450 ksi | 2 mm/min; ISO 178 |
| Izod Impact, Notched | 5.00 J/cm | 9.37 ft-lb/in | ASTM D256 |
| | 1.20 J/cm | 2.25 ft-lb/in | ASTM D256 |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Notched (ISO) | 45.0 kJ/m ² | 21.4 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | 10.0 kJ/m ² | 4.76 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 4.50 J/cm ² | 21.4 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | 1.00 J/cm ² | 4.76 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Dart Drop, Total Energy | 65.0 J | 47.9 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|---|------------------------------|------------------------------------|-----------------------------------|
| CTE, linear, Parallel to Flow | 60.0 μm/m-°C | 33.3 μin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| | 60.0 μm/m-°C | 33.3 μin/in-°F | ISO 11359-2 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| CTE, linear, Transverse to Flow | 70.0 μm/m-°C | 38.9 μin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| | 70.0 μm/m-°C | 38.9 μin/in-°F | ISO 11359-2 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| Thermal Conductivity | 0.200 W/m-K | 1.39 BTU-in/hr-ft ² -°F | ISO 8302 |
| Deflection Temperature at 1.8 MPa (264 psi) | 118 °C | 244 °F | Flatw 80*10*4 sp=64mm; ISO 75/ Af |

| Thermal Properties | 118 °C Metric | 244 °F English | Comments |
|-----------------------|--------------------|---------------------|-----------------------|
| | @Thickness 3.20 mm | @Thickness 0.126 in | Rate B/50; ASTM D648 |
| Vicat Softening Point | 138 °C | 280 °F | Rate B/50; ASTM D1525 |
| | 138 °C | 280 °F | Rate B/50; ISO 306 |
| | 140 °C | 284 °F | Rate B/120; ISO 306 |

| Descriptive Properties | Value | Comments |
|-----------------------------------|--------|----------------|
| Ball Pressure Test, 125°C +/- 2°C | PASSES | IEC 60695-10-2 |

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