

SABIC Innovative Plastics Lexan® FXD1413T PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Clear PC-siloxane copolymer with excellent processability, in special light diffusion colors. Medium flow. Improved toughness compared to medium flow standard PC in same color. Color package may affect performance.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FXD1413T-PC-Copolymer.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|--|--|---|
| Specific Gravity | 1.19 g/cc | 1.19 g/cc | ASTM D792 |
| Density | 1.19 g/cc | 0.0430 lb/in ³ | ISO 1183 |
| Moisture Absorption | 0.0900 % | 0.0900 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.13 % | 0.13 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0040 - 0.0080 cm/cm | 0.0040 - 0.0080 in/in | on Tensile Bar; SABIC Method |
| | 0.0040 - 0.0080 cm/cm @Thickness 3.20 mm | 0.0040 - 0.0080 in/in @Thickness 0.126 in | SABIC Method |
| Linear Mold Shrinkage, Transverse | 0.0040 - 0.0080 cm/cm @Thickness 3.20 mm | 0.0040 - 0.0080 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 10 g/10 min @Load 1.20 kg, Temperature 300 °C | 10 g/10 min @Load 2.65 lb, Temperature 572 °F | ASTM D1238 |
| Melt Index of Compound | 9.0 g/10 min @Load 5.00 kg, Temperature 220 °C | 9.0 g/10 min @Load 11.0 lb, Temperature 428 °F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|----------|------------------------------|
| Tensile Strength at Break | 58.0 MPa | 8410 psi | 50 mm/min; ISO 527 |
| | 66.0 MPa | 9570 psi | Type I, 50 mm/min; ASTM D638 |
| Tensile Strength, Yield | 57.0 MPa | 8270 psi | 50 mm/min; ISO 527 |
| | 60.0 MPa | 8700 psi | Type I, 50 mm/min; ASTM D638 |
| Elongation at Break | 116 % | 116 % | 50 mm/min; ISO 527 |
| | 130 % | 130 % | Type I, 50 mm/min; ASTM D638 |
| Elongation at Yield | 5.6 % | 5.6 % | 50 mm/min; ISO 527 |

| Mechanical Properties | Metric | English | Comments |
|------------------------------|------------------------|----------------------------|------------------------------------|
| | 5.0% | 5.0% | Type I, 50 mm/min; ASTM D638 |
| Tensile Modulus | 2.27 GPa | 329 ksi | 50 mm/min; ASTM D638 |
| | 2.31 GPa | 335 ksi | 1 mm/min; ISO 527 |
| Flexural Yield Strength | 87.0 MPa | 12600 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 91.0 MPa | 13200 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 2.19 GPa | 318 ksi | 2 mm/min; ISO 178 |
| | 2.27 GPa | 329 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched | 8.90 J/cm | 16.7 ft-lb/in | ASTM D256 |
| | 7.95 J/cm | 14.9 ft-lb/in | ASTM D256 |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Notched (ISO) | 65.0 kJ/m ² | 30.9 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | 55.0 kJ/m ² | 26.2 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Unnotched (ISO) | NB | NB | 80*10*3; ISO 180/1U |
| | NB | NB | 80*10*3; ISO 180/1U |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact Unnotched | NB | NB | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | NB | NB | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 7.00 J/cm ² | 33.3 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | 6.00 J/cm ² | 28.6 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 | 82.0 J | 60.5 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|-------------------------------|------------------------------|-----------------------------|------------|
| CTE, linear, Parallel to Flow | 71.5 µm/m-°C | 39.7 µin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 95.0 °C | @Temperature -40.0 - 203 °F | |

| Thermal Properties | Metric $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ | English $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ | Comments |
|---|--|---|----------------------------------|
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | ISO 11359-2 |
| CTE, linear, Transverse to Flow | 79.3 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ | 44.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ | ASTM E 831 |
| | @Temperature -40.0 - 95.0 °C | @Temperature -40.0 - 203 °F | |
| | 79.3 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ | 44.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| Deflection Temperature at 1.8 MPa (264 psi) | 119 °C | 246 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 124 °C | 255 °F | |
| | @Thickness 3.20 mm | @Thickness 0.126 in | unannealed; ASTM D648 |
| Vicat Softening Point | 141 °C | 286 °F | Rate A/50; ASTM D1525 |
| | 141 °C | 286 °F | Rate B/50; ISO 306 |
| | 143 °C | 289 °F | Rate B/120; ISO 306 |

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

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