

SABIC Innovative Plastics Lexan® FXD1433T PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Clear PC-siloxane copolymer with excellent processability in special light diffusion colors. Medium flow, UV stabilized. Improved toughness compared to standard PC in same color. Color package may affect performance. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FXD1433T-PC-Copolymer.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| Specific Gravity | 1.18 g/cc | 1.18 g/cc | ASTM D 792 |
| Density | 1.19 g/cc | 0.0430 lb/in ³ | ISO 1183 |
| Moisture Absorption at Equilibrium | 0.090 % | 0.090 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.12 % @Temperature 23.0 °C | 0.12 % @Temperature 73.4 °F | 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 | 9.0 g/10 min @Load 1.20 kg, Temperature 300 °C | 9.0 g/10 min @Load 2.65 lb, Temperature 572 °F | [cm ³ /10 min] Melt Volume Rate; ISO 1133 |
| | 10 g/10 min @Load 1.20 kg, Temperature 300 °C | 10 g/10 min @Load 2.65 lb, Temperature 572 °F | ASTM D 1238 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|----------|-------------------------------|
| Tensile Strength at Break | 58.0 MPa | 8410 psi | 50 mm/min; ISO 527 |
| | 59.0 MPa | 8560 psi | Type I, 50 mm/min; ASTM D 638 |
| Tensile Strength, Yield | 59.0 MPa | 8560 psi | 50 mm/min; ISO 527 |
| | 60.0 MPa | 8700 psi | Type I, 50 mm/min; ASTM D 638 |
| Elongation at Break | 99 % | 99 % | Type I, 50 mm/min; ASTM D 638 |

| Mechanical Properties | 114 % Metric | 114 % English | 50 mm/min; ISO 527 Comments |
|------------------------------|------------------------|----------------------------|--------------------------------------------|
| Elongation at Yield | 5.6 % | 5.6 % | 50 mm/min; ISO 527 |
| | 5.8 % | 5.8 % | Type I, 50 mm/min; ASTM D 638 |
| Tensile Modulus | 2.32 GPa | 336 ksi | 50 mm/min; ASTM D 638 |
| | 2.35 GPa | 341 ksi | 1 mm/min; ISO 527 |
| Flexural Yield Strength | 89.0 MPa | 12900 psi | 1.3 mm/min, 50 mm span; ASTM D 790 |
| | 92.0 MPa | 13300 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 2.23 GPa | 323 ksi | 2 mm/min; ISO 178 |
| | 2.29 GPa | 332 ksi | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Izod Impact, Notched | 7.95 J/cm | 14.9 ft-lb/in | ASTM D 256 |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Notched | 8.90 J/cm | 16.7 ft-lb/in | ASTM D 256 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Izod Impact, Notched (ISO) | 45.0 kJ/m ² | 21.4 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | @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 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Izod Impact, Unnotched (ISO) | NB | NB | 80*10*3; ISO 180/1U |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Izod Impact, Unnotched (ISO) | 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 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Charpy Impact Unnotched | NB | NB | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 5.00 J/cm ² | 23.8 ft-lb/in ² | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 7.00 J/cm ² | 33.3 ft-lb/in ² | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Mechanical Properties | 82.0 J Metric | 60.5 ft-lb English | Comments |
|-----------------------|----------------------|-----------------------|--------------------------------------------|
| | @Temperature 23.0 °C | @Temperature 73.4 °F | Charpy Impact Total Energy; ASTM D 3763 |

| 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 | |
| | 71.5 µm/m-°C | 39.7 µin/in-°F | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| CTE, linear, Transverse to Flow | 79.3 µm/m-°C | 44.1 µin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 95.0 °C | @Temperature -40.0 - 203 °F | |
| | 79.3 µm/m-°C | 44.1 µin/in-°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 D 648 |
| Vicat Softening Point | 141 °C | 286 °F | Rate A/50; ASTM D 1525 |
| | 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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