

SABIC Innovative Plastics Lexan® HFD4211 PC (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® HFD4211 is a 10% glass filled, injection moldable grade designed for high flow and superior surface appearance. Internal mold release.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HFD4211-PC-Asia-Pacific.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|---|---|---|
| Specific Gravity | 1.27 g/cc | 1.27 g/cc | ASTM D792 |
| Density | 1.25 g/cc | 0.0452 lb/in ³ | ISO 1183 |
| Moisture Absorption | 0.120 % | 0.120 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.30 % | 0.30 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0020 - 0.0040 cm/cm @Thickness 3.20 mm | 0.0020 - 0.0040 in/in @Thickness 0.126 in | SABIC Method |
| Linear Mold Shrinkage, Transverse | 0.0020 - 0.0040 cm/cm @Thickness 3.20 mm | 0.0020 - 0.0040 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 18 g/10 min @Load 1.20 kg, Temperature 300 °C | 18 g/10 min @Load 2.65 lb, Temperature 572 °F | ASTM D1238 |
| Melt Index of Compound | 12 g/10 min @Load 1.20 kg, Temperature 300 °C | 12 g/10 min @Load 2.65 lb, Temperature 572 °F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|----------|-----------------------------|
| Tensile Strength at Break | 46.0 MPa | 6670 psi | Type I, 5 mm/min; ASTM D638 |
| | 59.0 MPa | 8560 psi | 5 mm/min; ISO 527 |
| Tensile Strength, Yield | 60.0 MPa | 8700 psi | Type I, 5 mm/min; ASTM D638 |
| | 68.0 MPa | 9860 psi | 5 mm/min; ISO 527 |
| Elongation at Break | 3.2 % | 3.2 % | 5 mm/min; ISO 527 |
| Elongation at Yield | 2.7 % | 2.7 % | 5 mm/min; ISO 527 |
| | 3.1 % | 3.1 % | Type I, 5 mm/min; ASTM D638 |
| Tensile Modulus | 4.12 GPa | 598 ksi | 5 mm/min; ASTM D638 |

| Mechanical Properties | Metric | English | Comments |
|------------------------------|--|---|------------------------------------|
| Flexural Yield Strength | 102 MPa | 14800 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Flexural Modulus | 3.69 GPa | 535 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched | 1.20 J/cm | 2.25 ft-lb/in | ASTM D256 |
| Izod Impact, Unnotched | 12.6 J/cm | 23.6 ft-lb/in | ASTM D4812 |
| Izod Impact, Notched (ISO) | 6.00 kJ/m ² | 2.86 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | 6.00 kJ/m ² @Temperature -30.0 °C | 2.86 ft-lb/in ² @Temperature -22.0 °F | 80*10*3; ISO 180/1A |
| Izod Impact, Unnotched (ISO) | 64.0 kJ/m ² | 30.5 ft-lb/in ² | 80*10*3; ISO 180/1U |
| | 60.0 kJ/m ² @Temperature -30.0 °C | 28.6 ft-lb/in ² @Temperature -22.0 °F | 80*10*3; ISO 180/1U |
| Charpy Impact Unnotched | 7.50 J/cm ² | 35.7 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | 8.10 J/cm ² @Temperature -30.0 °C | 38.5 ft-lb/in ² @Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| Charpy Impact, Notched | 0.600 J/cm ² | 2.86 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | 0.700 J/cm ² @Temperature -30.0 °C | 3.33 ft-lb/in ² @Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| Dart Drop, Total Energy | 50.0 J | 36.9 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|---------------------------------|------------------------------|-----------------------------|-------------|
| CTE, linear, Parallel to Flow | 40.0 µm/m-°C | 22.2 µin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| | 40.0 µm/m-°C | 22.2 µin/in-°F | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| CTE, linear, Transverse to Flow | 80.0 µm/m-°C | 44.4 µin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| | 80.0 µm/m-°C | 44.4 µin/in-°F | ISO 11359-2 |

| Thermal Properties | @Temperature 23.0 - Metric 30.0 °C | @Temperature 73.4 - English 170 °F | Comments |
|--|--|--|----------------------------------|
| 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) | 126 °C | 259 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 123 °C @Thickness 3.20 mm | 253 °F @Thickness 0.126 in | unannealed; ASTM D648 |
| Vicat Softening Point | 141 °C | 286 °F | Rate B/120; ISO 306 |
| UL RTI, Electrical | 80.0 °C | 176 °F | UL 746B |
| UL RTI, Mechanical with Impact | 80.0 °C | 176 °F | UL 746B |
| UL RTI, Mechanical without Impact | 80.0 °C | 176 °F | UL 746B |
| Flammability, UL94 | HB @Thickness 0.300 mm | HB @Thickness 0.0118 in | UL 94 |
| Glow Wire Test | 850 °C | 1560 °F | IEC 60695-2-13 |
| | 960 °C @Thickness 1.00 mm | 1760 °F @Thickness 0.0394 in | IEC 60695-2-12 |

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

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