

SABIC Innovative Plastics Lexan® HFD4413 PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® HFD4413 is a 30% 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-HFD4413-PC-Europe-Africa-Middle-East.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|---|---|---|
| Specific Gravity | 1.43 g/cc | 1.43 g/cc | ASTM D792 |
| Density | 1.44 g/cc | 0.0520 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 | 0.0010 - 0.0030 cm/cm @Thickness 3.20 mm | 0.0010 - 0.0030 in/in @Thickness 0.126 in | SABIC Method |
| Linear Mold Shrinkage, Transverse | 0.0010 - 0.0030 cm/cm @Thickness 3.20 mm | 0.0010 - 0.0030 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 16 g/10 min @Load 1.20 kg, Temperature 300 °C | 16 g/10 min @Load 2.65 lb, Temperature 572 °F | ASTM D1238 |
| Melt Index of Compound | 18 g/10 min @Load 1.20 kg, Temperature 300 °C | 18 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 | 111 MPa | 16100 psi | Type I, 5 mm/min; ASTM D638 |
| | 125 MPa | 18100 psi | 5 mm/min; ISO 527 |
| Tensile Strength, Yield | 111 MPa | 16100 psi | Type I, 5 mm/min; ASTM D638 |
| | 115 MPa | 16700 psi | 5 mm/min; ISO 527 |
| Elongation at Break | 2.1 % | 2.1 % | 5 mm/min; ISO 527 |
| Elongation at Yield | 2.5 % | 2.5 % | 5 mm/min; ISO 527 |
| | 3.0 % | 3.0 % | Type I, 5 mm/min; ASTM D638 |
| Tensile Modulus | 7.87 GPa | 1140 ksi | 5 mm/min; ASTM D638 |

| Mechanical Properties | Metric | English | Comments |
|------------------------------|---|---|------------------------------------|
| Flexural Yield Strength | 182 MPa | 26400 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Flexural Modulus | 7.76 GPa | 1130 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched | 1.33 J/cm | 2.49 ft-lb/in | ASTM D256 |
| Izod Impact, Unnotched | 8.52 J/cm | 16.0 ft-lb/in | ASTM D4812 |
| Izod Impact, Notched (ISO) | 10.0 kJ/m ² | 4.76 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | 10.0 kJ/m ² @Temperature -30.0 °C | 4.76 ft-lb/in ² @Temperature -22.0 °F | 80*10*3; ISO 180/1A |
| Izod Impact, Unnotched (ISO) | 37.0 kJ/m ² | 17.6 ft-lb/in ² | 80*10*3; ISO 180/1U |
| | 30.0 kJ/m ² @Temperature -30.0 °C | 14.3 ft-lb/in ² @Temperature -22.0 °F | 80*10*3; ISO 180/1U |
| Charpy Impact Unnotched | 4.00 J/cm ² | 19.0 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | 4.90 J/cm ² @Temperature -30.0 °C | 23.3 ft-lb/in ² @Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| Charpy Impact, Notched | 1.20 J/cm ² | 5.71 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | 1.10 J/cm ² @Temperature -30.0 °C | 5.23 ft-lb/in ² @Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| Dart Drop, Total Energy | 17.0 J @Temperature 23.0 °C | 12.5 ft-lb @Temperature 73.4 °F | ASTM D3763 |

| Thermal Properties | Metric | English | Comments |
|---------------------------------|------------------------------|-----------------------------|-------------|
| CTE, linear, Parallel to Flow | 30.0 µm/m-°C | 16.7 µin/in-°F | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| | 30.0 µm/m-°C | 16.7 µin/in-°F | ASTM E 831 |
| | @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 | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| | 70.0 µm/m-°C | 38.9 µin/in-°F | ASTM E 831 |

| Thermal Properties | @Temperature -40.0 - Metric 40.0 °C | @Temperature -40.0 - English 100 °F | Comments |
|--|---|---|----------------------------------|
| Deflection Temperature at 0.46 MPa (66 psi) | 130 °C @Thickness 3.20 mm | 266 °F @Thickness 0.126 in | unannealed; ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 129 °C | 264 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 125 °C @Thickness 3.20 mm | 257 °F @Thickness 0.126 in | unannealed; ASTM D648 |
| Vicat Softening Point | 143 °C | 289 °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 2.00 mm | 1760 °F @Thickness 0.0787 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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