

SABIC Innovative Plastics Lexan® HPM1914 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

High flow specialty polycarbonate with enhanced hemocompatibility. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO sterilizable. 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-HPM1914-PC-Copolymer.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|---|---|--|
| Specific Gravity | 1.19 g/cc | 1.19 g/cc | ASTM D 792 |
| Density | 1.19 g/cc | 0.0430 lb/in ³ | ISO 1183 |
| Moisture Absorption at Equilibrium | 0.060 % | 0.060 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.23 % @Temperature 23.0 °C | 0.23 % @Temperature 73.4 °F | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0060 - 0.0090 cm/cm @Thickness 3.20 mm | 0.0060 - 0.0090 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 23 g/10 min @Load 1.20 kg, Temperature 300 °C | 23 g/10 min @Load 2.65 lb, Temperature 572 °F | [cm ³ /10 min] Melt Volume Rate; ISO 1133 |
| | 25 g/10 min @Load 1.20 kg, Temperature 300 °C | 25 g/10 min @Load 2.65 lb, Temperature 572 °F | ASTM D 1238 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|----------|-------------------------------|
| Tensile Strength at Break | 64.0 MPa | 9280 psi | Type I, 50 mm/min; ASTM D 638 |
| | 64.0 MPa | 9280 psi | 50 mm/min; ISO 527 |
| Tensile Strength, Yield | 60.0 MPa | 8700 psi | 50 mm/min; ISO 527 |
| | 61.0 MPa | 8850 psi | Type I, 50 mm/min; ASTM D 638 |
| Elongation at Break | 122 % | 122 % | 50 mm/min; ISO 527 |
| | 129 % | 129 % | Type I, 50 mm/min; ASTM D 638 |
| Elongation at Yield | 5.7 % | 5.7 % | 50 mm/min; ISO 527 |
| | 6.0 % | 6.0 % | Type I, 50 mm/min; ASTM D 638 |

| Mechanical Properties | Metric Pa | English | Comments, ASTM D 638 |
|------------------------------|------------------------|----------------------------|---|
| | 2.40 GPa | 348 ksi | 1 mm/min; ISO 527 |
| Flexural Yield Strength | 92.0 MPa | 13300 psi | 2 mm/min; ISO 178 |
| | 99.0 MPa | 14400 psi | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Flexural Modulus | 2.15 GPa | 312 ksi | 2 mm/min; ISO 178 |
| | 2.38 GPa | 345 ksi | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Izod Impact, Notched | 2.37 J/cm | 4.44 ft-lb/in | ASTM D 256 |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 7.62 J/cm | 14.3 ft-lb/in | ASTM D 256 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Izod Impact, Notched (ISO) | 20.0 kJ/m ² | 9.52 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 70.0 kJ/m ² | 33.3 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 | |
| | 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 | |
| | NB | NB | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 2.00 J/cm ² | 9.52 ft-lb/in ² | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 7.50 J/cm ² | 35.7 ft-lb/in ² | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Impact Test | 79.0 J | 58.3 ft-lb | Instrumented Impact Total Energy; ASTM D 3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
|--------------------|--------|---------|----------|

| Thermal Properties | Metric $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | English $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | Comments |
|---|--|---|----------------------------------|
| CTE, linear, Parallel to Flow | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | ASTM E 831 |
| | 75.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 41.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | ISO 11359-2 |
| CTE, linear, Transverse to Flow | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | ASTM E 831 |
| | 78.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 43.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | ISO 11359-2 |
| Deflection Temperature at 1.8 MPa (264 psi) | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 122 °C | 252 °F | unannealed; ASTM D 648 |
| Vicat Softening Point | 123 °C | 253 °F | Rate B/50; ASTM D 1525 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | Rate B/50; ISO 306 |
| | 140 °C | 284 °F | Rate B/120; ISO 306 |
| | 140 °C | 284 °F | |
| | 143 °C | 289 °F | |

| Optical Properties | Metric | English | Comments |
|-----------------------|--------------------|---------------------|-------------|
| Haze | 4.5 % | 4.5 % | ASTM D 1003 |
| | @Thickness 2.54 mm | @Thickness 0.100 in | |
| Transmission, Visible | 77 % | 77 % | ASTM D 1003 |
| | @Thickness 2.54 mm | @Thickness 0.100 in | |

| Descriptive Properties | Value | Comments |
|----------------------------------|--------|----------------|
| Ball Pressure Test, 75°C +/- 2°C | PASSES | IEC 60695-10-2 |

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