

Styron EMERGE[®],ç 4731-8 Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

EMERGE[®],ç PC 4702-15 advanced resin is formulated with 10% glass fiber and has an f1 rating by Underwriters Laboratories Inc. It provides good ignition resistance, rigidity, dimension stability and UV resistance. Applications: Information Technology Equipment Power Tools Electrical Appliances and Parts Information provided by Dow This product line was spun off from Dow Chemical to Styron in 2010.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-EMERGE-4731-8-Polycarbonate.php

| Physical Properties | Metric | English | Comments |
|-----------------------|---|---|-------------------|
| Specific Gravity | 1.27 g/cc | 1.27 g/cc | ASTM D792 |
| Filler Content | 10 % | 10 % | Glass; ASTM 5630B |
| Linear Mold Shrinkage | 0.0020 - 0.0050 cm/cm | 0.0020 - 0.0050 in/in | ASTM D955 |
| Melt Flow | 8.0 g/10 min @Load 1.20 kg, Temperature 300 Â°C | 8.0 g/10 min @Load 2.65 lb, Temperature 572 Â°F | ASTM D1238 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-----------|---------------|---|
| Hardness, Rockwell R | 122 | 122 | ASTM D785 |
| Tensile Strength, Ultimate | 62.7 MPa | 9100 psi | 0.125 in, injection molded, unannealed; ASTM D638 |
| Tensile Strength, Yield | 65.5 MPa | 9500 psi | 0.125 in, injection molded, unannealed; ASTM D638 |
| Elongation at Break | 4.0 % | 4.0 % | 0.125 in, injection molded, unannealed; ASTM D638 |
| Tensile Modulus | 3.65 GPa | 530 ksi | 0.125 in, injection molded, unannealed; ASTM D638 |
| Flexural Strength | 109 MPa | 15800 psi | 0.125 in, injection molded, unannealed; ASTM D790 |
| Flexural Modulus | 3.65 GPa | 530 ksi | 0.125 in, injection molded, unannealed; ASTM D790 |
| Izod Impact, Notched | 1.07 J/cm | 2.00 ft-lb/in | ASTM D256 |

| Thermal Properties | Metric | English | Comments |
|--------------------|--|---|-----------|
| CTE, linear | 37.8 Âµm/m-Â°C @Temperature -40.0 - 82.2 Â°C | 21.0 Âµin/in-Â°F @Temperature -40.0 - 180 Â°F | ASTM D696 |

| Hot Ball Pressure Test Thermal Properties | ≥ 125 Å°C Metric | ≥ 257 Å°F English | IEC 60335-1 Comments |
|--|---------------------|----------------------|---------------------------|
| Deflection Temperature at 0.46 MPa (66 psi) | 149 Å°C | 300 Å°F | annealed; ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 135 Å°C | 275 Å°F | annealed; ASTM D648 |
| | 141 Å°C | 285 Å°F | unannealed; ASTM D648 |
| Vicat Softening Point | 160 Å°C | 320 Å°F | 50Å°C/hr, 50N; ASTM D1525 |
| UL RTI, Electrical | 125 Å°C | 257 Å°F | UL 746 |
| UL RTI, Mechanical with Impact | 105 Å°C | 221 Å°F | UL 746 |
| UL RTI, Mechanical without Impact | 125 Å°C | 257 Å°F | UL 746 |
| Flammability, UL94 | V-0 | V-0 | 0.0625 in |
| | V-0 | V-0 | 0.125 in |
| Oxygen Index | 38 % | 38 % | ASTM D2863 |

| Processing Properties | Metric | English | Comments |
|-----------------------|----------------|---------------|----------|
| Melt Temperature | 288 - 316 Å°C | 550 - 601 Å°F | |
| Mold Temperature | 82.0 - 116 Å°C | 180 - 241 Å°F | |
| Drying Temperature | 121 Å°C | 250 Å°F | |
| Dry Time | 3 - 4 hour | 3 - 4 hour | |

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