

## Styron EMERGE<sup>®</sup>,ç 4330-22 Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

EMERGE<sup>®</sup>,ç PC 4330-22 advanced resin is high-performance polycarbonate resin offering ultraviolet light stability, high heat resistance, toughness, and superior flow. Applications: Consumer Electronics and Information Technology Equipment Computer and Business Equipment Portable Electronics 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-4330-22-Polycarbonate.php](http://www.lookpolymers.com/polymer_Styron-EMERGE-4330-22-Polycarbonate.php)

| Physical Properties   | Metric                                               | English                                              | Comments   |
|-----------------------|------------------------------------------------------|------------------------------------------------------|------------|
| Specific Gravity      | 1.20 g/cc                                            | 1.20 g/cc                                            | ASTM D792  |
| Linear Mold Shrinkage | 0.0050 - 0.0070 cm/cm                                | 0.0050 - 0.0070 in/in                                | ASTM D955  |
| Melt Flow             | 22 g/10 min<br>@Load 1.20 kg,<br>Temperature 300 Â°C | 22 g/10 min<br>@Load 2.65 lb,<br>Temperature 572 Â°F | ASTM D1238 |

| Mechanical Properties      | Metric    | English       | Comments                                          |
|----------------------------|-----------|---------------|---------------------------------------------------|
| Hardness, Rockwell R       | 118       | 118           | ASTM D785                                         |
| Tensile Strength, Ultimate | 65.5 MPa  | 9500 psi      | 0.125 in, injection molded, unannealed; ASTM D638 |
| Tensile Strength, Yield    | 60.0 MPa  | 8700 psi      | 0.125 in, injection molded, unannealed; ASTM D638 |
| Elongation at Break        | 120 %     | 120 %         | 0.125 in, injection molded, unannealed; ASTM D638 |
| Tensile Modulus            | 2.34 GPa  | 340 ksi       | 0.125 in, injection molded, unannealed; ASTM D638 |
| Flexural Strength          | 96.5 MPa  | 14000 psi     | 0.125 in, injection molded, unannealed; ASTM D790 |
| Flexural Modulus           | 2.41 GPa  | 350 ksi       | 0.125 in, injection molded, unannealed; ASTM D790 |
| Izod Impact, Notched       | 7.47 J/cm | 14.0 ft-lb/in | ASTM D256                                         |
| Izod Impact, Unnotched     | NB        | NB            | ASTM D256                                         |
| Dart Drop, Total Energy    | 72.0 J    | 53.1 ft-lb    | 8000 ipm; ASTM D3763                              |

| Thermal Properties | Metric                                 | English                                  | Comments  |
|--------------------|----------------------------------------|------------------------------------------|-----------|
| CTE, linear        | 68.4 Âµm/m-Â°C<br>@Temperature -40.0 - | 38.0 Âµin/in-Â°F<br>@Temperature -40.0 - | ASTM D696 |

| Thermal Properties                          | 82.2 Å°C<br>Metric | 180 Å°F<br>English | Comments                        |
|---------------------------------------------|--------------------|--------------------|---------------------------------|
| Deflection Temperature at 0.46 MPa (66 psi) | 142 Å°C            | 288 Å°F            | 0.157 in, annealed; ASTM D648   |
| Deflection Temperature at 1.8 MPa (264 psi) | 126 Å°C            | 258 Å°F            | 0.157 in, unannealed; ASTM D648 |
|                                             | 139 Å°C            | 282 Å°F            | 0.157 in, annealed; ASTM D648   |
| Oxygen Index                                | 26 %               | 26 %               | ASTM D2863                      |

| Electrical Properties | Metric             | English            | Comments  |
|-----------------------|--------------------|--------------------|-----------|
| Volume Resistivity    | 2.00e+17 ohm-cm    | 2.00e+17 ohm-cm    | ASTM D257 |
| Dielectric Constant   | 3.0                | 3.0                | ASTM D150 |
|                       | @Frequency 60 Hz   | @Frequency 60 Hz   |           |
| Dielectric Strength   | 3.0                | 3.0                | ASTM D150 |
|                       | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz |           |
| Dissipation Factor    | 0.0010             | 0.0010             | ASTM D150 |
|                       | @Frequency 60 Hz   | @Frequency 60 Hz   |           |
|                       | 0.0020             | 0.0020             | ASTM D150 |
|                       | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz |           |

| Processing Properties | Metric          | English       | Comments |
|-----------------------|-----------------|---------------|----------|
| Melt Temperature      | 260 - 277 Å°C   | 500 - 531 Å°F |          |
| Mold Temperature      | 71.0 - 93.0 Å°C | 160 - 199 Å°F |          |
| Drying Temperature    | 121 Å°C         | 250 Å°F       |          |
| Dry Time              | 3 - 4 hour      | 3 - 4 hour    |          |

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