

## EMERGE™ PC 4310-10

### Advanced Resin

#### Overview

EMERGE™ PC 4310-10 Advanced Resin is a high-performance polycarbonate resin offering high heat resistance and maximum toughness. This resin is available in a full range of colors that can be custom tailored to meet your product requirements.

#### Applications:

- Consumer electronics and information technology equipment
- Computer and business equipment
- Portable electronics

| Physical                                 | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
|------------------------------------------|-------------------------|------------------------|-------------------------|
| Density                                  | 1.20 g/cm <sup>3</sup>  | 1.20 g/cm <sup>3</sup> | ASTM D792               |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg) | 10 g/10 min             | 10 g/10 min            | ASTM D1238              |
| Molding Shrinkage - Flow                 | 5.0E-3 to 7.0E-3 in/in  | 0.50 to 0.70 %         | ASTM D955               |
| Mechanical                               | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Tensile Modulus <sup>1</sup>             | 334000 psi              | 2300 MPa               | ASTM D638               |
| Tensile Strength <sup>2</sup>            |                         |                        | ASTM D638               |
| Yield                                    | 8700 psi                | 60.0 MPa               |                         |
| Break                                    | 9430 psi                | 65.0 MPa               |                         |
| Tensile Elongation <sup>2</sup>          |                         |                        | ASTM D638               |
| Yield                                    | 6.0 %                   | 6.0 %                  |                         |
| Break                                    | 120 %                   | 120 %                  |                         |
| Flexural Modulus <sup>3</sup>            | 348000 psi              | 2400 MPa               | ASTM D790               |
| Flexural Strength <sup>3</sup>           | 14000 psi               | 96.5 MPa               | ASTM D790               |
| Impact                                   | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Notched Izod Impact (73°F (23°C))        | 15 ft-lb/in             | 800 J/m                | ASTM D256               |
| Instrumented Dart Impact <sup>4</sup>    |                         |                        | ASTM D3763              |
| 73°F (23°C), Total Energy                | 770 in-lb               | 87.0 J                 |                         |
| Thermal                                  | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Deflection Temperature Under Load        |                         |                        | ASTM D648               |
| 264 psi (1.8 MPa), Unannealed            | 261 °F                  | 127 °C                 |                         |
| Vicat Softening Temperature              | 300 °F                  | 149 °C                 | ASTM D1525 <sup>5</sup> |
| CLTE - Flow (-40 to 176°F (-40 to 80°C)) | 3.8E-5 in/in/°F         | 6.8E-5 cm/cm/°C        | ASTM D696               |
| Electrical                               | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Arc Resistance                           | PLC 5                   | PLC 5                  | ASTM D495               |
| Flammability                             | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Flame Rating <sup>6</sup>                |                         |                        | UL 94                   |
| 0.06 in (1.6 mm)                         | HB                      | HB                     |                         |
| 0.13 in (3.2 mm)                         | HB                      | HB                     |                         |
| Injection                                | Nominal Value (English) | Nominal Value (SI)     |                         |
| Drying Temperature                       | 248 °F                  | 120 °C                 |                         |
| Drying Time                              | 3.0 to 4.0 hr           | 3.0 to 4.0 hr          |                         |
| Processing (Melt) Temp                   | 518 to 572 °F           | 270 to 300 °C          |                         |
| Mold Temperature                         | 158 to 230 °F           | 70 to 110 °C           |                         |