

## EMERGE™ PC 8600E50-10

### Advanced Resin

#### Overview

EMERGE™ PC 8600E50-10 Advanced Resin contains 50% post consumer recycled (PCR) polycarbonate. This ignition resistant PC does not contain chlorinated, brominated or phosphate flame retardant additives to comply with global environmental standards. This resin combines good mechanical, thermal, and chemical properties while retaining excellent processability.

#### Applications

- Electronics and electrical appliances
- Charger and adaptor enclosures
- Information technology equipment

| 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) | 9.0 g/10 min            | 9.0 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>           | 13800 psi               | 95.0 MPa               | ASTM D790                               |
| Impact                                   | Nominal Value (English) | Nominal Value (SI)     | Test Method                             |
| Notched Izod Impact (73°F (23°C))        | 14 ft-lb/in             | 750 J/m                | ASTM D256                               |
| Thermal                                  | Nominal Value (English) | Nominal Value (SI)     | Test Method                             |
| Deflection Temperature Under Load        |                         |                        |                                         |
| 264 psi (1.8 MPa), Unannealed            | 259 °F                  | 126 °C                 | ASTM D648                               |
| 264 psi (1.8 MPa), Unannealed            | 257 °F                  | 125 °C                 | ISO 75-2/A                              |
| Vicat Softening Temperature              | 302 °F                  | 150 °C                 | ISO 306/A120<br>ASTM D1525 <sup>4</sup> |
| Ball Indentation Temperature             | > 257 °F                | > 125 °C               | IEC 60335-1                             |
| CLTE - Flow (-40 to 176°F (-40 to 80°C)) | 3.6E-5 in/in/°F         | 6.5E-5 cm/cm/°C        | ASTM D696                               |
| Electrical                               | Nominal Value (English) | Nominal Value (SI)     | Test Method                             |
| Volume Resistivity                       | 1.0E+17 ohms-cm         | 1.0E+17 ohms-cm        | ASTM D257                               |
| Dielectric Strength                      | 560 V/mil               | 22 kV/mm               | ASTM D149                               |
| Arc Resistance                           | PLC 7                   | PLC 7                  | ASTM D495                               |

| Flammability                                | Nominal Value (English) | Nominal Value (SI) | Test Method    |
|---------------------------------------------|-------------------------|--------------------|----------------|
| Flame Rating <sup>5</sup>                   |                         |                    | UL 94          |
| 0.016 in (0.40 mm)                          | HB                      | HB                 |                |
| 0.022 in (0.55 mm)                          | V-2                     | V-2                |                |
| 0.04 in (1.0 mm)                            | V-1                     | V-1                |                |
| 0.06 in (1.5 mm)                            | V-0                     | V-0                |                |
| 0.10 in (2.5 mm)                            | V-0                     | V-0                |                |
| 0.12 in (3.0 mm)                            | V-0                     | V-0                |                |
| Glow Wire Flammability Index <sup>5</sup>   |                         |                    | IEC 60695-2-12 |
| 0.08 in (2.0 mm)                            | 1760 °F                 | 960 °C             |                |
| Glow Wire Ignition Temperature <sup>5</sup> |                         |                    | IEC 60695-2-13 |
| 0.08 in (2.0 mm)                            | 1470 °F                 | 800 °C             |                |
| Oxygen Index <sup>5</sup>                   | 35 %                    | 35 %               | ISO 4589-2     |
| 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       |                |