

## Technical Information



# EMERGE™ PC 8160-15 Advanced Resin

## Overview

EMERGE™ PC 8160-15 advanced resin is an opaque, ignition resistant PC resin that contains no chlorinated or brominated or phosphate flame retardant additives and provides superior ignition resistance and ultraviolet light resistance. This resin combines good mechanical and high heat properties and maintains excellent processability and contains mold release agent.

### Applications:

- Meters
- Electrical applications
- Tube and bulb of LED lighting applications

| 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)                           | 15 g/10 min             | 15 g/10 min            | ASTM D1238             |
| Molding Shrinkage - Flow                                           | 5.0E-3 to 7.0E-3 in/in  | 0.50 to 0.70 %         | ASTM D955<br>ISO 294-4 |
| 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))                                  | 12 ft-lb/in             | 650 J/m                | ASTM D256              |
| Thermal                                                            | Nominal Value (English) | Nominal Value (SI)     | Test Method            |
| Deflection Temperature Under Load<br>264 psi (1.8 MPa), Unannealed | 257 °F                  | 125 °C                 | ASTM D648              |
| 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            |
| Arc Resistance                                                     | PLC 7                   | PLC 7                  | ASTM D495              |
| Flammability                                                       | Nominal Value (English) | Nominal Value (SI)     | Test Method            |
| Flame Rating <sup>4</sup>                                          |                         |                        | UL 94                  |
| 0.04 in (1.0 mm)                                                   | V-0                     | V-0                    |                        |
| 0.08 in (2.0 mm)                                                   | V-0                     | V-0                    |                        |
| 0.12 in (3.0 mm)                                                   | V-0                     | V-0                    |                        |
| Glow Wire Flammability Index <sup>4</sup>                          |                         |                        | IEC 60695-2-12         |
| 0.08 in (2.0 mm)                                                   | 1760 °F                 | 960 °C                 |                        |
| Glow Wire Ignition Temperature <sup>4</sup>                        |                         |                        | IEC 60695-2-13         |
| 0.08 in (2.0 mm)                                                   | 1560 °F                 | 850 °C                 |                        |

| 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       |

**Notes**

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

<sup>1</sup> 0.039 in/min (1.0 mm/min)

<sup>2</sup> 2.0 in/min (50 mm/min)

<sup>3</sup> 0.051 in/min (1.3 mm/min)

<sup>4</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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