

## Technical Information



# EMERGE™ PC 8130-10

## Advanced Resin

### Overview

EMERGE™ PC 8130 Advanced Resin is an ignition-resistant polycarbonate resin with improved UV stability. It is designed for thin-wall applications and has a UL94 V-0 rating at 1.0 mm. EMERGE PC 8130 is also f1 rated according to UL 746C. This resin does not contain chlorinated or brominated flame retardant additives.

#### Applications:

- Powered Device Housings
- Information technology equipment
- Electrical parts

| 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<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                         |                         |                        |                         |
| Yield <sup>2</sup>                       | 8700 psi                | 60.0 MPa               | ASTM D638               |
| Yield                                    | 8850 psi                | 61.0 MPa               | ISO 527-2/50            |
| Break <sup>2</sup>                       | 9430 psi                | 65.0 MPa               | ASTM D638               |
| Break                                    | 8560 psi                | 59.0 MPa               | ISO 527-2/50            |
| 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))        | 13 ft-lb/in             | 700 J/m                | ASTM D256               |
| Instrumented Dart Impact <sup>4</sup>    |                         |                        | ASTM D3763              |
| 73°F (23°C), Total energy                | 549 in-lb               | 62.0 J                 |                         |
| Thermal                                  | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Deflection Temperature Under Load        |                         |                        | ASTM D648               |
| 264 psi (1.8 MPa), Unannealed            | 259 °F                  | 126 °C                 |                         |
| Vicat Softening Temperature              | 304 °F                  | 151 °C                 | ASTM D1525 <sup>5</sup> |
| 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>6</sup>                   |                         |                    | UL 94          |
| 0.031 in (0.8 mm)                           | V-1                     | V-1                |                |
| 0.04 in (1.0 mm)                            | V-0                     | V-0                |                |
| 0.08 in (2.0 mm)                            | • V-0                   | • V-0              |                |
|                                             | • 5VB                   | • 5VB              |                |
| 0.12 in (3.0 mm)                            | • V-0                   | • V-0              |                |
|                                             | • 5VA                   | • 5VA              |                |
| Glow Wire Flammability Index <sup>6</sup>   |                         |                    | IEC 60695-2-12 |
| 0.08 in (2.0 mm)                            | 1760 °F                 | 960 °C             |                |
| Glow Wire Ignition Temperature <sup>6</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> 11.1 ft/sec (3.39 m/sec)

<sup>5</sup> Rate A (50°C/h), Loading 2 (50 N)

<sup>6</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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