

## EMERGE™ PC 8410-7 LT

### Advanced Resin

#### Overview

EMERGE™ PC 8410-7 LT advanced resin is a transparent, ignition resistant PC resin that contains no chlorinated or brominated or phosphorous based additives. The resin is designed to meet the German norm DIN VDE-0472/ Part 815 on halogens. This resin combines good mechanical and high RTI properties, ensuring longer sustained aesthetics and mechanical resistance, to the applications. EMERGE™ PC 8410-7 LT has a UL 94 V-0 rating at 1.5 mm, and contains mould release agent.

#### Applications:

- Electrical
- Lighting
- Diffusers
- Lenses

| Physical                                     | Nominal Value (English)  | Nominal Value (SI)     | Test Method |
|----------------------------------------------|--------------------------|------------------------|-------------|
| Density                                      | 1.20 g/cm <sup>3</sup>   | 1.20 g/cm <sup>3</sup> | ISO 1183/B  |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)     | 7.0 g/10 min             | 7.0 g/10 min           | ISO 1133    |
| Molding Shrinkage                            | 5.0E-3 to 7.0E-3 in/in   | 0.50 to 0.70 %         | ISO 294-4   |
| Mechanical                                   | Nominal Value (English)  | Nominal Value (SI)     | Test Method |
| Tensile Modulus                              | 348000 psi               | 2400 MPa               | ISO 527-2   |
| Tensile Stress                               |                          |                        | ISO 527-2   |
| Yield                                        | 8700 psi                 | 60.0 MPa               |             |
| Break                                        | 10200 psi                | 70.0 MPa               |             |
| Tensile Strain                               |                          |                        | ISO 527-2   |
| Yield                                        | 6.0 %                    | 6.0 %                  |             |
| Break                                        | 110 %                    | 110 %                  |             |
| Flexural Modulus                             | 341000 psi               | 2350 MPa               | ISO 178     |
| Flexural Stress                              | 13800 psi                | 95.0 MPa               | ISO 178     |
| Impact                                       | Nominal Value (English)  | Nominal Value (SI)     | Test Method |
| Charpy Notched Impact Strength (73°F (23°C)) | 17 ft-lb/in <sup>2</sup> | 35 kJ/m <sup>2</sup>   | ISO 179/1eA |
| Notched Izod Impact Strength (73°F (23°C))   | 33 ft-lb/in <sup>2</sup> | 70 kJ/m <sup>2</sup>   | ISO 180/A   |
| Thermal                                      | Nominal Value (English)  | Nominal Value (SI)     | Test Method |
| Heat Deflection Temperature                  |                          |                        |             |
| 66 psi (0.45 MPa), Annealed                  | 291 °F                   | 144 °C                 | ISO 75-2/B  |
| 264 psi (1.8 MPa), Unannealed                | 257 °F                   | 125 °C                 | ISO 75-2/A  |
| 264 psi (1.8 MPa), Annealed                  | 286 °F                   | 141 °C                 | ISO 75-2/A  |
| Vicat Softening Temperature                  | 298 °F                   | 148 °C                 | ISO 306/B50 |
| Ball Indentation Temperature                 | > 257 °F                 | > 125 °C               | IEC 60335-1 |
| CLTE - Flow                                  | 3.9E-5 in/in/°F          | 7.0E-5 cm/cm/°C        | ISO 11359-2 |

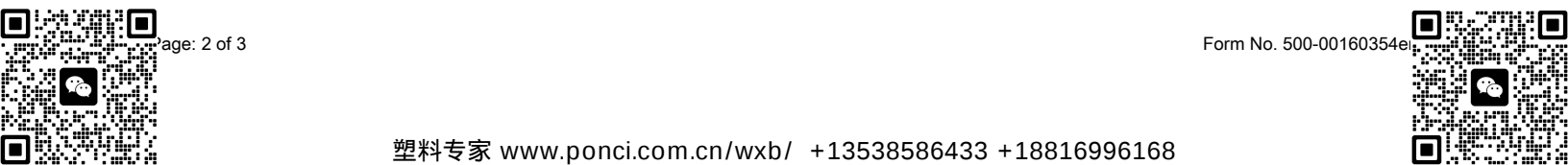
| Electrical                                  | Nominal Value (English) | Nominal Value (SI) | Test Method    |
|---------------------------------------------|-------------------------|--------------------|----------------|
| Surface Resistivity                         | > 1.0E+15 ohms          | > 1.0E+15 ohms     | IEC 60093      |
| Volume Resistivity                          | > 1.0E+15 ohms·cm       | > 1.0E+15 ohms·cm  | IEC 60093      |
| Electric Strength                           | 430 V/mil               | 17 kV/mm           | IEC 60243-1    |
| Dielectric Constant                         |                         |                    | IEC 60250      |
| 1 Hz                                        | 2.70                    | 2.70               |                |
| 50 Hz                                       | 2.70                    | 2.70               |                |
| Dissipation Factor                          |                         |                    | IEC 60250      |
| 1 Hz                                        | 1.0E-3                  | 1.0E-3             |                |
| 50 Hz                                       | 1.0E-3                  | 1.0E-3             |                |
| Comparative Tracking Index (Solution A)     | 225 V                   | 225 V              | IEC 60112      |
| Flammability                                | Nominal Value (English) | Nominal Value (SI) | Test Method    |
| Flame Rating <sup>1</sup>                   |                         |                    | UL 94          |
| 0.030 in (0.75 mm)                          | V-2                     | V-2                |                |
| 0.06 in (1.5 mm)                            | V-0                     | V-0                |                |
| 0.12 in (3.0 mm)                            | V-0                     | V-0                |                |
| Glow Wire Flammability Index <sup>1</sup>   |                         |                    | IEC 60695-2-12 |
| 0.04 in (1.0 mm)                            | 1760 °F                 | 960 °C             |                |
| 0.08 in (2.0 mm)                            | 1760 °F                 | 960 °C             |                |
| 0.12 in (3.0 mm)                            | 1760 °F                 | 960 °C             |                |
| Glow Wire Ignition Temperature <sup>1</sup> |                         |                    | IEC 60695-2-13 |
| 0.04 in (1.0 mm)                            | 1470 °F                 | 800 °C             |                |
| 0.08 in (2.0 mm)                            | 1470 °F                 | 800 °C             |                |
| 0.12 in (3.0 mm)                            | 1470 °F                 | 800 °C             |                |
| Oxygen Index <sup>1</sup>                   | 40 %                    | 40 %               | ISO 4589-2     |
| Optical                                     | Nominal Value (English) | Nominal Value (SI) | Test Method    |
| Transmittance <sup>2</sup>                  | 88.0 to 89.0 %          | 88.0 to 89.0 %     | ASTM D1003     |
| 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                      | > 572 °F                | > 300 °C           |                |
| Mold Temperature                            | 158 to 212 °F           | 70 to 100 °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> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

<sup>2</sup> standard tints



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