# EMERGE™ PC 8830-5 LT
## Advanced Resin

## Overview

EMERGE™ PC 8830-5 LT Advanced Resin is a transparent, ignition resistant PC resin that contains no chlorinated or brominated or phosphorous based flame retardant, designed to meet the German norm DIN VDE-0472/Part 815 on halogens. This resin combines good mechanical and heat resistant properties, ensuring longer sustained aesthetics and mechanical resistance to the applications. EMERGE ™ PC 8830-5LT has a UL 94 V-0 rating at 1.0 mm, 5VA @ 3mm and UL746C f1 rating. The material contains mould release agent and UV stabilizer.

Applications

- LED Tube, LED lamp Lens
- Electrical parts

| Physical | Nominal Value | (English) | Nominal Value | (SI) | Test Method |
|---|---|---|---|---|---|
| Density | 1.20 | g/cm³ | 1.20 | g/cm³ | ISO 1183/B |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg) | 5.0 | g/10 min | 5.0 | g/10 min | ISO 1133 |
| Molding Shrinkage | | | | | ISO 294-4 |
| Across Flow | 7.0E-3 | in/in | 0.70 | % | |
| Flow | 7.0E-3 | in/in | 0.70 | % | |
| **Mechanical** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Tensile Modulus | 348000 | psi | 2400 | MPa | ISO 527-2/1 |
| Tensile Stress | | | | | ISO 527-2/50 |
| Yield, 0.126 in (3.20 mm), Injection Molded | 9280 | psi | 64.0 | MPa | |
| Break, 0.126 in (3.20 mm), Injection Molded | 8560 | psi | 59.0 | MPa | |
| Tensile Strain | | | | | ISO 527-2/50 |
| Yield, 0.126 in (3.20 mm), Injection Molded | 6.3 | % | 6.3 | % | |
| Break, 0.126 in (3.20 mm), Injection Molded | 110 | % | 110 | % | |
| Flexural Modulus | | | | | ISO 178 |
| 0.126 in (3.20 mm), Injection Molded | 325000 | psi | 2240 | MPa | |
| **Impact** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Charpy Notched Impact Strength | | | | | ISO 179/1eA |
| 73°F (23°C), Injection Molded | 7.6 | ft·lb/in² | 16 | kJ/m² | |
| Notched Izod Impact Strength | | | | | ISO 180/A |
| 73°F (23°C), Injection Molded | 6.2 | ft·lb/in² | 13 | kJ/m² | |
| **Thermal** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Heat Deflection Temperature | | | | | |
| 66 psi (0.45 MPa), Unannealed | 277 | °F | 136 | °C | ISO 75-2/B |
| 264 psi (1.8 MPa), Unannealed | 262 | °F | 128 | °C | ISO 75-2/A |
| Vicat Softening Temperature | | | | | |
| -- | 304 | °F | 151 | °C | ISO 306/A120 |
| -- | 289 | °F | 143 | °C | ISO 306/B50 |
| **Flammability** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Flame Rating [1] | | | | | UL 94 |
| 0.04 in (1.0 mm) | V-0 | | V-0 | | |
| 0.10 in (2.5 mm) | 5VB | | 5VB | | |
| 0.12 in (3.0 mm) | 5VA | | 5VA | | |

| Flammability | Nominal Value (English) | | Nominal Value (SI) | | Test Method |
|---|---|---|---|---|---|
| Glow Wire Flammability Index [1] | | | | | IEC 60695-2-12 |
| 0.04 in (1.0 mm) | 1470 | °F | 800 | °C | |
| 0.06 in (1.5 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 [1] | | | | | IEC 60695-2-13 |
| 0.04 in (1.0 mm) | 1520 | °F | 825 | °C | |
| 0.06 in (1.5 mm) | 1520 | °F | 825 | °C | |
| 0.08 in (2.0 mm) | 1520 | °F | 825 | °C | |
| 0.12 in (3.0 mm) | 1520 | °F | 825 | °C | |
| Oxygen Index | 35 | % | 35 | % | ISO 4589-2 |

| Optical | Nominal Value (English) | | Nominal Value (SI) | |
|---|---|---|---|---|
| Transmittance | | | | |
| 39.4 mil (1000 µm) | 90.0 | % | 90.0 | % |
| 78.7 mil (2000 µm) | 88.0 | % | 88.0 | % |

| 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 |
| Rear Temperature | 536 to 572 | °F | 280 to 300 | °C |
| Middle Temperature | 536 to 590 | °F | 280 to 310 | °C |
| Front Temperature | 554 to 608 | °F | 290 to 320 | °C |
| Nozzle Temperature | 554 to 608 | °F | 290 to 320 | °C |
| Mold Temperature | 140 to 212 | °F | 60 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.

[1] This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

## PRODUCT STEWARDSHIP

Trinseo and its affiliated companies have a fundamental concern for all who make, distribute, and use their products and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products so that appropriate steps may be taken to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Trinseo products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

## CUSTOMER NOTICE

Customers are responsible for reviewing their manufacturing processes and their applications of Trinseo products from the standpoint of human health and environmental quality to ensure that Trinseo products are not used in ways for which they are not suitable. Trinseo personnel are available to answer questions and to provide reasonable technical support. Trinseo product literature, including safety data sheets, should be consulted prior to the use of Trinseo products. Current safety data sheets are available from Trinseo.

No freedom from infringement of any patent owned by Trinseo or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the customer is responsible for determining whether products and the information in this document are appropriate for the customer's use and for ensuring that the customer's workplace and disposal practices are in compliance with applicable legal requirements. Although the information herein is provided in good faith and was believed to be accurate when prepared, Trinseo assumes no obligation or liability for the information in this document.

## GENERAL NOTICE

Any photographs of end-use applications in this document represent potential end-use applications but do not necessarily represent current commercial applications, nor do they represent an endorsement by Trinseo of the actual products. Further, these photographs are for illustration purposes only and do not reflect either an endorsement or sponsorship of any other manufacturer for a specific potential end-use product or application, or for Trinseo, or for specific products manufactured by Trinseo.If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Trinseo to change specifications and/or discontinue production, and (4) although Trinseo may from time to time provide samples of such products, Trinseo is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.



Follow us at:

## DISCLAIMER

TRINSEO MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, IN THIS DOCUMENT; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE (INCLUDING MEDICAL APPLICATIONS) ARE EXPRESSLY EXCLUDED. SINCE THE CONDITIONS AND METHODS OF USE OF THE INFORMATION AND PRODUCTS REFERRED TO ARE BEYOND TRINSEO'S KNOWLEDGE AND CONTROL, TRINSEO DISCLAIMS ANY AND ALL LIABILITY FOR LOSSES OR DAMAGES THAT MAY RESULT FROM RELIANCE ON THE INFORMATION OR USE OF THE PRODUCTS DESCRIBED HEREIN. TRINSEO MAKES NO WARRANTIES, EXPRESS OR IMPLIED, THAT THE USE OF ANY TRINSEO PRODUCT WILL BE FREE FROM ANY INFRINGEMENT CLAIMS.