

Description

ProInfusion Resin designed for production of composite structures by infusion methods and offered with a choice of four different hardeners, three for room temperature applications and one for high temp projects. This allows the selection of a pot life tailored to the size of the part being produced and extends the system's usable temperature range. Please see the ProInfusion HT tds for information on the high temp system.

Applications

- System designed for infusion
- Demolds after overnight at room temperature
- Uniform mix ratio allows easily blending hardeners for intermediate gel times

Properties

- Low viscosity
- Readily wets out fabrics
- Good mechanical properties
- Suitable for marine applications

Physical Properties

| | PART A | PART B |
|---|------------------------|---------------------------|
| Composition | ProInfusion Resin | Fast/Medium/Slow Hardener |
| Mix Ratio by weight | 100 | 27 |
| Mix Ratio by volume | 3 | 1 |
| Aspect | Hazy Liquid | Transparent Liquid |
| Color | Colorless to Lt. Straw | Lt. Straw to Lt. Amber |
| Density at 77°F (lb/Gal) | 9.4 - 9.7 | 7.7 - 8.0 |
| Specific Gravity at 77°F (25°C) | 1.13 - 1.16 | 0.92 - 0.96 |
| Brookfield viscosity at 77°F (25°C) (cps) | 800 - 1,200 | 16 - 24 |

Mixed Physical Properties

| | Fast Hardener | Medium Hardener | Slow Hardener |
|---|------------------------|-----------------|---------------|
| Aspect | Transparent Liquid | | |
| Color | Lt. Straw to Lt. Amber | | |
| Density at 77°F (lb/Gal) | 9.0 - 9.4 | | |
| Specific Gravity at 77°F (25°C) | 1.08 - 1.12 | | |
| Brookfield viscosity at 77°F (25°C) (cps) | 200 - 400 | | |
| Pot life (150g) at 77°F (25°C) (minutes) | 20 - 30 | 80 - 100 | 145 - 175 |

PROCESSING

To obtain the desired temperature resistance and the optimal mechanical properties it is necessary to post cure the ProInfusion system. In order to avoid any distortion risks it is recommended to support the part on a frame before curing.

Cured Physical Properties

| | Method | Units | Fast Hardener | Medium Hardener | Slow Hardener |
|---|------------|---|---------------|-----------------|-------------------------|
| Shore Hardness | ASTM D2240 | Shore D | 85* | 84* | 84* |
| | | | 85** | 85** | 85** |
| Glass Transition (Tg) | ASTM E1545 | °F (°C) | 165 (74)* | 118 (48)* | 120 (49)* |
| | | | 183 (84)** | 185 (85)** | 192 (89)** |
| Coefficient of Thermal Expansion (CTE) Range: 86-140°F (30-60°C) | ASTM E1545 | 10 ⁻⁶ °F ⁻¹ (10 ⁻⁶ °C ⁻¹) | 39 (70)* | 37 (66)* | 32 (58)* ⁽¹⁾ |
| | | | 30 (54)** | 35 (63)** | 41 (74)** |
| Tensile Strength** | ASTM D638 | psi | 11,700 | 10,750 | 9,400 |
| Tensile Modulus** | ASTM D638 | psi | 212,200 | 205,000 | 212,000 |
| % Elongation** | ASTM D638 | % | 8.6 | 8.5 | 7.5 |
| Flexural Strength** | ASTM D790 | psi | 17,600 | 16,400 | 16,800 |
| Flexural Modulus** | ASTM D790 | psi | 441,200 | 422,400 | 430,000 |
| Compressive Strength at Yield** | ASTM D695 | psi | 14,000 | 12,600 | 13,400 |
| Compressive Modulus** | ASTM D695 | psi | 325,700 | 276,000 | 315,200 |
| *Cure: 7 days at room temperature ⁽¹⁾ Temperature range for CTE 50-104°F (10-40°C) | | | | | |
| **Cure conditions of specimen: 24 hours at room temperature+ 8 hours at 140°F (60°C)+ 8 hours at 180°F (82°C) | | | | | |

Storage Conditions

Shelf life of resin and hardeners are 12 months in original, unopened container stored in a dry 65-77°F (18-25°C) place. Repeated exposure to low temperatures during storage may cause the resin to crystallize. If this occurs, warm the resin to 120 - 140°F (49-60°C) and stir to dissolve the crystals. Any opened can must be tightly closed.

Handling Precautions

****Please note: Do not allow excess mixed material to remain in bulk; pour into a thin sheet and allow to cure. Excessive amounts of mixed material in bulk has a potential of high exothermy and possible violent reactivity.**

Normal health and safety precautions should be observed when handling these products :

- Ensure good ventilation
- Wear gloves, and safety glasses

For further information, please consult the material safety data sheet.

Guarantee



ProInfusion Resin

Technical Data Sheet

Fast – Medium – Slow Hardeners
Infusion system

Gel time 20 minutes to 175 minutes

The information contained in this technical data sheet results from research and tests conducted in our laboratories under precise conditions. Seller cannot anticipate all conditions under which seller's products, or the products of other manufacturers in combination with seller's products, may be used. It is the responsibility of the user to determine the suitability of the Axson Technologies' products, under their own conditions, before commencing with the proposed application. In no event shall Axson Technologies, Inc. be liable for any direct, indirect, punitive, incidental, special, and/or consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of our products.

| | | | | | | |
|--|---|--|---|--|--|--|
| AXSON TECHNOLOGIES US +1 248 588 2270 axsonmh@axson.com axson-na.com | CHINA +86 21 58 68 30 37 marketing.china@axson.com | GERMANY +49 6 07 44 07 11-0 verkauf@axson.com | INDIA +91 20 25 56 07 10-11 info.india@axson.com | ITALY +39 02 96 70 23 36 axson@axson.it | JAPAN +81 5 64 26 25 91 sales.japan@axson.com | FRANCE Global Headquarters +33 1 34 40 34 60 axson@axson.com axson-technologies.com |
| | MEXICO +52 55 52 64 49 22 marketing@axson.com.mx | MIDDLE EAST +971 7 2432227 axsonmideast@axson.com | SLOVAKIA +42 1 76 42 25 26 axson.sk@axson.com | SPAIN +34 9 32 25 16 20 spain@axson.com | U.K. +44 16 38 66 00 62 sales.uk@axson.com | |