



## Freeman 9604 Epoxy Infusion System

## Description

Freeman 9604 is a two-component, low viscosity epoxy system developed for use in the production of advanced composites using vacuum-assisted resin transfer process (VARTM), resin transfer molding (RTM), or other infusion processes.

## **Physical Properties**

| Color                                   | Amber  |
|---|--------|
| Mix Ratio (by weight)                   | 100:28 |
| Viscosity, Mixed (cps)                  | 300    |
| Gel Time (minutes @ 77°F)               | 130    |
| Demold Time (hours)                     | 24     |
| Hardness (Shore D)                      | 84     |
| Specific Gravity (in <sup>3</sup> /lb.) | 1.10   |
| Volumetric Yield (cu. in./ lb.)         | 25.1   |
| HDT, Room Temperature Cure (°F)         | 130    |
| HDT, Post Cure (°F)                     | 190    |
| Tensile strength (psi)                  | 10,300 |
| Compressive Strength (psi)              | 13,800 |
| Flexural Strength (psi)                 | 17,500 |
| Izod Impact, Notched (ft-lb/in)         | 1.09   |
| Elongation (%)                          | 7.2    |
| Shrink (in/in)                          | 0.002" |

## **System Cure Options:**

Post cure is recommended to obtain maximum physical and thermal properties of the system. The recommended post cure temperature ramp rate between stages is up 5°F per minute for heating, and down 1-2°F per minute for cooling. Heating and cooling ramp rates can vary based on size and thickness of the part. For larger or thicker parts use a more conservative ramp.

| Cure<br>Increments | 24 Hours at<br>77°F (25°C) | 7 Days at<br>77°F (25°C) | 4 Hours at<br>120°F (49°C) | 4 Hours at<br>150°F (66°C) | 2 Hours at<br>180°F (82°C) |
|--------------------|----------------------------|--------------------------|----------------------------|----------------------------|----------------------------|
| Room Temp.         | Supported                  | Unsupported              |                            |                            |                            |
| Post Cure          | Supported                  |                          |                            | Supported                  | Unsupported                |

The user shall determine the suitability of this product for their application and assumes all risks and liabilities associated with the use of this product. The exclusive remedy for all proven claims is replacement of our materials only and in no event shall Freeman Mfg. & Supply Co. be liable for special, incidental, or consequential claims.

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