



## PRODUCT TECHNICAL DATA SHEET

# Standard Epoxy Matrix

### Low Temperature System

PowerSleeve® is a high strength, field-applied composite system that is used for structural reinforcement of damaged piping. It is a wet layup, or field-pregged, fiber-reinforced polymer (FRP) system that consists of custom blended epoxy and unique fiber reinforcements tailored for piping repair. This product is suitable for pipes with leaks or which may develop leaks. This product meets the requirements of the ASME PCC-2 standard.

#### FEATURES

- ◆ Complete Installation Kits
- ◆ High Strength Carbon Fiber Available
- ◆ Low Training Time
- ◆ Excellent Toughness-Resists Cracking
- ◆ Ships Non-Hazardous
- ◆ Works Over Obstructions
- ◆ Factory Pre-Measured and Sealed Components
- ◆ No VOC's

A two-component, ambient temperature matrix used in our PowerSleeve® composite reinforcement products. This ambient temperature cure matrix wets out easily and can be applied to our PowerSleeve® W-11, G-03 and Bear™ Fabrics. It is relatively fast setting, approximately 30 minutes @77° F and is used where a maximum service temperature of 265° F is desired. No VOC's, 100% solids. This product ships DOT non-hazardous.

| EPOXY PROPERTIES                 |                                  |                       |                          |
|----------------------------------|----------------------------------|-----------------------|--------------------------|
| <b>Working (pot) Life:</b>       | 30-40 min. at 25°C (77°F)        | <b>Mix Ratio:</b>     | Factory Ratioed          |
| <b>Application Temps:</b>        | 16-44°C (60-110°F)               | <b>Service Temps:</b> | -46-129°C (-50 – 265°F)  |
| <b>Cure Time (dry to touch):</b> | 30-60 min. 25°C (77°F)           | <b>Full Cure:</b>     | 2 days at 25°C (77°F)    |
| <b>Kit Packaging:</b>            | Fabric cut and resin premeasured | <b>Shelf Life:</b>    | 1 year in sealed jar     |
| <b>Color:</b>                    | Light Yellow                     | <b>Hardness:</b>      | 94 Shore D - ASTM D-2240 |

| COMPOSITE LAMINATE PROPERTIES         |   |   |   |
|---------------------------------------|---|---|---|
| TEST                                  | W-11 FABRIC                                 | G-03 FABRIC                                 | BEAR FABRIC                                 |
| <b>Ultimate Tensile Strength:</b>     | 58088 psi (warp direction)                  | 48,874 psi (warp direction)                 | 44,199 psi (warp direction)                 |
| <b>Ultimate Tensile Strength:</b>     | 10014 psi (fill direction)                  | 27,465 psi (fill direction)                 | NA  |
| <b>Tensile Modulus:</b>               | 2.73 x 10 <sup>6</sup> psi (warp direction) | 2.64 x 10 <sup>6</sup> psi (warp direction) | 2.38 x 10 <sup>6</sup> psi (wrap direction) |
| <b>Per Ply Thickness:</b>             | .034" nominal                               | .017" nominal                               | .048" nominal                               |
| <b>Load Per Ply:</b>                  | 1900 lbs.                                   | 823 lbs.                                    | 2113 lbs.                                   |
| <b>HDT:</b>                           | 315°F                                       | 315°F                                       | 315°F                                       |
| <b>CTE, in*10<sup>-6</sup>/in/°F:</b> | 6.2   | 5.5   |   |



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**Tensile data was taken on panels typical of field lay-ups.**

ATTENTION: All of the proceeding data are based on laboratory conditions, at room temperature. Field conditions can change the characteristics of this product. Higher temperatures will lessen the working life of the product. Allow adequate time for application.

### **Storage & Handling**

Store at 60-90° F in a dry place. In any event keep from freezing. Mix ratios are pre-determined and packaged accordingly. Normal mixing procedure is to pour the contents of the Part B container into the Part A container and mix thoroughly. Use immediately. Mixtures left in containers can obtain dangerous temperatures during cure and can cause damage to the container and surrounding items. **If the standard Powersleeve® resin is allowed to cool to 50° F it may coagulate. If this occurs the resin should be heated to a temperature of 150° for a period of at least two hours and allowed to cool. This will not affect the performance of the resin**

### **Shelf Life**

12 months from date of sale, in an unopened container, stored in cool warehouse conditions.

### **Caution**

Read MSDS prior to use. Some persons may be irritated by these products. Use caution and PPE. This product is for industrial use by professionally trained personnel only. Please read and understand all application instructions prior to using.

### **Design and Application Instructions**

Design guidelines, application notes and wrap calculations for various applications are available from the factory.

### **Warranty**

The manufacturer warrants that the goods delivered hereunder shall be free from defects in material and workmanship. The WARRANTY shall extend for a period of one (1) year after date of delivery of such goods to customer. This warranty is void in the event that the protective pouch has been damaged. THE MANUFACTURER MAKES NO WARRANTY EXPRESS, IMPLIED, (INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR INTENDED PURPOSE), OR STATUTORY, OTHER THAN THE FOREGOING EXPRESS WARRANTY. Failure of customer to submit any claim hereunder within the Warranty Period after receipt of such goods shall be an admission by customer and conclusive proof that such articles are in every respect as warranted and shall release the manufacturer from any and all claims for damage or loss sustained by customer. In the event customer submits a claim for defective material within the required Warranty Period, the parties agree that customer's sole and exclusive remedy shall be the replacement of such defective goods or a refund of the price of the defective goods. To the greatest extent practical defective goods shall be returned to the manufacturer for analysis. IN NO EVENT SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR SPECIAL, INDIRECT OR INCIDENTAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, LOSS OF USE OF GOODS OR ANY PART THEREOF, EVEN THOUGH THE MANUFACTURER HAS BEEN NEGLIGENT OR HAS BEEN INFORMED OF CIRCUMSTANCES WHICH MIGHT GIVE RISE TO SUCH DAMAGES.

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