



## PRODUCT TECHNICAL DATA SHEET

# Powersleeve® Carbon

### High Strength Bi-Axial Fabric

Powersleeve® Carbon available in a bi-axial fabric and a unidirectional weave (special order). This product is designed for applications where high strength and/or modulus are required. These fabrics can be used with all of our Powersleeve® resin systems. It can be used for the repair and reinforcement of existing mechanical systems, structures, and piping. The cured product is a very durable, high strength material, impervious to fuels, most chemicals and solvents. It permanently bonds to a wide variety of surfaces such as metals, composites, concrete, plastics and wood.

This product is especially useful in the repair of large diameter piping systems and provides a cost effective alternate to our glass reinforcements.

#### FEATURES

- ◆ Complete Installation Kits
- ◆ High Strength, High Modulus Carbon Fiber
- ◆ Very Versatile
- ◆ Low Installation Time
- ◆ Ships Non-Hazardous
- ◆ Works Over Obstructions
- ◆ Factory Pre-Measured and Sealed Components
- ◆ No VOC's

#### STANDARD RESIN SYSTEM CHARACTERISTICS

<b>Working Time:</b>	30-40 min. at 25°C (77°F)	<b>Mix Ratio:</b>	Factory ratioed
<b>Application Temps:</b>	16-40°C (60-110°F)	<b>Service Temps:</b>	-18 - 104°C (0 - 220°F)
<b>Cure Time (dry to touch):</b>	30-60 minutes at 25°C (77°F)	<b>Full Cure:</b>	7 days at 25°C (77°F)
<b>Kit Packaging:</b>	Fabric cut and resin premeasured	<b>Shelf Life:</b>	1 year

#### COMPOSITE LAMINATE PROPERTIES WITH STANDARD RESIN

<b>Tensile Strength</b> (warp and fill directions), psi	100747
<b>Tensile Modulus</b> (warp and fill directions), msi	7.32
<b>Tensile load per ply</b> (warp and fill directions), pounds per inch of width	4429
<b>Thickness</b> , mils	44
<b>HDT</b> , °F (estimated)	325
<b>CTE</b> , in/in x 10 <sup>-6</sup> / °F	5.4
<b>Tg</b> °F	288
<b>Bond strength to steel with BP-1 Adhesive</b> , psi	1360 (E)

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



**ATTENTION:** All of the following data are based on laboratory conditions, at room temperature. Field conditions can radically change the characteristics of this product. Higher temperatures will lessen the working life of the product. Allow adequate time for application. Field testing is strongly recommended prior to application.

## Design and Application Instructions

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

### Storage

Store at 60-90° F in a dry place. Keep from freezing. Dispose of any leftover material.

### Handling

Store at 60-90° F in a dry place. Keep from freezing. Keep any leftover material in a tightly sealed container. Always use clean, dry tools when mixing and applying the matrix. 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

### Shelf Life

6 months from date of sale, in an unopened package, stored in cool warehouse conditions.

**Caution** – Read MSDS prior to use. Some persons may be irritated by this compound. 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.

### 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.

Data and parameters listed herein and in our data sheets have been obtained by Air Logistics Corporation using materials under carefully controlled conditions. Data of this type should not be used by engineers as design specifications, but rather as indicative of ultimate properties obtainable. Before using, user should determine the suitability of the product for its intended use. In determining whether the material is suited for a particular use, such factors as overall application configuration and design, field conditions and environmental criteria to which it will be subjected should be considered by the user.



**AIR LOGISTICS CORPORATION**  
Field-Applied Composite Systems™ Group  
925 North Todd Avenue • Azusa, CA 91702  
Phone: 626-633-0294  
Fax: 626-633-0791  
[www.airlog.com](http://www.airlog.com)

