An ISO 9001:2015
Certified Supplier

PRODUCT TECHNICAL DATA SHEET

70079 Epoxy Matrix

Fuels and Chemical Resistant 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. A broad line of unique epoxy matrix systems and fabrics are available to handle a wide variety of high heat applications, harsh chemical environments, and cool installation temperatures. This product has been qualified to the requirements of the ASME PCC-2.

FEATURES

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

Type 70079 matrix is a premium quality, two-component, novolac-epoxy hybrid system with our PowerSleeve® W-11, G-03 tape and our unique highly conformable Bear™ G-22 fabrics. This product is used as a composite matrix where its fuel and chemical performances are required. It is very resistant to moisture and humidity effects. It will cure in high humidity conditions. This product contains no solvents, is 100% solids, and contains zero VOC's. This product ships as non-hazardous.

EPOXY PROPERTIES			
Working (pot) Life:	30 min. at 25°C (77°F)	**Mix Ratio:**	Factory Ratioed
Application Temps:	13-38°C (55-100°F)	**Service Temps:**	-46-60°C (-50 – 140°F)
Cure Time (dry to touch)**:**	8 hours at 25°C (77°F)	**Full Cure:**	2 days at 25°C (77°F)
Usual Packaging:	Fabric cut and resin premeasured	**Shelf Life:**	1 year in sealed jar
Color:	Light Grey	**Hardness:**	90 Shore D - ASTM D-2240

COMPOSITE LAMINATE PROPERTIES		
TEST	**W-11 FABRIC**	**G-03 FABRIC**
Ultimate Tensile Strength:	44780 psi (warp direction) per ASTM D-3039	46,566 psi (warp direction) per ASTM D-3039
Ultimate Tensile Strength:	15779 psi (fill direction) per ASTM D-3039	19042 psi (fill direction) per ASTM D-3039
Tensile Modulus:	2.61 x 10^6 psi (warp direction)	2.8 (warp direction)
Per Ply Thickness:	.034" nominal	.017" nominal
Load Per Ply:	1,644 lbs.	670
HDT:	200°F (est.)	240
CTE, in x 10^{-6}/in/°F:	6.3	7.7

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. Field testing is strongly recommended prior to application.

Storage & 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. Mixtures left in containers can obtain dangerous temperatures during cure and can cause damage to the container and surrounding items

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.

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.

F. A. C. S.™
FIELD-APPLIED COMPOSITE SYSTEMS

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70079 Matrix
Chemical Resistance Guide

Values are based on 3 week immersions.

REAGENT	% WEIGHT GAIN (LOSS)
JP-4, JP-5, JP-7, JP-8	0.0
Skydrol	(0.03)
Synthetic Gasohol	0.0
Mogas Diesel	0.0
Diethylene Glycol Monomethyl Ether	0.0
Ethylene Glycol Monobutyl Ether	2.4
Water, (deionized)	1.2
5% Detergent Solution	0.0
10% Sodium Hydroxide	0.0
50% Sodium Hydroxide	(0.2)
10% Sulfuric Acid	0.0
70% Sulfuric Acid	0.2
10% Hydrochloric Acid	0.1
5% Acetic Acid	2.6
10% Acetic Acid	5.4
Xylene	0.0
1,1,1 Trichloroethane	0.0
Toluene	2.3
Ethyl alcohol	6.9
MEK	2.3