



4020 FAST EPOXY HI-MOD GEL

100% Solids, High Modulus, Two-Part Epoxy Gel for Bonding CFRP Systems



PRODUCT DESCRIPTION

StitchDog™ 4020 Epoxy Gel is a toughened, high temperature use structural epoxy adhesive designed for the bonding of fiberglass to itself and many dissimilar materials. It is a two phase (toughened) epoxy resin produced using an elastomer with a flexible epoxy resin backbone for maximum stress and fatigue resistance. StitchDog™ 4020 bonds with an immediate high tack consistency, and offers a quick cure when used at ambient temperatures ranging from 60°F (15°C) to 95°F (35°C). The working life at 77°F (25°C) is 60 minutes (working time increases with lower ambient temperatures), with full cures occurring between 12 – 14 hours depending on cure temperature.

PRODUCT USE

Target Applications

- Where a high strength, durable bond between StitchDog™ Carbon Fiber Grid Stitch (CFGS) products and substrates is desired.
- Bonds StitchDog™ CFGS to concrete, masonry, timber & other structural substrates.
- Bonds multiple layers of CFRP pre-preg plate & strap
- Bonds StitchDog™ CFGS to concrete & masonry using the near-surface-mounted (NSM) technique
- Bonds steel plate to concrete.
- Ideal for overhead and vertical applications

Benefits

- Zero V.O.C.s (solvent free)
- Full load transfer between StitchDog™ Carbon Fiber Grid Stitch (CFGS) and substrate
- Excellent adhesion
- Ambient cure temperatures provides heat resistance well in excess of most engineering limits with an HDT of 105° C (220°F).

KEY FEATURES

- Easy 2:1 mixing ratio
- 100% solids
- Color coded for proper metering
- Less than 5% air entrapment, less than 1% with vacuum clamping
- No sag formula



Physical Properties Of StitchDog™ 4020 Resin with 4000 Fast & Slow Hardeners

Fortress Material	StitchDog™ 4020 Resin	w/StitchDog™ 4020 Hardener
Density at 25°C	1.1 – 1.2 g/cm ³ (9.7 – 9.8 lbs)	1.03 – 1.04 g/cm ³ (8.65 – 8.75 lbs)
Viscosity	Thixotropic Gel	Thixotropic Gel
Color	Yellow	Blue
Color Mixed	-	Green
Mix Ratio by Weight	100	35
Working Life, 1000 grams at 77°F	-	55 – 60 minutes
Initial Cure Time	-	6 – 8 hours
Shore D Hardness	-	87
Heat Deflection Temperature	-	105°C (220°F)
Tensile Lap-Shear (DIN EN 1465)	-	10.5 MPa
Peeling Resistance (DIN 53282)	-	2.3 N/mm (minimum)

ADHESION AND FAILURE MODE STITCHDOG™ 4020 EPOXY

Epoxy Laminate to itself	Laminate fails prior to adhesive failure
Polyester Laminate to itself	Laminate fails prior to adhesive failure
Galvanized Steel to itself	Galvanized coating fails prior to adhesive failure
Carbon Steel to Epoxy Laminate	Laminate fails prior to adhesive failure
Carbon Steel to Polyester Laminate	Laminate fails prior to adhesive failure
Epoxy Laminate to Concrete	100% Concrete failure

SAFETY PRECAUTIONS

Health Considerations: Consult the Professional Construction Products Material Safety Data Sheets.

This chemical system requires the use of proper safety equipment and procedures. Please follow the Professional Construction Products product MSDS and Safety Manual for detailed information and handling guidelines.

For Your Protection: The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Professional Construction Products. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Professional Construction Products will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors. Because of numerous factors affecting results, Professional Construction Products makes no warranty of any kind, express or implied, other than that the material conforms to its applicable current Standard Specifications. Professional Construction Products hereby disclaims any and all other warranties, including but not limited to those of merchantability or fitness for a particular purpose. No statements made herein may be construed as a representation or warranty. The liability of Professional Construction Products for any claims arising from or sounding in breach of warranty, negligence, strict liability, or otherwise shall be limited to the purchase price of the material.