



Product Data Sheet

4000 HI-TEMP TOUGHENED STRUCTURAL ADHESIVE

SUGGESTED USES:

StitchDog™ 4000 structural adhesive is a toughened, high temperature, moisture insensitive, high modulus, high strength epoxy 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™ 4000 is a 100% solids, solvent free, two component moisture insensitive structural epoxy. StitchDog™ 4000 is insensitive to moisture before, during and after cure. StitchDog™ 4000 makes it simple and fast to work with by providing a long pot life with rapid strength development. StitchDog™ 4000 has high early strength and excellent adhesion to most structural materials. With the ability to cure at low temperatures (40°F – 4°C), you can use StitchDog™ throughout most of the year. Concrete crack repair is simple and effective because of the low viscosity of StitchDog™ 4000 and its ability to penetrate deep into crack repair sites.

The convenient color-coded components form a uniform color when properly mixed. StitchDog™ 4000 adhesive is designed for high production meter/mix ram dispensing and although highly thixotropic, it offers very fast application rates.

SUGGESTED USES:

Use StitchDog™ 4000 adhesive to bond fiberglass to itself, and other materials such as concrete, metal, wood, and many plastics. StitchDog™ 4000 adhesive is highly recommended as a “tack coat” for applying epoxy resin saturated reinforcement materials to flat substrate such as concrete, or steel in the areas of seismic retrofit and structural upgrades. StitchDog™ 4000 adhesive is the ideal epoxy for concrete crack repairs utilizing the StitchDog™ Carbon Fiber Grid Stitch (CFGS) with Epoxy Riveting Technology (ERT).

ADDITIONAL BENEFITS:

StitchDog™ 4000 adhesive is formulated to improve the intimate bond between the epoxy adhesive and cured glass fiber laminate. This formulation technique results in increased physical properties due to better surface wetting and increased bond strength to E-glass fibers. Of equal, if not greater significance is the re-tention of physical properties after exposure to heat, cycle fatigue, water, expected adverse environmental reagents such as salt spray, acid rain, etc. The formulation of StitchDog™ 4000 adhesive results in minimal degradation of the cured adhesive’s physical properties as compared to epoxy systems not containing the proprietary formulation constituents of 4000 adhesive. This technology offers the fabricator not only a superior adhesive today, but more importantly, increased product life and long term durability.

SURFACE PREPARATION:

All surfaces should be mechanically abraded. All dust, grease, and standing water must be removed prior to the application of StitchDog™ 4000 Adhesive.

RECOMMENDED CURING OF STITCHDOG™ 4000 ADHESIVE:

- Gel at ambient + 8 hours at 50°C
- Gel at ambient + 7 days at ambient
- Gel at ambient + 6 hours at 70°C

HOW SUPPLIED:

StitchDog™ 4000 Adhesive is available in 450ml Tubesets (300ml X 150ml) dual applicator gun part number SDR - Dual 530



SPECIFICATIONS

MOISTURE INSENSITIVE HIGH MODULUS, HIGH STRENGTH, STRUCTURAL EPOXY

FOR INDUSTRIAL & HOME REPAIR USE

MIXING RATION	2A to 1B	By Volume
COMPRESSIVE YIELD STRENGTH	ASTM-D-695	
	****40°F(4°C)	****75°F(24°C) ****90°F(32°C)
24 Hours PSI (Mpa)		3200 (22 Mpa) 3600 (25 Mpa)
3 Days PSI (Mpa)	4000 (28 Mpa)	9100 (63 Mpa) 9600 (66 Mpa)
7 Days PSI (Mpa)	7200 (50 Mpa)	10500 (72 Mpa) 9600 (66 Mpa)
TENSILE PROPERTIES	ASTM-D-638	
14 Days Tensile Strength PSI		6000 (41 Mpa)
Elongation at Break	2 - 4	%
FLEXURAL PROPERTIES 14 DAYS	ASTM-D-790	
Flexural Strength PSI		7600 (52 Mpa)
GLASS TRANSITION TEMPERATURE	ASTM-E-1356	
2nd Run		
1st Run		>135°F (57°C)
SHORE D HARDNESS	ASTM-D-2240	84
POTABLE WATER	ANSI/NSF 61-1992	Y/N

****INDICATES TEMPERATURE FOR CURING & TESTING****

COLOR

Part A Resin: Straw / Part B Hardener: Amber / Ad-Mix: Amber

PACKAGING

Available in 3 Gallon Units. Available in larger units on request.

CAUTIONS

- Minimum surface application temperature is 40°F (4°C)
- Do not seal slabs on grade
- Material is a vapor barrier after cure
- Not for sealing cracks under hydrostatic pressure
- Minimum age of concrete must be 21 - 28 days
- Test for surface vapor transmission. Moisture passing through the substrate by pressure during the application and curing will cause bond failures.
- Due to many variables in bonding on damp or under-water surfaces, be certain to test application under the same conditions as full-scale work.

TEMPERATURES

Will cure at temperatures as low as 40°F (4°C), providing the temperature will be 40°F and rising during the next 72 hours. Epoxy materials should be stored at least 24 hours prior to use at 80°F (26°C), or higher.

Epoxies stored below 60°F(15oC), will cause the epoxy to thicken substantially, making it difficult to properly blend the two materials and obtain a proper mating of resin and hardener. Protect from inclement weather and freezing. If product temperature falls below 50°F(10°C), it is recommended that a product temperature of 80°F (26°C) be obtained prior to using. **Store dry at 40oF(4°C) - 100oF(38C°). Condition to 70oF(26C°) - 85oF(29°C) before using.**

VISCOSITY:	Ad-Mix	ASTM-D-2393	700-900 cps
GEL TIME:	73°F (23°C)		approx .100 minutes
TACK FREE TIME:		***75°F (24°C)	***90°F (32°C)
		5 hours	4 1/2 hour s

***AMBIENT TEMPERATURE

NEAT BINDER

Bond Strength, PSI, ASTM-C-882
2 Days (moist cure):
Hardened concrete to hardened concrete or steel-1200 min. (8.2 Mpa) Water Absorption 24 Hrs %
ASTM-D-570 .08 % maximum

DESCRIPTION

StitchDog™ 4000 is a 100% solids, solvent-free, two-component MOISTURE INSENSITIVE EPOXY. StitchDog™ 4000 is a low viscosity epoxy for wetting and use with carbon fiber for structural repairs.

ADVANTAGES

- Easy mix ratio: 2 Parts A to 1 Part B by Volume
- Long Pot Life with rapid strength development
- Provides high early strength and excellent adhesion to most structural materials
- Insensitive to moisture before, during and after cure
- Low temperature cures - As low as 40°F (4°C)

PHYSICAL PROPERTIES

- Moisture Insensitive & low temperature cure
- #4550 LPL Fiber Matrix Structural Epoxy

CAUTION: StitchDog™ 4000 adhesives contain alkaline amines. Strong sensitizer MAY CAUSE SKIN SENSITIZATION or allergic response ranging from a mild wheezing to a severe asthmatic type attack. Avoid contact with skin or eyes. IN CASE OF CONTACT immediately wash skin with soap and water. Flush eyes with water and obtain medical attention. Wear protective clothing, goggles and barrier cream on all exposed skin. Provide adequate ventilation.