

Product Code:
E19000**TECHNICAL DATA SHEET****Standard Epoxy System**

A high-performance, brushable epoxy adhesive for on-site composite repairs and bonding applications on substrates such as metal, wood, glass, GRP and other composites. When used with Sylmasta Fibreglass Tape, Standard Epoxy System is used as a lay-up resin for composite repairs and to repair, protect and reinforce pipework, tanks and vessels of all sizes.

Making a pipe repair using Standard Epoxy System requires more skill compared to using SylWrap Pipe Repair tape. The advantage of using Standard Epoxy System is that it is more versatile when making complex repairs and multiple repairs of varying sizes can be made using one kit. The benefit of a longer working time is that there is more time available to make repairs over difficult geometries.

When patch-repairing tanks and other vessels using Fibreglass Tape, Standard Epoxy System can repair straightforward holes and leaking corners caused by corrosion or damage.

Applications

- Corrosion protection
- Pipe repair and reinforcement
- High strength bonding

Advantages

- Easy to apply
- Excellent corrosion protection, even in seawater
- Good chemical resistance
- Excellent adhesion
- Does not shrink
- Temperature resistance in excess of 100°C

Directions for Use

Surfaces must be prepared prior to application.

- All surfaces must be dry and free from grease. Clean and roughen surface for optimum adhesion.
- Remove all paint, rust and grime from the surface by abrasive blasting or with sandpaper.
- Roughen the surface first, ideally by grit blasting (8-40 mesh grit), or through grinding with a coarse wheel or abrasive disc pad. An abrasive disc may be used provided white metal is revealed.
- Aluminium: remove oxidation from surface for optimal adhesion.
- GRP & Wood: Remove all loose or rotten material. Scrape off flaking paint or lacquer. Thoroughly sand good paintwork to create good key.
- Metal which has been in contact with seawater or other salt solutions should be grit blasted and high pressure water blasted, and then left overnight to allow salts in the metal to 'sweat' to the surface. Repeat this process if necessary to 'sweat out' all of the soluble salts.
 - Test for chloride contamination before application.
 - The maximum soluble salts left on the substrate should be no more than 40 ppm.
- Use a solvent cleaner to remove all traces of sandblasting, grit, oil, grease, dust or other foreign substances.
- In cold working conditions, it is recommended that the repair area is heated to 37°C - 43°C prior to application. This will dry off any moisture, contamination or solvents for maximum adhesion.
- Apply as soon as possible after preparation of the substrate to avoid oxidation or rusting.

Mixing

- Add Part B to Part A at the ratio specified on the tub and stir well until both parts are thoroughly mixed and streak free (approx. 2- 5 mins).
- Ensure that the bottom, sides and corners of the tub are scraped well during stirring.
- Working Time: 30 minutes. Hard dry 16 hours.
- Overcoating Time: between 4 - 6 hours or after 24 hours.
- Full Cure: 24 hours.
- The exact times are dependent upon the thickness of the application and temperature.

General Application

Apply using brush or roller to give uniform, even coating. Take care to avoid excessive build up or "ponding". On rough surfaces ensure adhesive is worked into the surface for complete wetting.

Repairing a Pipe

- Pipe repairs require Fibreglass Tape. Choose the desired width of tape and cut off the required length - length required per complete wrap is approximately 3 times the diameter of the pipe, so for a 150mm pipe with 5 layers the length would be $3 \times 150 \times 5 = 2250\text{mm}$. Alternatively, the tape can be spooled from the roll during application and then cut when the required number of wraps is achieved.

Sylmasta Ltd, Halland House, Dales Yard, Lewes Road, Scaynes Hill, West Sussex, RH17 7PG**Web: www.sylmasta.net Email: sales@sylmasta.com****Tel: +44 (0)1444 831459 Fax: +44 (0)1444 831971**

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- Ensure a complete coating of adhesive is applied under each layer of tape for maximum performance.
- Wind on with half an overlap with each wrap. Apply complete coating of adhesive between layers.
- For multiple layers, wind subsequent layers in reverse direction and avoid cutting at the end of each pass.
- For more difficult applications, such as pipe bends, it may be easier to cut short lengths of tape and lap them to prevent creases.
- Finally topcoat the final layer with adhesive and leave to set.

Patch Repairs

- Patch repairs require Fibreglass Tape.
- Ensure a complete coating of adhesive is applied under each layer of tape for maximum performance.
- Cut desired quantity of patches from the tape to the correct size so that the patches overlap the holes by approximately 50mm at each end.
- Apply complete coating of adhesive to the surface and press on the first patch, ensure it makes good contact and a full seal with the surface with no creases.
- Overcoat the patch with adhesive and apply the next patch at 90 degrees to the first patch.
- Overcoat the patch and continue applying patches in the same way until the desired repair is made.
- Finally topcoat the final patch with adhesive and leave to set.

Technical Data

MINIMUM SHELF LIFE (months @ 24°C.)	24
MIX RATIO (WEIGHT)	2:1
MIX RATIO (VOLUME)	2:1
GEL TIME (minutes)	30
THIN FILM SET TIME (hours)	6
RECOAT TIMES	
BETWEEN (hours)	4 - 6
AFTER (hours)	24
FULL CURE (hours)	24
THICKNESS PER COAT (mm)	0.1 - 5.0
HARDNESS, SHORE D (full cure, 24 hrs.)	81
TENSILE STRENGTH (MPa)	50
COMPRESSIVE STRENGTH (MPa)	59
FLEXURAL STRENGTH (MPa)	85
DENSITY (gm/cm ³)	1.12
SHRINKAGE (%)	<1
NON-VOLATILE CONTENT (%)	100
MAXIMUM SERVICE TEMPERATURE (°C)	100 (dry)
THEORETICAL COVERAGE (per kg)	
0.5mm thick (m ²)	1.8
0.020in thick (ft ²)	19

(values are typical and should only be used as a guideline)

Packaging

Code	Name	Size
E19000/225g	Standard Epoxy System	225g kit
E19000/10x225g	Standard Epoxy System	10 x 225g kit
E19000/2kg	Standard Epoxy System	2kg kit
E19000/5kg	Standard Epoxy System	5kg kit

Bulk sizes available on request

Storage

Sylmasta epoxies should be stored out of direct sunlight in dry, frost free conditions at temperatures between 15° and 25°C. Under such conditions shelf life will be 2 years from the date of manufacture.

Health & Safety

Sylmasta epoxy consists of epoxy resins and hardener systems, please consult the individual Material Safety Data Sheet for hazard information. Wear eye protection and rubber or plastic coated gloves, and wash hands with soap and water immediately after use.