

# SYNTAC® VF-25S

## Repair Kit for Repairing Unfilled Areas in SSN Parts

### Syntac VF-25S Repair Kit

Is a room-temperature curing, resin and hardener kit that can be used to fill small, unfilled areas in a cavity of an SSN part. The areas that are being filled have macrospheres in them, but the spheres are not completely surrounded by the infiltration foam (this foam is a resin/hollow glass microsphere mixture). The repair kit consists of two components:

Part A: Epoxy resin.

Part B: Hardener.

### Safety Information

The Part B (hardener) component of the Syntac VF-25S Repair Kit contains an alkyl ether amine that is considered hazardous, according to OSHA. When Part B is being handled, precautions must be taken to avoid inhalation and to prevent skin and eye contact. The material is corrosive and can cause severe eye and skin burns. It may cause blindness, respiratory tract irritation or lung injury if swallowed or aspirated. Syntac VF-25S Repair Kit, Part B, may be harmful or fatal if swallowed.

Consult the MSDS's for both parts of the Syntac VF-25S Repair Kit before use to learn about the health properties and recommended safe handling procedures. Part B must be handled as a corrosive liquid. The Part A component presents no unusual safety hazards, but it should still be handled with standard chemical safety procedures to prevent skin or eye contact, ingestion or inhalation.

### General Description

The epoxy resin and amine/polyamide hardener used in Parts A and B are designed for room temperature curing. The materials are mixed in quantities that can be used within the pot life of the material. The pot life for a 2 - 3 gallon quantity of mixed material is typically 45 - 60 minutes at temperatures of 70° - 85°F. Small volumes or lower temperatures will lengthen the pot life. Higher temperatures or larger volumes will shorten the pot life. The optimum temperature range for pot life and flowability is 70° - 85°F.

The area to be filled should be provided with two openings, one at the low point for resin injection and one opening at the high point for air removal. The top opening may be connected to a vacuum source for more thorough removal of air as the repair material is being injected.

The resin/hardener mixture will cure over a period of 24 - 36 hours at temperatures of 75° - 95°F. If the ambient temperature is in the range of 50° - 75°F, cure may require 2 - 3 days.

### Packaging Information

1. For a total volume of 2 cu.ft. , packaging is as follows:

Part A Resin: 46 lb in each of two 5 gallon pails  
(92 lb total resin weight).

Part B Hardener: 30 lb in one 5 gallon pail.

2. The mixing ratio (by weight) for Part A and Part B is 3.45 parts A (resin) to 1.0 part B (hardener).

### Mixing and Pouring Instructions

The Part B (hardener) component of the Syntac VF-25S Repair Kit contains an alkyl ether amine that is considered hazardous, according to OSHA. When Part B is being handled, precautions must be taken to avoid inhalation and to prevent skin and eye contact. The material is corrosive and can cause severe.

- To ensure optimum pot life for the material, Part A and Part B should be at 65° - 85°F before they are mixed.
- Once the Part A and B are mixed, they must be used within their pot life so the hardware preparations must be done before mixing. Pot life for a 2 - 3 gallon quantity of mixed material is typically 45 - 60 minutes at temperatures of 70° - 85°F. In a quantity of 8 - 10 gallons, the pot life may be as short as 15 minutes.
- The mixing equipment and associated hardware must be clean and dry before used. Water or other contaminants may effect the cure and produce a low strength, poor quality polymer.
- The mixing proportions for Part A and Part B are:
  - 3.45 parts by weight of Part A (resin)
  - 1.00 parts by weight of Part B (hardener)
- Mixing can be with a mechanical mixer or by hand stirring. Be sure the two parts are thoroughly mixed to ensure uniform cure. Thorough mixing usually requires 4 - 7 minutes.
- The resin/hardener mixture is injected or pumped into the fill opening at the low end of the repair area. The top opening (for air venting) may be hooked to a vacuum line to aid in more thorough removal of air during the resin injection.
- The vent tubing attached to the top opening should be allowed to fill with resin/hardener mixture to be sure the repair area is completely filled.
- After a cavity is full, close off all inlet and outlet tubing to keep the repair material in place as it cures.

## SYNTAC® VF-25S Repair Kit for Repairing Unfilled Areas in SSN Parts

### Curing Instructions

1. The resin/hardener mixture will cure over a period of 24 - 36 hours at temperatures of 75°- 95°F. If the ambient temperature is in the range of 50°- 75°F, cure may require 2 - 3 days.
2. Check the hardness of the material in the tubing before disconnecting it.
3. The polymer material will continue to cure over a period of days and weeks until it reaches full cure.

### Hygiene and Chemical Handling Recommendations

The following precautions should be taken when handling Part A and Part B of the Syntac VF-25S Repair Kit.

1. Avoid breathing vapors. Local exhaust ventilation is recommended if vapors or mist are generated. If exhaust ventilation is not available or is inadequate, use NIOSH approved respirators as appropriate.
2. Care should be taken to prevent unnecessary contact with skin and clothing. Wear gloves resistant to chemicals and petroleum distillates. Protective clothing, such as uniforms, coveralls, or shop coats must be worn. Clothing must be washed before reuse.
3. Avoid contact with eyes. Chemical goggles must be worn. A face shield is recommended if splashing is likely.
4. Wash areas of the body exposed to the chemicals thoroughly in hot, soapy water after handling.
5. The Part B (hardener) component of the Syntac VF-25S Kit contains an alkyl ether amine that is considered hazardous, according to OSHA. When Part B is being handled, precautions must be taken to avoid inhalation and to prevent skin and eye contact. Wear protective clothing, rubber gloves (Neoprene or Buna N) and chemical safety goggles with face shield. The material is corrosive and can cause severe eye and skin burns.
6. Clean up spills immediately to prevent accidental contact. Wipe up or scrape up the material, use an absorbent material to soak up the remaining material. The waste must be disposed of in accordance with local, state and federal regulations.

Additional information about safe handling practices for SYNTAC VF-25S REPAIR KIT Parts A and B is contained in the Material Safety Data Sheets (MSDS) for these materials. Contact Emerson & Cuming Composite Materials for the appropriate MSDS's.

### Warranty

This information is to the best of Trelleborg Emerson & Cuming, Inc. knowledge, accurate as of the date published. The information relates only to the specific material designated herein and is not intended for the application or use of the material with any other material or in any process not specifically described. The information is intended as a general guide only and does not constitute any warranty or representation whatsoever. Trelleborg Emerson & Cuming, Inc. hereby disclaims all express and implied warranties arising from the user's reliance on or use of the information.



TRELLEBORG

Trelleborg Emerson & Cuming, Inc.  
290 Forbes Boulevard, Mansfield, MA 02048-1817 USA  
Tel: +1 774 719 1400. Fax: +1 774 719 1410  
Email: eandcsales@trelleborg.com  
Website: www.trelleborg.com/eandc