

# E-943 Ablative Coating

**Dyna Therm**

**Technical Bulletin  
February 2009**

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## Asbestos and carbon fiber free ablative coating

**PRODUCT DESCRIPTION** meets Mil-C-47244; MIS 31865; MIS-36199; MIS-36202 (Repair Kit)

Flamemaster E-943 is a room temperature curing, high temperature resistant ablative coating for use in areas subject to exposure to extreme heat and high erosion such as experienced in solid propellant missile launchings. Containing no asbestos or carbon fibers, Flamemaster E-943 is a rigid, two-component epoxy based compound designed for trowel or molding application. E-943 is supplied in a variety of camouflage colors for application to tracked vehicles of the United States and its allies. A Deck Grey shade matching color chip 26081 of Federal Standard 595 is available for use on naval vessels.

### MIXING AND APPLICATION INSTRUCTIONS

For satisfactory performance, the strict adherence to these instructions is mandatory. Emphasis must be placed on insuring that the surface on which the coating is to be applied is clean and free from all foreign matter (moisture, rust, oil, etc.). Flamemaster E-943 must be thoroughly mixed and applied in the correct environment (temperature, humidity) by using proper troweling techniques. These requirements apply for refurbishment as well as original application.

### Applying Flamemaster E-943 to metal surfaces

- 1) Environmental Requirements: Ambient and metal surface temperatures for mixing and application of ablative coatings must be between 50 deg. F and 100 deg. F.
  - i) If conditions warrant, a cover or shroud should be erected over the work area in order to insure a clean, dry, surface during the application and initial cure of Flamemaster E-943.
- 2) Surface Preparation, Cleaning and Priming
  - i) Cover any bearing seals with tape or appropriate plastic cover to prevent entry of foreign material.
  - ii) Clean metal surfaces where ablative is to be applied by chipping, scraping or wire brushing or an equivalent method. Use a vacuum or equivalent method to remove chips and grit from the areas just cleaned.
  - iii) Use a "Vacu-blaster" to further clean all areas. Again use a vacuum or equivalent to clean all areas.

#### Color and Designation:

All colors- (MIS-16062)

8030-00-097-9088 Quart Kit

#34094 = Forest Green (MIS-31865)

8010-01-164-4609 Gallon kit

#24087 = Olive Drab (MIS-31865)

Coverage            Approximately 12 sq. ft./Gallon  
at 1/8" thickness

Pot Life             1 hour minimum at 75°F

Flow                 0.3" Maximum

Maximum Tack Free Time    8 hours at 75°F

Cure cycle to 40 shore

"D" Hardness        24 hours at 75°F

Specific Gravity      1.5

Shelf life            1 year

#### 1: Typical Properties

Dyna Therm Products

Manufactured By The Flamemaster Corporation  
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This commodity is a defense article, regulated by the International Traffic in Arms Regulations (ITAR) and requires a State Department License for transport outside of the USA per CFR Title 22 Section 121.1 paragraph a) defense articles, b) significant military equipment (SME), and c) Missile Technology Control Regime Annex (MTCR). This is an ablative material - Category IV (f) on the U. S. Munitions List (USML) and Item 2 - Category I (2.A.1.b) of the MTCR.

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- iv) Clean surfaces thoroughly with a suitable solvent and wipe dry with lint free rags.
  - v) If required, prime all surfaces to be coated with a primer complying with MIS-36200. Chem Seal CS 9903, available from the Flamemaster Corporation is such a primer.
- 3) Mixing and Application
- i) Flamemaster E-943 may be purchased in pre-measured one gallon kits or in bulk packaging.
  - ii) The mix ratio of the two components is 100 parts by weight of Part A to 50 parts by weight of Part B.
  - iii) Mix thoroughly with a power mixer until a uniform consistency and color is obtained. There should be no light or dark streaks in the blend.
  - iv) Apply the coating with a trowel, using an even back and forth swirling motion. Pressure should be used to insure intimate wetting of the surface prior to achieving the desired thickness.
  - v) If multiple coats are required, the surface of the cured layer must be wiped with a suitable solvent prior to the application of the next coat.
- 4) Finish
- i) After one hour cure, a smooth surface may be obtained by going over the coating with a trowel
  - ii) After one hour cure, a smooth surface may be obtained by going over the coating with a trowel that has been dipped in water or solvent.
  - iii) If a non-skid surface is desired, a notched trowel may be used or a grooved polyethylene de-airing roller may be dipped in water and rolled over the surface to produce grooves.
  - iv) When work is completed, promptly clean all equipment and tools used in the application by washing with warm, soapy water.
5. Instructions for Refurbishing:
- i) Environmental Requirements: Same as per item #1.
  - ii) Surface preparation and cleaning: Same as item #2
  - iii) Use a power sander with 50-80 grit sandpaper to remove loose char and roughen surfaces to be refurbished. Bevel all surface edges.
  - iv) Clean surfaces thoroughly with isopropyl alcohol (or equivalent). Allow surface to dry to original color.
6. Mixing and Application: Same as per item "iii" of #3.
7. Finish: Same as per item "iv" of # 4.

## **SAFETY**

Prior to use consult the MSDS for health, safety and disposal requirements

We have obtained the information contained in our product MSDS's from sources that we believe to be reliable. However since much of this information has been received from sources outside of the company, it is provided without any warranty expressed or implied regarding its correctness or suitability for specific situations. The conditions of handling, storage, use and disposal are beyond our control and may be beyond our knowledge.

All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said test are not guaranteed and are not to be construed as a warranty, either expressed or implied. User shall rely on his own information and tests to determine suitability of the product for the intended use and user assumes all liability resulting from his use of the product. Sellers and manufacturers sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Warranty returns accepted only in their original unopened containers no warranty claims accepted for goods repackaged or altered. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss, or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer or seller. Flamemaster does not warranty the performance of sealants and coatings subjected to fluids or fuel other than those specified by the applicable specification. It is the responsibility of the user to determine the suitability for use utilizing the information contained in the applicable specification.

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