

# E 340 AF Blast Resistant Coating

May 17, 2016

## Dyna Therm

### Technical Bulletin

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License Required for Export

#### PRODUCT DESCRIPTION: Meets Mil-C-47244; NAVORD-2180981, MIS-36199

Flamemaster (Dyna-Therm) E-340 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. E-340 is a rigid, two component silicone-modified epoxy based compounds designed for trowel or molding application. Available in a variety of camouflage colors for application to tracked vehicles of the United States and its allies. A deck gray shade matching color chip 26081 of Federal Standard 595 is available for use on naval vessels. Check with Flamemaster for the availability of other FED Standard 595 colors.

#### ENVIRONMENTAL REQUIREMENTS

Ambient and metal surface temperatures for mixing and application of the ablative coatings must be between 50°F and 100°F. If conditions warrant, erect a cover or shroud over the work areas in order to insure a clean, dry surface during application and initial cure of the coating.

#### SURFACE PREPARATION

Cover any bearing seals with tape or appropriate plastic cover to prevent entry of foreign material. Prior to application of ablative clean metal surfaces by chipping, scraping, wire brushing or equivalent method. Use a vacuum cleaner or equivalent method to remove chips, etc. from around the areas. Prior to repairs when the composition of the existing coating is unknown sample the existing coating for possible asbestos content.

#### MIXING AND APPLICATION

The ablative coating supplied as pre-measured kits of 150 parts by weight of Part A and 100 parts by weight of Part B. Mix thoroughly with a power mixer until achieving uniform color (no light or dark streaks), normally ten to fifteen minutes. Apply material with trowels by using an even back and forth swirling motion until obtaining the desired uniform thickness. When applying multiple coats

wipe the surface of the cured material with a suitable solvent (methyl ethyl ketone or toluene).

#### TECHNICAL PROPERTIES

Thermal conductivity ASTM C-177	3.9 x 10 <sup>-4</sup>
Thermal conductivity ASTM-0-2214-63T	7.89 x 10 <sup>-4</sup>
Tensile strength and Elongation	2550 PSI / 0.6 %
Modulus of Rupture ASTM D-790	32.9 lb / 6530 PSI
Weatherometer "Atlas twin arc" 600 hr.	No Effect
Coefficient of Linear Expansion (transition at +65C)	25C - 65C / 4.4 x 10 <sup>-5</sup> 65C - 100C / 7.2 x 10 <sup>-5</sup>
Specific Heat	.32 CAL / GM / °C
Condensing Humidity	0.3 % Wt. increase
Condensing Humidity plus Thermal cycling -65F to +165F	No Degradation
Condensing Humidity plus Thermal cycling -65F to +300F	No Degradation
Thermal cycling -70F to +320F (MIL-STD-202)	Slight Discoloration
Thermal Shock -65F to +F (MIL-STD-202)	No Degradation
<b>COLORS</b>	
FED-STD #26081	Deck Gray
FED-STD #34094	Forest Green
FED-STD #24087	Olive Drab
FED-STD #23448	Desert Sand / Moroccan Brown

VOC=24 g/L

#### FINISHING

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. 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.

Dyna Therm Products

Manufactured By The Flamemaster Corporation  
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Supersedes February, 2009

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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 XIII (1) (d) on the U. S. Munitions List (USML) and Item 2 - Category I (2.A.1.b) of the MTCR.

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## INSTRUCTIONS FOR REFURBISHING

The environmental requirements are the same as previously stated under Environmental Requirements. To prepare and clean the surface use a power sander with 50-80 grit sand paper and roughen the ablative surfaces to be refurbished. Bevel all surface edges. Clean surfaces thoroughly with Isopropyl Alcohol then allow material time to return to original dry color. Follow the above mixing and application instructions and finish instructions.

### **APPLICATION PROPERTIES**

Coverage per/ Gallon	12 sq/ft at .125inch
Pot Life	Minimum 1/hr at 75F
Flow	0.3 inch maximum
Tack Free	8/hr at 75F
Cure to 40 Shore "D"	24/hr at 75F
Specific Gravity	1.5

### STORAGE LIFE

The shelf life of E-340 is 9 months when stored bellow 80F

### CLEAN UP

When work is completed, promptly clean all equipment and tools used in the application by washing with warm, soapy water.

### SAFETY

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

### AVAILABILITY

E-340 is available packaged in Quart, Gallon and 5-Gallon Kit sizes.

### NSN:

8030-00-164-4389 #26081 = Deck Gray 1-Gl.  
8030-01-353-8379 #26081 = Deck Gray 5-Gl.

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 rand 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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