

S-886 Silicone Thermal Barrier Coating

Dyna Therm

**Technical Bulletin
December, 1999**

PRODUCT DESCRIPTION meets STM-K798

Flamemaster S-886 is a two-component, room temperature curing, low density silicone rubber based thermal insulating ablative coating. Capable of application by spray or trowel, the mauve to beige S-886 coating is designed to provide thermal protection from ascent heating as well as rocket plume impingement to exposed surfaces of launch vehicles.

Non-Volatile Content	90%
Color	Mauve to beige
Hardness	40 Shore "A"
Pot Life	4 hours
Density	40 to 46 lb/ft ³
Thermal Conductivity (BTU-inches/Ft ² /Hr/°F)	.75
Mix Ratio, Base to Catalyst	100 to 10 PBW

SURFACE PREPARATION

All surfaces to be coated must be free of all foreign matter including moisture, dust, rust, oil etc. Since S-886 is a silicone rubber based coating, the satisfactory adhesion to most surfaces can only be achieved through the use of a primer such as CS-9903 (available from the Chem Seal Division of Flamemaster).

MIXING INSTRUCTIONS

For satisfactory performance, the strict adherence to these instructions is mandatory. Emphasis must be placed on insuring that the surface to be coated is clean and free of all foreign matter including moisture, oil, rust, etc. S-886 must be thoroughly mixed and applied in the correct environment (temperature, humidity) by using the proper spray or troweling techniques.

Flamemaster S-886 is packaged in pre-measured two or five gallon kits. The Part B curing agent is tinted blue in order to assure the complete mixing of the two components. If the application does not require a complete kit,, the base and curing agent may be combined at a mix ratio of 100:10 parts by weight of base:curing agent.

NOTE: Flamemaster S-886 which is near the end of its shelf life may experience a lengthened cure schedule. To accelerate the cure a primer Activator (PA-2), available from the Flamemaster Corporation, may be added to the mixed and thinned material in quantities up to 1/2 pint per two gallon kit (one pint per five gallon kit). This will insure a Shore A hardness of at least 50 in 24 hours.

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Supersedes November, 1992 Page 1 of 2

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APPLICATION

Environmental Requirements

The proper cure of S-886 is very dependent upon relative humidity and temperature. If at all possible, application should be made at temperatures above 60°F and at a relative humidity of 50% or higher.

Trowel Method

When applying S-886 by trowel, heavy pressure must be exerted to insure the intimate contact of the coating with the surface to be treated. To facilitate troweling, the S-886 may be thinned by adding 30 ml of a 1/1 parts by volume blend of xylene/methyl ethyl ketone to 100 grams of coating.

Spray Method

Flamemaster S-886 may be spray applied using conventional spray equipment. The catalyzed coating may be thinned to spray consistency by adding 75 to 95 fluid ounces of a 1/1 parts by volume blend of xylene/methyl ethyl ketone to a two gallon kit (150 to 190 fluid ounces to a five gallon kit).

When two or more coats are required to obtain the required thickness, a minimum of 30 minutes should be allowed between coats for solvent flash off. The preferred method of application to prevent intercoat adhesion problems is to continue the coating process without interruption until the specified thickness is met. If the coating is allowed to cure between coats, additional priming may be required.

STORAGE LIFE

The shelf life of S-886 is 6 months when stored below 70°F

CLEANING OF EQUIPMENT

Prior to full cure, wipe all tools with a clean cloth. Cured material may be readily removed from most tools and unprimed surfaces. Flush all spray equipment with clean solvent to remove traces of Flamemaster S-886.

SAFETY

Avoid prolonged contact with skin. Use adequate ventilation. Wash hands with soap and water after use. Refer to Material Safety Data sheet for appropriate handling.

PACKAGING

S-886 is packaged in 2-gallon and 5-gallon kits.

The information presented herein is based on data believed to be reliable. However, Flamemaster cannot insure that your results will be the same as those described, as the conditions of use are beyond our control.

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