

S-885

SILICONE THERMAL BARRIER COATING

Technical Data Sheet

Description

S-885 is a low density, thermally insulating, ablative coating based on silicone rubber designed to provide thermal protection, such as from ascent heating to launch vehicles, payload shrouds, and control surfaces.

- Two-part silicone compound
- Room temperature cure
- Low density
- Cured material has a service temperature from -65°F (-54°C) to 400°F (204°C) with short-term exposures of up to 500°F (260°C).
- Uncured S-885 can be applied by spray or trowel
- An activator, PA-2, can be used to accelerate the cure.

Because the S-885 coating is based on a silicone rubber, a primer, such as CS 9903, is required to obtain satisfactory adhesion to most surfaces.

S-885 was originally qualified to STM K799. For information on other qualifications or the availability of modified products, contact Sales.

The following technical information and data are typical for the material but should not be used for specification or acceptance purposes. Testing was performed in accordance with STM K799 or AMS5127/1.

Typical Performance Properties

Cured 14 days at 77°F (25°C) and 50% relative humidity

Specific gravity, cured	0.55, maximum
Hardness	60A
% Nonvolatile material	90% minimum

Surface Preparation

To obtain good adhesion, surfaces must be free of all traces of oil, wax, grease, dirt or other contaminants. A progressive cleaning process is recommended. Use an appropriate solvent and lint-free clothes. Pour solvent on the cloth to keep the solvent supply clean. Clean a small area at a time and wipe the surface dry with a second clean cloth. See SAE AIR 4069 for additional information on surface preparation. For Socomore's full line of solvents and wipes used for aerospace sealant preparation, and their customer approvals, visit www.Socomore.com.

Typical Application Properties

At 77°F (25°C) and 50% relative humidity

Color	
Base	White
Curing agent	Light blue
Mixed	White
Mix ratio	
By weight	100:10 (base/curing agent)
Pot life	2 hours
Cure time	24 hours

Priming

Apply CS 9903 primer to the freshly cleaned surfaces as quickly as practical, taking care to ensure a thin, even coat. Remove enough primer from the container for immediate use, but do not pour any excess back into the original container.

CS 9903 should be applied in a uniform thickness of approximately 0.5 - 1.0 mil (13 - 25 microns); this should yield a resulting pink color. Lack of a pink color indicates that the film is too thin; a red color indicates that it is too thick.

Allow one-hour dry time at 77°F (25°C) before applying the S-885.

Mixing Instructions

S-885 base and curing agents are matched and tested together; do not mix lots. Mix according to the indicated mix ratios; using the incorrect ratio can affect the sealant properties and voids the warranty. For additional information, see the FAQ on the Flamemaster website (www.flamemaster.com).

Application

If applying by trowel, exert heavy pressure to ensure intimate contact between the S-885 coating and the treated surface.

S-885 may be spray-applied using conventional, or preferably by airless, spray equipment. For airless spraying, initially thin the coating with 100 ml of appropriate thinner to 100 parts by weight of the base material. Slowly blend the solvent into the coating to prevent the mixture from lumping and strain prior to spraying. Adjust the viscosity to 17 - 25 seconds in a #5 Zahn cup by mixing additional solvent into the mixture, as required. Preferred solvent to base ratio is 165 ml or less of solvent to 100 of base material. Add ten parts by weight of the curing agent and thoroughly mix into the thinned base material.

When two or more coats are required to obtain the required thickness, allow 10 - 30 minutes to air dry between coats (10 - 20

mils dry film per coat) and cure at 75°F ± 5°F (24°C ± 2°C) and 50% ± 20% relative humidity for a minimum of 16 hours. Six coats should be applied using the cross coat method. There should be no signs of blistering after cure.

Curing

Curing of S-885 is very dependent upon relative humidity and temperature. If at all possible, application should be made at temperatures about 60°F (16°F) and at a relative humidity of 50% or higher. S-885 near the end of shelf life may also exhibit a lengthened cure time.

To accelerate the cure, Flamemaster's activator, PA-2, can be used. For each 100 g of base in a batch of mixed and thinned S-885, add 2 ml of PA-2. If hardness of 50A is not obtained in 24 hours, prepare a new batch using 5 ml of PA-2 per 100 g of base.

Clean up

Prior to full cure, wipe all tools and spray equipment with a solvent pre-saturated wipe: recommended solvents are DIESTONE G11, DIESTONE A8290, DISCOVER DPLF or DIESTONE DLS. For cured material on tools, use wipes pre-saturated with DS 108, DIESTONE HFP, DIESTONE DLS, or DIESTONE ZERO HD.

Storage

Unmixed S-885 has a shelf life of at least 6 months from date of manufacture when stored below 50°F (10°C) in the original, unopened package. Refrigerated shipping is not required.

Packaging

S-885 is available in 2- and 5-gallon kits. Bulk packaging may be available; contact Sales.

Health and Safety

Before using this material, read and understand the Safety Data Sheet (SDS) as it includes information on health, physical, and environmental hazards, as well as handling precautions and first aid recommendations. SDSs are available upon request.

Emergency Contact Chemtrec 800-424-9300
Outside North America 703-527-3887
Keep out of the reach of children
For industrial use only

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This technical data sheet replaces and cancels the previous one.

The above details have been compiled to the best of our knowledge. They have, however, an indicative value only and we therefore make no warranties and assume no liability in connection with any use of this information, particularly if a third party's rights are affected by the use of our products. The above information has been compiled based upon tests carried out by SOCOMORE. All data is subject to change as SOCOMORE deems appropriate. The data given is not intended to substitute for any testing you must conduct in order to determine the suitability of the product for your particular purposes. Pictures are not contractual. Please check your local legislation applicable to the use of this product. Should you need any further information please contact us.