

CS 1900

FIREWALL SEALANT (NON-SILICONE)

Technical Data Sheet

Description

CS 1900 is a flame-resistant, non-silicone (rubber-based), elastomeric sealant aerospace sealant used primarily for sealing aircraft structures against the passage of air, vapor, and flames. It was designed for fuel tank and fuselage sealing applications, such as repairing integral fuel tanks, cabin pressure sealing, and aerodynamic smoothing. It can be used for sealing joints and seams in both fuel and non-fuel areas.

- Two-component rubberized epoxy/amine system
- Room temperature cure
- Cured material has a service temperature range of -65°F to 400°F (-54°C to 204°C).
- Can withstand flash temperatures up to 2,000°F (1,094°C).
- Uncured CS 1900 is a low sag material which can be applied with an extrusion gun or spatula.
- CS 1900 is currently sold to MIL-S-38249 Type 1.

A note on specifications: The original firewall sealant specification, MIL-S-38249 had two types: Type 1, which could withstand flash temperatures up to 2,000°F (1,093°C) and Type 2, which could withstand 3,500°F (1,927°C). SAE AMS3374 replaced this specification for silicone sealants. SAE AMS3381 was intended to be the direct replacement for MIL-S-38249 for non-silicone materials. CS 1900 is not yet qualified to AMS3381.

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 MIL-S-38249 or AS5127/1.

Typical Performance Properties

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

Specific gravity	1.37 (1.5 max)
Ultimate hardness	58A
% Nonvolatile material	75%
Thermal rupture resistance -- 15 min at 400°F (204°C), 5 psi (34 kPa)	Pass (on room temperature cured samples)
Thermal rupture resistance -- 15 min at 77°F (25°C), 5 psi (34 kPa)	Pass (on samples exposed to flame)
Flame resistance - 15 minutes exposure to flame at 2,000°F (1,094°C)	No burn through; self-extinguishes
Low temperature flexibility at -65°F (-54°C)	No cracking, or loss of adhesion
Oil resistance - After 72 hours in AMS 3021 at 140°F (60°C)	Pass
Corrosion resistance - 20 days in 3% salt water at 140°F (60°C)	4.3%

Typical Application Properties

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

Color	
Base	Black
Curing agent	Clear amber liquid
Mixed	Black
Mix ratio	
By weight	100:2.5 (base/curing agent)
Consistency	Workable paste
Flow	< 0.4" (10 mm)
Application time	35 - 50 g/min at 1.5 hours
Tack-free time	< 24 hours
Cure rate	40A at 48 hours

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.

Storage

Unmixed CS 1900 has a shelf life of at least 12 months from date of manufacture when stored below 80°F or below in the original, unopened package. Refrigerated shipping is not required, but storage above this temperature typically affects application properties before performance properties.

Mixing Instructions

CS 1900 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. Do not thin the material with solvents. For additional information, see the FAQ on the Flamemaster website (www.flamemaster.com).

Curing

The application, tack-free, and cure times are based on the standard conditions of 77°F (25°C) and 50% relative humidity. For information on the effects of temperature and humidity, as well as information on accelerated curing, see the FAQ on the Flamemaster website (www.flamemaster.com).

Clean up

Cured aerospace sealants are difficult to remove. Cleaning tools and other surfaces is best done when the material has not yet cured. For fresh material and tool cleaning use an appropriate solvent and lint-free cloth. Once the material has cured, use an approved chemical and/or plastic scraper to remove the sealant. For Socomore's full line of solvents, wipes, chemical sealant removers (SkyRestore), plastic scrapers (SkyScraper), and their customer approvals, visit www.Socomore.com.

Packaging

CS 1900 is available in injection kits and can kits. Bulk packaging and premix frozen (PMF) 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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Warranty, Limited Remedy, and Disclaimer

All recommendations, statements, and technical data contained herein are based on tests or experience that we believe to be reliable and correct, but accuracy and completeness of such information are not guaranteed and are not to be construed as a warranty, either expressed or implied. Flamemaster does not warranty the performance of fuel tank sealants or coatings when subjected to fluids or fuels other than those specified by the applicable specification.

Users shall rely on their own information and tests to determine suitability of the product for the intended use and users assume all risk and liability resulting from their use of the product. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Neither seller nor manufacturer shall be liable to 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.

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.