

# CS 3802 Silicone Sealant

## Chem Seal

Technical Bulletin  
November 2010

### PRODUCT DESCRIPTION

#### Thixotropic RTV Silicone Sealant Specification: Pratt & Whitney TS10425

CS3802 Silicone RTV compound is found to an ever widening degree in aircraft, missile and electronic applications. These uses are frequently unusual and require special considerations of product quality, application procedure and basic engineering. In recognition of this, Flamemaster Chem Seal Products offers its engineering service to the potential user of our products to assure that the best material is used to full advantage.

CS3802 is a specialty room temperature vulcanized, chemically cured, silicone sealing compound designed to offer the combined advantages of excellent high temperature performance, good stability, and easy application. CS3802 has found wide usage as an insulating coating and thermal barrier material in missile applications where retardation of heat transfer is a requirement.

This versatile product is available in a wide range of consistencies, application lives and curing rates. The chemical formulation used for CS3802 permits modifications without loss of desired performance properties. Some of the unusual properties of CS 3802 are as follows:

1. Rapid room temperature cure.
2. Permanent adhesion to a wide variety of surfaces by employing an easy to handle primer system.
3. Good strength and electrical properties.
4. Excellent temperature stability. Post cured sealant is resistant to sponging and reversion over a wide temperature range
5. Easy to handle, mix and apply. CS3802 has convenient mixing ratios.

### SURFACE PREPARATION

Surfaces to be sealed must be thoroughly cleaned and free of dust, oil, grease or other contamination. Use standard aircraft solvent cleaning procedures to decontaminate surfaces. Once cleaned, surfaces should be dried thoroughly and then primed as quickly as possible.

Apply CS 9903 primer to the cleaned surface as quickly as practicable, taking care to insure a thin, even coat. Allow to dry one hour before applying mixed sealant. It is important to apply CS 9903 in uniform thickness of approximately 0.5 to 1.0 Mil. This can be detected by the resulting pink color. Lack of the pink color indicates the film is too thin. A red color indicates it is too thick.

### Application and Technical Properties

#### Sealing Compound Classes

Class	Suffix	Min Pot Life
I	1/8	8 minutes
II	1/2	30 minutes
III	2	2 hours
IV	4	4 hours
V	8	8 hours
VI	2	2 hours

#### Sealing Compound Characteristics

Application Time hr.	Tack Free Time hr.	24 hr cure Shore A	7 day cure Shore A
1/8	1	35	40
1/2	8	35	35
2	8	35	35
4	16	30	40
8	24	30	40
2	6	35	35

#### Post Curing Schedule

<u>Desired Condition</u>	<u>Cure Schedule</u>
For Service to 350°F	7 days at 75°F
For Service at 450°F	7 days at 75°F plus 24 hours at 250°F plus 24 hours at 350°F
For Service at 500°F	Entire cure for 450°F Service plus 16 hours at 450°F
For Service at 600°F	Entire cure for 500° Service plus 8 hours at 500°F plus 8 hours at 550°F

#### Technical Properties

Non Volatile content	> 95%
Flow Class I - V	< .500"
Flow Class VI	< 1.250"
Humidity Resistance	Pass
Tensile 7 day cure	>200 psi
Tensile heat aged I - V	>250 psi
Tensile heat aged VI	>225 psi
Elongation 7 day cure	>100%
Elongation heat aged Class I - V	> 70%
Elongation heat aged Class VI	> 55%
Curing properties	Pass
Non Volatile content	> 95%
Flow Class I - V	< .500"

#### Thermal Properties 7 day cure

Flame resistance	Pass
Thermal Insulation	Pass < 180°

Chem Seal Products

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### APPLICATION

CAUTION: This product has a limited application life. Do not mix curing agent and base compound together until ready to use.

Matching of curing agent and base compound occurs during production. In order to optimum desired performance characteristics, assure that the curing agent packaged with a given base compound is the correct match.

Proper mixing of all two part synthetic rubber compounds requires care to obtain uniform, air free mix. Mechanical mixing is recommended for best results. Several types of mechanical mixers which include manual and automatic are available.

When mixing in the original container, it is advisable to remove the lip with a can opener to facilitate the mixing operation. The curing agent is first thoroughly stirred to assure even dispersion, then transferred into the base compound. Mix slowly with a paddle or slow speed mixer for several minutes until a thorough blend is obtained. Scrape the bottom and sides of the container several times during this process. After the first few minutes of mixing, all material adhering to the paddle and sides of the container should be scraped back into the bulk of the mixture.

### CURE

After applying sealant to the primed surface, allow to cure at room temperature. The surface becomes tack free within 24 hours and the sealant cures hard within five to seven days. Sealant should be post cured to assure resistance to high temperatures. Refer to Post Curing Schedule (**Application and Technical Properties**) Lowering the temperature during the curing period may extend application life. These are standardized at 75°F ± 2°F at 50 ± 5% humidity. For maximum durability when service at elevated temperatures is contemplated, the Post curing schedule must be carried out:

### ORDERING INFORMATION

CS 3802 is available in two consistencies: The non-flow version is for filleting applications, and is most easily applied by use of a standard pressure gun.

The pourable or brush type consistency is designed for application in thin coats by brush, flow or dip methods. The manufacturer can provide variations in application life. The combination of consistency and application life desired should be specified at the time of ordering.

### STORAGE LIFE

Three months when stored at temperatures below 40°F in original sealed containers.

### SAFETY

Read and understand the Material Safety Data Sheet (MSDS) associated with this material. The MSDS and product container label provided with CS-3206 describe the specific hazards if any associated with this product. Use the information provided with the MSDS and the product container label to establishing job specific health and safety requirements.

### PACKAGING

CS 3802 is available packaged in the following kit sizes:

2 1/2 oz. and 6 oz. cartridges  
Pint Kits  
Quart Kits  
Gallon Kits

**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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