

CS 3247 Aircraft Windshield Sealant

Chem Seal

Technical Bulletin
November 2010

PRODUCT DESCRIPTION

Flamemaster Corp Specification

CS-3247 is a two part Polysulfide synthetic rubber sealing and setting compound formulated for use when setting or repairing windshields and transparencies of Glass, Acrylic or Polycarbonate in composite or metal frames. CS-3247 exhibits excellent resistance to crazing of Acrylic and Polycarbonate, both at room temperature and elevated temperature +160 F. Fillers used in CS-3247 impart excellent UV resistance. CS-3247 may be used to affect repairs on either Polythioether or conventional Polysulfide sealants.

CS-3247 cures at room temperature to a flexible resilient rubber with excellent adhesion to Acrylic, Polycarbonate, aluminum, magnesium, titanium, steel, and numerous other materials. The cured CS-3247 may be subjected to aircraft fuels, de-icing fluids, water and / or weathering.

SURFACE PREPARATION

To obtain good adhesion the surfaces must be dry and free of all traces of oil, wax, polish, grease, dirt or other contamination. The solvent blend selected should address the contamination present on the substrate to receive the sealing compound. The solvent blend should not adversely effect the substrate to be cleaned. The solvent blend should not leave a residue on the surface to which the sealing compound is to be applied.

MIXING INSTRUCTIONS

Safety glasses should be worn at all times when mixing or dispensing sealants CS-3247 Parts A and B are carefully matched at time of manufacture to provide optimum performance during application and when cured. The container labels identify which Part A to use with which Part B.

The mix -ratio by volume is 8.3 parts curing compound to 100 parts of the base compound. Prior to mixing part B the curing agent should be stirred.

When material is to be hand mixed a ratio (by weight) of 10 parts curing compound to 100 parts of the base compound is used. The material should be mixed in a clean container alternately scraping down the sides to insure dispersion of the curing agent, mix until a uniform color is obtained.

As both part A and Part B are Black, thorough mixing is required to insure adequate dispersal of the curing compound. .

When the material is supplied in two component sectional plastic kits; the instructions printed on the kit package should be followed, instructions are provided for both manual and machine mixing.

Physical and Application Properties are Typical

<u>Application</u>	<u>Properties</u>		
Color:	Black		
Base Compound	Black		
Curing Agent	Black		
Mix Ratio Volume 100 : 8.3	Mix Ratio Weight 100 ; 10		
Non Volatile Material	97%		
Base Viscosity (Brookfield)	14000 Poises		
Vertical Flow (Slump)	< 0.25 inches		
Stress Crazing:			
Polycarbonate	Non-crazing		
Acrylic	Non-crazing		
Corrosion	Passes		
Fuel resistance	Passes		
<u>Performance</u>	<u>Properties</u>		
Color (mixed)	Black		
Specific Gravity	1.63		
Thermal Rupture	>10psi at 250F		
Hardness Shore A	45 – 50		
Low temperature Flex (-65F)	Pass		
<u>Adhesion (Peel)</u>	<u>100% Cohesive</u>		
7 day cure standard conditions	After Weathering		
Aluminium 35 lb/in			
Stainless 30 lb/in			
Titanium 30 lb/in			
Polycarbonate 37 lb/in	40 lb/in		
Acrylic 35 lb/in	38 lb/in		
Glass 35 lb/in			
<u>Curing Rate</u>			
Application	Tack Free	Shore 35	
B-1/2	1/2 hour >15 gm	8 hours	30 hours
B-2	2 hours > 15 gm	24 hours	48 hours
• All test procedures and reference fluids are in accordance with MIL-S-8802F / AS5127 due to variation in composition of Polycarbonate materials adhesion promoter may be required, values are typical.			

Chem Seal Products

Manufactured By The Flamemaster Corporation
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ADHEISION PROMOTER

When the use of an adhesion promoter is required the following are known to produce acceptable results:

CS-9960	Flamemaster Corp
PR-142	PRC/ PPG

APPLICATION INSTRUCTIONS

When utilizing CS-3247 for non structural bonding of metal to metal, Polycarbonate, glass, acrylic to metal apply a thin film of mixed material (0.010" to 0.025") to one of the surfaces to be bonded join surfaces with sufficient pressure to insure full contact and restrain the bonded materials until cured. CS-3247 may be injected into channels using a hand or pneumatic extrusion gun and the proper nozzle. Adhesion promoter may be required on Polycarbonate or Acrylic

CURE

Specified application and cure schedules are based on standard conditions of 75F (27C) and 50% RH; increased temperature and relative humidity will reduce the work life and accelerate the cure. Conversely, lower temperatures and relative humidity will extend the work life and retard the cure. The cure may be accelerated at temperatures not exceeding 140F (55C) , (Note: for every 10-15 degree increase in temperature the application time is reduced by half; for every 10-15 degree drop in temperature it is doubled)

CLEAN-UP REMOVAL OF CURED MATERIAL

For clean-up as well as removing fresh CS3247, you may use IPA, aromatic solvents CS9900 cleaner. For removal of cured CS3247 material commercial polysulfide/ epoxy strippers are recommended.

STORAGE LIFE

The storage life of CS 3247 is nine months when stored at temperatures below 80 deg. F in the original unopened containers. Some change in application life, viscosity, and curing rate may occur during this period. However, such changes are slight and in no way effect the end performance of the product. Should a skin appear on the base compound, simply remove and discard the remaining material may then be mixed normally

SAFETY

Read and understand the Material Safety Data Sheet (MSDS) associated with this martial. The MSDS and product container label provided with CS-3247 describe

the specific hazards if any associated with this product. The MSDS and the product container label should be utilized in establishing job specific health and safety requirements.

**Emergency Contact Chemtrec 800-424-9300
Outside North America 703-527-3887**

**Keep out of the reach of children
For industrial use only**

PACKAGING AVAILABILITY

Two component plastic cartridges

Pre measured can kits ½ Pint – 1 Gallon

Bulk 5 Gallon pails and 50 Gallon drums

Pre-mixed and frozen cartridges

Contact Flamemaster for specialized packaging

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 tests 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. User shall rely on his own information and tests to determine suitability of the product for the intended use and user assumes all risk and 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. 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.

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