

# CS 5311 Class A&B Quick curing fuel tank and cabin sealant

## Chem Seal

*Preliminary A&B  
Technical Bulletin  
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**PRODUCT DESCRIPTION** meets requirements AMS 3277 Type II

CS 5311 is a fast curing high temperature sealant, primerless to substrates referenced in AMS-3277. CS 5311 may be utilized for sealing of fuel tanks and pressure cabins as well as repairs to polysulfide sealants and is supplied in brushable and thixotropic grades.

CS 5311 is a two part Polythioether sealant for fuel tank and airframe sealing, based on Permapol P-3 polymers, an improved chemical modification of Thiokol LP\* polymers. Permapol P-3 polymers are covered under U.S. Patent 4,623,711. CS 5311, unlike conventional polysulfide sealants, will cure at low temperatures and the cure is unaffected by relative humidity.

### SURFACE PREPARATION

To obtain good adhesion, all traces of oil, wax, grease, dirt or other contamination must be removed. Wiping with a clean oil free solvent (Mil-C-38726 or MEK/Toluene) and cleaning a small area at a time and wiping the cleaned area with a clean rag before the solvent evaporates is usually sufficient. Maintain a clean solvent supply by pouring the solvent on the washing cloth. CS 5311 will adhere to most substrates, providing the area to be sealed is clean and dry.

Additional information on surface preparation is contained in SAE Aerospace Information Report AIR-4069.

\*LP - is a trade name of Morton Thiokol

### MIXING INSTRUCTIONS

CS 5311 Class A and B are supplied in plastic injection kits, refer to the kit packaging for specific mixing instructions.

### APPLICATION

CS 5311 Class B may be applied with a pressure gun or spatula. Class A materials are suitable for brushing.

### Application properties (typical)

Color:	Base Part A	White
	Curing Part B	Black
	Mixed	Dark Grey
Mixing Ratio:	Part A	Part B
By weight	100	8.5
Viscosity:		
	Class A	Class B
Part A	400	12000
Part B	750	750
	Vertical flow per AMS-8802 (slump)	
	Initial	50 min. 90 min.
B-2	.25/.635	.35/.89 .35/.89
	Application life and cure time @ 77° F (25° C) 50% RH	
	Class A2	Class B2
Application life	2 hrs.	2 hrs.
Tack free time (hrs.)	<15	<15
Cure rate: 30A (hrs.)	24	24

### Performance Properties (typical)

Cured 7 days @ 77° F (25° C) 50% RH		
Nonvolatile cont.:	Class A	Class B
	92%	98%
Specific gravity		1.4
Ultimate hardness Shore A		45
	Peel strength	
	AMS 2629 JRF immersion	
	7 day @ 140° F (60° C)	
	P I W	C.F. %
AMS-2471 anodized aluminum	40	100
AMS-4901 Titanium	40	100
AMS-5516 Stainless steel	40	100
MIL-C-5541 alodine aluminum	40	100

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## STORAGE LIFE

The storage life of CS 5311 is nine months minimum when stored at temperatures below 80° 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 affect the end performance of the product.

## CLEANING OF EQUIPMENT

Tools and equipment may be cleaned prior to cure by the use of Desoto-clean 45, MIL-C-38726 cleaner or equivalent. Cured CS 5311 may be removed by soaking in Epoxy stripper.

## SAFETY

The uncured combined components may produce irritation following the contact with the skin. When handling CS 5311 avoid ingestion and all contact with the body especially open breaks in the skin. Always wash hands before eating or smoking. Obtain medical attention in case of extreme exposure or ingestion. For additional information see the Material Safety Data Sheet.

## PACKAGING

CS 5311 is packaged in the following kit sizes:

24 ea. Per case    2 1/2 oz. and 6 oz. cartridges

## Performance Properties “typical” (Cont.)

Peel strength (continued)		
MIL-C-2725 coating	40	100
BMI /Graphite	40	100
AMS 2629 JRF /NaCl-H <sub>2</sub> O immersion 7 days @ 140° F (60° C)		
AMS-2471 anodized aluminum	40	100
AMS-4901 Titanium	40	100
AMS-5516 Stainless steel	40	100
MIL-C-5541 alodine aluminum	40	100
MIL-C-2725 coating	40	100
BMI /Graphite	40	100
Tensile strength ( standard cure)		340 psi.
(standard heat cycle cure)		200 psi
Elongation % (standard cure)		330%
(standard heat cycle cure)		140%
Low temperature Flex		-80° F (-62° C)
Service temperature range		-80° F (-62° C) to +320° F (160° C)
Corrosion resistance		Excellent
AMS 2629 JRF/ NH <sub>3</sub>		
Hydrocarbon resistance AMS 2629		Excellent
Fluid resistance		Excellent: water, alcohol, synthetic and petroleum based oils
Repairability		Excellent
Fungus resistance		Non-nutrient
Flexibility		Excellent
Application and performance values are typical results from individual testing may vary due to methodology, conditions and configurations employed.		

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Chem Seal Products

Manufactured By The Flamemaster Corporation

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