



# Advanced Chemistry & Technology

7341 Anaconda Avenue, Garden Grove, California 92841 714/373-2837 Fax 714/373-1913

## AC-<sup>®</sup> 635 Class A Corrosion Inhibitive Sealant

SIN #834-100

### Description

AC-635 Class A is a two-part, manganese-cured, chromated, corrosion inhibiting sealant. This sealant provides an effective barrier against the common causes of corrosion on aluminum and between dissimilar metals. AC-635 Class A has outstanding resistance to aviation gasoline and jet fuel, as well as resistance to chemicals, hydraulic fluids and petroleum products common to the aircraft industry. The mixed compound is a flowable material, easily applied by brush, spatula, or extrusion gun. It maintains its flexibility and bond strength on most metal substrates under extremes of temperature, weathering and stress.

### Applications

- sealing faying surfaces of mating parts
- sealing joints from passage of liquid or air
- prevent corrosion and channeling leakage

### Specifications

MIL-PRF-81733 Type I – Meets Requirements

### Typical Physical and Application Properties

Color	
Base:	Yellow
Accelerator:	Black
Mixing Ratio	100 base/10 accelerator (by weight)
Non-Volatile Content	87%
Viscosity (RVF Brookfield #6 spindle @ 2 rpm, 77°F)	100-500 poise
Soluble Chromate Content	4-5%

### Application Life and Cure Time

(@ 75°F, 50% Relative Humidity)

	Minimum Application Life <sup>1</sup>	Typical Tack- Free Time <sup>2</sup>	Typical Curing Time <sup>3</sup>
A-1/2	1/2 hour	16 hours	30 hours
A-2	2 hours	24 hours	72 hours

### Typical Physical and Performance Properties of Cured Compound when tested per MIL-PRF-81733 Type I, Class 1, Grade A

Color	Dark Gray
Specific Gravity	1.56
Hardness	50 Shore "A"
Low Temperature Flexibility Thermal Stability, 48 hrs @ 200°F	No cracking, checking or adhesion loss when tested at -65°F (-54°C)  Does not soften, blister, crack or blow
Service Temperatures	-65° to +250°F (-54° to +121°C)
Corrosion	Excellent protection from corrosion caused by galvanic coupling of dissimilar metals
Repairability	20 pli to itself and other MIL-PRF- 81733 qualified sealants
Fungus Resistance	Non-nutrient

<sup>1</sup>Application life refers to the length of time the mixed compound remains at a consistency suitable for application with brush or roller. Application life is always measured at a standard temperature of 77°F and a relative humidity level of 50%. For every 20° rise in temperature, the application life is halved; and for every 20° drop, it is doubled. High humidity levels during the mixing process will shorten application life.

<sup>2</sup>Tack-free time is the length of time after which a mixed sealant will no longer tightly adhere to L-LP-690 standard low density polyethylene film.

<sup>3</sup>Cure time is defined as the length of time it takes AC-635 Class A sealant to reach 30A hardness. It depends on three factors: remaining application life, temperature and relative humidity. To a certain extent, the temperature/humidity factors for application life also apply to curing. The curing process may be accelerated by applying heat up to (but not more than) 120°F.

## Peel Strength\*

Substrate	Conditioning	Load/% Cohesion
Mil-C-81706	Dry	60 lbs./100%
Mil-C-81706	3% NaCl, 48 hours @ 140°F	53 lbs./100%
Mil-C-81706	JRF 48 hours @ 140°F	61 lbs./100%
Mil-A-8625	Dry	70 lbs./100%
Mil-A-8625	3% NaCl, 48 hours @ 140°F	67 lbs./100%
Mil-A-8625	JRF 48 hours @ 140°F	68 lbs./100%
Mil-T-9046	Dry	65 lbs./100%
Mil-T-9046	3% NaCl, 48 hours @ 140°F	59 lbs./100%
Mil-T-9046	JRF 48 hours @ 140°F	52 lbs./100%
QQ-P-416 TyII <sup>1</sup>	Dry	39 lbs./100%
QQ-P-416 TyII <sup>1</sup>	3% NaCl, 48 hours @ 140°F	47 lbs./100%
QQ-P-416 TyII <sup>1</sup>	JRF 48 hours @ 140°F	72 lbs./100%

\*Specification requirement: 15 lbs./100% cohesion.

<sup>1</sup> Primed with AMS-3100 adhesion promoter

## Mixing Instructions

### Two-Part Sealant Cartridges:

1. Holding the cartridge, grasp the dasher rod and pull back approximately one inch.
2. Insert the ramrod into the hollow of the dasher rod, break the piston loose, and inject about 1/3 of the contents into the cartridge.

*Note: Do not inject all of catalyst in one location. Distribute evenly throughout base material.*

3. Repeat steps 2 and 3 until all the contents of the rod are emptied into the cartridge. Remove the ramrod.
4. Mix for the required number of strokes (hand mixing) or for the required amount of time (machine mixing) indicated in the kit instructions.

5. When mixing is completed, remove bottom cap.
6. Pull the dasher rod back to the neck of the cartridge, grasp the cartridge firmly at the neck, unscrew the dasher rod and remove.
7. Screw the nozzle into the cartridge, insert into the extrusion gun and use as required. For hand extrusion, press the used dasher rod against the plunger to force the material from the cartridge.

## Storage

The shelf life of AC-635 Class A sealant is at least 9 months from date of packaging, when stored at temperatures below 80°F in its original container.

Mixed AC-635 Class A may be stored under refrigeration as follows:

15 days at -10°F

30 days at -40°F

It is important to remember that freezing, storing and thawing procedures reduce application life. Also, frozen storage will reduce application life by varying amounts depending on the storage temperature and length of storage time. All aspects of storage, freezing and thawing should be planned carefully and it is not recommended to mix and freeze with less than 1/2-hour application time.

## Health and Safety Precautions

AC-<sup>®</sup>635 Class A sealant is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Material Safety Data Sheet (MSDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An MSDS is available on request. Avoid overexposure. Obtain medical care in case of extreme overexposure.

All values are typical and are not intended for specification use.

**AC-635A-01/08**

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