AC-®370 Class B
Low Density Fuel Tank and Fuselage Sealant

SIN #834-100

Description

AC-®370 Class B is a fast cure, low density polysulfide sealant suitable for fuel tank and fuselage applications. This two-component, manganese dioxide cured sealant is solvent free and has outstanding resistance to aviation gasoline and jet fuel, as well as resistance to chemicals and petroleum products common to the aircraft industry. AC-®370 Class B maintains its flexibility and bond strength on most metal substrates such as; aluminum, titanium, steel, stainless steel, and many coatings under extremes of temperature, weathering and stress. The mixed compound is a thixotropic paste easily applied by extrusion, injection gun or spatula, and exhibits superb tooling properties.

Applications

- Sealing integral fuel tanks
- Repairing integral fuel tanks
- Sealing fuselages

Specifications

AMS 3281	B-1/2 and B-2 Qualified
BAMS 552-002	Qualified

Typical Physical and Application Properties

Color	
Base:	Off White
Accelerator:	Brown
Mix Ratio (By weight)	100 base/12.5 catalyst
Non-Volatile Content	97.5%
Base Viscosity (RVF Brookfield #7 spindle @ 2rpm, 77°F)	9,000-13,000 poise

Application Life and Cure Time
(@ 77°F, 50% Relative Humidity)

	Minimum Application Life[1]	Typical Tack-Free Time[2]	Typical Cure Time[3]
B-½	½ hour	6 – 7 hours	6 – 7 hours
B-2	2 hours	7 – 8 hours	8 – 10 hours

Typical Physical and Performance Properties of Cured Compound After 14 Days @ 77°F/50% RH

Color	Dark Gray
Specific Gravity	1.30 max
Hardness	50 - 55 Shore "A"
Low Temperature Flexibility	No cracking, checking or adhesion loss when tested at -65°F (-54°C)
Service Temperatures	-65 to +360°F (-55 to +182°C)
Thermal Rupture Resistance	Conforms
Weight Loss	4.5%
Corrosion	None
Repairability	55 piw / 100% cohesive failure
Crazing	No effect on acrylic or polycarbonate

Typical Values of AC-370 Class B Tensile Strength and % Elongation

Conditioning	Specification Requirements	Results
Standard Cure	250 psi/250%	250psi, 413%
+ 12 days at 140°F + 60 hours at 160°F + 6 hours at 180°F in JRF I	125 psi/100%	181 psi, 407%
12 days at 140°F + 60 hours at 160°F + 6 hours at 180°F in JRF I + 24 hours air dry at 120° + standard heat cycle (AMS)	125 psi/25%	264 psi, 56%
Standard Heat cycle (AMS)	100 psi/25%	250 psi, 55%
72 hrs at standard temperature in AMS 3021	125 psi/100%	277 psi, 452%
72 hrs at standard temperature in AMS 3020	125 psi/100%	277 psi, 452%

[1]*Application life refers to the length of time that mixed compound remains at a consistency suitable for application with spatula or caulking gun. Application life is always measured at a standard temperature of 77°F with a relative humidity level of 50%. In general, for every 20° rise in temperature, the application life is halved; for every 20° drop, it is doubled.*

[2]*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.*

[3]*Cure time is defined as the length of time it takes AC-370 sealant to reach 30A hardness. It depends on three factors: remaining application life, temperature, and relative humidity. The temperature/humidity factors for application life also apply to curing. High humidity during cure will speed up the cure. To accelerate the curing process, apply heat up to (but not more than) 120°F.*

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Typical Values of AC-370 Class B
Peel Strength

Substrate	Conditioning	Load / % Cohesion
MIL-C-5541	7 days @ 140°F in JRF	29piw/100%
	7 days @ 140°F in JRF/SW	33piw/100%
	6 temp cycles in JRF/SW	38piw/100%
AMS 2471 Anodized	7 days @ 140°F in JRF	33piw/100%
	7 days @ 140°F in JRF/SW	36piw/100%
	6 temp cycles in JRF/SW	40piw/100%
AMS 4911 Titanium	7 days @ 140°F in JRF	37lbs./100%
	7 days @ 140°F in JRF/SW	33lbs./100%
	*6 temp cycles in JRF/SW	39piw/100%
Stainless Steel	7 days @ 140°F in JRF	39lbs./100%
	7 days @ 140°F in JRF/SW	34lbs./100%
	*6 temp cycles in JRF/SW	39piw/100%
MIL-C-27725	7 days @ 140°F in JRF	33lbs./100%
	7 days @ 140°F in JRF/SW	43lbs./100%
	6 temp cycles in JRF/SW	39piw/100%
MIL-P-23377 RT Cure	7 days @ 140°F in SW	35lbs./100%
MIL-P-23377 200°F Cure	7 days @ 140°F in SW	39lbs./100%
*MIL-PRF-85582	7 days @ 140°F in SW	43lbs./100%

* Required use of AMS3100 adhesion promoter

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 complete, 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-®370 Class B is 9 months from date of packaging, when stored at temperatures below 80°F in its original unopened container.

Mixed AC-®370 Class B 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 ½ hour of available application time.

Health and Safety Precautions

AC-®370 Class B 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-370B-01/09**

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