



AC-[®]242 Class B Conductive Lightning Strike Sealant (Quick Cure)

SIN #834-100

Description

AC-[®]242 Class B is a quick curing, two-part, polysulfide-based product designed for use as a conductive lightning strike sealant. The mixed compound is a thixotropic, non-sag consistency and can be readily applied with a spatula or extrusion gun. The cured sealant utilizes aluminum fillers to maintain electrical continuity between certain mating surfaces when sufficiently compressed through properly torqued fasteners. The material cures to a fuel-resistant rubber at temperatures above 32°F and exhibits excellent tooling properties with very low shrinkage.

Applications

- Long application life, quick cure, conductive lightning strike sealant

Specifications

STM 40-109 Meets Requirements

Typical Physical and Application Properties

Color	
Base:	White
Accelerator:	Dark Brown
Mixing Ratio	100 base / 10 accelerator (by weight and volume)
Nonvolatile Content	98%
Base Viscosity (Brookfield #7 spindle@ 2 rpm)	9,000-12,000 poise

Application Life and Cure Time

	Minimum Application Life ¹	Typical Tack-Free Time ²	Typical Cure Time ³
B-1/2	1/2 hour	4 hours	4 hours
B-2	2 hours	9 hours	10 hours

Typical Physical and Performance Properties of Cured Compound After 14 Days @ 77°F/50% RH when tested per STM 40-109

Color	Gray
Specific Gravity	1.62
Hardness	60 Shore "A"
Electrical Resistance	1.3 x 10 ⁻⁵ ohm 1.6 x 10 ⁻⁵ ohm (reopened)
Low Temperature Flexibility	No cracking, checking or adhesion loss when tested at -65°F (-54°C)
Service Temperatures	-65° to +250°F (-54 to +121°C)
Intermittent Exposure To	360°F (182°C)
Thermal Rupture Resistance	Does not blister or sponge
Corrosion	None
Repairability	35 piw to itself and other designated sealants
Weight loss and Flexibility	No cracking when bent 180° over a 1/8 inch mandrel. No more than 6% weight loss after fluid immersion
Hydrolytic Stability	56 Shore "A" after exposure
Chalking	None

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

²Tack-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.

³Cure time is defined as the length of time it takes AC-[®]242 Class B 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. To accelerate the curing process, apply heat up to (but not more than) 140°F.

Typical Values of AC-[®]242 Class B to STM 40-109

Tensile Strength and Percent Elongation

Conditioning	Specification Requirements	Results
Standard Cure--14 days	200 psi/200%	330 psi/470%
JRF--14 days @ 140°F	50 psi/200%	140 psi/540%
7 days @ 250°F	125 psi/100%	240 psi/550%
JRF - 72 hrs @ 140°F and 72 hours @ 120°F and 7 days @ 250°F	200 psi/75%	415 psi/175%
24 hrs @ 250°F and JRF - 7 days @ 140°F	100psi/150%	240 psi/290%

Peel Strength**

Substrate	Conditioning	Load / % Cohesion
MIL-C-81706 Class 1A	7 days @ 140°F in JRF	48lbs./100%
	7 days @ 140°F in JRF/SW	48lbs./100%
AMS 2471 Anodized	7 days @ 140°F in JRF	50lbs./100%
	7 days @ 140°F in JRF/SW	55lbs./100%
	7 days @ 140°F in JRF	45lbs./100%
MIL-C-27725	7 days @ 140°F in JRF/SW	48lbs./100%
	70 days @ 140°F in JRF	45lbs./100%
MIL-P-23377	7 days @ 140°F in DI Water	42lbs./100%
	7 days @ 140°F in SW	51lbs./100%
Titanium, AMS 4911	7 days @ 140°F in JRF	49lbs./100%
	7 days @ 140°F in JRF/SW	50lbs./100%
Stainless Steel	7 days @ 140°F in JRF	50lbs./100%
	7 days @ 140°F in JRF/SW	49lbs./100%
Graphite Epoxy AS 4/3501-6	7 days @ 140°F in JRF	55lbs./100%
	7 days @ 140°F in JRF/SW	52lbs./100%

** Specification requirement - 20 lbs./100%, wire mesh

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

Mixed AC-[®]242 Class B may be stored under refrigeration as follows:

15 days at -10°F
30 days at -40°F
60 days at -80°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 application time.

Health and Safety Precautions

AC-[®]242 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-242B-01/08

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