AC-®250 Class A-1/6 Quick Repair, Low Temperature Curing Sealant

SIN #834-100

Description

AC-250 Class A is a two-part, low temperature curing polysulfide, quick repair sealant for integral fuel tank and fuselage sealing applications. The mixed compound is a pourable liquid which can be applied with a spatula, extrusion gun or brush. It will cure to a fuel-resistant rubber at temperatures above 20°F.

Applications

- quick repair integral fuel tank sealant

Specifications

AMS-S-83318 - Qualified
NA-66-1032 - Qualified

Typical Physical and Application Properties

Color	
Base:	White
Accelerator:	Dark Brown
Mixing Ratio	100 base / 10 accelerator (by weight)
Nonvolatile Content	87 - 89%
Viscosity, poise (Brookfield #6 spindle @ 2 rpm)	1,000-4,000 poise
Application Life[1]	10 mins. @ 77°F, 50% relative humidity

Tack-Free and Cure Times

	Typical Tack-Free Time[2]	Typical Cure Time[3]
@ 77°F	70 minutes	2 hours
@ 40°F	7 hours	8 hours
@ 20°F	12 hours	14 hours

Typical Physical and Performance Properties of Cured Compound* when tested to AMS-S-83318

Color	Gray
Specific Gravity	1.64 (mixed)
Hardness	55 Shore "A" (maximum)
Temperature Range	-65°to +250°F (-54° to +121°C)
Low Temperature Flexibility	No cracking, checking or adhesion loss when tested at –65°F (-54°C)
Fuel Rupture Resistance	Retains Jet Reference Fluid 24 hours at 10 psig
Repairability	Peel strength to AMS-S-8802 sealant is 35 piw
Corrosion Resistance	Does not cause corrosion
Fungus Resistance	Non-nutrient
Hydrolytic Stability	40 Shore "A"

**Not a specification*

Typical Values of AC-250 Class A to AMS-S-83318

Tensile Strength and % Elongation

Conditioning	Specification Requirements	Results
Standard Cure--14 days	200 psi/200%	300 psi/220%
JRF--14 days @ 140°F	50 psi/200%	220 psi/225%
--7 days @ 250°F	125 psi/100%	310 psi/180%

Fluid Immersed Curing (Jet Reference Fluid)

Time	Hardness	Results
6 hours	Shore "A"	40
24 hours	Shore "A"	42

[1] Application life refers to the length of time that mixed compound remains at a consistency suitable for application with brush, 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°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.

[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-250 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. To accelerate the curing process, apply heat up to (but not more than) 120°F.

Peel Strength**

Substrate	Conditioning	Results
MIL-C-27725	7 days @ 140°F in JRF	25 piw
	7 days @ 140°F in JRF/SW	24 piw
Stainless Steel	7 days @ 140°F in JRF	21 piw
	7 days @ 140°F in JRF/SW	26 piw
Alclad	7 days @ 140°F in JRF	25 piw
	7 days @ 140°F in JRF/SW	24 piw
Alodine	7 days @ 140°F in JRF	26 piw
	7 days @ 140°F in JRF/SW	21 piw
Titanium	7 days @ 140°F in JRF	25 piw
	7 days @ 140°F in JRF/SW	27 piw

*** Substrates primed with AC-145 or AC-135 adhesion promoter, using Monel peel tab.*

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 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-250 Class A is 6 months from date of packaging, when stored at temperatures below 80°F in its original container.

Health and Safety Precautions

AC-®250 Class A-1/6 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-250A-1/6-01/09**

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