



AC-[®]521 Electrical Potting Compound

SIN #834-100

Description

AC-[®]521 is a two-component isocyanate cured liquid polysulfide polymer system used as a potting compound providing excellent insulating, sealing, reinforcement, and corrosion protection for electrical connectors, wiring, and other electrical apparatus common to the aerospace industry. AC-[®]521 is a pourable material that will flow around the electrical connectors, but not into the connector, providing an excellent seal and insulating the connectors, wiring and other electrical apparatus against moisture, solvents, and common chemicals used in and around the aircraft. AC-[®]521 has excellent fuel resistance and can be used in fuel exposure areas to protect electrical connections.

Applications

- Electrical potting compound
- Electrical connector insulating compound

Specifications

MIL-S-8516F - Meets Requirements

Typical Physical and Application Properties

Color	
Base:	White
Accelerator:	Amber
Mixing Ratio	100 base / 5.4 accelerator (by weight)
Nonvolatile Content Type II	97%
Base Viscosity Type II (RVF Brookfield #6 spindle @ 10 rpm, 77°F)	450-1200 poise

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

AC-521 Type II Class 2	Minimum Application Life ¹	Typical Tack- Free Time ²	Typical Cure Time ³
	60 minutes	16 hours	44 hours

Typical Physical and Performance Properties of AC-521 Type II Class 2 when tested per MIL-S-8516F

Color	Off White
Specific Gravity (mixed)	1.70
Hardness	56 Shore "A"
Low Temperature Flexibility,	No cracking, checking or adhesion loss when tested at -65°F (-54°C)
Corrosion	None

	Requirement	Results
Shrinkage	10% maximum	3%
Cure A	≥ 25 Shore "A" at 48 hours @ std conditions	30 Shore "A"
Cure B	30-60 Shore "A" Cure A followed by 48 hours at 158°F	43 shore "A"
Adhesion		
Cure A	2 piw minimum	28 piw 100% cohesive
Cure B	15 piw minimum	19 piw 100% cohesive

¹Application life refers to the length of time the mixed compound remains at a consistency suitable for application. 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.

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-[®]521 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) 170°F.



Typical Properties of AC-[®]521

Electrical Properties

	Requirement	Results
Insulation Resistance		
Cure A	4,000 Megohms min.	154,000 Megohms
Cure B	8,000 Megohms min.	70,000 Megohms
Arc Resistance	Cure B, 50 seconds min.	78 seconds
Dielectric Strength	200 volts/minute min.	247 volts/minute
Dielectric Constant	9.5 maximum	9.36

Storage

The shelf life of AC-[®]521 is 6 months from date of packaging, when stored at temperatures below 80°F in its original container.

Health and Safety Precautions

AC-[®]521 Electrical Potting Compound 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-521-01/09

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