

3M Aerospace Sealant AC-240 Class B

Product Description

3M™ Aerospace Sealant AC-240 Class B is a two-part, polysulfide-based, long application life, quick cure product for use as a sealant for integral fuel tanks and fuselages. 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. 3M Aerospace Sealant AC-240 Class B maintains flexibility and bond strength on most metal substrates such as: aluminum, titanium, steel, stainless steel, glass, and many coatings under extremes of temperature, weathering and stress. The mixed compound has low-sag consistency and can be readily applied with a spatula or extrusion gun on vertical surfaces.

Applications

- Long application life, quick cure integral fuel tank and fuselage sealant

Typical Physical and Application Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Color	
Base:	White
Accelerator:	Dark Brown
Mix Ratio	100 base / 10 accelerator (by weight and volume)
Nonvolatile Content	98%
Viscosity (Brookfield #7 spindle @ 2 rpm)	9,000 – 14,000 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-1/2	1/2 hour	4 hours	4 hours
B-2	2 hours	9 hours	10 hours
B-4	4 hours	30 hours	30 hours

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 3M Aerospace Sealant AC-240 Class B 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) 150°F.

Typical Physical and Performance Properties of Cured Compound after 14 Days @ 77°F/50% RH when tested per AMS-S-8802

Mixed Color	Gray
Specific Gravity	1.61
Hardness	50 Shore A
Low Temperature Flexibility	No cracking, checking or adhesion loss when tested at -65°F (-54°C)
Service Temperature	-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
Reparability (to type I AMS-S-8802)	52 lbs/100 Cohesive (standard and conditioned sealant)
Reparability (to type II AMS-S-8802)	55 lbs/100 Cohesive (standard and conditioned sealant)
Weight Loss and Flexibility	No cracking when bent 180° over a 1/8 inch mandrel. No more than 6% loss of the sealant compound after fluid immersion.
Crazing	No effect on acrylic or polycarbonate



Typical Values of 3M Aerospace Sealant AC-240 Class B to AMS-S-8802

Tensile Strength and % Elongation

Conditioning	Requirements	Results
Standard Cure - 14 days	200 psi / 200%	300 psi / 370%
JRF - 14 days @ 140°F	50 psi / 200%	250 psi / 296%
JRF - 7 days @ 250°F	125 psi / 100%	420 psi / 200%
JRF - 72 hrs @ 140°F and 72 hours @ 120°F and 7 days @ 250°F	200 psi / 75%	400 psi / 200%
24 hrs @ 250°F, and JRF - 7 days @ 140°F	100 psi / 150%	240 psi / 360%

Peel Strength*

Substrate	Conditioning	Load / % Cohesion
MIL-C-5541	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	64 lbs./100% 59 lbs./100%
AMS2471 Anodized	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	60 lbs./100% 61 lbs./100%
MIL-C-27725	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 70 days @ 140°F in JRF/SW	59 lbs./100% 60 lbs./100% 57 lbs./100%
MIL-P-23377	7 days @ 140°F in DI Water 7 days @ 140°F in SW	74 lbs./100% 76 lbs./100%
Stainless Steel	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	62 lbs./100% 68 lbs./100%
Titanium	7 days @ 140°F in JRF	59 lbs./100%
Graphite Epoxy AS 4/3501-6	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	53 lbs./100% 61 lbs./100%

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

Health and Safety Precaution

3M Aerospace Sealant AC-240 Class B is safe to use and apply when recommended precautions are followed. Before using this product please 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 or from <http://www.3M.com/MSDS>.

Mixing Instructions

Only base and catalyst compounds with the same lot numbers should be mixed. Stir catalyst before using. Mix in the ratio of 100 parts base to 10 parts catalyst by weight until sealant is uniform in color with no streaks.

Storage

The shelf life of 3M Aerospace Sealant AC-240 Class B is 9 months from date of packaging, when stored at temperatures below 80°F in its original container.

Mixed 3M AC-240 Class B Sealant 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.

For Additional Information

In the U.S., call toll free 1-800-235-2376, or fax 1-800-435-3082 or 651-737-2171. For U.S. Military, call 1-866-556-5714. If you are outside of the U.S., please contact your nearest 3M office or one of the following branches:

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Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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These products were manufactured under a 3M Quality Management System registered to the AS9100 standard.



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