

3M™ Aerospace Sealant AC-236 Class B

Product Description

3M™ Aerospace Sealant AC-236 Class B are two-component, manganese dioxide cured, liquid polysulfide polymer system providing excellent fuel tank and fuselage seals. They have outstanding resistance to aviation gasoline and jet fuel, as well as resistance to chemicals and petroleum products common to the aircraft industry. 3M AC-236 Class B Sealants maintain flexibility and bond strength on most metal substrates like aluminum, stainless steel, 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. They have excellent tooling properties.

Applications

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

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: Accelerator:	White Black
Mix Ratio	100 base / 10 accelerator (by weight)
Nonvolatile Content	97%
Base Viscosity (RVF Brookfield #7 spindle) @ 2 rpm, 77°F)	9,000 - 14,000 poise
Accelerator Viscosity (RVF Brookfield #7 spindle) @ 10 rpm, 77°F)	700 - 1,600 poise

Application Life and Cure Time

(@ 77°F, 50% Relative Humidity)

	Minimum Application Life¹	Typical Tack-Free Time²	Typical Cure Time³
B-1/2	1/2 hour	8 hours	24 hours
B-2	2 hours	24 hours	48 hours
B-4	4 hours	48 hours	90 hours

¹Application 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°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-236 Class B 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.

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	1.64
Hardness	60 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)
Thermal Rupture Resistance	Does not blister or sponge
Corrosion	None
Fuel Resistance	70 days at 140°F, 35 piw/100% cohesive failure
Repairability	40 piw to itself and other AMS-S-8802 qualified sealants
Resistance to Other Fluids	No cracking when bent 180° over a 1/8 inch mandrel. No more than 6% loss of the sealant compound after fluid immersion.



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Typical Values of 3M™ Aerospace Sealant AC-236 Class B to AMS-S-8802

Tensile Strength and % Elongation

Conditioning	Specification Requirements	Results
Standard Cure - 14 days	200 psi / 200%	350 psi / 220%
JRF - 14 days @ 140°F	50 psi / 200%	215 psi / 210%
7 days @ 250°F	125 psi / 100%	315 psi / 240%
JRF - 72 hrs @ 140°F, and Air Drying - 72 hours @ 120°F, and 7 days @ 250°F	200 psi / 75%	360 psi / 195%
24 hrs @ 250°F, and JRF - 7 days @ 140°F	100 psi / 150%	240 psi / 175%

Peel Strength*

Substrate	Conditioning	Load / % Cohesion
MIL-C-5541	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	55 lbs./100% 50 lbs./100%
AMS2471 Anodized	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	52 lbs./100% 45 lbs./100%
MIL-C-27725	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	50 lbs./100% 56 lbs./100%
MIL-P-23377	7 days @ 140°F in DI Water 7 days @ 140°F in SW	51 lbs./100% 53 lbs./100%
Stainless Steel	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	46 lbs./100% 48 lbs./100%
Titanium (AMS4911)	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	54 lbs./100% 57 lbs./100%
Graphite Epoxy AS 4/3501-6	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	42 lbs./100% 44 lbs./100%

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

Health and Safety Precaution

3M™ Aerospace Sealant AC-236 Class B are 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.

Storage

The shelf life of 3M™ Aerospace Sealant AC-236 Class B is 9 months from date of packaging, when stored at temperatures below 80°F in its original container.

Mixed 3M AC-236 Class B Sealants 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.

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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:

Australia 61-2-498-9711 tel 61-2-498-9710 fax	Austria 01-86686-298 tel 01-86686-229 fax	Brazil 55 19 3838-7876 tel 55 19 3838-6892 fax	Canada 800-410-6880 ext. 6018 tel 800-263-3489 fax
China 86-21-62753535 tel 86-21-62190698 fax	Denmark 45-43-480100 tel 45-43-968596 fax	France 0810-331-300 tel 30-31-6195 fax	Germany 02131-14-2344 tel 02131-14-3647 fax
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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.



Aerospace and Aircraft Maintenance Department

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