

3M™ Aerospace Sealant AC-350 Class B

Product Description

3M™ Aerospace Sealant AC-350 Class B are fast cure, intermediate density polysulfide sealant suitable for fuel tank and fuselage applications. These two-component, manganese dioxide cured sealants are solvent free and 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-350 Class B Sealants maintain 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 is a thixotropic paste easily applied by extrusion, injection gun or spatula, and exhibits superb 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:	Off White Brown
Mix Ratio B-1/4	100 base / 10 catalyst 100 base / 12.5 catalyst (by weight)
Nonvolatile Content	98%
Base Viscosity (RVF Brookfield #7 spindle) @ 2 rpm, 77°F)	9,000 to 12,000 poise

Application Life and Cure Time

(@ 77°F, 50% Relative Humidity)

	Minimum Application Life¹	Typical Tack-Free Time²	Typical Cure Time³
B-1/4	15 minutes	1-2 hours	1-2 hours
B-1/2	30 minutes	2-3 hours	2-3 hours
B-2	2 hours	7-8 hours	7-8 hours
B-4	4 hours	32-36 hours	32-36 hours
B-6	6 hours	48 hours	48 hours
B-12	12 hours	96 hours	96 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° rise in temperature, the application life is halved; for every 20° 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-350 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, heat may be applied up to (but not more than) 140°F.

Typical Physical and Performance Properties of Cured Compound After 14 Days @ 77°F/50% RH

Color (mixed)	Dark Gray
Specific Gravity	1.40 max
Hardness	50-55 Shore "A"
Low Temperature Flexibility	No cracking, checking or adhesion loss when tested at -65°F (-54°C)
Weight Loss in JRF	3-4%
Service Temperatures	-65° to +250°F (-54° to +121°C)
Short Term Service Temperature	-65° to +360°F (-54° to +182°C)
Thermal Rupture Resistance (300°F, 30 minutes)	Conforms
Corrosion	None
Repairability (to itself) To AMS-S-8802 sealants To AMS3276 sealants	50 piw / 100% cohesive failure 67 piw / 100% cohesive failure 54 piw / 100% cohesive failure
Crazing	No effect on acrylic or polycarbonate



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Typical Values of 3M™ Aerospace Sealant AC-350 Class B

Tensile Strength and % Elongation

Conditioning	Specification Requirements	Results
Standard Cure - 14 days	250 psi / 250%	260 psi / 500%
JRF - 14 days @ 140°F	150 psi / 200%	200 psi / 540%
7 days @ 250°F	125 psi / 100%	370 psi / 125%
8 hours @ 360°F	200 psi / 75%	330 psi / 100%
24 hrs @ 250°F and JRF - 7 days @ 140°F	100 psi / 150%	240 psi / 260%
Standard Heat Cycle plus JRF - 12 days @ 140°F, 60 hours, at 160°F, 6 hours at 180°F plus 24 hours at 120°F Dry	100 psi / 25%	219 psi / 42%

Peel Strength*

Substrate	Conditioning	Load / % Cohesion
MIL-C-5541 Alodine	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	60 lbs./100% 65 lbs./100% 46 lbs./100%
AMS 2471 Anodized	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	60 lbs./100% 65 lbs./100% 47 lbs./100%
MIL-C-27725	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 70 days @ 140°F in JRF 70 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	62 lbs./100% 70 lbs./100% 45 lbs./100% 46 lbs./100% 50 lbs./100%
AMS 4911 Titanium	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 70 days @ 140°F in JRF 70 days @ 140°F in JRF/SW *6 temp cycles in JRF/SW	65 lbs./100% 70 lbs./100% 45 lbs./100% 48 lbs./100% 48 lbs./100%
Stainless Steel	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW *6 temp cycles in JRF/SW	60 lbs./100% 70 lbs./100% 48 lbs./100%
MIL-P-23377 RT Cure	7 days @ 140°F in DI Water 7 days @ 140°F in SW	80 lbs./100% 75 lbs./100%
MIL-PRF-85582	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW	38 lbs./100% 48 lbs./100%
AS 4/3501-6 (epoxy graphite, peel)	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	40 lbs./100% 50 lbs./100% 47 lbs./100%
AS 4/3501-6 (epoxy graphite, tool)	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	43 lbs./100% 50 lbs./100% 47 lbs./100%

*Used AMS3100 adhesion promoter

Peel Strength* (continued)

Substrate	Conditioning	Load / % Cohesion
IM7/5250-4 (graphite/BMI, peel)	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	43 lbs./100% 50 lbs./100% 47 lbs./100%
IM7/5250-4 (graphite/BMI, tool)	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	44 lbs./100% 48 lbs./100% 47 lbs./100%

*Used AMS3100 adhesion promoter

Health and Safety Precaution

3M™ Aerospace Sealant AC-350 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-350 Class B is 9 months from date of packaging, when stored at temperatures below 80°F in its original unopened container.

Mixed 3M AC-350 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 of available 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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