

3M™ Aerospace Sealant AC-350 Class B

Polysulfide two-component sealant

Product Description

3M™ Aerospace Sealant AC-350 Class B is a fast cure, medium density polysulfide sealant suitable for fuel tank and fuselage sealing and repairs. 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 commonly used in the aircraft industry. 3M AC-350 Class B Sealants maintain flexibility and bond strength on most metal substrates such as; aluminium, 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.

Key Features

- Medium density
- Fast cure
- Less shrinkage due to low solvent formulation
- Easy to tool
- Non-chromate



Product Characterization

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

General Properties

Colour Base	Off White
Colour Accelerator	Brown
Mix Ratio B-1/4	100 base / 10 catalyst 100 base / 12,5 catalyst (by weight)
Non volatile Content	98%
Base viscosity (RVF Brookfield #7 spindle @ 2 rpm, 25°C)	9000 to 12000 poise

Application Life and Cure Time (@ 25°C, 50% Relative Humidity)

Grade	Minimum Application Life ¹	Typical Tack-Free Time ²	Typical Cure Time ³
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 25°C with a relative humidity level of 50%. In general, for every 10°C rise in temperature, the application life is halved; for every 10°C 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) 60°C.

Product Performance

Tensile strength and % Elongation

Conditioning	Specification Requirements	Results
Standard Cure – 14 days	1.7 MPa / 250%	1.8 MPa / 500%
JRF – 14 days @ 60°C	1 MPa / 200%	1.4 MPa / 540%
7 days @ 120°C	0.9 MPa / 100%	2.6 MPa / 125%
8 hours @ 180°C	1.4 MPa / 75%	2.3 MPa / 100%
24 hrs @ 120°C and JRF – 7 days @ 60°C	0.7 MPa / 150%	1.7 MPa / 260%
Standard Heat Cycle plus JRF -12 days @ 60°C, 60 hours at 70°C, 6 hours at 80°C plus 24 hours at 50°C Dry	0.7 MPa / 25%	1.5 MPa / 42%

Peel Strength*

Substrate	Conditioning	Load /% Cohesion
MIL-C-5541 Alodine	7days@60°C in JRF	267 N/25mm/100%
	7 days @60°C in JRF/SW	289 N/25mm/100%
	6 temp cycles in JRF/SW	205 N/25mm/100%
AMS-2471 Anodized	7days@60°C in JRF	267 N/25mm/100%
	7 days @60°C in JRF/SW	289 N/25mm/100%
	6 temp cycles in JRF/SW	209 N/25mm/100%
MIL-C-27725	7days@ 60°C in JRF	276 N/25mm/100%
	7 days @ 60°C in JRF/SW	312 N/25mm/100%
	70 days @ 60°C in JRF	200 N/25mm/100%
	70 days @ 60°C in JRF/SW	205 N/25mm/100%
	6 temp cycles in JRF/SW	223 N/25mm/100%
AMS 4911 Titanium	7days @ 60°C in JRF	289 N/25mm/100%
	7 days @ 60°C in JRF/SW	312 N/25mm/100%
	70days @ 60°C in JRF	200 N/25mm/100%
	70days @ 60°C in JRF/SW	214 N/25mm/100%
Stainless Steel	*6 temp cycles in JRF/SW	214 N/25mm/100%
	7days@60°C in JRF	267 N/25mm/100%
	7 days @60°C in JRF/SW	312 N/25mm/100%
MIL-P-23377 RT Cure	7 days @ 60°C in DI Water	356 N/25mm/100%
	7 days @ 60°C in SW	334 N/25mm/100%
MIL-PRF-85582	7days @ 60°C in JRF	169 N/25mm/100%
	7 days @ 60°C in JRF/SW	214 N/25mm/100%
AS 4/3501-6 (epoxy graphite, peel)	7days @ 60°C in JRF	178 N/25mm/100%
	7 days @ 60°C in JRF/SW	223 N/25mm/100%
	6 temp cycles in JRF/SW	209 N/25mm/100%

Peel Strength* (Continued)

Substrate	Conditioning	Load /% Cohesion
AS 4/3501-6 (epoxy graphite, tool)	7days @ 60°C in JRF	192 N/25mm/100%
	7 days @ 60°C in JRF/SW	169 N/25mm/100%
	6 temp cycles in JRF/SW	187 N/25mm/100%
IM7/5250-4 (graphite/BMI, peel)	7days @ 60°C in JRF	173 N/25mm/100%
	7 days @ 60°C in JRF/SW	223 N/25mm/100%
	6 temp cycles in JRF/SW	210 N/25mm/100%
IM7/5250-4 (graphite/BMI, tool)	7days @ 60°C in JRF	191 N/25mm/100%
	7 days @ 60°C in JRF/SW	223 N/25mm/100%
	6 temp cycles in JRF/SW	210 N/25mm/100%

*Used AMS3100 adhesion promoter

Typical Physical and Performance Properties of Cured compound After 14 Days @ 25°C/50% RH

Colour (mixed)	Dark Grey
Specific Gravity	1.4 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 Temperature	-65° to +250°F (-54° to +121°C)
Short Term Service Temperature	-65° to +360°F (-54° to +182°C)
Thermal Rupture Resistance (150°C, 30 minutes)	Conforms
Corrosion	None
Repairability (to itself)	223 N/25 mm / 100% cohesive failure
To AMS S-S-8802 sealants	298 N/25 mm / 100% cohesive failure
To AMS 3276 sealants	241 N/25 mm / 100% cohesive failure
Crazing	No effect on acrylic or polycarbonate

Handling, Application, Storage

Precautionary information

Refer to product label and Material Safety Data Sheet (MSDS) for health and safety information before using this product. For MSDS visit our website: www.3M.com/msds.

Instructions for use

Refer to the 3M Polysulfide Sealant Application Guide and Surface Preparation Guide for instructions for product use. While this information is provided as general application guideline based upon typical conditions, it is recognized that no two applications are identical due to, among other things, different assemblies, methods of heat and pressure application, production equipment and other limitations. It is therefore suggested that experiments be run, within the actual application environment to determine optimum conditions for your specific application and to determine suitability of product for particular intended use.

Storage conditions

The shelf life of 3M™ Aerospace Sealant AC-350 Class B is 9 months from date of packaging, when stored at temperatures below 27°C in its original unopened container.

Mixed 3M AC-350 Class B Sealants may be stored under refrigeration as follows:

- 15 days at –23°C
- 30 days at –40°C

It is important to remember that freezing, storing and thawing procedures reduce application life. 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.

Important Notice: All statements, technical information and recommendations in this data sheet are based on tests 3M believes to be reliable, but the accuracy or completeness of those tests is not guaranteed. All technical data and information should be considered typical or representative only and should not be used for specific purposes. Given the variety of factors that affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product before use to determine the suitability of the 3M product for the intended use and method of application. All questions of liability relating to the 3M product are governed by the terms of the sale subject to, where applicable, the prevailing law.



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