

3M™ Aerospace Sealant AC-735 Class B

Polysulfide two-component sealant

Product Description

3M™ Aerospace Sealant AC-735 Class B is a fast curing, non-chromate, corrosion inhibitive, low density polysulfide sealant. These two-component manganese dioxide cured sealants are excellent for sealing fuselages and filling voids and has 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-735 Class B Sealants maintain flexibility and bond strength on most metal substrates such as; aluminium, titanium, steel, stainless 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, and exhibits superb tooling properties.

Key Features

- Non-chromate corrosion inhibitive
- Fast cure
- Low density
- Less shrinkage due to low solvent formulation



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	100 base / 10 accelerator
Non volatile Content	97%
Base viscosity (RVF Brookfield #7 spindle @ 2 rpm, 25°C)	11000 to 13000 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-1/2	30 minutes	5 hours	5 hours
B-2	2 hours	10 hours	10 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-735 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	Requirements	Results
Standard Cure – 14 days	1.4 MPa / 200%	1.6 MPa / 390%
7 days @ 121°C	1.4 MPa / 100%	1.9 MPa / 120%
- 72 hrs in JRF @ 60°C, 72 hours @ 50°C, 7 days @ 121°C	1.4 MPa / 100%	1.9 MPa / 170%
7 days at RT in Skydrol®	0.55 MPa/100%	0.83 MPa / 250%

Peel Strength *

Substrate	Conditioning	Load /% cohesion
AMS-4049 (Alclad)	7days@60°C in JRF	143 N/25 mm./100%
	7 days @60°C in JRF/SW	107 N/25 mm./100%
MIL-C-5541	14 days room temperature	138 N/25 mm./100%
	7 days @60°C in JRF/SW	111 N/25 mm./100%
Chromic Acid Anodized	14 days room temperature	156 N/25 mm./100%
	7 days @60°C in JRF/SW	107 N/25 mm./100%
MIL-S-5059 (Stainless Steel)	14 days room temperature	129 N/25 mm./100%
	7 days Skydrol® @25°C	107 N/25 mm./100%
	7 days 60°C in JRF/SW	98 N/25 mm./100%
MIL-T-9046 (Titanium)	14 days room temperature	134 N/25 mm./100%
	7 days Skydrol® @25°C	116 N/25 mm./100%
	7 days 60°C in JRF/SW	98 N/25 mm./100%
AMS-C-27725	14 days room temperature	147 N/25 mm./100%
	7 days 60°C in JRF	98 N/25 mm./100%
	7 days Skydrol® @25°C	102 N/25 mm./100%
	7 days 60°C in JRF/SW	89 N/25 mm./100%
BAMS 565-001	14 days room temperature	138 N/25 mm./100%
	7 days 60°C in 3% NaCl	120 N/25 mm./100%
	7 days 60°C in JRF/SW	116 N/25 mm./100%
	7 days Skydrol® @25°C	98 N/25 mm./100%
BAMS 565-002	7 days 60°C in DI Water	102 N/25 mm./100%
	14 days room temperature	134 N/25 mm./100%
	7 days 60°C in 3% NaCl	129 N/25 mm./100%
	7 days Skydrol® @25°C	89 N/25 mm./100%
MIL-PRF-23377	7 days 60°C JRF/SW	89 N/25 mm./100%
	14 days room temperature	196 N/25 mm./100%
	48 hrs 60°C in MIL-PRF-83282	160 N/25 mm./100%
	48 hrs 60°C in MIL-PRF-7808	165 N/25 mm./100%
	48 hrs 60°C in MIL-PRF-23699	165 N/25 mm./100%
	48 hrs 60°C in Salt Water	165 N/25 mm./100%
	48 hrs 60°C in JRF	143 N/25 mm./100%

Peel Strength* (Continued)

Substrate	Conditioning	Load /% cohesion
AS 4/3501-6 (Graphite-Epoxy)	14 days room temperature	196 N/25 mm./100%
	48 hrs 60°C in MIL-PRF-83282	183 N/25 mm./100%
	48 hrs 60°C in MIL-PRF-7808	169 N/25 mm./100%
	48 hrs 60°C in MIL-PRF-23699	192 N/25 mm./100%
	48 hrs 60°C in Salt Water	192 N/25 mm./100%
	48 hrs 60°C in JRF	134 N/25 mm./100%

*Testing per AS5127a

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

Colour (mixed)	Dark Brown
Specific Gravity	1.1
Hardness	42-48 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)
Corrosion	None
Repairability	151 N/25 mm / 100% cohesive failure

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 application, production equipment and other limitations. This document is not intended to substitute for engineering assembly and/or manufacture instructions. 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-735 Class B is 9 months from date of packaging, when stored at temperatures below 27°C in its original unopened container.

Mixed 3M AC-735 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. 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.

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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