

# 3M™ Aerospace Sealant AC-735 Class B

## Product Description

3M™ Aerospace Sealant AC-735 Class B are non-chromate, corrosion inhibitive, fast cure, low density two-component, manganese dioxide cure, polysulfide fuselage sealants. 3M AC-735 Class B Sealants 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-735 Class B Sealants maintain flexibility and bond strength on most metal substrates such as; aluminum, 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.

## Applications

- Sealing fuselages
- Filling voids

## 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.

<b>Color</b>	
<b>Base:</b>	Off White
<b>Accelerator:</b>	Brown
<b>Mix Ratio</b>	100 base / 10 accelerator (by weight)
<b>Nonvolatile Content</b>	97%
<b>Base Viscosity (RVF Brookfield #7 spindle) @ 2 rpm, 77°F)</b>	11,000 - 13,000 poise

## Application Life and Cure Time

(@ 77°F, 50% Relative Humidity)

	Minimum Application Life <sup>1</sup>	Typical Tack-Free Time <sup>2</sup>	Typical Cure Time <sup>3</sup>
B-1/2	1/2 hour	5 hours	5 hours
B-2	2 hours	10 hours	10 hours

<sup>1</sup>Application 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, greater than 75%, during the mixing process will shorten application life.

<sup>2</sup>Tack-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.

<sup>3</sup>Cure 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, 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

<b>Color</b>	Dark Brown
<b>Specific Gravity</b>	1.10
<b>Hardness</b>	42-48 Shore "A"
<b>Low Temperature Flexibility</b>	No checking or adhesion loss when tested at -65°F (-54°C)
<b>Service Temperatures</b>	-65° to +250°F (-54° to +121°C)
<b>Corrosion</b>	None
<b>Repairability</b>	34 piw / 100% cohesive failure



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## Typical Values of 3M™ Aerospace Sealant AC-735 Class B

### Tensile Strength and % Elongation

Conditioning	Specification Requirements	Results
Standard Cure - 14 days	200 psi / 200%	230 psi / 390%
- 7 days @ 250°F	200 psi / 100%	270 psi / 120%
- 72 hrs in JRF at 140°F, 72 hrs at 120°F, 7 days at 250°F	200 psi / 100%	270 psi / 170%
7 days at RT in Skydrol®	80 psi / 100%	120 psi / 250%

### Peel Strength\*

Substrate	Conditioning	Load / % Cohesion
AMS 4049 (Alclad)	14 days room temp	32 piw / 100%
	7 days 140°F in JRF/Salt Water	24 piw / 100%
MIL-C-5541	14 days room temp	31 piw / 100%
	7 days 140°F in JRF/Salt Water	25 piw / 100%
Chromic Acid Anodized	14 days room temp	35 piw / 100%
	7 days 140°F in JRF/Salt Water	24 piw / 100%
MIL-S-5059 (Stainless steel)	14 days room temp	29 piw / 100%
	7 days Skydrol® at 77°F	24 piw / 100%
	7 days 140°F in JRF/Salt Water	22 piw / 100%
MIL-T-9046 (Titanium)	14 days room temp	30 piw / 100%
	7 days Skydrol® at 77°F	26 piw / 100%
	7 days 140°F in JRF/Salt Water	22 piw / 100%
AMS-C-27725	14 days room temp	33 piw / 100%
	7 days 140°F in JRF	22 piw / 100%
	7 days Skydrol® at 77°F	23 piw / 100%
	7 days 140°F in JRF/Salt Water	20 piw / 100%
BAMS 565-001	14 days room temp	31 piw / 100%
	7 days 140°F in 3% NaCl	27 piw / 100%
	7 days 140°F in JRF/Salt Water	26 piw / 100%
	7 days Skydrol® at 77°F	22 piw / 100%
	7 days 140°F in DI Water	23 piw / 100%
BAMS 565-002	14 days room temp	30 piw / 100%
	7 days 140°F in 3% NaCl	29 piw / 100%
	7 days Skydrol® at 77°F	20 piw / 100%
	7 days 140°F in JRF/Salt Water	20 piw / 100%
MIL-PRF- 23377	14 days room temp	44 piw / 100%
	48 hrs 140°F in MIL-PRF-83282	36 piw / 100%
	48 hrs 140°F in MIL-PRF-7808	37 piw / 100%
	48 hrs 140°F in MIL-PRF-23699	37 piw / 100%
	48 hrs 140°F in Salt Water	37 piw / 100%
	48 hrs 140°F in JRF	32 piw / 100%
AS4/3501-6 (Graphite-Epoxy)	14 days room temp	44 piw / 100%
	48 hrs 140°F in MIL-PRF-83282	41 piw / 100%
	48 hrs 140°F in MIL-PRF-7808	38 piw / 100%
	48 hrs 140°F in MIL-PRF-23699	43 piw / 100%
	48 hrs 140°F in Salt Water	43 piw / 100%
	48 hrs 140°F in JRF	30 piw / 100%

\*Testing per AS5127a

## Health and Safety Precaution

3M™ Aerospace Sealant AC-735 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-735 Class B is 9 months from date of packaging, when stored at temperatures below 80°F in its original unopened container.

Mixed 3M AC-735 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. In addition, 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:

<b>Australia</b> 61-2-498-9711 tel 61-2-498-9710 fax	<b>Austria</b> 01-86686-298 tel 01-86686-229 fax	<b>Brazil</b> 55 19 3838-7876 tel 55 19 3838-6892 fax	<b>Canada</b> 800-410-6880 ext. 6018 tel 800-263-3489 fax
<b>China</b> 86-21-62753535 tel 86-21-62190698 fax	<b>Denmark</b> 45-43-480100 tel 45-43-968596 fax	<b>France</b> 0810-331-300 tel 30-31-6195 fax	<b>Germany</b> 02131-14-2344 tel 02131-14-3647 fax
<b>Italy</b> 02-7035-2177 tel 02-7035-2125 fax	<b>Japan</b> 03-3709-8245 tel 03-3709-8743 fax	<b>Korea</b> 02-3771-4114 tel 02-786-7429 fax	<b>Netherlands</b> 31-71-5-450-272 tel 31-71-5-450-280 fax
<b>South Africa</b> 11-922-9111 tel 11-922-2116 fax	<b>Spain</b> 34-91-321-6000 tel 34-91-321-6002 fax	<b>Switzerland</b> 01-724-9114 tel 01-724-9068 fax	<b>United Kingdom</b> (0) 161-237-6174 tel (0) 161-237-3371 fax

## 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**  
3M Center, Building 223-1N-14  
St. Paul, MN 55144-1000  
1-800-235-2376  
www.3M.com/aerospace

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