

3M™ Aerospace Sealant AC-730 Class B

Product Description

3M™ Aerospace Sealant AC-730 Class B are fast cure, two-part, manganese-cured, non-chromated corrosion inhibiting sealants. These sealants provide an effective barrier against the common causes of corrosion on aluminum and between dissimilar metals. 3M AC-730 Class B Sealants have outstanding resistance to aviation gasoline and jet fuel, as well as resistance to chemicals, hydraulic fluids and petroleum products common to the aircraft industry. The mixed compound is a thixotropic paste, easily applied by spatula, extrusion gun or injection gun. They maintain flexibility and bond strength on most metal substrates under extremes of temperature, weathering and stress.

Applications

- Seals faying surfaces of mating parts
- Seals joints from passage of liquid or air
- Prevents corrosion and channeling leakage

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:	Off White
Accelerator:	Black
Mix Ratio	100 base / 10 accelerator (by weight)
Nonvolatile Content	98%
Base Viscosity (RVF Brookfield #7 spindle @ 2 rpm, 77°F)	9,500 - 16,000 poise

Application Life and Cure Time

(@ 75°F, 50% Relative Humidity)

	Minimum Application Life ¹	Typical Tack-Free Time ²	Typical Cure Time ³
B-1/2	1/2 hour	4 hours	6 hours
B-2	2 hours	16 hours	24 hours
B-6	6 hours	48 hours	72 hours
B-12	12 hours	108 hours	120 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; and 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-730 Class B to reach 30A hardness. It depends on three factors: remaining application life, temperature and relative humidity. The temperature/humidity factors for application life also apply to curing. High humidity will speed up the tack free and cure. 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

Color	Black
Specific Gravity	1.52
Hardness	50 Shore "A"
Low Temperature Flexibility	No cracking, checking or adhesion loss when tested at -65°F (-54°C)
Thermal Stability 48 hrs @ 250°F	Does not soften, blister, crack or blow
Service Temperatures	-65° to +250°F (-54° to +121°C)
Short Term Service Temperatures	-65° to +360°F (-54° to +182°C)
Corrosion	Excellent protection from corrosion caused by galvanic coupling of dissimilar metals
Repairability	40 piw to itself and other AMS 3265 qualified sealants



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Typical Values of 3M™ Aerospace Sealant AC-730 Class B

Tensile Strength and % Elongation

Tested per AMS3265

Conditioning	Specification Requirements	Results
Standard Cure - 14 days	200 psi / 200%	410 psi / 460%
JRF - 12 days @ 140°F	200 psi / 200%	270 psi / 390%
JRF - 12 days @ 140°F, 60 hrs @ 160°F, 6 hrs @ 180°F	125 psi / 100%	300 psi / 525%
JRF - 12 days @ 140°F, 60 hrs @ 160°F, 6 hrs @ 180°F + Heat Cycle	125 psi / 25%	300 psi / 60%
Heat Cycle - 6 cycles of 4 hrs @ 250°F, 40 min @ 320°F, and 1 hr @ 360°F	100 psi / 25%	297 psi / 67%

Peel Strength

Substrate	Conditioning	Load / % Cohesion
MIL-C-5541	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	68 piw /100% 56 piw /100% 43 piw /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	58 piw /100% 66 piw /100% 49 piw /100% 58 piw /100% 56 piw /100%
MIL-P-23377	7 days @ 140°F in SW	72 piw /100%
Stainless Steel	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	66 piw /100% 74 piw /100% 60 piw /100%
AMS2471 Anodized	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	65 piw /100% 70 piw /100% 64 piw /100%
Titanium AMS4911	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	59 piw /100% 70 piw /100% 54 piw /100% 59 piw /100% 61 piw /100%
MIL-PRF-85285	7 days @ 140°F in SW	77 piw /100%
MIL-PRF-85582	7 days @ 140°F in SW	70 piw /100%
AS4/3501-6 Graphite/epoxy Peel side	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	63 piw /100% 69 piw /100% 64 piw /100%
AS4/3501-6 Graphite/epoxy Tool side	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	64 piw /100% 71 piw /100% 59 piw /100%

Peel Strength (continued)

Substrate	Conditioning	Load / % Cohesion
IM7/5250-4 BMI Peel side	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	65 piw /100% 60 piw /100% 59 piw /100%
IM7/5250-4 BMI Tool side	7 days @ 140°F in JRF 7 days @ 140°F in JRF/SW 6 temp cycles in JRF/SW	68 piw /100% 66 piw /100% 60 piw /100%

Pre-Mixed and Frozen

Mixed 3M™ Aerospace Sealant AC-730 Class B 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

Health and Safety Precaution

3M™ Aerospace Sealant AC-730 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-730 Class B is at least 9 months from date of packaging, when stored at temperatures below 80°F in its original container.

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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:

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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.

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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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