

3M™ Aerospace Sealant AC-665 Class C

Product Description

3M™ Aerospace Sealant AC-665 Class C are two-part, manganese-cured, chromate containing, corrosion inhibiting sealants. These sealants provide an effective barrier against the common causes of corrosion on aluminum and between dissimilar metals. 3M AC-665 Class C 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 flowable, faying surface grade material, easily applied by brush, spatula, extrusion gun or roller. They maintain flexibility and bond strength on most metal substrates under extremes of temperature, weathering and stress.

Applications

- Sealing faying surfaces of mating parts
- Sealing joints from passage of liquid or air
- Prevent 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: Accelerator:	Yellow Black
Mix Ratio	100 base / 10 accelerator (by weight)
Nonvolatile Content	93%
Base Viscosity (RVF Brookfield #6 spindle) @ 2 rpm, 77°F)	2,000 - 3,500 poise

Application Life and Cure Time

(@ 75°F, 50% Relative Humidity)

	Minimum Application Life¹	Assembly Time²	Typical Cure Time³
C-12	12 hours	24 hours	14 days
C-24	24 hours	48 hours	21 days
C-48	48 hours	168 hours	56 days

¹Application life refers to the length of time the mixed compound remains at a consistency suitable for application with brush roller, spatula or caulking gun. Application life is 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 during the mixing process will shorten application life.

²Assembly Time is the amount of time that a sealant will remain useable in a faying surface joint such that the sealant will allow excess material to squeeze out of a joint to less than 0.004 inches.

³Cure time is defined as the length of time it takes 3M™ Aerospace Sealant AC-665 Class C 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. To accelerate the cure, heat may be applied up to (but not more than) 120°F. The sealant should be covered when heating to allow the best cure.

Typical Physical and Performance Properties of Cured Compound after 14 Days @ 77°F/50% RH when tested per MIL-PRF-81733D

Color	Black
Specific Gravity	1.52 to 1.55 g/cc
Hardness	45-50 Shore "A"
Soluble Chromate Content*	4-5%
Low Temperature Flexibility	No cracking, checking or adhesion loss when tested -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)
Corrosion	Excellent protection from corrosion caused by galvanic coupling of dissimilar metals
Repairability	43 piw to itself and other MIL-PRF-81733 qualified sealants
Fungus Resistance	Non-nutrient
Tensile Strength	260 psi
Elongation	550%

*Not part of specification



3M™ Aerospace Sealant AC-665 Class C

Typical Values of 3M™ Aerospace Sealant AC-665 Class C

Peel Strength*

Substrate	Conditioning	Load % Cohesion
Mil-C-81706	Dry 3% NaCl, 48 hours @ 140°F JRF 48 hours @ 140°F	47 lbs. / 100% 43 lbs. / 100% 34 lbs. / 100%
Mil-A-8625	Dry 3% NaCl, 48 hours @ 140°F JRF 48 hours @ 140°F	41 lbs. / 100% 42 lbs. / 100% 33 lbs. / 100%
Mil-T-9046	Dry 3% NaCl, 48 hours @ 140°F JRF 48 hours @ 140°F	38 lbs. / 100% 40 lbs. / 100% 36 lbs. / 100%
QQ-P-416 TyII ¹	Dry 3% NaCl, 48 hours @ 140°F JRF 48 hours @ 140°F	41 lbs. / 100% 38 lbs. / 100% 36 lbs. / 100%

*Tested per Mil-PRF-81733D

Specification requirement: 15-piw/100% cohesive failure

¹Surface treated with AMS-3100 adhesion promoter

Mixing Instructions

Two-Part Sealant Cartridge

1. Holding the cartridge, grasp the dasher rod and pull back approximately one inch.
2. Insert the ramrod into the hollow of the dasher rod, break the piston loose, and inject about 1/3 of the contents into the cartridge.

Note: Do not inject all of catalyst in one location. Distribute evenly throughout base material.

3. Repeat steps 2 and 3 until all the contents of the rod are emptied into the cartridge. Remove the ramrod.
4. Mix for the required number of strokes (hand mixing) or for the required amount of time (machine mixing) indicated in the kit instructions.
5. When mixing is complete, remove bottom cap.
6. Pull the dasher rod back to the neck of the cartridge, grasp the cartridge firmly at the neck, unscrew the dasher rod and remove.
7. Screw the nozzle into the cartridge, insert into the extrusion gun and use as required. For hand extrusion, press the used dasher rod against the plunger to force the material from the cartridge.

Health and Safety Precaution

3M™ Aerospace Sealant AC-665 Class C 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-665 Class C is 9 months from date of packaging, when stored at temperatures below 80°F in its original container.

Mixed 3M AC-665 Class C 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.

3M™ Aerospace Sealant AC-665 Class C

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
Italy 02-7035-2177 tel 02-7035-2125 fax	Japan 03-3709-8245 tel 03-3709-8743 fax	Korea 02-3771-4114 tel 02-786-7429 fax	Netherlands 31-71-5-450-272 tel 31-71-5-450-280 fax
South Africa 11-922-9111 tel 11-922-2116 fax	Spain 34-91-321-6000 tel 34-91-321-6002 fax	Switzerland 01-724-9114 tel 01-724-9068 fax	United Kingdom (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.

Warranty, Limited Remedy, and Disclaimer

Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

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

3M is a trademark of 3M Company.
Please recycle. Printed in U.S.A.
©3M 2012 (2/12) All rights reserved.
60-9700-0347-5

