

## TECHNICAL INFORMATION

### WS-8020 Class B High Temperature Resistant Fuel Tank and Fuselage Sealant

#### PRODUCT DESCRIPTION

WS-8020 Class B is two component manganese dioxide cured polysulfide sealant designed to meet the requirements of both AMS-3276 and AMS-8802 fuel tank specifications. It has outstanding adhesion to the common aerospace substrates as well as excellent sealing characteristics at temperatures ranging from -65°F (-54°C) to 250°F (121°C), including intermittent exposure up to 360°F (182°C).

WS-8020 Class B exhibits excellent elastomeric properties and retention after prolonged exposure to jet fuel and aviation gasoline. The uncured product is a low sag thixotropic paste suitable for application by extrusion gun or spatula. WS-8020 Class B is offered in both a standard cure and fast cure version (**WS-8020FC-Class B**).

#### SPECIFICATIONS:

- ◆ AMS-3276 Qualified
- ◆ AMS-8802 Qualified

#### APPLICATION PROPERTIES

Typical @ 77°F (25°C)	50%RH
Slump, inches (mm)	<0.3 (7.62) B-1/2, B-1, B-2, B-4
Base Viscosity Poise (pa-s), Brookfield #7 spindle @ 2 rpm	10,000-14,000 (1000-1400)

#### Color

Part A	Black
Part B	White
Mixed	Dark gray

#### Mix Ratio

by weight	100 parts base to 10 parts accelerator
by volume	100 parts base to 8.10 parts accelerator

#### Cure Profile: (Standard Class B Sealant)

	B-1/2	B-2	B-4
Application Life (hrs)	½	2	4
Tack free time (hrs)	<10	<24	<36
Cure time to 35 A Durometer (hrs)	<24	<48	<90

#### Cure Profile: (Fast Cure Sealant\*)

	B-1/2	B-2	B-4
Application Life (hrs)	½	2	4
Tack free time (hrs)	<5	<9	<24
Cure time to 35 A Durometer (hrs)	<5	<12	<26
Tooling characteristics	Excellent		

\* Meets the requirements of AMS-S-8802 & AMS-3276

#### PERFORMANCE PROPERTIES

Typical 14 days @ 77°F (25°C), 50% RH (tested per AMS-3276)

Color	Dark gray
Specific Gravity	1.52
Final hardness	52 shore A
Nonvolatile content	98%
Low temperature flexibility @ -65°F (-54°C)	No cracking or adhesion loss
Corrosion resistance	No corrosion or loss of adhesion after 12 days immersion in AMS2629 JRF and 3% salt water 50/50 + 60 hours @ 160°F (71°C) + 6 hours @ 180°F (82°C).
Thermal rupture resistance	Negligible deformation at 10 psi before and after fuel exposure in AMS2629 JRF.
Repairability	>60 piw to itself and other qualified products.

Resistance to AMS2629 JRF hydrocarbons @ 7days 140°F (60°C) exposure:  
 Weight loss <6%  
 Swell 6.5%

Excellent resistance to other fluids such as: water, alcohols, synthetic oils and petroleum based hydraulic fluids.

#### Peel Strength

pli, 100% cohesion, 7 days immersion @ 140°F (60°C) AMS2629 JRF and AMS2629 JRF/3% saltwater:

### Peel Strength (Cont.)

<u>Substrate</u>	<u>Conditioning</u>	<u>Adhesion*</u>
Mil-C-5541	JRF	44
(Alodine aluminum)	JRF/SW	44/50
AMS 2471	JRF	48
(Anodized aluminum)	JRF/SW	47/52
AMS 4901	JRF	49
(Titanium)	JRF/SW	49/54
AMS 5516	JRF	42
(Stainless steel)	JRF/SW	42/53
MIL-PRF-27725	JRF	42
(Fuel tank coating)	JRF/SW	43/46
Graphite epoxy	JRF	43
(AS 4/3501-6)	JRF/SW	44/50
BMI	JRF	45
(IM7/5250-4)	JRF/SW	45/46
MIL-PRF-23377	DI water	60
(Primer coating)	SW	60

\*Specification requirements- 20pli/100% cohesion

### Tensile Strength and Elongation

<u>Conditioning</u>	<u>Requirements</u>		<u>Results</u>	
	<u>Psi</u>	<u>Elong</u>	<u>Psi</u>	<u>Elong</u>
Std cure 14 days	250	250%	450	400%
JRF 12 days 140°F + 60 hrs @ 160°F + 6 hrs @ 180°F	125	100%	300	420%
JRF 12 days 140°F + 60 hrs @ 160°F + 6 hrs @ 180°F + 24 hrs @ 120°F + Std heat cycle in air	125	25%	350	160%
Std heat cycle	100	25%	300	140%

Note: All values are typical and are not intended for specification use or for acceptance inspection criteria.

### SURFACE PREPARATION

Surfaces must be cleaned with solvent. Use appropriate solvent and cloth in accordance with AMS 3276 specification.

### PACKAGING

WS-8020 Class B is supplied in two part kit containers and cartridges for the purpose of facilitating mixing and application.

### MIXING INSTRUCTIONS

Mix the two part kits and two part sealant cartridges as indicated on the container label. Do not forget to mix Part A and Part B of the two part kits to uniformity before blending them. Avoid leaving unmixed material around the side and bottom of the mixing container.

### STORAGE LIFE

The shelf life of WS-8020 Class B is 9 months from the date of shipment when stored below 80°F (27°C) in the original unopened container. The storage life of premixed and frozen material is a minimum of 30 days at temperatures below -40°F (-40°C).

### HEALTH PRECAUTIONS

This product is considered to be safe when handled with proper care. Read the MSDS (Material Safety Data Sheet) for information on handling precautions, hazardous ingredients and first aid procedures. After use of this product, always wash your hands before eating or smoking. If you need an MSDS, this is always available on request. In case of overexposure, be sure to obtain medical care.

Keep away from children. This product is intended for industrial use only.

### ADDITIONAL INFORMATION

Visit our web site at:

[www.royaladhesives.com](http://www.royaladhesives.com)

Contact us at:

Royal Adhesives and Sealants, LLC  
800 E Anaheim St  
Wilmington, CA 90744  
(800) 999-4583 Toll-free  
(310) 830-9904 Phone  
(310) 830-9908 Fax  
Web: [www.royaladhesives.com](http://www.royaladhesives.com)

### NOTE

The information herein is currently believed to be accurate. We do not guarantee its accuracy. Purchasers shall not rely on statements herein when purchasing any products. Purchasers should make their own investigations to determine if such products are suitable for a particular use. The products discussed are sold without warranty, express or implied, including a warranty of merchantability and fitness for use. Purchases will be subject to a separate agreement, which will not incorporate this document.