

## TECHNICAL INFORMATION

### WS-8031 Class B Ultra Light Weight, High Temperature Resistant Fuel Tank and Fuselage Sealant

#### PRODUCT DESCRIPTION

WS-8031 Class B is a two component ultra light weight manganese dioxide cured polysulfide sealant designed to meet the requirements of AMS 3281 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-8031 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.

#### SPECIFICATIONS:

- AMS-3281 Type 3 Qualified

#### APPLICATION PROPERTIES

Typical @ 77°F (25°C)	50%RH		
Slump, inches (mm)	Initial	50min	90min
B-1/2	0.1(2.54)		
B-2	0.1(2.54)	0.1(2.54)	0.1(2.54)

Base Viscosity Poise (pas), Brookfield #7 spindle @ 2 rpm	11,000 (1100)
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#### Color

Part A	Black
Part B	White
Mixed	Dark gray

#### Mix Ratio

by weight	100 parts base (Part B) to 12 parts accelerator (Part A)
by volume	100 parts base to 6.20 parts accelerator

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

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

Tooling Characteristics	Excellent
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#### PERFORMANCE PROPERTIES

Typical 14 days @ 77°F (25°C), 50% RH  
 (Tested per AMS-3281)

Color	Dark gray
Specific Gravity	1.05
Final hardness	48 shore A
Nonvolatile content	94%
Low temperature flexibility @ -65°F (-54°C)	No cracking or adhesion loss

Resistance to AMS2629 JRF Hydrocarbon 7 days 140° F exposure

Weight loss	<6%
Thermal rupture resistance	Negligible deformation at 10 psi before and after fuel exposure in AMS2629 JRF.

Repairability	Excellent to itself and other sealant fresh or aged cure.
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Excellent resistance to other fluids such as: water, alcohols, synthetic oils and petroleum based hydraulic fluids.

Fungus resistance	Non-nutrient
Sanding	Good

#### Peel Strength

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

Substrate	Conditioning	Adhesion*
Mil-C-5541 (Alodine aluminum)	JRF	25
AMS 2471 (Anodized aluminum)	JRF/SW	25/26
AMS 4901 (Titanium)	JRF	24
AMS 5516 (Stainless steel)	JRF/SW	26/26
MIL-PRF-27725 (Fuel tank coating)	JRF	25
Graphite epoxy (AS 4/3501-6)	JRF/SW	26/26
	JRF	25
	JRF/SW	26/25

### **Peel Strength (Cont.)**

<u>Substrate</u>	<u>Conditioning</u>	<u>Adhesion*</u>
BMI	JRF	26
(IM7/5250-4)	JRF/SW	25/25
MIL-PRF-23377	DI water	26
(Primer coating)	SW	26

\*Specification requirements- 20pli/100% cohesion

### **Tensile Strength and Elongation**

Tensile Strength PSI (KPa) 230 (1585)

77°F (25°C) 50% RH

Elongation 300%

Tensile Strength Psi (Kpa) 200 (1380)

after 7 days exposure in

JRF at 140° F

Elongation 250%

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 3281 specification.

### **PACKAGING**

WS-8031 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-8031 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**

proper care. Read the MSDS (Material Safety Data Sheet) for information on handling precautions, hazardous ingredients and first aid procedures. After use of his 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)

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### **NOTE**

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