H.B. Fuller | ROYAL ADHESIVES & SEALANTS

Technical Data Sheet

WS-8020RC Class B

Rapid Cure, High Temperature Fuel Tank and Fuselage Sealant

WS-8020RC Class B is a rapid cure two component polysulfide sealant. The cured sealant has excellent fuel resistance as well as outstanding 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-8020RC 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. It cures at room temperature forming a resilient rubber, exhibiting outstanding sealing.

Technology / Base	Polysulfide
Type of Product	Sealant
Components	Two Component
Curing	Room Temperature
Appearance / Color	Dark Gray
Consistency	Extrudable
Recommended Application	Fuel Tank and General-Purpose Sealant

Features and Benefits

- Fast curing system significantly increasing productivity
- Excellent thermal performance
- Excellent elastomeric properties and strength retention after prolonged exposure to jet fuel, aviation gasoline, hydraulic fluids, oils and lubricant
- Less than 1% linear shrinkage
- Low VOC, eco-friendly sealant which reduces hazardous impact during installation
- Outstanding adhesion to multiple metals, composites, primers and coatings used in modern aircraft

Technical Data

Rheology (uncured)	Part A (base)	Part B (hardener)	Mixed
Viscosity	10,000 – 14,000 poise	<2,000 poise	11,000 – 14,000 poise
Color	Black	White	Dark Gray
Mix Ratio by Volume Part A	100	10.14	-
Mix Ratio by Weight Part A	100	12	-

Rheology (cured)	Results	Notes
Specific Gravity - Mix	1.45	Maximum
Non-Volatile Content	97%	At minimum
Ultimate Hardness	52	Shore A
Weight loss	<6%	AMS2629 Ty1
Fuel Swell	<6.5%	AMS2629 Ty1
Tensile Strength	Over 350 psi	Standard Cure (14 days at 77°F)
Ultimate Elongation	Over 300 %	Standard Cure (14 days at 77°F)
Service Temperature (continuous)	-54 °F to 250 °F	Operational range
Service Temperature	Up to 360 °F	Intermittent exposure
Low Temperature flexibility	-65 °F	No loss of adhesion or cracking

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Peel Strength

Substrate	Strength	Failure Mode	Notes
Mil-C-5541(Alodine aluminum)	45 pli	100% cohesive failure	AMS2629 Ty1
Mil-C-5541(Alodine aluminum)	45/50 pli	100% cohesive failure	AMS2629 TY1/3%SW
AMS 2471 (Anodized aluminum)	48pli pli	100% cohesive failure	AMS2629 Ty1
AMS 2471 (Anodized aluminum)	45/55 pli	100% cohesive failure	AMS2629 TY1/3%SW
AMS 4901 (Titanium)	40 pli	100% cohesive failure	AMS2629 Ty1
AMS 4901 (Titanium)	40/50pli	100% cohesive failure	AMS2629 TY1/3%SW
AMS 5516 (Stainless steel)	42 pli	100% cohesive failure	AMS2629 Ty1
AMS 5516 (Stainless steel)	42/53 pli	100% cohesive failure	AMS2629 TY1/3%SW
MIL-C-27725 (Fuel tank coating)	42pli	100% cohesive failure	AMS2629 Ty1
MIL-C-27725 (Fuel tank coating	43/46pli	100% cohesive failure	AMS2629 TY1/3%SW
AS 4/3501-6 (Graphite epoxy)	55 pli	100% cohesive failure	AMS2629 Ty1
IM7/5250-4 (BMI)	50 pli	100% cohesive failure	AMS2629 Ty1
MIL-C-23377(Primer coating)	55 pl	100% cohesive failure	3%SW

Cure Profile

Work Life	B-1/2	B-2	B-4	B-6	B-12
Application Life (hrs)	½	2	4	6	12
Tack free time (hrs)	<5	<8	<24	<24	<24
Cure time to 35 A (hrs)	<5	<10	<26	<36	<48

Application Instructions

Clean the surface of substrates with appropriated cleaning solutions per specification(s) using an OEM approved lint-free cloth to remove, dirt, grease and processing oils just before the application of sealant. Pour solvent onto cloth to avoid contamination of solvent supply. Clean in small areas at a time. Wipe immediately after application to prevent redeposition of contaminants on the surface. Repeat at least three times or more if required. Use fresh wiping cloth every time! Substrate composition and surface characteristics can greatly vary, which can affect sealant adhesion. It is recommended to determine adhesion characteristics of specific substrates prior to application of sealant to get consistency.

Storage Conditions

The shelf life of WS-8020RC Class B is 9 months from the date of manufacturing when stored below 80°F (27°C) in the original unopened container.

The storage life of premixed and frozen material (PMF) is a minimum of 30 days at temperatures below -40°F (-40°C).

Safety and Disposal

Please see the Material Safety Data Sheet (SDS) for proper handling and disposal instructions.

Specifications and Approvals

- AMS-8802 Qualified (see QPL)
- AMS-3276 (see QPL)
- FMS-1044 (see QPL)
- CMNP093 (see QPL)

Note

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