PPG Aerospace
PRC-DeSoto

TECHNICAL DATA

P/S 870 Class A Corrosion Inhibitive Sealant

Description

P/S 870 Class A is a corrosion inhibitive sealant. It has a service temperature range from -65°F (-54°C) to 250°F (121°C), with intermittent excursions up to 275°F (135°C). This material acts as an effective barrier against the common causes of corrosion on aluminum alloys or between dissimilar metals. The cured sealant maintains elastomeric properties after limited exposure to both jet fuel and aviation gas.

P/S 870 Class A is a two-part, manganese dioxide cured polysulfide compound. The uncured material is suitable for application by brush in thickness up to 25 mils. It cures at room temperature to form a resilient sealant having excellent adhesion to common aircraft substrates.

The following tests are in accordance with MIL-PRF-81733 Type I specification test methods.

Application Properties (Typical)

Color	
Part A	Black
Part B	White
Mixed	Gray
Mixing ratio	Part A:Part B
By weight	15:100
Base viscosity (Brookfield #6 @ 10 rpm), Poise (Pa-s)	300 (30)

Application life and cure time @ 77°F (25°C), 50% RH

	Application life (hours)	Tack free time (hours)	Cure time to 30 A Durometer (hours)
A-1/2	1/2	<16	36
A-2	2	<24	64

Performance Properties (Typical)

Cured 7 days @ 77°F (25°C), 50% RH

Cured specific gravity	1.45
Nonvolatile content, %	86
Ultimate cure hardness, Durometer A	50
Soluble chromate, %	4

Peel strength, pli (N/25 mm), 100% cohesion

AMS 2629 JRF, 2 days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	28 (125)
MIL-T-9046 (Titanium comp. C)*	29 (129)
3% AMS 2629 JRF/NaCl-H_2O immersion, 2 days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	30 (133)
MIL-T-9046 (Titanium comp. C)*	31 (138)

*Primed with PR-148 Adhesion Promoter

Tensile strength, psi (KPa) Standard cure, 14 days @ 77°F (25°C), 50% RH	250 (1724)
Elongation, % Standard cure, 14 days @ 77°F (25°C), 50% RH	250

Low temperature flexibility @ -65°F (-54°C) - No cracking, checking or loss of adhesion.

Resistance to hydrocarbons - 7 days @ 140°F (60°C) immersed in Type III fuel.

Weight loss, %	7.0

Flexibility - No cracks after bending 180 degrees over 0.125 inch (3.18 mm) mandrel.

Repairability to itself - Excellent to both fresh cured as well as fuel aged and abraded fillets.

Salt spray (fog) test for 670 hrs. (ASTM B117) - No corrosion to base substrate or deterioration of sealant.

Fungus resistance	Non-nutrient

Note: The application and performance property values above are typical for the material, but not intended for use in specifications or for acceptance inspection criteria because of variations in testing methods, conditions and configurations.

P/S 870 Class A Corrosion Inhibitive Sealant

Surface Preparation

Immediately before applying sealant to primed substrates, the surfaces should be cleaned with solvents. Contaminants such as dirt, grease, and/or processing lubricants must be removed prior to sealant application.

A progressive cleaning procedure should be employed using appropriate solvents and a new lint-free cloth conforming to AMS 3819. (Reclaimed solvents or tissue paper should not be used.) Always pour solvent on the cloth to avoid contaminating the solvent supply. Wash one small area at a time.

It is important that the surface is dried with a second clean cloth prior to the solvent evaporating to prevent the redeposition of contaminants on the substrate.

Substrate composition can vary greatly. This can affect sealant adhesion. It is recommended that adhesion characteristics to a specific substrate be determined prior to application on production parts or assemblies.

For a more thorough discussion of proper surface preparation, please consult the SAE Aerospace Information Report AIR 4069. This document is available through SAE, 400 Commonwealth Avenue, Warrendale, PA 15096-0001.

Packing Options

P/S 870 Class A is supplied in two-part kits and Semco® cartridges.

Mixing Instructions

Mix according to the ratios indicated in the application properties section. Mix Part A and Part B separately to uniformity, then thoroughly mix entire contents of both parts of kit together taking care to avoid leaving unmixed areas around the sides or bottom of the mixing container.

Storage Life

The storage life of P/S 870 Class A is at least 6 months when stored at temperatures below 80°F (27°C) in original, unopened containers.

Health Precautions

This product is safe to use and apply when recom-mended 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. Avoid overexposure. Obtain medical care in case of extreme overexposure.

For industrial use only. Keep away from children.

For emergency medical information call 1-800-228-5635.

Additional information can be found at: www.ppgaerospace.com

For sales and ordering information call 1-800-AEROMIX (237-6649).

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Technical Data Sheet
Aerospace Sealants

P/S 870 Class B corrosion inhibitive sealant

Description

P/S 870 Class B is a corrosion inhibitive sealant. It has a service temperature range from -65 °F (-54 °C) to 250 °F (121 °C), with intermittent excursions up to 275 °F (135 °C). This material acts as an effective barrier against the common causes of corrosion on aluminum alloys or between dissimilar metals. The cured sealant maintains elastomeric properties after limited exposure to both jet fuel and aviation gas.

P/S 870 Class B is a two-part, manganese dioxide cured polysulfide compound. The uncured material is a low sag, thixotropic paste suitable for application by extrusion gun or spatula. It cures at room temperature to form a resilient sealant having excellent adhesion to common aircraft substrates.

P/S 870 Class B is available in preformed parts using PPG's proprietary Ambient Reactive Extrusion (PPG ARE™) additive printing technology.

The following tests are in accordance with MIL-PRF-81733 Type II specification test methods.

Application properties (typical)

Color	
Part A	Black
Part B	White
Mixed	Gray
Mixing Ratio	Part A: Part B
By weight	17:100
Base Viscosity, Poise (Pa-s) (Brookfield #7 @ 2 rpm)	11,000 (1,100)

Slump, inches (mm)

	Initial	50 minutes	90 minutes
B-1/2	0.15 (3.81)	——	——
B-2	0.10 (2.54)	0.15 (3.81)	0.15 (3.81)
B-4	0.10 (2.54)	0.10 (2.54)	0.15 (3.81)

Application life and cure time @ 77 °F (25 °C), 50% RH

	Application life (hours)	Tack free time (hours)	Cure time to 30 Durometer A (hours)
B-1/2	1/2	< 4	9
B-2	2	< 14	20
B-4	4	< 32	72

Performance properties (typical)

Cured 14 days @ 77 °F (25 °C), 50% RH

Cured specific gravity	1.48
Nonvolatile content, %	95
Ultimate cure hardness, Durometer A	50
Soluble chromate, %	4
Peel strength, pli (N/25 mm), 100% cohesion	
AMS 2629 Type I fuel immersion, 2 days @ 140 °F (60 °C)	
MIL-PRF-8625 (Anodized aluminum)	30 (133)
AMS4911 (Titanium)	29 (129)
AMS2629 Type I fuel/3% NaCl-H_2O immersion, 2 days @ 140 °F (60 °C)	
MIL-PRF-8625 (Anodized aluminum)	32 (142)
AMS4911 (Titanium)	31 (138)
*Primed with PR-148 Adhesion Promoter	
Tensile Strength, psi (kPa)	
Standard cure	358 (2470)
Elongation, %	
Standard cure	400

Low temperature flexibility @ -65 °F (-54 °C) — No cracking, checking or loss of adhesion.

Resistance to hydrocarbons — 7 days @ 140 °F (60 °C) immersed in AMS 2629 JRF

Weight loss, %	6.0

Flexibility — No cracks after bending 180° over 0.125 inch (3.18 mm) mandrel.

Repairability to itself —Excellent to both fresh cured as well as fuel-aged and abraded fillets.

Salt spray (fog) test for 670 hours (ASTM B117) —No corrosion to base substrate or deterioration of sealant.

Fungus resistance	Non-nutrient

Note: The application and performance property values above are typical for the material but not intended for use in specifications or for acceptance inspection criteria because of variations in testing methods, conditions, and configurations.

P/S 870 Class B corrosion inhibitive sealant

Surface preparation

Immediately before applying sealant to primed substrates, the surfaces should be cleaned with solvents. Contaminants such as dirt, grease and/or processing lubricants must be removed prior to sealant application.

A progressive cleaning procedure should be employed using appropriate solvents and a new lint-free cloth. (Reclaimed solvents or tissue paper should not be used.) Always pour solvent on the cloth to avoid contaminating the solvent supply. Wash one small area at a time.

It is important that the surface is dried with a second clean cloth prior to the solvent evaporating to prevent the redeposition of contaminants on the substrate.

Substrate composition can vary greatly. This can affect sealant adhesion. It is recommended that adhesion characteristics to a specific substrate be determined prior to application on production parts or assemblies.

For a more thorough discussion of proper surface preparation, please consult the SAE Aerospace Information Report AIR 4069. This document is available through SAE, 400 Commonwealth Avenue, Warrendale, PA 15096-0001.

Packing options

P/S 870 Class B is supplied in two-part can kits, Semkit® injection kits, and pre-mixed and frozen Semco® cartridges.

P/S 870 Class B is also available in preformed parts using *PPG ARE technology*.

Storage life

The storage life of P/S 870 Class B stored in two-part can kits and *Semkits* is at least 6 months when stored at temperatures below 80 °F (27 °C) in original, unopened containers.

The storage life of P/S 870 Class B in pre-mixed and frozen *Semco* cartridges is at least 30 days when stored at temperatures below -40 °F (-40 °C).

Health precautions

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Safety Data Sheet (SDS) which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An SDS is available upon request. Avoid overexposure. Obtain medical care in case of extreme overexposure.

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Technical Data Sheet
Aerospace Sealants

P/S 870 Class C corrosion inhibitive sealant

Description

P/S 870 Class C is a corrosion inhibitive sealant. It has a service temperature range from -65 °F (-54 °C) to 250 °F (121 °C), with intermittent excursions up to 275 °F (135 °C). This material acts as an effective barrier against the common causes of corrosion on aluminum alloys or between dissimilar metals. The cured sealant maintains elastomeric properties after limited exposure to both jet fuel and aviation gas.

P/S 870 Class C is a two-part, manganese dioxide cured polysulfide compound. The uncured material is designed for roller and faying surface sealing applications. It cures at room temperature to form a resilient sealant having excellent adhesion to common aircraft substrates.

The following tests are in accordance with MIL-PRF-81733 Type IV and other OEM specifications test methods.

Application properties (typical)

Color	
Part A	Black
Part B	White
Mixed	Gray
Mixing ratio	Part A:Part B
By weight	17:100
Base viscosity (Brookfield #6 @ 2 rpm),Poise (Pa-s)	2,500 (250)

Tested @ 77°F (25°C), 50% RH

	Application life (hours)	Assembly time (hours)	Cure time to 30 A Durometer (days)
C-12	12	20	14
C-24	24	80	21
C-48	48	168	56
C-96	96	336	112

Performance properties (typical)

Cured in accordance with MIL-PRF-81733 Type IV	
Cured specific gravity	1.50
Nonvolatile content, %	90
Ultimate cure hardness,Durometer A	50
Soluble chromate, %	4
Peel strength, pli (N/25 mm), 100% cohesion	
AMS 2629 JRF immersion, 2 days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	21 (93)
MIL-T-9046 (Titanium comp. C)*	26 (116)
3% AMS 2629 JRF/NaCl-H2O immersion, 7 days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	25 (111)
MIL-T-9046 (Titanium comp. C)*	26 (116)
*Primed with PR-148 Adhesion Promoter	
Tensile strength, psi (KPa)	
Standard cure, 14 days @ 77°F (25°C), 50% RH	250 (1724)
Elongation, %	
Standard cure, 14 days @ 77°F (25°C), 50% RH	250
Low temperature flexibility @ -65°F (-54°C)	
No cracking, chalking or loss of adhesion.	
Resistance to hydrocarbons	
7 days @ 140°F (60°C) immersed in Type III JRF.	
Weight loss, %	7.0
Flexibility	
No cracks after bending 180 degrees over 0.125 inch (3.18 mm) mandrel.	
Repairability to itself	
Excellent to both fresh cured as well as fuel aged and abraded fillets.	
Lap shear strength, psi (KPa), 100% cohesion	
BMS 10-11 (Epoxy primer)	
Standard cure, 14 days @ 77°F (25°C), 50% RH	232 (1601)
Type III fuel, 7 days @120°F	240 (1656)
3% NaCl-H20, 7 days @ 120°F	250 (1725)
Salt spray (fog) test for 670 hrs. (ASTM B117)	
No corrosion to base substrate or deterioration of sealant.	

Note: The application and performance property values above are typical for the material, but not intended for use in specifications or for acceptance inspection criteria because of variations in testing methods, conditions and configurations.

P/S 870 Class C corrosion inhibitive sealant

Surface preparation

Immediately before applying sealant to primed substrates, the surfaces should be cleaned with solvents. Contaminants such as dirt, grease, and/or processing lubricants must be removed prior to sealant application.

A progressive cleaning procedure should be employed using the appropriate solvents and new lint-free cloth. (Reclaimed solvents or tissue paper should not be used.) Always pour solvent on the cloth to avoid contaminating the solvent supply. Wash one small area at a time.

It is important that the surface is dried with a second clean cloth prior to the solvent evaporating to prevent the redeposition of contaminants on the substrate.

Substrate composition can vary greatly. This can affect sealant adhesion. It is recommended that adhesion characteristics to a specific substrate be determined prior to application on production parts or assemblies.

For a more thorough discussion of proper surface preparation, please consult the SAE Aerospace Information Report AIR 4069. This document is available through SAE, 400 Commonwealth Avenue, Warrendale, PA 15096-0001.

Packing options

P/S 870 Class C is supplied in two-part kits and PPG SEMCO® cartridges.

Mixing instructions

Mix according to the ratios indicated in the application properties section. Mix Part A and Part B separately to uniformity, then thoroughly mix entire contents of both parts of kit together taking care to avoid leaving unmixed areas around the sides or bottom of the mixing container.

Storage life

The storage life of P/S 870 Class C is at least 6 months when stored at temperatures below 80 °F (27 °C) in original, unopened containers.

Health precautions

This product is 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. Avoid overexposure. Obtain medical care in case of extreme overexposure.

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