

CS 415 Class B

AERODYNAMIC SMOOTHING COMPOUND

Technical Data Sheet

Description

CS 415 Class B, an aluminum-colored sealing compound, was designed for sealing external seams, depressions, and gaps on aircraft for weather tightness and aerodynamic smoothness.

- Two-part, manganese dioxide cured polysulfide
- Room temperature cure
- No hydrogenated terphenyl, alkylphenol ethoxylates (APEOs) or aromatic solvents
- Aluminum color
- Excellent adhesion to a wide variety of coated and bare aircraft substrates
- Excellent flexibility and resistance to fuel, water, and other aerospace fluids
- Cured material has a service temperature range of -65°F to 250°F (-54°C to 121°C).
- Uncured CS 415 Class B is a thixotropic (low sag) material easily applied with an extrusion gun or spatula.
- CS 415 B-1/2 and B-2 are sold to an internal Flamemaster specification based on MIL-S-38228 and other customer requirements.

For information on other qualifications or the availability of modified products, contact Sales.

The following technical information and data are typical for the material but should not be used for specification or acceptance purposes. Testing was performed in accordance with AMS5127/1 or MIL-S-38228.

Typical Performance Properties

Cured 14 days at 77°F (25°C) and 50% relative humidity

Specific gravity	1.55, max
Ultimate hardness	40A – 60A
% Nonvolatile material	98%, min

Low temperature flexibility at -65°F (-54°C); mandrel	No cracking, or loss of adhesion
Crazing on MIL-PRF-5425 and MIL-PRF-25690 acrylic	Does not craze
Linear shrinkage, after 60 days	< 1 %
Shaving and sanding	Pass

Typical Application Properties

At 77°F (25°C) and 50% relative humidity

Color	
Base (part A)	Aluminum (silver gray)
Curing agent (part B)	Black
Mixed	Aluminum (silver gray)
Mix ratio	
By weight	100:10 (base/curing agent)
Base viscosity (Brookfield #7@ 2 rpm)	15,000 Poise (1,500 Pa-s)
Slump	< 0.2" (5 mm)

	Minimum application time	Extrusion rate at application time (g/min)	Tack-free time (hours)	Cure time to 35A (hours)
B-1/2	30 minutes	20 – 60	< 5	< 24
B-2	2 hours	20 – 60	< 12	< 36

Tensile strength and elongation

Conditioning	Tensile strength	Elongation
Standard cure	440 psi 3.0 MPa	280 %
Cure + 72 hours in Reference Fluid B at 77°F (25°C)	400 psi 2.8 MPa	240 %
Cure + 72 hours in di-2-ethylhexylsebacate with 0.5% phenothiazine at 140°F (60°C)	360 psi 2.5 MPa	230 %
Standard cure + 7 days at 250°F (121°C) in air	475 psi 3.3 MPa	100 %

Peel strength

First value is pli; second value is N/25 mm All 100% cohesive failure * indicates the use of adhesion promoter	
Dry (after standard cure)	
Alclad, QQ-A-250/13	67 (293)
Stainless steel, AMS5513	80 (350)
Titanium, AMS4911	68 (298)
Akzo 463-12-8/CA116 primer	54 (237)
PPG 44GN054 primer	62 (271)
After 72 hours in Reference Fluid B at 77°F (25°C)	
Alclad, QQ-A-250/13	31 (136)
After 72 hours in di-2-ethylhexyl sebacate with 0.5% phenothiazine at 77°F (25°C)	
Alclad, QQ-A-250/13	30 (131)

Surface Preparation

To obtain good adhesion, surfaces must be free of all traces of oil, wax, grease, dirt or other contaminants. A progressive cleaning process is recommended. Use an appropriate solvent and lint-free AMS 3819 cloth. Pour solvent on the cloth to keep the solvent supply clean. Clean a small area at a time and wipe the surface dry with a second clean cloth. See SAE AIR 4069 for additional information on surface preparation. For Socomore's full line of solvents and wipes used for aerospace sealant preparation, and their customer approvals, visit www.Socomore.com.

Storage

Unmixed CS 415 Class B has a shelf life of at least 9 months from date of packaging when stored below 80°F or below in the original, unopened package. Refrigerated shipping is not required, but storage above this temperature typically affects application properties before performance properties.

Mixing Instructions

CS 415 base and curing agents are matched and tested together; do not mix lots. Mix according to the indicated mix ratios; using the incorrect ratio can affect the sealant properties and voids the warranty. Do not thin the material with solvents. For additional information, see the FAQ on the Flamemaster website (www.flamemaster.com).

Curing

The application, tack-free, and cure times are based on the standard conditions of 77°F (25°C) and 50% relative humidity. For information on the effects of temperature and humidity, as well as information on accelerated curing, see the FAQ on the Flamemaster website (www.flamemaster.com).

Clean up

Cured aerospace sealants are difficult to remove. Cleaning tools and other surfaces is best done when the material has not yet cured. For fresh material and tool cleaning, use an approval solvent and lint-free cloth. Once the material has cured, use an approved chemical and/or plastic scraper to remove the sealant. For Socomore's full line of solvents, wipes, chemical sealant removers (SkyRestore), plastic scrapers (SkyScraper), and their customer approvals, visit www.Socomore.com.

Packaging

CS 415 Class B is available in injection kits and can kits. Bulk packaging and premix frozen (PMF) may be available; contact Sales.

Health and Safety

Before using this material, read and understand the Safety Data Sheet (SDS) as it includes information on health, physical, and environmental hazards, as well as handling precautions and first aid recommendations. SDSs are available upon request.

Emergency Contact Chemtrec 800-424-9300
Outside North America 703-527-3887
Keep out of the reach of children
For industrial use only

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This technical data sheet replaces and cancels the previous one.

The above details have been compiled to the best of our knowledge. They have, however, an indicative value only and we therefore make no warranties and assume no liability in connection with any use of this information, particularly if a third party's rights are affected by the use of our products. The above information has been compiled based upon tests carried out by SOCOMORE. All data is subject to change as SOCOMORE deems appropriate. The data given is not intended to substitute for any testing you must conduct in order to determine the suitability of the product for your particular purposes. Pictures are not contractual. Please check your local legislation applicable to the use of this product. Should you need any further information please contact us.