

Approvals and conformities

SAFRAN AIRCRAFT ENGINES (formerly SNECMA)

DMR 74-510B (Non rotating parts only)

Description :

MADERBIND CF 2K is a two component sacrificial anti-corrosion coating, containing aluminium powder. Steel protection against corrosion, hot corrosion (450°C) and hydraulic fluids.

Performance :

- Excellent corrosion resistance,
- Excellent chemical resistance,
- High durability

Features & benefits :

- Chrome Free
- Waterborne
- Sacrificial coating containing aluminium powder
- Resistance to high temperature (450-550°C)

USES

Note : Degrease the substrate before and after sandblasting.

Substrate	Preparation
Steel	Sandblasting

Please, consult us regarding SOCOMORE solutions for:

- Surface preparation (SOCOCLEAN, DIESTONE & DS ranges),
- Functionalized coatings (SOCOGLAZE, AEROGLAZE, CHEMGLAZE, PRIAM, LBYH ranges),
- Surface treatment (SOCOCLEAN & SOCOSURF ranges),
- Adhesion promotion (SOCOGEL & PREKOTE ranges)
- Chemical stripping (SOCOSTRIP & SPC ranges).
- Non destructive testing products & services (BABBCO range)



DIRECTIONS FOR USE

Preparation & Application :

During application, the following requirements must be observed:

- 15 °C < T° < 35 °C
- 35 % < Hy < 70 %

1 - PNEUMATIC SPRAYING - Viscosity AFNOR CUP 4 : 30s +/- 10		Weight	Tol +/-
Base	MADERBIND CF Part A	45	1
Hardener	MADERBIND CF Part B	55	1
Thinner	DL 1511	If necessary	10% max

Table: Thinner ratio according to application method. Viscosity measurements provided are intended to be guidelines only and not parameters for quality control. Verified information is provided in certification documents, which are available on request to the technical department.

Process :

- 1. Degreasing** with our SOCOCLEAN UCA / UCS (or alternative OEM qualified cleaner)
- 2. Sand blasting** with white alumina grit (180 µm = 80 Mesh, 3 - 4 bars = 45 - 55 PSI)
In order to have an optimum adhesion of the Maderbind CF , it's necessary to have a minimum 2µm (78,7 inch) Ra after grit blasting.

3. Preparation :

- Stir the part A mechanically during 1 minutes at least.
- Add the part B in the part A under mechanical mixing (propeller-type disperser)
- Keep the agitation at least during 20 minutes in order to homogenize the mixing A + B without generating foam by a too strong shaking. We recommend you to use the MADERMIX, fully pneumatic device and ATEX. Duration of dispersion: 30 min; speed rotation: 1300-1600 rpm. For further information, feel free to contact us.
- Filter the product with a 125 - 190 m filter. A spatula can be used to "break up" the residual agglomerates and help the product to pass through the filter.
- Viscosity of the MADERBIND CF (part A +B), Afnor cup 4 at 23°c : **30 +/- 10 s** (According to the standards NF EN ISO 2431)
- Dilute the paint with the thinner DL 1511 if needed to reach this viscosity.
- **Pot life : 8 hours**

NB : Keep the product in a closed container after use

4. Application of the MADERBIND CF

- Apply the coating as quickly as possible after sand blasting and in any case within 6 hours maximum.
- Adjust the air pressure and the nozzle to obtain a fine spraying. For complex parts,

please contact our technical support.

NB : For complex parts, please contact our technical support : Advice on gun type, nozzle and pressure can be provided.

c. Average dry thickness obtained : 60 +/- 10 µm

Checking :

- Maximum deadline from the grit blasting: 3 hours recommended, 6 hours maximum.
- Good wettability of the substrate
- Appearance: no orange peel, blisters, craters, cracks, etc...

NB : If some defects occur after the application, a rinsing with water is recommended before drying at 90°C to clean the MADERBIND CF.

AFTER THIS RINSING, it is very important to start with a new preparation of the substrate before a new paint application.

5. Drying and Curing :

FORCED DRYING	
Characteristics	Value
Flash-off before drying	15 - 30 min at room temperature
Drying	1 H – 90°C (194°F)
Stoving	4 H – 380°C (788°F)

Recommendations :

Drying :

- The MADERBIND CF must be light grey before drying
- Dry at 90°C (194°F) during 1 hour at effective temperature
- The drying is absolutely necessary before curing
- Maximum deadline from application: 8 hours recommended, 24 hours maximum.

Curing :

- Cure at 380°C (716°F) during 4 hours (at effective temperature)
- Maximum deadline from drying at 90°C (194°F): 24H hours recommended, 72 hours maximum.

You have to meet this time to ensure a good hardening of all the film.

6. Mechanical burnishing

- Reminder: this operation has to be achieved after the curing.

- Burnish the coating system to make it become conductive without any abrasion of the paint.
- Use dry grit blast with 120-180 μm (=80 to 120 Mesh) alumina sprayed under pressure of 2 bars – 2,5 bars (=30 to 35 PSI)

Maximum deadline from the curing at 420°C (788°F): 8 hours recommended, 24 hours maximum.

Checking:

Measure the electrical resistance between the two electrodes (at least 25 mm space between both)

Test is conform if $R < 5 \text{ Ohms}$

Schematic system :



Process summary

Stages	Recommendations
Degreasing	SOCOCLEAN UCA/UCS
Grit blasting	Optimum Ra : 2 µm (78,7 inch) Deadline between grit blasting and application : 3H recommended, 6H maximum
Product preparation	Duration : minimum 30 min 1300 rpm ≤ Rotation speed ≤ 1600 rpm (Depending of the product's volume and blade used)
Application	15°C < T°C < 25°C 40% < HR < 70% Dry thickness after burnishing : 35 up to 80 µm (1,35 to 3,15 Mils max)
Drying	1H at 90°C (194°F) Deadline between application and drying at 90°C : 8H recommended, 24H maximum
Curing	4H at 380°C (716°F) Deadline between drying at 90°C (194°F) and curing at 380°C (716°F) : 24H recommended, 72H maximum
Burnishing (white alumina 80 Mesh)	Deadline between curing at 380°C (716°F) and burnishing : 8H recommended, 24H maximum Burnishing parameters must be adapted : For example: - Distance 150mm → Pressure 2 bars (29 PSI) - Distance 30mm → Pressure 1 bar (14,5 PSI) Minimum dry thickness after burnishing: 35µm (1,35 Mils) Resistivity < 5 Ohms

Removal of Coating:

If it should be necessary to remove the cured coating, it can be stripped by grit blasting or immersion in a hot (approximately 70°C (158°F) caustic soda solution (approximately 10% caustic soda concentration) then lightly grit blasting.

Recommended product : HDL 202 25-45% 80°C +/- 10°C

TECHNICAL CHARACTERISTICS

Technical Data - Ready to use Product	
Characteristics	Values
Weight solids	71 % +/- 2
Wet density	1,63 % +/- 0,05 g/cm3
Dry density	2,25 +/- 0,1 g/cm3 (for 50µm)

Data for mixture n°1

Other data			
Characteristics	Standards	Values	Comments
Resistivity	Internal standard	< 5 Ohm	
Skydrol resistance	NF EN ISO 2812-1	> 750 h	immersion at 70°C (158°F)
Demineralized water resistance	NF EN ISO 2812-2	> 1000 h	Immersion at 40°C (104°F)
Temperature variation (-55 /+ 70°C) (-131°F/+ 158°F)	Internal standard	100 cycles	
Salt spray test	NF EN ISO 9227	> 2500 h	R0, no blister
Salt spray test with scribe	NF EN ISO 9227	> 1000 h	R0, no blister

High temperature corrosion 1 1 cycle = 16h SS + 6h à 400°C (752°F)	Internal standard	> 25 cycles	R0, no blister
High temperature corrosion 2 1 cycle = 16h SS + 6h à 450°C (842°F)	Internal standard	> 20 cycles	R0, no blister
High temperature corrosion 3 1 cycle = 16h SS + 6h à 550°C (932°F)	Internal standard	> 20 cycles	R0, no blister

PRECAUTIONS FOR USE AND STORAGE

Storage

6 months between 5°C and 35°C in original, unopened containers. **Keep away from frost.**

Shelf life after 1st opening : 3 months

Possible formation of highly flammable gas (H₂) after mixing parts A and B.

For more information regarding the danger of the product, please consult the product safety data sheet according to local regulation.

For professional use only.

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.