

BONDERITE® S-MA 5000 GREY AERO

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PRODUCT DESCRIPTION

BONDERITE® S-MA 5000 GREY AERO provides the following product characteristics:

Technology	Surface Treatment
Product Type	2-K maskant VOC Free Polyurethane elastomer
Appearance - Part A	Grey viscous liquid with tendency to separation, no foreign matter
Appearance - Part B	Viscous yellow to brown liquid
Mix Ratio by volume: Part A: Part B	1 : 1
Application Method	Spray
Coating appearance	Grey elastomer film
Application	Surface treatment process Chemical milling

BONDERITE® S-MA 5000 GREY AERO is a hand peelable protective coating product of two components, which is free from solvents. This 100% solids 2-K maskant polyurethane based material is formulated to provide an air curing. When applied, the result coating is designed to provide a strong resistance to detergents, alkaline cleaning agents and solutions of the chemical milling processes for the majority of metals.

PRODUCT BENEFITS

- 100% solid maskant
- VOC free
- Rapidly cure, allowing the user to process coated parts much faster than with conventional maskants solvent based
- One single application to provide a coating of 300 to 350 µm
- Easily applied using a 1:1 mixing ratio equipment
- Mixing at the nozzle simplifies the cleaning operations of the equipment
- No stoppage period or maintenance needed
- Cost reduction in terms of the application and solvent emissions in the atmosphere compared to conventional maskants
- Reduced tendency to produce the 'unhooking' effect, limiting pollution of the paint booth

TECHNICAL DATA

Coating properties:

Peelable adherence before chemical treatment, grams/2.5 cm length 250 to 750

Resistance to traction after chemical treatment N/mm² (psi) 400 (58,000)

GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

DIRECTIONS FOR USE**Application**

- BONDERITE® S-MA 5000 GREY AERO is intended for use in chemical milling processes for both Aluminum and Titanium alloys.

Materials

- BONDERITE® S-MA 5000 GREY AERO Part A
- BONDERITE® S-MA 5000 AERO Part B

Recommended Mix Ratios

1. BONDERITE® S-MA 5000 GREY AERO part A and BONDERITE S-MA 5000 AERO part B are supplied ready for use and should not be diluted in order to avoid damaging the qualities of this product.
2. Even if BONDERITE® S-MA 5000 GREY AERO contains anti-sediment agents, it is recommended, in order to provide uniform and reproductive results during application of the MASKING, to constantly shake component A without introducing bubbles or shaking it violently.
3. Mix ratio (Part A: Part B) by volume is 1:1.

SURFACE TREATMENT PROCESS USING BONDERITE® S-MA 5000 GREY AERO spray application**Surface Pre-Treatment Process**

The surface pre-treatment can be operated within a two or three step chemical process.

1. The two-step process consists of an alkaline cleaning and acidic deoxidizing
2. The three-step process consists of an alkaline etching used between cleaning and deoxidizing

The adhesion of the coating depends on the type of alloys and pre-treatment used.



Cleaning

- All surfaces treated should be clean, dry and free from any contaminants that will affect adhesion.

Water Rinsing

- After cleaning, the metal must be thoroughly rinsed with water. The rinse should flow continuously at a rate which will keep it clean and free from scum and other contamination.

Alkaline Etching (Optional)

- If the aluminum to be treated has corrosive products or heavy oxides on the surface, it should be conditioned by installing two additional steps between post cleaner rinse and deoxidizing steps. The first additional step involves an alkaline etching with an etchant chemical and second step is an additional cold-water rinse.

Deoxidizing

- This step should produce a surface that is fully reactive, free from all surface oxide residue. The product must have high oxidizing power to bleach the surface by removing the dirt caused by alloying elements (i.e., copper, silicon, magnesium, etc).

Spray Application

BONDERITE® S-MA 5000 GREY AERO can be applied with a 1:1 airless high-pressure spraying equipment. The application should be done at 140 to 180 bars using a heating device and a mixing gun nozzle which can be cleaned mechanically or with air purge. Henkel can advise the equipment to be used and detailed specifications, on request.

Graco equipment

- Dosing spray unit - GRACO REACTOR EXP 2
- Spray gun- GlasCraft PROBLER P2 Elite
- Mixing Chamber - Graco GC2500
- Nozzle 0.023" / 50°
- InletGRACO GC2512

Gama equipment

- Needle- GU-04006-00
- Spray gun- GDY SPRAY GUN
- Mixing chamber- GU-04012-035F (2)
- Flat tip- GU-04024-023FS

1. For an uniform BONDERITE® S-MA 5000 GREY AERO coat, hold the spray gun approximately 300 to 400 mm from the substrate, moving the gun parallel and at right angles to the substrate surface.
2. Use uniform straight strokes.

Recommended Spray Mix Ratios

- Mix ratio (Part A: Part B) by volume is 1:1.

Spraying Temperature

- 65 to 75°C

Spraying Pressure

- 140 to 180 bar

Advised film thickness

- 300±50 µm

Material needed to coat 1m² / 300µm (without overspray)

- 0.3 kg (part A + part B)

Drying

Avoid excessive heat and air flows on the wet film, as this can lead to a defective superficial dryness. The application of heat and ventilation to force the drying is not necessary nor recommended.

After Treatment Process

Tack-free time, seconds	≥10
Handling time, minutes	≥5 to 10
Manual and laser scribing can be used on the applied coating:	
Minimum time prior to scribing, minutes	60 to 120
Minimum time prior to peeling, minutes	60 to 120

STORAGE AND HANDLING

Storage

Store in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling.

Optimal Storage: 5 to 35°C. Storage below 5°C or above 35°C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel Representative.

Conversions

(°C x 1.8) + 32 = °F
 L / 3,785 = gallons
 mm / 25.4 = inches
 1 bar = 14.5 Psi
 dm² / L / 9,290 * 3,785 = ft² / gal

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.



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