

# BONDERITE® S-MA 5000 AERO

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## PRODUCT DESCRIPTION

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

<b>Technology</b>	Surface Treatment
<b>Product Type</b>	2-K maskant VOC Free
Appearance - Part A	Light green viscous liquid
Appearance - Part B	Yellow to brown viscous liquid
Mix Ratio by volume: Part A: Part B	1 : 1
Application Method	Spray
<b>Application</b>	Surface treatment process, Chemical milling

BONDERITE® S-MA 5000 AERO is a two-part, 100% solid 2-K maskant polyurethane based material formulated to provide an air curing, hand peelable coating. When applied, this material is designed to provide a strong protection to the metal surfaces during chemical processing.

## PRODUCT BENEFITS

- 100% solid maskant
- VOC free
- Rapidly cure, allowing the user to process coated parts much faster than with conventional maskants
- 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

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

### Application

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

### Materials

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

## Recommended Mix Ratios

1. BONDERITE® S-MA 5000 AERO part A and part B are ready to use products.
2. It is strongly recommended to mix Part A well before use.
3. Constantly stir BONDERITE® S-MA 5000 AERO during the maskant application.
4. Mix ratio (Part A: Part B) by volume is 1:1.

## SURFACE TREATMENT PROCESS USING BONDERITE® S-MA 5000 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

1. BONDERITE® S-MA 5000 AERO can be applied with 1:1 spraying equipment. Henkel can present the detailed specifications, on request, for the spray gun type

*A recommended sample equipment set up is shown below*

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

1. For an uniform BONDERITE® S-MA 5000 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

- Part A: 65±5°C
- Part B: 70±5°C

## Spraying Pressure

- 140 to 180 bar

## Advised film thickness

- 300±50 µm

## Material

**Material needed to coat 1m<sup>2</sup> / 300µm (without overspray)**

- 0.3 kg (part A + part B)

## 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 peeling, hours	4
Minimum time prior to scribing, hours	18

## STORAGE AND HANDLING

### Storage

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

**Storage below 5°C or above 35°C for the Part A and Part B 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

dm<sup>2</sup> / L / 9,290 \* 3,785 = ft<sup>2</sup> / 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.

## Disclaimer

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