

BONDERITE M-ED 11066

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PRODUCT DESCRIPTION

BONDERITE M-ED 11066 provides the following product characteristics:

Technology	Surface Treatment
Product Type	Anodizing Sealer
Application	Anodizing

BONDERITE M-ED 11066 (low-temperature sealer for Al anodizing process) is an efficient anodizing sealer for aluminum/aluminum alloy, which is nickel-fluoride based. This chemical helps improving resistance to corrosion, acid, alkali and can form good appearance after anodizing sealing process. The sealing process costs lower energy, and the controlling of bath is easy, which is suitable for sealing the anodizing layer of aluminum/ aluminum alloy parts.

DIRECTIONS FOR USE

Preliminary Statement:

Prior to use it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed. Please also refer to the local safety instructions and contact Henkel for analytical support.

The process tank, spraying tubes and heat exchanger plates for use with this solution should be fluorine-resistance.

Operating Data:

	Range	Recommendation
Concentration, %	11 to 13	12
Free Fluorine, ppm	650 to 950	750
Temperature, °C	38 to 42	40
Time, min	18 to 22	20
pH	5 to 7	5.5

Process Components:

BONDERITE M-ED 11066
BONDERITE M-ED 11066 F ADD
BONDERITE M-AD 253TT

Equipment:

The tank is equipped with heating device and can stabilize the bath at 40 °C. The tank is equipped with circulation device. Circulation rate should be under four times of full tank volume per hour. The material of the tank should be fluorine-resistant. Circulation filter is needed and should be fluorine resistant, the recommended diameter is 5 to 10 µm. 2 to 3 DIW washing is necessary after sealing process.

Bath Make-up:

1. Add DI-water up to 60% of the tank after washing the tank thoroughly.
2. Start air agitation and add BONDERITE BONDERITE M-ED 11066 carefully.
3. Add DI-water to working level after adding all chemicals and keep stirring over 30 minutes.
4. Sampling the bath after mixed uniform and test bath parameters (refer to recommended control parameters in TDS).
5. Start heating and run regularly if the parameters are normal.

Additionally:

- At least stir 30 minutes before sampling.
- Be sure to add chemicals when the concentration is lower than the recommend range.
- Aging and external contaminants of bath can affect the measurement of chemical concentration.

Bath Control:

BONDERITE M-ED 11066 bath should be monitored with both bath concentration and free fluorine concentration.

Concentration of BONDERITE M-ED 11066

1. Sampling >20 g bath and cool to 25°C.
2. Move 20 g of working bath into a 250 mL flask.
3. Add about 20 g DI-water, a little amount of ammonium purpurate indicator and 10 g pH=10 ammonia buffer, then mix until uniform.
4. Titrate with 0.05 M EDTA until the sample turns purple, record the volume of 0.05 M EDTA consumed.
5. Calculation:
BONDERITE M-ED 11066 concentration % = $1.0965 \times (\text{EDTA volume/ml}) + 0.9847$

The concentration of bath should be controlled within the range of 11-13 %. 12 % is the recommended concentration. Add BONDERITE M-ED 11066 when concentration is near the lower limit.

Free fluorine

1. Sampling >20 g bath and cool to 25°C.
2. Test the free fluorine by using fluorimeter.
3. Free fluorine content should be within the range of 650 to 950 ppm, recommend 750ppm.

Add BONDERITE M-ED 11066 F ADD when the free fluorine is near the lower limit. Free fluorine increases 100 ppm per ton when 1.5 kg BONDERITE M-ED 11066 F ADD is added in.

pH Determination

1. The pH value should be controlled within the range of 5.0 to 7.0.
2. It increases continuously during the usage.
3. Add BONDERITE M-AD 253TT to decrease the pH value.

The pH value decreases 1 per ton when 0.5 kg BONDERITE M-AD 253TT is added in.

Spray application:

Out-of-bath spray is not necessary for BONDERITE M-ED 11066 bath, but is needed after the first DIW washing after BONDERITE M-ED 11066 sealing process. Bath works normally with still-sealing status. Start circulating (keep circulation flow as low as possible) for several 3 to 5 minutes after adding products.

Special Remarks:

Personal protective equipment is necessary when adding chemicals, such as goggles, gauntlets, protective clothing, safety footwears and so on. Please refer to MSDS of the chemicals for specific hazard and protections.

Washing water parameters:**Relevant Control Parameters of Washing:**

	Number of washing tank	Total washing time, min	Conductivity of final washing water, us/cm
After anodizing	2 to 3	10	<50
After BONDERITE M-ED 11066 sealing	2 to 3	2 to 3	<50

Classification:

Please refer to the corresponding **Material Safety Data Sheets** for details on:

- Hazards identification**
- Transport information**
- Regulatory information**

Storage:

Recommended storage temperature, °C 5 to 35
Shelf-life, months 12
(in unopened original packaging)

ADDITIONAL INFORMATION**Disclaimer**

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Reference 1.0