BONDERITE

Technical Data Sheet

BONDERITE M-NT 2040

Known as Alodine 2040
June 2016

PRODUCT DESCRIPTION

BONDERITE M-NT 2040 provides the following product characteristics:

Technology	Conversion coating
Product Type	Etch-passivation
Application	Concentration 1-3%

BONDERITE M-NT 2040 is a chromium-free etch passivation for aluminium in order to stabilize the electrical surface resistance and to improve adhesive bonding.

Application Areas

BONDERITE M-NT 2040 can be used in an immersion and spray process.

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.

Chemical Data:
BONDERITE M-NT 2040
BONDERITE M-NT 2040 E1
DI water

Bath make-up:
For the preparation of 1,000 L of BONDERITE M-NT 2040 solution add to 500 L of DI-water under stirring:

BONDERITE M-NT 2040	10 to 30 L or 13.6 to 40.8 kg
preferable	15 L = 20.4 kg

After complete dissolution fill up with DI-water to 1,000 L.

Operating Data:
Adjusting the following parameters could be necessary depending on the line conditions.

Temperature:	30 to 40
Time, sec	30 to 90
Free Acid, points	12.2 to 36.6
Reaction Titration, points	≤5

Titration:
The BONDERITE M-NT 2040 bath will be controlled by testing the Free Acid and the aluminium concentration.

Free Acid (Points):

- Pipette 10 mL of a cold bath sample into an Erlenmeyer flask and dilute with 50 mL DI-water.
- Add 10 drops Bromcresol green.
- Titrate with 0.1 N NaOH until a blue colour via a green one is obtained.
- The mililiters of 0.1 N NaOH used is the Free Acid (points).

Adjustment:

To increase the value by 1.0 (point) add per 1,000 (L) of solution volume:

BONDERITE M-NT 2040 E1	0.8 L or 1.1 kg
or	
BONDERITE M-NT 2040	0.8 L or 1.1 kg

Aluminium Concentration (Points):

- Pipette 10 mL of a cold bath sample into an Erlenmeyer flask and dilute with 50 mL DI-water.
- Add 10 drops of Phenolphthalein indicator.
- Titrate with 0.1 N NaOH until a light pink colour is obtained.
- Add a tea spoon Sodium Fluoride and dissolve. The colour is heavy pink, now.
- Titrate with 0.1 N sulfuric acid until the pink colour disappears.
- The mililiters of 0.1 N sulfuric acid used is the aluminium concentration (points).

Concentration range, points	≤5.0
Critical limit, points	15.0

Adjustment:

If the aluminium concentration is higher than 15.0 points, the bath will be partially dumped, with DI -water refilled and readjusted.

Classification:
Please refer to the corresponding **Material Safety Data Sheets** for details on:
Hazards identification
Transport information
Regulatory information

Henkel

Storage

Recommended Storage Temperature, °C	5 to 50
Shelf life, months (in unopened original packaging)	12

ADDITIONAL INFORMATION

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.
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Reference 0.1