

BONDERITE M-NT 40043

May 2017

PRODUCT DESCRIPTION

BONDERITE M-NT 40043 provides the following product characteristics:

Technology	Surface Treatment
Product Type	Conversion Coating
Application	Metal Parts
Process components:	BONDERITE M-NT 40043 BONDERITE C-AD 0508 LF BONDERITE M-AD 700

BONDERITE M-NT 40043 is a liquid innovative product set up for treatment of ferrous material, aluminium, zinc and alloys.

BONDERITE M-NT 40043 creates a very adhering zirconium based conversion layer which is an excellent anchorage base for liquid, powdered or electrophoretic paints.

BONDERITE M-NT 40043 is a valid alternative to standard phosphor-degreasing treatments as it improves the corrosion resistance performances of painted materials using a phosphate content 20 to 100 times lower.

Correct use of the product requires a subsequent rinse at partial renewal and if possible a final rinse with demineralised water.

Results improve further on if combined to a suitable passivation.

BONDERITE M-NT 40043 is used on spray or dip systems as prepainting treatment on pieces destined to, appliances, metal furniture and plate articles in general quite exposed to corrosive agents attack (moisture, atmospheric agents, etc.).

BONDERITE M-NT 40043 must be combined to an appropriate detergent additive like BONDERITE C-AD 0508 LF (suggested by technical service).

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.

Bath Make-up:

Bath preparation:

Fill $\frac{3}{4}$ of the bath with water (DI water recommended). For each 1,000 L of bath volume add to the agitated bath:

BONDERITE M-NT 40043	10 to 20 g/L (Spray) 10 to 30 g/L (Dip)
BONDERITE M-AD 0508 LF	0.5 to 3 g/L (Spray) 1 to 5 g/L (Dip)

Adjusting the bath for start-up:

Fill the bath to normal working level and slowly add BONDERITE M-AD 700 to adjust the pH to 4.8 to 5.2.

Operating Parameters:

pH:	4.5 to 5.7 (best 4.8 to 5.2)
Total Acid:	6 to 12 (spray), 9 to 18 (dip)
Time:	1 to 3 min (spray), 1 to 6 min (dip)
Temperature:	Ambient (40 to 60 °C)
Spray pressure:	1 to 2 bar (spray)

Process:

Summary of the Process Parameters:

Within the preferred pH range of 4.8 to 5.2 the concentration of BONDERITE M-NT 40043 must be adapted to the process.

The recommended concentration (total acid points) for every production line will depend on process time, geometry of the treated parts and other parameters. If the concentration drops below the desired value it must be increased by adding process component BONDERITE M-NT 40043, even when the pH is already within the preferred range.

If the concentration of BONDERITE M-NT 40043 lies within the recommended working range, the pH-value of the bath must be adjusted within the recommended range with BONDERITE M-NT 40043 (decrease the pH-value) or BONDERITE M-AD 700 (increase the pH-value).

Additionally, changes in the above mentioned process parameters may be necessary – they have to be evaluated individually and documented specifically for each production line.

Description of the Process:

3-4 zones (1 or 2 cleaning/coating zones)

1. Cleaning/Coating (BONDERITE M-NT 40043)
2. Rinse (industrial water)
3. Rinse (DI water)
4. Drying (optional, depending on the paint system)

Bath Control:

The BONDERITE M-NT 40043 bath is controlled by determination of the pH-value and total acidity.

pH determination:

The pH is determined using a fluoride stable pH meter standardized at pH 4 and pH 7.

Cool the sample of solution (about 100 mL) to about 20 °C.

pH range: 4.8 to 5.2

Adjustment of the pH-value:

To reduce pH-value add BONDERITE M-NT 40043.

To increase pH-value add BONDERITE M-AD 700.

Total Acid:

- Pipette a 50 mL sample into a 250 mL beaker and dilute it with 20 mL deionized water.
- Add 3 to 5 mL drops of Thymolphthalein.
- Fill the burette with 0.1 N Sodium Hydroxide.
- Titrate with 0.1 N Sodium Hydroxide until the sample colour changes from colourless to light blue.
- The mL of 0.1 N Sodium Hydroxide required gives Total Acid value.
- For a 10 g/L bath the Total Acid, after pH adjustment, is approx. 6 mL (points).

For each missing point add per 1,000 L bath solution:

BONDERITE M-NT 40043 1.6 kg

General Recommendation:

Containers for the BONDERITE M-NT 40043 product concentrate should be made of fluoride resistant plastic like hard PVC or PP.

The bath containers for the BONDERITE M-NT 40043 -bath can be made of hard PVC (free of softening agents) or stainless steel 1.4301 (AISI 304).

Alternatively, a mild steel container, lined with a fluoride resistant plastic can be used.

The spraying systems, pumps and heating facilities should be made of stainless steel (AISI 304).

The waste water treatment and disposal must comply with the local discharge regulation.

Storage:

BONDERITE M-NT 40043 may precipitate if stored at temperatures below 0°C but this will not cause any harm to the product and its performance will be unaffected.

Classification:

Please refer to the corresponding **Material Safety Data**

Sheets for details on:

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

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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