

BONDERITE M-NT 20120

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PRODUCT DESCRIPTION

BONDERITE M-NT 20120 provides the following product characteristics:

Technology	Metal Pretreatment
Product Type	NGC / Zirconium Technology
Application	Conversion coating
Process components:	BONDERITE M-NT 20120 BONDERITE M-AD 700 BONDERITE M-AD 252 BONDERITE M-AD 338

BONDERITE M-NT 20120 is a phosphate-free liquid pretreatment especially formulated for use in the treatment of steel, galvanized steel and aluminium surfaces.

The pretreatment is free of volatile organic components and increases the corrosion resistance of painted metal surfaces significant.

BONDERITE M-NT 20120 is specially formulated to prevent flash-rust.

BONDERITE M-NT 20120 is also frost resistant and has a long shelf life of 2 years.

BONDERITE M-NT 20120 when compared to iron-phosphating normally improves corrosion resistance properties reducing operative costs.

BONDERITE M-NT 20120 may be applied by spray or immersion with a separate cleaning step, no heating of the BONDERITE M-NT 20120 bath is required. The BONDERITE M-NT 20120 pretreatment is compatible with all types of paint.

Application Areas:

BONDERITE M-NT 20120 is used in spray- and spray/immersion processes. It must be combined with a suitable cleaner.

Pre-painting treatment of spare parts in automotive, appliances, metal furniture industries and, in general, on all plate pieces which are not much exposed to corrosive agent aggression (humidity, atmospheric conditions, etc.).

TECHNICAL DATA

Appearance	clear liquid
Density (20°C), g/cm ³	1 to 1.2
pH-value (1% in deionized water)	2.1 to 2.9

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:

Fill 3/4 of the bath with water (DI-water recommended).

For each 1000 l of bath volume add to the agitated bath:

BONDERITE M-NT 20120	10 to 35 l
BONDERITE M-AD 338	40 to 140 ml

Fill the bath to normal working level and slowly add BONDERITE M-AD 700 to adjust the pH to 4.5 to 4.6.

Operating Data:

pH-value	4.5 to 5.2
Concentration Zr	0.1 to 0.65
Time, sec	20 to 120
Temperature:	20 to 50
Spray pressure	0.5 to 1.5 bar

* as described in the following method

Within the preferred pH-ratio of 4.5 to 5.2 the concentration of BONDERITE M-NT 20120 must be adapted to the process.

The recommended concentration (absorbance) for every production line will depend on process time, geometry of the treated parts and other parameters. Typical values are 0.25 to 0.65. For some applications lower values can be used if indicated by TCS.

If the concentration of BONDERITE M-NT 20120 lies within the recommended working range, the pH-value of the bath must be adjusted within the recommended range with BONDERITE M-AD 252 (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.

Process Description:

With alkaline degreasing – 5 zones

1. Alkaline degreasing
2. Rinse (industrial water)
3. Rinse (DI water)

4. Conversion bath (BONDERITE M-NT 20120)
5. Rinse (DI water)
6. Drying (optional, depending on the paint system)

Bath monitoring:

The BONDERITE M-NT 20120 bath is controlled by determination of the pH-value and concentration of BONDERITE M-NT 20120.

pH-value:

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

pH-range: 4.6 to 5.2

Adjustment of the pH-value:

To reduce pH-value add BONDERITE M-NT 20120 or BONDERITE M-AD 252

To increase pH-value add BONDERITE M-AD 700

Determination of the concentration of BONDERITE M-NT 20120

Photometer: HACH Pocket colorimeter II 450 nm

Cell / vessel: Diameter 25.4 mm, cylinder cell Analyte: BONDERITE M-NT 20120 Reagents 908-1 and 908-2 should be stored at room temp. (+5 to 25°C) and protected from light.

Before the insertion into the photometer cell / vessels need to be closed tightly. Otherwise the operator and/or the photometer may be harmed.

Preparation of the HACH Pocket colorimeter II 450 nm:

- Turning-on of the device.
- For the zero compensation fill the 25.4 mm cell with DI water.
- Remove the instrument cap from the pocket colorimeter and insert the cell with the DI water into the cell compartment.
- Use the instrument cap as a light shield during measurements.
Press the ZERO key. The meter should read 0.0. If the meter does not read 0.0, press the ZERO key again.

Preparation of the sample:

- Pipette 50 ml of Reagent 908-1 into a 100 ml beaker.
- Add 0.4 ml* of the bath sample to the beaker using an accurate pipette and mix the solution gently.
- Add 2.0 ml of Reagent 908-2 and mix the solution gently.
- Decant the mixture into a cell and insert the cell into the cell compartment. Use the instrument cap as a light shield during measurements. Press the READ key. Multiply the reading by the correction factor (see below)

and record it as absorbance. This value corresponds of the active component in BONDERITE M-NT 20120.

*When absorbance is higher than 0.45 it's advisable to take 0.2 ml and multiply abs x 2.

Determination of the correction factor:

- Prepare 30 ppm Zr solution obtained by dilution of 1000 ppm ICP Standard-solution (Merck; Art-Nr. 1.70370.0100).
- Pipette 50 ml of Reagent 908-1 into a 100 ml beaker.
- Add 0.4 ml of the bath sample to the beaker using an accurate pipette and mix the solution gently.
- Add 2.0 ml of Reagent 908-2 and mix the solution gently.
- Decant the mixture into a cell and insert the cell into the cell compartment. Use the instrument cap as a light shield during measurements. Press the READ key and take the result (A).

Correction factor: 0.228 / Extinction (A)

The product concentration is in its target range, if the displayed measurement value is within the defined limits. For each missing 0.05 unit of extinction have to be added per 1000 l bath solution:

BONDERITE M-NT 20120 3 kg

Classification:

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

Sheets for details on:

Hazards identification
Transport information
Regulatory information

Storage:

Recommended Storage Temperature, °C	0 to 40
Shelf life, months	24
(in unopened original packaging)	



ADDITIONAL INFORMATION**Disclaimer**

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Reference 0.2