

BONDERITE M-FE 3806

Known as Duridine 3806 IT
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PRODUCT DESCRIPTION

BONDERITE M-FE 3806 provides the following product characteristics:

Technology	Cleaner - coater
Product Type	Acid 1-component
Application	Spray

BONDERITE M-FE 3806 is a one-pack liquid double action chemical process for simultaneously cleaning and iron phosphating of ferrous material.

BONDERITE M-FE 3806 forms on the treated surface an amorphous phosphate coating based on surfactants, which provides good adhesion for solvent, powder or electrophoretic paints.

We suggest a subsequent partial continuous renewal rinse and possibly a final rinse with demineralized water.

A suitable final passivation stage gives further improvements on corrosion resistance performances.

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.

Application:

BONDERITE M-FE 3806 is used by spray in pre-painting treatments of steel materials in automotive, appliances, metal furniture and plate manufactured goods in general scarcely exposed to aggressive agents (humidity, atmospheric agents, etc).

BONDERITE M-FE 3806 is used according to the specific application, in double or multi stage, at following working conditions:

Concentration	10 to 20 g/L (kg/1,000 L)
Total Acid	5.5 to 11 pts
pH	4 to 5.5
Temperature	40 to 70°C
Treatment time	1.5 to 3 min
Spray pressure	1 to 2 Bar

Bath make-up:

- Fill the tank with tap water to 3/4 of the operating volume.
- Start the recirculating pumps and heat up to working temperature.

- Add 10 to 20 kg BONDERITE M-FE 3806 for each 1,000 L of bath volume.
- Fill up the tank to the final level and the working temperature.
- Let homogenize for 15 to 20 min and make controls.
- If necessary add 2.5 kg of NaOH pearls for each 100 kg of BONDERITE M-FE 3806 to restore the pH value within the correct range.

Bath monitoring:

Total Acid

- Transfer 20 mL sample in a beaker of 250 mL.
- Add ~10 mL of distilled water and 3 to 5 drops of Phenolphthalein Indicator.
- Titrate with 0.1 N Sodium Hydroxide (NaOH) until the solution turns from colorless to a permanent pink color.
- The mL of 0.1 N NaOH used for the titration is the Total Acid value.
- A standard BONDERITE M-FE 3806 bath made up at 10 g/L concentration should have a T.A. value of about 5.5.

pH determination

- Transfer 100 mL bath into a beaker and cool it down to room temperature (about 20°C).
- Measure the pH value with a pHmeter previously calibrated on values of 4 and 7 (it is advisable using a pH-meter with Fluoride resistant electrode).
- Any adjustment has to be made as follows:
 - BONDERITE M-FE 3806 to obtain a lower pH;
 - Sodium Carbonate or Caustic Soda in small quantities to increase pH value.

Replenishment:

The bath should be periodically controlled and kept at the initially fixed concentration by additions of BONDERITE M-FE 3806 according to the total acid obtained in the analysis.

To increase the concentration add ~1.8 kg of BONDERITE M-FE 3806 for each missing point and for each 1,000 L of bath.

As the bath ages, pH or Total Acid value may increase.

In this case replenish the bath to maintain the pH value within the correct operational range until complete renewal of the bath solution.

Caution:

In case of oil accumulation on the bath surface, partial overflow is advisable in order to avoid contamination on the treated material.

Tanks and other plant parts must be preferably made of stainless steel despite the product is compatible with mild steel.

Pumps installed in specific areas should have appropriate characteristics to ensure a minimum spray pressure of 1.5 atm during all process phases except for the passivating final stage which can have a lower pressure value (0.8 to 1 atm). Higher pressure values may increase the degreasing action. A long lasting exposure of BONDERITE M-FE 3806 may affect the product color.

Storage

Recommended Storage Temperature	-4 to 35°C
Shelf-life, months	36

Store BONDERITE M-FE 3806 in original containers in a ventilated place, away from sunlight.

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. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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