

BONDERITE M-FE 21

Known as Fosbond 21
July 2017

PRODUCT DESCRIPTION

BONDERITE M-FE 21 provides the following product characteristics:

Technology	Metal Treatment
Product Type	Phosphating products for metals
Application	Immersion and Spray

BONDERITE M-FE 21 is a phosphating product used to treat ferrous metals before painting in spray or immersion applications.

The results in a very adherent and thin layer of phosphates, which forms an excellent base for organic finishes while protecting against corrosion.

The phosphate layer varies between 0.3 and 0.8 g/m² depending on the treatment.

BONDERITE M-FE 21 is also used for degreasing during half-way operations, and before thermal treatments in washing machines by spraying.

Application:

- Pre-treatment prior to painting
- Degreasing between operations
- Degreasing before thermal treatment

TECHNICAL DATA

Appearance	clear, colourless liquid
pH (as concentrate)	1.0 ± 0.2
pH (3 % solution)	4.5 ± 0.5
Density	1.3 ± 0.01 g/m ³

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.

Operation:

Treatment before painting:

Degreasing with a product recommended by our Technical Service.

Rinsing with cold industrial water.

Only for immersion process: Stripping of the surface to be treated, depending on its condition; followed by one or two

rinses.

BONDERITE M-FE 21:

by spraying: 20 to 30 g/L at 65°C for 30 sec to 3 min

by immersion: 50 to 100 g/L at 65°C for 1 to 5 min

Rinsing with cold industrial water.

Rinsing with a passivating agent (product recommended by our Technical Service).

Degreasing between operations:

BONDERITE M-FE 21: 10 to 20 g/L at 55 to 65°C

Rinsing with cold water, with renewal (not always necessary)

Drying

Material:

Use low-carbon steel or, preferably, stainless steel.

Bath make-up:

Dissolve between 1 and 10 kg of BONDERITE M-FE 21 for every 100 litres of bath.

Heat up to the desired temperature; the bath is ready for use.

NOTE: Our Technical Service will suggest the appropriate working concentrations.

Bath Control and Replenishment:

Total Acidity:

- Pipette 10 mL of BONDERITE M-FE 21 bath into an Erlenmeyer flask.
- Add 2 to 3 drops of phenolphthalein and titrate with 0.1 sodium hydroxide until the pink color appears.
- Each mL of sodium hydroxide used corresponds to 1 point.
- The total acidity must be kept between 13.5 and 15.5 points.

To increase total acidity by 1 point, add 340 g of BONDERITE M-FE 21 for every 100 L of bath.

Free Acidity:

- Pipette 20 mL of BONDERITE M-FE 21 bath into an Erlenmeyer flask.
- Add 3 to 4 drops of bromophenol blue and titrate with 0.1 sodium hydroxide until the color turns from yellow to blue.
- Each mL of sodium hydroxide used corresponds to 1 point.

Usually, the bath is kept to control the total acidity.

Storage:

Recommended Storage Temperature, °C 0 to 50
Shelf-life, months 24
(in unopened original packaging)

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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