Technical Data Sheet

BONDERITE® M-PT 99X

February 2024

Product description

BONDERITE® M-PT 99X provides the following product characteristics:

Technology	Metal pre-treatment
Product type	Conversion coating
Application	Immersion or spray

BONDERITE® M-PT 99X post treatment is a patented, chromium and phosphate-free post treatment especially formulated for use over all types of conversion coatings used in the pretreatment of steel, zinc and aluminum surfaces. The post treatment is free of volatile organic components and increases the corrosion resistance of painted metal surfaces. BONDERITE® M-PT 99X is a reactive, resin based post treatment chemical. Its corrosion resistance performance is equal to that of chromium containing post treatments. The treatment solution may be applied by spray application or by immersion application under ambient conditions and is followed by a deionized water rinse. The post treatment is compatible with a wide variety of paint systems, including cathodic electrocoat.

Direction 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.

Process description:
The complete process normally consists of the following steps:

1. Cleaning
2. Water rinsing
3. Conversion coating or other surface conditioning (optional)
4. Water rinsing
5. Post treatment with BONDERITE® M-PT 99X
6. Drying (optional)
7. Deionised water rinsing

Process components:
BONDERITE® M-PT 99X
BONDERITE® M-PT 6
BONDERITE® M-AD 95B
BONDERITE® M-AD 700

Equipment:
Process piping and pumps should be constructed of 316 or 304 stainless steel alloys. Various formulations of plastic pipe may be used with recommended support spacing, Schedule-80 being generally recommended. PVC Type I is limited to maximum process temperatures of 140°F. CPVC and PP may be used up to a maximum process temperature of 190°F. PVDF may be used for all expected operating temperatures and may reduce the rate of scale buildup in process piping.

Nozzles, in spray applications, should be fabricated from 300 series stainless steel.

It is preferred that all equipment for use with the conditioning bath be constructed of stainless steel or steel lined with PVC or CPVC.

All process circulating pump seals, valve seats, door seals, and other elastomers which come in contact with the working process solution should be EPDM, PTFE or FKM. All chemical pump seals, valve seats and other elastomers which come in contact with the concentrated solution should be EPDM, PTFE or FKM.

Support equipment available from Henkel Technologies for this process includes: chemical feed pumps, level controls, transfer pumps and bulk storage tanks.

Your local sales representative should be consulted for information on Parker Amchem automatic process control equipment for this process and any additional questions.

Bath make-up:
1. Fill 3/4 of the bath with water (DI water recommended).
2. Test for pH. It should be between 5.0 to 6.0.
3. After adjusting the pH, add 6.5 pounds (3/4 gallon) of BONDERITE® M-PT 99X for each 100 gallons and then add sufficient water to bring the solution up to the working level.
4. Mix thoroughly.
5. Determine the pH and adjust if required before beginning operation.

NOTE: The addition of BONDERITE® M-PT 6 should be made before the addition of BONDERITE® M-PT 99X during buildup.

Operating data:
Control points for normal operating conditions:

pH-value	4.0 to 5.0
Concentration, points (mL)	7 to 13
Temperature, °C	19 to 24
Contact time, sec	20 to 120

Bath monitoring:

1. Pipet (or discharge from a buret) exactly 5 ml of Titrating Solution 15 into a 150 ml beaker.
2. Add 50 ml of water and then add 10 ml of Reagent Solution 44.
3. With a 25 ml open top buret, determine the number of mls (points) of the operating bath required to discharge the pink color.
4. Rate of addition should be 1-2 drops per second.
5. The resulting solution should be orange yellow.

Concentration determination of BONDERITE® M-PT 99X:

Concentration (lb per 100 gal)	Titration (points or ml)
4.1	19.2
6.2	14.4
8.3	10.5
10.0	8.6

After treatment:

Deionized Water Rinsing:
A deionized water rinse, designed to remove all water soluble salts from the treated surface, is preferred for the most optimum operation of the treatment. The design of the equipment is important for efficient use of deionized water. Our representative should be consulted.

Drying:
In electro-painting processes, this step is optional. Our representative will advise if an air blow-off or a drying oven should be used.

Waste disposal information:
Applicable regulations covering disposal and discharge of chemicals should be consulted and followed.

Disposal information for the chemical, in the form as supplied, is given on the Material Safety Data Sheet.

The processing bath and sludge can contain ingredients other than those present in the chemical as supplied and analysis of the solution and/or sludge may be required prior to disposal.

Precautions:
When handling the chemical products used in this process, the first aid and handling recommendations on the **Material Safety Data Sheet** for each product should be read, understood and followed. The processing bath is essentially non-irritating and non-toxic.

Classification:
Please refer to the corresponding **Material Safety Data Sheets** for details on:

Transport Regulations
Hazardous Information
Safety Regulations

Storage:

Recommended storage temperature, °C	5 to 43
Shelf-life (in unopened original packaging), months	36

Additional information

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