BONDERITE

Technical Process Bulletin

BONDERITE M-PT 25
POST TREATMENT
(KNOWN AS PARCOLENE 25)

Issued 6/10/2013

1. Introduction:

BONDERITE M-PT 25 (known as PARCOLENE 25) is formulated for use, either by spray or immersion, over phosphate or oxalate coatings prior to recommend lubricant treatments. It eliminates any residual acidity remaining after the water rinse which follows the conversion coating process and minimizes contamination of subsequent lubricant treatments.

2. Operating Summary:

Chemical:	Bath Preparation per 100 gallons:
BONDERITE M-PT 25 (known as PARCOLENE 25)	0.05 – 0.4 gallons (0.2 – 1.5 liters)
	0.5 - 4.0 pounds (0.2 – 1.8 kg)
Operation and Control:	
Temperature	120 to 180 °F (48 – 82 °C)
Time	20 to 60 seconds

3. The Process:

The complete process for the treatment normally consists of the following steps:

A. Conversion coating
B. Water rinsing
C. Neutralizing with BONDERITE M-PT 25 (known as PARCOLENE 25) solution
D. Applying a lubricant

4. Materials:

BONDERITE M-PT 25 (known as PARCOLENE 25)
Testing Reagents and Apparatus

5. Equipment:

The process tank, housing, pumps and piping for use with this solution may be constructed of mild steel. In spray applications, maintenance will be simplified if nozzles are fabricated from 300 series stainless steel. The heat exchanger plates should be polished 316 stainless steel. If gas fired burner tubes are used, they should be made of schedule 80 mild steel pipe or equivalent. All process circulating pump seals, valve seats, door seals, and other elastomers which come in contact with the working process solution should be Buna-N, CSPE, PTFE or FKM.

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Automatic process control equipment, which promotes consistent quality and controlled costs, is available for automatically controlling this process. Auxiliary equipment, which is engineered and specified for this process, include air operated chemical transfer pumps, chemical metering pumps, reliable level controls, solenoid valve assemblies and bulk storage tanks. All chemical pump seals, valve seats and other elastomers which come in contact with the concentrated solution can be Buna-N, CSPE, PTFE or FKM.

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

6. Surface Preparation:

Conversion Coating:
The recommended procedure of cleaning, pickling, rinsing and treating with conversion coating solution is described in the Technical Process Bulletin for the specific BONDERITE conversion coating process.

Cold Water rinsing:
The work should be thoroughly rinsed in cold water.
This rinse should be overflowed to keep it free from scum and contamination.

7. Neutralizing with BONDERITE M-PT 25 (known as PARCOLENE 25) Solution:

Buildup:
Fill the tank about 3/4 full with water. Add the required amount of BONDERITE M-PT 25 (known as PARCOLENE 25) chemical into the tank, add remaining water, mix thoroughly and heat to the operating temperature.

The usual concentration is 0.05 to 0.4 v/v% BONDERITE M-PT 25 (known as PARCOLENE 25) in the working bath. The amount needed will depend on the quality of water used. In some applications, higher concentrations give better results. For example, where large loads in tumbling barrels are being processed, higher concentrations are necessary to ensure adequate neutralization at the center of the load.

Operation:
The treatment solution is generally heated to about the same temperature as the lubricant, but in some installations, satisfactory results may be obtained by operating at lower temperatures.

The bonderized metal from the water rinse is immersed in or sprayed with the solution. Immersion application requires about 1 minute, while spray application may be 5 to 60 seconds depending on the type of production being treated.

The solution should not be continuously overflowed, but dumped or partially discarded at regular intervals which may vary from daily to weekly depending on the characteristics of the equipment and the amount of work processed. The presence of substantial amount of suspended material indicates the necessity for dumping.

8. Testing and Control:
Concentration:
Total alkalinity, 25 ml sample into 250 ml beaker
Add 5 drops Indicator 3
Titrate with Titrating Solution 61 until the pink color is gone for at least 30 seconds.

Percent BONDERITE M-PT 25 (known as PARCOLENE 25) = mls titrated X 0.111

pH of 8.5 to 9.5 using a calibrated pH meter can also be used to control the bath.
The concentration method above is a more accurate method.

Additions of BONDERITE M-PT 25 (known as PARCOLENE 25) will vary, depending upon the rate of drag-in from the BONDERITE process tank. 420 mls per 100 gallon process solution will raise titration 1 ml.

9. After treatment:

Applying a Lubricant:
The type of lubricant used over bonderized parts depends on the individual requirements. Suitable lubricants for this purpose have been developed, and the proper one will be recommended by our sales representative.

10. Storage Requirements:

BONDERITE M-PT 25 (known as PARCOLENE 25) is a liquid chemical. In case the product is frozen, thaw and mix thoroughly before using.

11. Waste Disposal Information:

Applicable regulation covering disposal and discharge of chemicals should be consulted and followed.

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

The treatment solution is slightly alkaline (pH 8.5 to 9.5) and may be acceptable for disposal to the sewer. With use, however, other materials, such as zinc, phosphate, etc., can accumulate and waste treatment may be required prior to disposal to the sewer.

12. Precautionary Information:

When handling the chemical in the form as supplied, the precautionary, first aid and handling recommendations on the Material Safety Data Sheet for each product should be read, understood and followed.

Testing Reagents and Apparatus
(Order only those items which are not already on hand)

Code	Quantity	Item
592426	1 liter	Buffer Solution, pH 7
595660	1 liter	Buffer Solution, pH 10
592462	2*	Beaker, 150-ml
592477	1	Buret Assembly, 25-ml Automatic
592398	1 quart	Indicator 3 (Phenolphthalein)
592475	1	Indicator Dropping Bottle
592493	2*	Pipet, 25-ml Volumetric
592494	1	Pipet Filler
592499	1	Pitcher, Graduated, Plastic
594334	1	Thermometer, Floating
592441	1 gallon	Titrating Solution 61 (1.0N HCL)

*Includes one more than actually required, to allow for possible breakage.

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