

HEATBATH®

C O R P O R A T I O N



PERFORMANCE AND PROTECTION
**PHOSPHATE CONVERSION
COATINGS**

ISO 9001 Certified

HEATBATH®

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QUALITY PRODUCTS, EXPERT SERVICE...

Heatbath Corporation provides a comprehensive line of phosphate conversion coating products. Combine our technical expertise for product selection with our "total line responsibility" approach for service to ensure the highest quality coatings, which meet or exceed your process requirements.

We have published this brochure as an overview of just a few of the choices offered by our innovative line of **Phos Dip®** formulations and supplemental products that afford added coating reliability and process flexibility for today's competitive market. For additional information or assistance please contact our Technical Department at 413•543-3381.

MANGANESE PHOSPHATE

Most commonly chosen for its break-in or wear resistant properties. The manganese phosphate coating not only prevents metal-to-metal contact between moving parts, it also has excellent oil retentive properties for both lubricity and corrosion protection.

Phos Dip® M-22

Heatbath's premier manganese phosphate product used to reduce wear and prevent galling of moving parts. Meets or exceeds the requirements of MIL-DTL-16232 for Type M coatings. An immersion process typically used with a grain refining pre-dip.

Phos Dip® M-33

A stable bath that operates iron free for extended bath life. Produces a smooth, uniform microfinish with minimal attack on the base metal. Reduces friction in bearing applications.

Comparison of Heatbath's Manganese

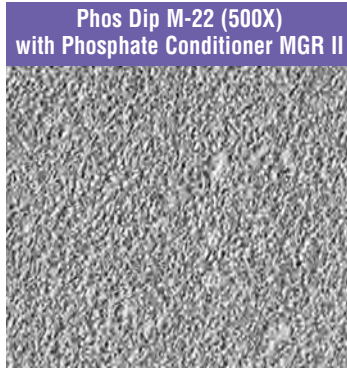
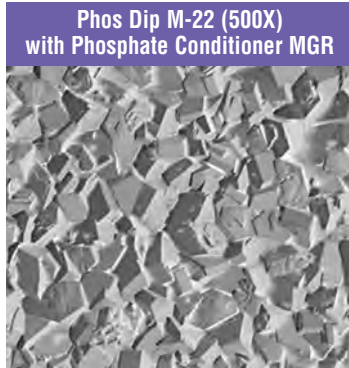
Phos Dip® M-22	
Concentration	10%
Total Acid	11-13 points
Ratio	5.5:1 to 6.0:1
Temperature	200-210°F
Ferrous Iron	0.2-0.3% optimum
Accelerator	None Required
Break-In	Yes, Needs Iron
Coating Weight	1500+ mg/ft ²
Coating Color	Dark Gray-Black
MIL Specification	MIL-DTL-16232
Conditioner Step	Preferred



GRAIN REFINERS

Phosphate Conditioner MGR and MGR II

Blended compound used in the tank just prior to the manganese phosphate bath. Used to activate the ferrous surface and promote the formation of a uniform crystalline coating. Using a conditioning step often eliminates the detrimental effects of strong alkaline or acid pre-cleaning.



HEAVY ZINC PHOSPHATE

This conversion coating is used primarily for its ability to retain rust preventative oils and waxes, thus providing maximum corrosion protection and extended service life. All of the Heatbath products profiled below meet or exceed the specifications outlined in MIL-DTL-16232 for Type Z coatings.

Phos Dip® 1263

A heavy-duty corrosion resistant zinc phosphate having a high tolerance for iron in solution. Produces a fine-grained uniform finish with minimal sludge formation. Coating weights typically range from 1000-2500 mg/ft².

Phosphate Products

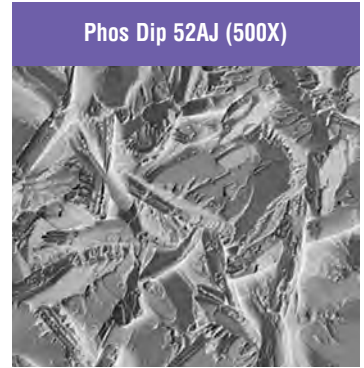
Phos Dip® M-33
7-10%
7-10 points
5.5:1 to 7:1
180-190°F
None
Nitrite
None Required
700+ mg/ft ²
Light - Dark Gray
None
Preferred

Phos Dip® 1263NM

An environmentally friendly version of Phos Dip 1263. Contains no heavy metal accelerator.

Phos Dip® 52AJ

A highly concentrated zinc phosphate formula developed for the heaviest coating weight requirements, in excess of 3000 mg/ft² depending on the base metal and pretreatment used. Produces consistently uniform coatings.



SUPPLEMENTARY PRODUCTS

Phosphate Conditioner 4

A titanium based compound for surface activation and grain refinement of the zinc phosphate coating.

Phos Dip® BZP

Pre-dip used to obtain a deep black zinc phosphate finish. Several formulations available.

CALCIUM MODIFIED ZINC PHOSPHATE

Typically used as a base for paint or rubber bonding, corrosion protection or break-in lubrication. The built in grain refiner forms a smooth microcrystalline structure. Coating weights can range from 150-1100 mg/ft² depending upon the formula chosen and the method of application.

Phos Dip® R-2-LT

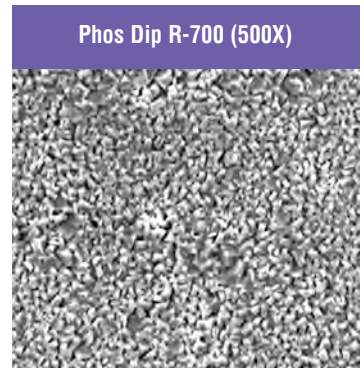
An immersion process, which meets Federal Specification TT-C-490 for Type I coatings. The microcrystalline coating achieves coating weights averaging from 300-500 mg/ft².

Phos Dip® R-2

A spray process also meeting Federal Specification TT-C-490 for Type I coating. Coating weights are typically 150-500 mg/ft².

Phos Dip® R-700

This calcium modified microcrystalline zinc phosphate gives coating weights ranging from 500-1100mg/ft². This product meets Federal Specification TT-C-490 for Type V coatings.



IRON PHOSPHATE

Produces an amorphous coating on steel, galvanized and aluminum surfaces, which acts to enhance the adhesion of paint and powder coat. Coating weights can range from 35-100 mg/ft².

Morphos® 101LTF

A single component liquid product that simultaneously cleans and phosphates. Used in both three and five stage spray washers, this product has excellent pH stability. Morphos 101LTF is effective at concentrations of 1-3% by volume.

Morphos® 101F

Similar to Morphos 101LTF, but formulated for use in immersion applications.

Morphos® 15

This heavy-duty powdered formulation provides increased detergency for use in both spray and immersion applications for superior paint bonding properties.

PHOSPHATE SEALERS

Heatbath Corporation provides a number of options for increased corrosion protection and paint bonding characteristics. Our line of **Phoseal®** products offers both chrome and chrome-free formulations.

RUST PREVENTATIVES

Protect your investment by choosing from Heatbath's wide range of Rust Preventatives. Corrosion protection in excess of 400 hours of 5% Neutral Salt Spray (ASTM B-117) exposure is obtainable. Refer to our complementary brochure for specific descriptions and test results for Heatbath's **Pen Dip®** and **Lab Oil** products specifically designed for use over Zinc and Manganese Phosphate coatings.







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