CrysCoat® 747
Three-stage iron phosphating material for cleaning/coating mixed runs of steel, aluminum and zinc by immersion

PRIMARY APPLICATION

CrysCoat® 747 is a liquid, single-package, acidic product that cleans, produces an iron phosphate coating on iron and steel, and prepares aluminum, galvalume, galvanized, galvanneal and other zinc substrates for paint. Visible coatings are produced on zinc and aluminum substrates. CrysCoat 747 cuts processing costs by treating mixed runs of metals at energy-saving low temperatures. In some applications, it is used in combination with CrysCoat Adjust M or Gardobond Additive H 7212 to maintain precise operating pH.

CrysCoat 747 meets the requirements of Federal Specification TT-C-490, Type II.

CHEMICAL CHARACTERISTICS

- Chemical composition: Phosphates, accelerators, surfactants, fluoride
- Physical form: Liquid
- Color: Yellow
- Odor: Surfactant
- Bulk density: 9.55 lb/gal at 68°F (20°C)
- Freeze/Thaw stable: Yes
- Phosphorous-free: No
- NPE surfactant-free: No
- Biodegradable surfactants: Yes
- Foam tendency: Moderate
- pH: about 3

APPLICATION PROCEDURE

CrysCoat 747 is used in the first stage of a 3-stage line or the third stage of a 5-stage line and normally controlled as follows:

- Concentration: 3.0 - 5.0% by volume
- pH: 4.0 - 5.0
- Temperature: 110°F to 160°F (43°C to 71°C)
- Time: 2 - 5 minutes

These parameters are effective in most applications; however, in certain cases better results may be attained with slightly different parameters.

SOLUTION CONTROL - Gardotest Procedure 154 (OKT9701-90A)

Concentration:

Note: solution pH must be within the normal operating range for this titration to be accurate.

Use Gardotest Procedure 154, sample size 25 ml, conversion factor 0.24 for percent by volume.
pH:

After the concentration is checked and adjusted, check the pH. The pH can be raised with additions of Gardobond® Additive H 7212 and it can be reduced with CrysCoat Adjust M.

Automatic Control:

The Chemetall Electrodeless Conductivity/Concentration Control System and Chemical Metering Pump can be used to monitor and automatically maintain the concentration of this product using conductivity. If controlling by pH is required, the Chemetall Iron Phosphate Control System and Chemical Metering Pump can be used to monitor and automatically maintain the pH and concentration of this product using pH control & timed feed principle. Please contact the Chemetall Process Equipment and Engineering Department for specific recommendations.

NOTES ON USE

Stainless steel tanks and equipment are recommended, preferably types 304 or 316L. Heating coils and equipment should also be constructed of stainless steel. Mild steel tanks can be used but will provide reduced life. Equipment should be free of any scale or soil that could interfere with uniform coverage of work surfaces.

Avoid contact with or mixing with chlorine-releasing materials and reducing agents.

SAFETY AND HANDLING

Prior to handling and use of any of the materials referenced in this document, the Material Safety Data Sheets should be read and understood by all personnel in contact with these materials.

KEEP OUT OF REACH OF CHILDREN

STORAGE

Dry indoor storage at temperatures between 40°F and 90°F (4.4°C and 32.2°C) is recommended, away from any incompatible materials referenced in the Material Safety Data Sheets. All containers should be tightly closed when not in use. Mix before use if stored at a temperature above 90°F (32.2°C).

DISPOSAL

Any disposal of the materials referenced in this document should be in accordance with all applicable federal, state, and local regulations. The process solution can contain components other than those present in the materials as supplied. Analysis of process solutions may be required prior to disposal.