

CrysCoat[®] 2707

Environmentally-Friendly, Molybdate-Free, Cleaner-Coater Iron Phosphate for Low Temperature Spray Processing of Ferrous and Non-Ferrous Metals

PRIMARY APPLICATION

CrysCoat[®] 2707 is an environmentally-friendly, liquid, single-package, acidic product that cleans, produces an iron phosphate coating on iron and steel, and prepares aluminum, galvalume, galvanized, galvaneal and other zinc substrates for paint. CrysCoat 2707 has been specially formulated as an economical replacement for molybdate-accelerated iron phosphates which are experiencing more restrictive discharge limitations.

CrysCoat 2707 cuts processing costs by treating mixed runs of metals at energy-saving low temperatures. What's more, CrysCoat 2707 has powerful cleaning ingredients that are low foaming, so no defoaming additive is needed.

Used under today's modern finishes, the coatings developed by CrysCoat 2707 provide corrosion resistance far superior to the old technology molybdate-based iron phosphates.

In some applications, it is used in combination with Gardobond Additive H 7110 or Gardobond Additive H 7212 to maintain precise operating pH.

CrysCoat 2707 meets the requirements of Federal Specification TT-C-490, Type II.

CHEMICAL CHARACTERISTICS

chemical composition.....	acidic blend of phosphates, accelerators, biodegradable surfactants, fluoride
physical form	pale yellow liquid
odor	mild
specific gravity	1.128 at 68°F (20°C)
bulk density	9.41 lb/gal at 68°F (20°C)
biodegradable surfactants	yes
NPE-surfactant free	yes
foam tendency	low
pH, concentrate.....	about 3.0
flash point.....	none

APPLICATION PROCEDURE

CrysCoat 2707 is used in the first stage of a 3-stage spray washer or the third stage of a 5-stage spray washer and normally controlled as follows:

concentration	3 - 4% by volume
temperature	80 - 120°F (27 - 49°C)
pH	4.5 - 5.5
pressure	10 - 30 psi (0.7 - 2.0 bar)
time	1 - 2 minutes

Note: Individual operations could require different operating parameters – concentration, temperature, pH, pressure, contact time – than recommended due to such variables as water quality or type of metal mix in the production run. For complete details, consult your Chemetall Oakite Technical Sales Representative.

Solution Control: For titrating CrysCoat 2707 use Gardotest Procedure 154.

Sample Size: 25 ml

Factor: 0.39

pH:

After the concentration is checked and adjusted, check the pH. The normal operating range is 4.5 – 5.5. If the pH is too low, such as with a new bath, it can be raised with small additions of Gardobond Additive H 7212. If the pH is too high, it can be reduced with additions of CrysCoat 2707, or in the case of hard or alkaline water, small additions of Gardobond Additive H 7110.

EQUIPMENT

The Chemetall Oakite 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 Oakite 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 Oakite Process Equipment and Engineering Department for specific recommendations.

NOTES ON USE

For longest equipment life, stainless steel tanks and equipment is recommended, preferably types 304 or 316. Mild steel equipment can be used, but will provide shorter life due to the corrosive nature of acidic materials. Heating surfaces, pumps and valves should be constructed of stainless steel, preferably type 316L. Stainless fitted pumps with cast iron housings are acceptable. Suitable plastics may be used for tanks, equipment, piping and nozzles. As with any chemical, the materials described in this document must be used within the recommended operating ranges for these equipment recommendations to apply.

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 100°F is recommended, away from any incompatible materials referenced in the Material Safety Data Sheets. All containers should be tightly closed when not in use.

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.

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ISO 9001:2000
FM 93653

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F 17357 – 01/2007
Printed in the USA