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PHOS-PREP®

Experts in non Chrome Preparations

TECHNICAL DATA SHEET
PHOS PREP® PP 990 SPRAY ZINC PHOSPHATE

INTRODUCTION

PHOS-PREP® PP 990 Phosphate is designed to clean and produce, in one operation, a lightweight Zinc Phosphate coating on steel by spray application. Phosphate coating weights of 1.5 – 2 g/m^2 would normally be expected.

PHOS-PREP® PP 990 Phosphate is designed to operate at 45 - 50°C, and is specially designed for operation in a purpose built washing machine. It incorporates an integral surfactant system.

It may also be used as the first stage of a two, three or four stage spray pre-treatment process.

The phosphate coating produced significantly improves the durability and adhesion of subsequently applied paint films, compared to untreated surfaces, at minimum pre-treatment costs.

PLANT

The holding tank in a spray plant can be constructed from mild steel, but stainless steel (grade 316 S16) is recommended for a longer life.

Spray nozzles and pump impellers for the application of PHOS-PREP® PP 990 Phosphate, and any part of the pipe work system subject to erosion, should be made of stainless steel.

PROCESS

The PHOS-PREP® PP 990 Phosphate may be followed by a passivation stage, which will normally improve the subsequent corrosion resistance of the finished article. PHOS-PREP® PP 993 passivate is recommended for this purpose.

PROCESS CONTROL

(A) MAKE-UP

The makeup of the PHOS-PREP® PP 990 Phosphate is by the addition of 35 litres of PHOS-PREP® PP 990 concentrate (as supplied) per 1000 litres of working solution.

(B) TIME / TEMPERATURE

The process is operated by spray application at 45 - 50^{0}C, with a process time of 1 to 5 minutes.

(C) MAINTENANCE

Regular inspection and maintenance of the process system is essential for consistent results using PHOS-PREP® PP 990 Phosphate.

Filter screens and nozzles should be thoroughly cleaned at regular intervals, as some zinc phosphate precipitate would normally be formed in the working bath. Scum or oil floating on the surface of the tank should be removed. Such a circumstance might arise through the treatment of excessively oiled or dirty work, when either extra additions of PHOS-PREP® PP 975 surfactant may be added at regular intervals, or the bath should be changed more frequently.

LABORATORY CONTROL

The strength of the PHOS-PREP® PP 990 solution should be tested at regular intervals and replenished accordingly.

Total Acid Titration

To a 10 ml sample of the bath add phenolphthalein indicator and titrate with 0.1 M sodium hydroxide solution to a pink endpoint.

Titre = Pointage

A pointage of between 10 and 12 is recommended for optimum operation of the process.

Addition of 3.5 litres of PHOS-PREP® PP 990 per 1000 litres of working solution to the bath will raise the strength by 1 point.

Free Acid Titration

The free acid may also be checked periodically:

To a 10 ml sample of the bath add bromophenol blue indicator and titrate with 0.1M sodium hydroxide solution to a claret endpoint. The optimum free acid pointage is between 0.8 and 1.0 ml.

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