

## **T-WASH TECHNICAL DATA SHEET PHOS-PREP® PPTW-40 HOT DIPPED GALVANISED PREPARATION**

### **INTRODUCTION**

PHOS-PREP® PP TW-40 is a clear blue solution that is applied to galvanised steel to improve the adhesion of paint or powder coatings. It has been specially formulated to be an equivalent system to the 'T' Wash product developed by British Rail, but with an improved solvent balance to enhance performance.

### **EQUIPMENT**

The recommended material of construction for tanks and pipe-work is 316 stainless steel, although some plastics or rubber may be suitable, provided there is no mechanical damage.

### **PROCESS**

Components to be treated with PHOS-PREP® PPTW-40 should, if possible, be dry, clean, and free from oil & grease. PHOS-PREP® PPTW-40 may be applied by spray, brush, swab, or immersion. Correct performance of the treatment will result in darkening of the galvanised surface, which can be clearly seen. If this does not occur, then the surface condition is not appropriate for treatment, possibly because of the presence of a protective coating, or because the surface is excessively weathered. Prior preparation would be needed in this instance.

Treated components may be force dried by the application of heat, although the use of naked flame is not recommended because of safety reasons. If air drying is used, then a period of two hours is recommended before subsequent painting.

### **SOLUTION CONTROL FOR MANUAL APPLICATION**

PHOS-PREP® PPTW-40 used as a wipe on /wipe off preparation – PPTW-40 may be diluted up to 50% with mains water.

The substrate should be in a clean oil free condition before applying PPTW-40 – should there be a slight oil residue, we recommend pre cleaning with a proprietary thinners or alternatively the addition of PHOS-PREP® PP 975 at a 0.25% addition to the PPTW-40 will aid in reducing the surface tension and allow a good conversion of the galvanised surface, increase the % of PP 975 by 0.25% up to a maximum of 1%, to aid the removal of slight oil contamination.

PPTW-40 when used as a wipe on wipe off application a time of 30 / 60 seconds should be allowed before wiping dry with a clean dry cloth (testing on Galvanised substrate to determine the in use % strength & contact time is recommended)

### **SOLUTION CONTROL FOR IMMERSION PROCESSES**

An immersion process may be run at concentrations from 50% to 100% in water, depending on the nature of the surface to be treated. Complete blackening of the surface should occur.

When PHOS-PREP® PPTW-40 is used in immersion processes (or any other application involving reuse of the solution), control of the solution is recommended

## **PROCESS CONTROL**

### (1) pH

The pH of the solution should be 2.5 or less (i.e. more acidic). If the pH is higher than 2.5, then more PHOS-PREP® PPTW-40 can be added to the bath to replenish.

### (2) Titration

Take a 25 ml sample of the bath. Add 1 gram of potassium iodide and a few drops of starch indicator solution. Titrate with 0.1M sodium thiosulphate solution until the dark brown/black colouration changes to white/pale brown.

$$\text{Bath Pointage} = \text{Titre}$$

The bath pointage should be at least 10. To increase the bath pointage by 1, add 50 litres TW-40 per 1000 litres bath volume.

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