

## TECHNICAL DATA SHEET

### PHOS-PREP® PP 942 ALUMINIUM DESMUT

The etching or brightening of aluminium can cause formation of a film of smut on the surface, due to insoluble precipitates. The smut must be removed from the surface prior to subsequent processing. Failure to do so can cause discolouration and poor surface appearance.

PHOS-PREP® PP 942 is an acidic desmut that is effective after either caustic etching or brightening of aluminium, including the processing of aluminium castings.

#### 1. OPERATION

For the make up of a new bath, fill the tank two thirds full with water and add the required volume of PHOS-PREP® PP 942. The addition should be made slowly as a large amount of heat is generated during the mixing of the acids with the water.

The typical strength of a working bath is about 1 to 5% PHOS-PREP® PP942 by volume, but 5 to 10% is used for aluminium castings.

Additions are made to the bath to maintain its acidity and fluoride levels and therefore the consistency of its performance. The addition rate of PHOS-PREP® PP942 is determined by a simple laboratory control method shown in this data sheet, and where the bath is regulated to a volume percentage of PHOS-PREP® PP942 in the bath.

Periodically it is advised to check the active fluoride level. Details of this test method are also given.

#### 2. LABORATORY CONTROL

To a 20ml sample of the PP942 bath, add 15ml of 20% potassium fluoride that is neutral to phenolphthalein and 25 ml deionised water. Add phenolphthalein indicator and titrate with normal sodium hydroxide solution to a pink end point.

% vol/vol Concentration of PHOS-PREP® PP942 = Titre x 0.9

### **3. OPERATING CONDITIONS**

The PHOS-PREP® PP942 is operated at ambient temperatures and with air agitation to improve the cleaning efficiency.

The strength of the bath should be such that after an immersion time of 3 - 5minutes the aluminium is clean after its rinse.

A test for cleanliness is the wiping of the surface with clean tissue paper and where only a slight grey discoloration should be seen.

Inadequate rinsing of the work after etching will reduce the efficiency of the bath. In circumstances where there has been insufficient rinsing after etching, the etch solution reacts very quickly with the acid desmut and a film of aluminium hydroxide is precipitated on the surface that prevents exposure of the smut to the action of the bath.