

T DEOXIDISER 32

Aluminium De-Smut

INTRODUCTION

A strongly acidic, liquid product which, when diluted with water, will remove oxides and smut that sometimes occur on aluminium and aluminium alloy surfaces after strong alkaline etching. It is used by dip at ambient temperatures as a treatment for aluminium, particularly extrusions, prior to anodising systems.

BENEFITS

- Chromate-free – reduced effluent problems.
- Rapid oxide and smut removal.
- Requires no heating in normal shop conditions.
- Forms no sludge or scale.
- Normal carry-over has no effect on anodising baths.

SOLUTION MAKE-UP

It is essential that the tanks to be used for T deoxidiser 32 are thoroughly cleaned and leached before any chemistry is introduced. If in any doubt as to the cleaning procedure, please contact PMD Chemicals Technical Department.

1. Add approximately 900ml/l litres of mains water.
2. Very carefully add 100ml/l of T Deoxidiser 32

OPERATING DATA

Concentration	9 – 11% (titre 18 – 21 ml)
Oxidiser	> 2ml titre
Temperature	15-30°C
Time	2-5 mins
Extraction	Recommended

EQUIPMENT

Tanks	316 stainless steel, Polypropylene or PVC
Heaters	PTFE coated if required

PROCESS SEQUENCE

1. Degrease with T Cleaner 70 (MP0035).
2. Etch to the required depth with T Etch 27 (MP0142).
3. Cold water rinse – normally 2 stages.
4. T Deoxidiser 32 dip until oxide or smut is removed (see note below).
5. Cold water rinse (see RINSING below). Without drying, proceed to the anodising or conversion stage.

NOTES:

- (i) At recommended strength, the treatment time will depend on the amount of smut.
- (ii) Prolonged immersion times after the oxide/smut is removed will result in etching of the aluminium and a decrease in the economics of use.
- (iii) Rinse the work thoroughly in water in a tank fitted with a weir and continuously overflowed with mains water. This water can be cascaded to the rinses tank after the etching cleaner; this will assist in reducing carry-over contaminants and effluent problems.

MAINTENANCE AND CONTROL

The bath is controlled by two titrations done routinely according to usage and after the bath has been brought to its normal level with water. For example, a bath in continuous use should be tested and replenished at least daily but in occasional use only weekly or before use.

ANALYSIS METHODS

1. Deoxidiser

Reagents

Phenolphthalein indicator
0.5M sodium hydroxide

Method

1. Measure 10 ml of the bath into a flask.
2. Add 100 ml with deionised water and 6 drops of Phenolphthalein Indicator.
3. Titrate with 0.5M Sodium Hydroxide until the colour changes to a permanent pink.
4. Record titre = t mls

Calculation

$$t \times 0.47 = \% \text{ T-Deoxidiser 32}$$

Replenishment

Add 10 ml/l of T Deoxidiser 32 for every 1% required. (5 litre per 1000 litres of bath for each ml the titration is below 18 ml).

2. Oxidant

Reagents

Potassium iodide
Hydrochloric acid
0.1M sodium thiosulphate
Iodine indicator

Method

1. Measure 10 ml of the bath into a flask.
2. Add approximately 100 ml deionised water.
3. Add 1 g of Potassium Iodide, agitate until dissolved.
4. Add 10 ml concentrated Hydrochloric acid.
5. Titrate with 0.1M Sodium Thiosulphate to a pale straw colour then add approximately 0.5 grams of Iodine indicator and continue the titration until the blue-black colour disappears.
6. Record titre = t mls.

Replenishment: There is no formal separate oxidant replenishment. Having brought the tank to correct level for the Deoxidiser titration, the oxidant titre should be above 2.0 ml. If the level is below 2.0 ml, the bath must be renewed.

Test Kits MP0602 (Deoxidiser titration) and **MP0603** (Oxidant titration) containing all the reagents required are available from PMD.

DISPOSAL

Dispose of in accordance with local authority requirements.

PRODUCT FAMILIES

The following products are referred to in this data sheet.

PRODUCT NAME	PRODUCT NUMBER
T Deoxidiser 32	MP0143
T Cleaner 70	MP0035
T Etch 27	MP0142

Whilst every endeavour has been made to ensure that the information given in this data sheet is correct, PMD Chemicals Limited gives no warranty, express or implied, relating to the use or performance of this product.