

# TECHNICAL DATA

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THIS CHEMICAL IS  
FORMULATED FOR

**WARNING** INDUSTRIAL USE ONLY

Contact with skin or clothing or other improper handling or use of this product may result in bodily harm or other damage. Before using or mixing the contents with other substances, all labels applied to container, the applicable Technical Data Sheet and Material Safety Data Sheet should be read and specific instructions and precautions followed to assure correct use and personal safety.

# ALUMIGOLD

## CHROMATING PRE-TREATMENT FOR ALUMINIUM AND ITS ALLOYS

ALUMIGOLD is a liquid chemical used in the yellow chromating pre-treatment of aluminium and its alloys prior to liquid or powder painting.

### ADVANTAGES

- \* Offers excellent corrosion resistance
- \* Guarantees strong adhesion
- \* Permits treated aluminium to be stored for long periods prior to painting

### **Description**

The process requires using ALUMIGOLD as follows:

ALUMIGOLD is the main product; it is a dark brownish red liquid.  
AG Accelerator is an amber liquid product; it is used as an accelerator.

### **Process Sequence**

1. ALUMIBRITE
2. Rinse overflowing
3. Rinse overflowing
4. ALUMIGOLD
5. Rinse
6. Rinse (Warm Water 60°C - Optional)
7. Warm Air Dry (Max 80°C - Optional)

### **Operating conditions**

ALUMIGOLD	10 - 18 g/l(*)
AG ACCELERATOR	1.0 - 1.5 g/l

(\*) For a "new" bath solution, it is suggested 10 g/l. While working, the optimum operating conditions are:

ALUMIGOLD	15 g/l
AG ACCELERATOR	1.5g/l

pH	1.5 - 1.9
Temperature	20-30°C
Free acidity	5.0 - 7.0 ml
Dipping time	1-2 minutes

The final result depends from different conditions:

- \* maintain the suggested operative parameters in a narrow range
- \* type of aluminium used
- \* the type of pre-treatment used before the Chromating process.

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## Maintenance

Add the chemical according to the consumption and consider that every 10 Kg of ALUMIGOLD requires 1 Kg of AG ACCELERATOR.

## Consumption

ALUMIGOLD	1-2 Kg for 1 ton of treated aluminium
AG ACCELERATOR	0.06-0.12 Kg for 1 ton of treated aluminium.

## TANKS & EQUIPMENT

Stainless steel (316)  
Polythene  
PVC

## Bath solution control

### Method of analysis

#### *Determination of ALUMIGOLD*

Reagents required

Hydrochloric acid concentrated.  
Potassium Iodide (KI)  
Sodium Thiosulphate solution, 0.1N  
Starch solution, as indicator

- \* In a 400 ml beaker, pour 10 ml of bath solution and add about 100 ml of distilled water
- \* Add a spoon of potassium iodide and 10 ml of concentrated hydrochloric acid.
- \* Add 2 ml of starch solution, the solution turns black.
- \* Titrate with Sodium Thiosulphate solution, 0.1N until the solution becomes colourless. Record the titrate used with "A"(ml).

## Calculation

$A \times 1.1 = \text{g/l of ALUMIGOLD}$

## Free acidity

- \* In a 400 ml beaker, pour 10ml of bath solution and add about 100ml of distilled water.
- \* Add 10 drops of green bromocresol.
- \* Titrate with NaOH 0.1N solution until the solution turns from yellow to green.
- \* Record the ml of titrate used as "B".

"B" corresponds to the free acidity.

Adjust free acidity with nitric acid - 59% ~ 7kg of nitric acid per 1000 L of bath will raise the titre by one point.

## Safety

ALUMIGOLD contains Hydrofluoric Acid

This solution is acidic and in case of skin/eye contact flush with water for 15 minutes and seek medical attention. Please refer to the Material Safety Data Sheet before using ALUMIGOLD.

Operators should be provided with the usual protective clothing i.e., gloves, goggles, aprons etc.