



SILVER-ANTITARNISH

SILVER-TARNISH is used for the antitarnish protection of silver – for both technical components (i.e. plug-in and sliding contacts) and decorative applications.

Introduction

SILVER-ANTITARNISH is based on an aqueous, metal-free solution in which the organic inhibitor is present as a fine dispersion. The passivation layer is applied by immersion. A transparent thin protective layer will protect the silver against tarnishing generally caused by hydrogen sulphide. There is no change in the brightness or colour of the deposited silver. The protective film also acts as a lubricant.

The layer will neither effect the contact resistance nor the solderability nor the bondability compared to an untreated silver surface. Depending on the application, in reel-to-reel equipment either a depot layer or a thin monolayer can be applied.

The immersion solution **SILVER-ANTITARNISH** does not contain any components harmful for the environment, no chlorofluorohydrocarbons, chlorinated hydrocarbons, hydrocarbons or chromium compounds in particular.

Bath parameters

The **SILVER-ANTITARNISH** is available as a ready-to-use product and as a 10x concentrate. The bath is mildly alkaline. The components are dipped at about 40°C for a duration of about 120 seconds. Depending on the age of the bath, the dipping time can vary between 30 seconds and 4 minutes. For reel-to-reel plating applications, the time is usually about 10 seconds.

There is no need to control the pH. The temperature must never exceed 60°C.

While mild agitation of the parts is recommended, filtration must not be carried out.

After the parts are removed from the **SILVER-ANTITARNISH** bath, they should be dipped directly in **SILVER-ANTITARNISH POST DIP**, rinsed in DI water and dried using blower, centrifugal dryer or oven.

Properties

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| <u>Solderability:</u> | Virtually uninfluenced |
| <u>Bondability:</u> | Protected parts can't be bonded |
| <u>Contact resistance:</u> | Hardly any influence in initial state; after storage <i>lower</i> than that of unprotected silver. |

Equipment

Bath tanks: Preferably polypropylene tanks provided with a built-in overflow. The overflow is important to ensure that there is no foam floating on the bath surface. Otherwise there will be stains on the surface of the parts when taking them out of bath and getting in contact with foam on surface.

Heating: Temperature adjustable heaters (coated with quartz, teflon or porcelain). Ensure sufficient recirculation and avoid local overheating of the bath.

Testing the antitarnish capacity:

Prepare a fresh 2% solution of potassium polysulphide (42-45%) and put the tarnish-protected parts in this solution for a few minutes. Observe the time taken for onset of yellow coloration.

Perfectly passivated surfaces must not show any dark discoloration anywhere. A slightly cloudy appearance is normal. Put also an unpassivated part into the solution to see the difference.

Disposal of spent solutions

By carbon treatment.

Methods of analysis

Please contact us for analytical procedures.

Warranty: The above information has been given in good faith and based on our knowledge, information and experience. RRR has no control over the goods once it leaves our premises. All chemicals, including those which are not classified as hazardous, must be treated with proper care and all necessary precautions for handling and disposing of chemicals must be followed. No liability arises out of handling or use.

RANE RAO RESHAMIA LABORATORIES PVT. LTD.

Plot 80, Sector 23, CIDCO Industrial Area
Turbhe Naka, Navi Mumbai – 400 705 INDIA

Tel. +91 22 2768 3175 & 2768 4646

Fax +91 22 2783 4814

rrrlabs@rrrlabs.com; www.rrrlabs.com

An ISO 9001:2008 certified company