PLATING PRODUCTS IND PVT LTD

Plot No.G 527, Phase 2, UPSIDC, M.G. Road, Industrial Area, Tehsil Dhaulana, Dist. Hapur, Uttarpradesh 201015. CIN No.: U24303MH2021PTC371241

Gala No. 116, Saraf Udyog Bhavan, Chincholi Phatak, Malad (West), Mumbai – 400 064. Phone: 9821340134/8104437477 Email: lab@platingproducts.in or info@platingproducts.in or info@platingproducts.in

Technical Data Sheet

PP AQUA AG PRO

This protective system for silver surfaces is based on the molecular Technologies and is **free of particles- and heavy metal ions**. Special Bio-polymers adsorb onto the silver surface and bond up to a few Nanometre-thick protective layer.

- Is optically invisible due to the small layer thickness.
- Is chemically inert as well as dirt and water-proof.
- Is biologically safe and skin-neutral.
- Is chemically stable and high life time.
- Protects the shine of the base material.
- Is free of Particles and heavy metal ions.
- Is conform to the EU Directive 200/53/EC and the ROHS directive in 2002/95/EC.
- Non-hazardous product as specified in directive 67/548/EEC if diluted in water with a ratio >1:25. The "ready to use" concentration is 1:100.

Instruction manual

The important coating Bath and coating parameters:

- Bath temperature T = 60-65°C.
- Coating time t = 3-5 min.
- Avoid long contact with non-noble metals like stainless steel.
- Light movement of items in the bath.

Bath Container:

The bath container should be mainly of synthetic material like Polypropylene (PP). Stainless steel should not be used.

Bath Heater:

Usual heater as used normally in the galvanic industry (stainless steel heater should not be used).

Bath mixing:

Warm up 1l **PP AQUA AG PRO** to ~50°C and fill it under shaking in a 100l warm pure water bath heated to 60-65 °C. The coating bath is ready to use when a nearly clear solution is achieved (15min). The concentrate <u>may not be filled coldly</u> into the water bath.

Coating Process:

!!! A <u>galvanic</u> degreasing of the silver items should be avoided before dipping into the coating solution. This step could lead to insufficient protective results. If necessarily galvanic degrease is needed silver items should be treated in a sulphuric acid after the galvanic degreasing and before dipping in the coating bath!!! As alternative degreasing use ultrasonic cleaning in pure water.

- 1. Dip the water rinsed silver surface for 5 minutes into the PP AQUA AG PRO coating solution.
- 2. Wash up in clear cold pure water for 10-20 seconds.
- 3. Rinse into hot water at about 60°C for 10-20 seconds.
- 4. Now the items are nearly dry and very waterproof. Isolated drops of water can be blown off with hot air (T60°C) or they can be dried in the stove at about T 60°C.

Adding supplement concentrates after using:

Coating solution should be weekly refreshed using the original concentrate.

Refreshment amount: once weekly, for 1 litre of coating solution add 5g PP AQUA AG PRO concentrate. E.g. for a 100 litre bath add 500g of concentrate weekly. The concentrate should be warmed up to about 50 °C before adding into the coating solution bath.

Complete change of the Bath:

The bath should be changed after strong contamination or if becoming dark. We recommend a complete change every 4 weeks.

Quality Control of coating solution:

The high performance of the PP AQUA AG PRO was proven under mass production of industrial applications. To keep the high performance we recommend the following quality controls:

Optical control:

A strong discoloration with dark colours should be avoided. In this case an exchange of the bath should be performed.

Disposal:

The bath solution can be cleaned after cooling using existing active filter arrangements to be disposed. You must take care about your wastewater collection and disposal rules/regulations.

IMPORTANT NOTICE: for industrial use only.

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