



# RONAPOL 200

For Electronic Finishing Applications

## DESCRIPTION

Ronapol 200 is an anodic polish for copper and copper alloys, for example phosphor-bronze and beryllium-copper, giving smooth, brilliant surface finishes. Ronapol 200 is designed to be used in reel-to-reel equipment as part of the pretreatment prior to plating. The process will operate over a wide range of current densities and does not crystallize on cooling. Ronapol 200 is formulated to have a long life, being semi-sludging; most of the metallic salts produced during electropolishing settle to the bottom of the tank. Performance in normal rack applications, for example metal burr removal, is excellent. Where parts are subsequently to be electroplated, de-passivation in 10–15% hydrochloric acid or a cathodic activator is necessary.

## ADVANTAGES

- Operation over a wide current density range
- Long life solution
- Excellent metal burr removal

## BATH MAKE-UP

Chemicals Required	Metric	(U.S.)
Concentrated phosphoric acid (85%)	750 ml/l	(75% v/v)
Ronapol 200 Concentrate	230 ml/l	(23% v/v)
Ronapol 200 Accelerator	20 ml/l	(2% v/v)

Bath Operation		
	High-speed	Low-speed
Specific Gravity	1.61 min.	1.31 min.
Temperature	30–60°C	30–40°C
Agitation	Vigorous solution and component movement	Mild solution and/or component movement
Anode Current Density	20–60 A/dm <sup>2</sup> (200–600 ASF)	4–20 A/dm <sup>2</sup> (40–200 ASF)
Polishing Rate	4 microns/min. (160 microinches/min. at 400 ASF)	1 micron/min. (40 microinches/min. at 100 ASF)

## BATH MAINTENANCE

### Ronapol 200 Concentrate

Specific gravity should be measured periodically and maintained at 1.61 by additions of phosphoric acid and Ronapol 200 Concentrate in the ratio of 3:1.

### Ronapol 200 Accelerator

Ronapol 200 Accelerator is a solubilizing agent for tin and is necessary to obtain optimum polishing results on copper alloys containing tin.

**Note:** Ronapol 200 Accelerator does not affect the successful polishing of copper alloys that do not contain tin.

## PRODUCT DATA

### Ronapol 200 Concentrate

Appearance: Clear, colorless to pale pink/purple or pale yellow/brown liquid

Specific Gravity: 1.277–1.323

### Ronapol 200 Accelerator

Appearance: Clear, colorless liquid

Specific Gravity: 1.338–1.363

## EQUIPMENT

Tanks: Polyethylene, polypropylene or PVD

Heaters: Quartz immersion or Teflon coated

Electrical Supply: 3–15 volts D.D.

Cathodes: Austenitic stainless steel

## EQUIPMENT PREPARATION

Prior to make-up, the process tank and ancillary equipment should be thoroughly cleaned and then leached with a phosphoric acid solution.

This procedure is particularly important for new equipment or equipment previously used for other processes, for example fluoboric acid-based systems.

## RONAPOL 200

### Cleaning Solution

Trisodium Phosphate	15 g/l	2 oz./gal.
Sodium Hydroxide	15 g/l	2 oz./gal.

### Leaching Solution

Phosphoric Acid	100 ml/l	10% v/v
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### MAKE-UP PROCEDURE

1. Thoroughly wash down tank and ancillary equipment with clean water.
2. Recirculate water through the complete system to remove water soluble materials.
3. Discard rinse water.
4. Add cleaning solution to the tank, heat to 55–60°C (130–140°F) and recirculate through the complete system.
5. Discard cleaning solution.
6. Recirculate water through the complete system.
7. Discard rinse water.
8. Add leaching solution and recirculate through the complete system.
9. Leave leaching solution in tank for a minimum of 8 hours.
10. Recirculate leaching solution through the complete system.
11. Discard leaching solution.
12. Recirculate water through the complete system.
13. Discard rinse water.

### HANDLING PRECAUTIONS

Before using this product, consult the Material Safety Data Sheet for details on product hazards, recommended handling precautions and product storage.

**CAUTION!** When using immersion heaters, failure to maintain proper volume level can expose tank and solution to excessive heat resulting in a possible combustion hazard, particularly when plastic tanks are used.

### STORAGE

Store all Ronapol 200 products in tightly closed containers at 10–32°C (50–90°F). For specific and complete recommendations involving precautionary handling procedures of Ronapol 200 materials, please refer to the appropriate Hazardous Material Labels and Material Safety Data Sheets supplied with these products.

Electroplating chemicals and specialties can be corrosive, harmful and poisonous. Care should be taken with respect to appropriate storage, handling and utilization. When disposing such chemicals, the regulations regarding the treatment of waste water are to be strictly observed.

### WASTE TREATMENT

It is the user's responsibility to verify that treatment procedures comply with federal, state, and local regulations. Contact your Rohm and Haas Electronic Materials Technical Representative for more information.

Due to the acidic nature of Ronapol 200 solutions, disposal of it, or residues therefrom, should be made in compliance with federal, state and local environmental laws.

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