

	TECHNICAL SHEET	CODE: FT-ID-01
		VERSION: 1
		DATE: 08/01/2021

CUABYC AC

COPPER ACID PROCESS

• OVERVIEW

CUABYC AC is a novel process for acid copper baths by immersion, which allows to obtain deposits of high levels of brightness and leveling, ensuring optimal ductility

• ADVANTAGES

1. Very bright deposits, with an excellent ratio of brightness and leveling, without loss of ductility.
2. Easy bathroom maintenance.
3. The additives of the CUABYC AC process are added depending on the amps consumed and can be controlled by Hull cell.
4. Its excellent leveling allows to reduce polishing costs on substrates of Iron, Zamack, Lead and plastic that will be subjected to decorative Nickel and Chromium processes.

1. PHYSICO-CHEMICAL SPECIFICATIONS

PROPERTY	CUABYC AC PREPARATION SOLUTION	CUABYC NEEDLE PART OF CUABYC AC PART B
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	TECHNICAL SHEET	CODE: FT-ID-01
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Aspect	Green Liquid	Liquid Dark violet	Green liquid
Density	0.99 – 1.04	1.00 – 1.04	1.02 – 1.07
pH	2.5 – 4.5	0.0 – 2.0	2.5 - 4.5
Solubility in water	Complete	Complete	Complete
Chemical Nature	Acid	Acid	Acid

2. EQUIPMENT

- Tanks:** steel with polypropylene coating. New tanks must be completely clean and leached with sulfuric acid solution of 1 to 2% by volume and at 60°C for 24 hours.
- Anodes: phosphorus** copper containing 0.02 to 0.06% phosphorus, in bars or briquettes placed in titanium baskets. In both cases the anodes must be covered with polyester bags. Other types of materials for covering the anodes cause anodic polarization and high consumption of additives. The use of insoluble copper anodes also increases the consumption of additives in the **CUABYC AC process**. The anode/cathode ratio should be 2:1.
- Heating / cooling system:** the use of heat exchanger type resistors, made of graphite, titanium, Teflon, PVC or polyethylene, is recommended.
- Cathodic agitation system:** agitation with oil-free air is needed, requiring the installed system to shake the solution very well. The volume of air must be sufficient for the entire surface of the electrolyte
It is in strong motion. o **Filtration system:** necessary with circulation of 2 to 3 times the volume of the bath per hour.

• FORMULATION AND PREPARATION OF THE BATH

ADDITIVE	CONCENTRATION
COPPER SULFATE	180 -230 g/l
SULFURIC ACID	50 - 70 g/l
CHLORIDE	60 – 120 ppm
CUABYC AC PREPARATION SOLUTION	6 - 8 ml/l
CUABYC AC PART A	0.3 - 0.5 ml/l
CUABYC NEEDLE PART B	0.3 - 0.5 ml/l

1. Place half of the necessary deionized or distilled water in the tank.
2. Add the copper sulfate while maintaining stirring. To speed up the dissolution, the water can be heated from 40 to 50°C.
3. After total dissolution of the salt add 2 g/l of activated charcoal and shake for one hour.
4. Decant for 12 hours and filter carefully to avoid the presence of charcoal in the bathroom.
 - o Carefully add sulfuric acid. Avoid at this stage increasing the temperature by more than 60°C. (Use protective equipment).
5. Add the Cuabyc AC preparation solution and finally the Cuabyc AC Rinse Aid Part A and B.

1. OPERATING CONDITIONS

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TEMPERATURE	18 – 30 °C
CATODIC CURRENT DENSITY	1.5- 8 A/dm ²
Anodic	0.5 – 3 A/dm ²
DRUM TENSION	6-10 V
STATIC VOLTAGE	1-4 V
AGITATION	Mechanical or Air
FILTRATION	Go on.
ANODES	Phosphorus copper

2. OPERATING CYCLE

1. Chemical degreasing
2. Cascade rinse
3. Electrolyte degreasing
4. Cascade rinse
5. Alkaline copper (optional)
6. Double rinse
7. Acid activation in kleanex AD.
8. CUABYC AM

• BATHROOM CONTROL AND MAINTENANCE

The consumption of the bathroom is:

40-60 ml/1000AH of CUABYC AC PREPARATION SOLUTION

40-50 ml/1000AH OF CUABYC AC PART A

	TECHNICAL SHEET	CODE: FT-ID-01
		VERSION: 1
		DATE: 08/01/2021

40-50 ml/1000AH OF CUABYC AC PART B

1. BATHROOM CONVERSION

The **CUABYC AC** is compatible with most of the brighteners on the market.

2. PRECAUTIONS AND WARNINGS

Avoid contact with eyes and direct inhalation, otherwise wash with plenty of water for 15 minutes. If the reaction persists, consult your doctor. Do not eat food during product handling. Keep out of reach of children and pets.

3. STORAGE CONDITIONS

Store in a cool, dry, ventilated place. Keep closed in its original container, away from sunlight and preferably from any other source of light and heat of long exposure.

4. MANUFACTURED

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	TECHNICAL SHEET	CODE: FT-ID-01
		VERSION: 1
		DATE: 08/01/2021

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6. CONTENT UPDATE

Date	Changes made	Responsible	Area
27/05/2022	Upgrading to a new format	Ana Sofia Valencia Ortega	Quality Control

7. REVISION OF THE DOCUMENT

Date	Revised	Responsible	Area
01/07/2022	Upgrading to a new format	Quality Coordinator	Quality Control

CONTROL OF DOCUMENTED INFORMATION

NUMBER	CODE	DATE	VERSION	DESCRIPTION
Technical	FT-ID-01	08/01/2021	1	Creating the document

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