Uberkote™ Cd Postdip

Cadmium Post dip Process

Ukerkote™ Cd Postdip produces an iridescent yellow chromate coating on cadmium plate, galvanized iron, zinc, and zinc die castings. It has excellent corrosion resistance. The yellow chromate film is more protective than a clear coat (blue)film.

Ukerkote™ Cd Postdip is a solid material packaged in 20.4 kg pails. This material along with chromic acid, nitric acid, is used for both make-up and maintenance. If baking is required to provide hydrogen relief the chromate treatment must be applied after baking because heat destroys the film

Equipment

The post dip solution requires an acid-proof containment system. Tanks may be constructed of plastic-lined steel such as Koroseal or equivalent, ceramic-lined steel, stainless (18-8) or glass. Ceramic crocks have also been recommended.

A stainless steel or tantalum heating coil is recommended. It should be of the bent-loop type with no welds below the solution level. Lead coils should not be used. Manual or air agitation is necessary. No filtering or electrical equipment is required.

The acid dip and rinse tanks available in the average plating operation are suitable for use with the Ukerkote™ Cd Postdip operating cycle.

Racks, Wires, and Baskets

Barrels are not suitable for bulk work since the immersion time is very short (5 to 40 sec). Large work is held on racks or wires while bulk work is placed in baskets. Racks, wires, and steel baskets should be coated to eliminate imperfections caused by work touching different metals during dipping.

Impurities

Ukerkote™ Cd Postdip has excellent tolerance to impurities such as soluble metals, nitrates, phosphates, and sulfates. One should avoid contamination with alkalies, chlorides, and cyanides. The plating solution should be treated periodically to prevent accumulation of impurities. To keep cadmium, iron, and zinc metal contamination at a minimum the tank should be raked frequently to remove any parts that have dropped to the bottom.

Solution Make-up

To make up Ukerkote™ Cd Postdip use the following procedure:

1. Fill tank to 67% of its final volume with water.
2. Increase the temperature of the water to 21 - 32°C.
3. Add the amount of Ukerkote™ Cd Postdip, chromic acid, and nitric acid listed in "preparation section".
4. Bring solution to final volume and stir well until all of the salts are dissolved.

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Preparation
The composition given in "3" below is the most common one used. Thicker films are produced when approaching composition "1" and thinner films when approaching composition "5"

100 Liter Solution

	Ukerkote™ Cd Postdip	Chromic Acid	Nitric Acid 42° Bé
1.	224.4 gm	435.6 gm	220 ml
2.	316.2 gm	613.8 gm	310 ml
3.	428.4 gm	831.6 gm	420 ml
4.	629.0 gm	1221.0 gm	620 ml
5.	884.0 gm	1716.0 gm	830 ml

Operating Conditions
Agitation of the work or mild air agitation is recommended for rack work.
Specific Gravity: 1.01 to 1.03
Temperature: 21 - 32°C
Immersion Time: 5 - 40 seconds
pH Range: 0.3 - 1.0

Concentration
The concentration range for iridescent yellow coating is from "1" to "5" as shown above. The higher the concentrations tend to give brighter coating, while the more dilute concentrations give duller coating.

Temperature
The upper part of the temperature range favours brightness and iridescence. Operation in the lower part of the temperature range favours flatter-coloured and more yellow coating. the lower temperatures are also recommended when automatic equipment is used.

Immersion Time
A short immersion time gives thin, iridescent coatings. Too long an immersion may remove an excessive amount. For long time cycles in automatic equipment, stripping times can be minimized by adjusting the temperature and concentration.

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Solution Maintenance

The density of Ukerkote™ Cd Postdip increases during operation primarily due to the accumulation of metallic impurities. Regular additions of Ukerkote™ Cd Postdip, chromic acid, and nitric acid should be made. It is important that these materials be added together and in the definite proportions, as shown below. Under average conditions, these additions will serve as replenishment for the processing of several thousand square feet of cadmium surface.

Ukerkote™ Cd Postdip:	1020 gm
Chromic Acid:	1980 gm
Nitric Acid 42°Bé:	1 liter

After the Ukerkote™ Cd Postdip has been in operation for some time , it may not respond as rapidly to additions. In this case, it will be necessary to make up a new solution.

Processing Cycle for Cadmium

The minimum thickness of the cadmium plate should be .0002" (5 micron). For best results the thickness should be .0003" - .0005" (7.5 - 12.5 microns).
After plating, the articles should be rinsed thoroughly and not handled any more than necessary.

The operating cycle for freshly plated cadmium is:

1. Water rinse.
2. Acid dip, 2 to 5 seconds, in dilute nitric acid (1/2% by vol. of Nitric Acid 42°Bé). This step neutralizes any cyanide and alkali dragged over from the plating bath, thus extending the life of the Ukerkote™ Cd Postdip solution.
3. Water rinse.
4. Immerse in Ukerkote™ Cd Postdip solution.
5. Water rinse.
6. Hot water dip, about 60°C.
7. Dry (air blast, centrifuge, oven).

The data and statements contained in this bulletin are based on testing information and are believed to be accurate and reliable. This bulletin is not a Guarantee or Warranty, express or implied regarding the products use. The product is sold on the condition that the purchaser will do their own tests to determine the suitability of the product in a particular application.
READ THE SDS BEFORE USING THIS PRODUCT

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