

DATA SHEET

Deveco Tri 110

Deveco Tri 110 can be used at 3 to 5% as a single-dip low-corrosion trivalent liquid chromate that produces a clear blue bright chromate conversion coating on electroplated zinc and delivers up to **48 hrs** protection to white corrosion in salt fog testing when operated per recommended conditions. Note: It does not accept dyes well, however.

Deveco Tri 110 can also be used at higher concentrations, i.e. 9 to 11%, to make a high-corrosion trivalent clear chromate on zinc plate that exceeds **144 hrs** protection to white corrosion in neutral salt fog testing.

Deveco Tri 110 can be used on barrel and rack zinc plating lines. It is equally effective on all electroplated zinc ranging from alkaline non-cyanide to acid chloride processes. It also works well on Zn-Ni-alloys

Trivalent chromates typically provide better corrosion resistance after some zinc has built in the bath. Typically, zinc builds in the chromate from the zinc-plated parts. To provide some zinc in a new make-up, add **Deveco Tri-Kote MU Addtv**.

Each 1% addition of **Tri-Kote MU Addtv** into a new chromate increases the zinc concentration 1,000 PPM. 3,000 PPM Zinc is typically the level where corrosion protection of a new make-up improves toward optimum. Over 30,000 PPM zinc in the chromate reduces the corrosion protection of the chromate film. It's recommended a new bath be made when zinc exceeds 20,000 PPM. Keeping 10-15 % of the old chromate to seed the new chromate bath will eliminate the need to add **Tri-Kote MU Addtv** to build the zinc level.

MAKE-UP AND CONTROL:

Blue-bright, Low-corrosion	Recommended	Range
Deveco Tri 110	4% by volume	3 to 5 % by volume
Deveco Tri-Kote MU Addtv	1.5% by volume	1 to 2 % by volume
Temperature	80 °F	70 to 100 °F
Time	45 seconds	30 to 60 seconds
PH	2.0	1.8 to 2.5

High-corrosion	Recommended	Range
Deveco Tri 110	10% by volume	9 to 11 % by volume
Deveco Tri-Kote MU Addtv	3% by volume	2 to 4 % by volume
Temperature	80 °F	70 to 100 °F
Time	45 seconds	30 to 60 seconds
PH	2.0	1.8 to 2.5

1. Make-up the **Deveco Tri 110** solution and raise the pH into operating range using 50% Caustic Soda.
2. Use Nitric Acid to lower pH (if necessary) during make-up.
3. Once pH is in range, add **Deveco Tri-Kote MU Addtv**.
4. During operation, maintain the recommended pH range with additions of **Deveco Tri 110**.

Deveco Tri 110
Page 2 of 2

ANALYSIS:

The standard chrome titration method doesn't produce a good end-point on a Tri 110 solution, so we recommend checking chrome on the AA to determine Tri 110 concentration.

1. **Deveco Tri 110** can be analyzed by testing for PPM Chrome on the A.A.
2. Each 1% **Deveco Tri 110** represents 75 PPM chrome.

(PPM Chrome) / 75 = % Deveco Tri 110 solution.

CAUTION:

In case of contact, flush contaminated area with a large amount of water. When handling this product, protective clothing, i.e. rubber apron, gloves, boots, and goggles should be worn.

Read Material Safety Sheet before using this product.

EQUIPMENT:

Deveco Tri 110 solutions require polyethylene, stainless steel, or koroseal lined tanks.

DISCLAIMER:

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate. No warranty or guarantee expressed or implied is made regarding the performance of any products, since the manner of use is beyond our control. No suggestion for product use or anything contained herein shall be construed as recommendation for its use in infringement of any existing patent and we assume no responsibility or liability for operations which do infringe any such patents. The above includes confidential and proprietary information of Deveco Corporation and is furnished to you for your use solely on products or processes supplied by us to you.