



TIFOO

**Blue Chromate
Conversion Coating**

MANUAL

Blue Chromate Conversion Coating

Application fields

The Blue Chromate Conversion Coating is used for protecting already existing zinc layers or those created by electroplating from oxydation and "tarnishing". It is true that it's therefore a protection from zinc oxydation, but it can't (hardly) remove already existing oxydation. Besides that, you can also remove the yellowish discolouration caused by the brightener in the Tifoo Zinc Electrolyte after galvanizing by using the Blue Chromate conversion coating. The galvanized objects will obtain a noble and visually appealing finish. Besides that, the chromate conversion coating is mostly used for aluminium workpieces.

Specifications for the Blue Chromate Conversion Coating

pH-value: 2-3

Working temperature: room temperature (20-30°C)

Immersion time: 15 s to 2 min.

Effect of the immersion time in the blue chromate conversion coating solution	
Immersion time [s]	Effect
5 - 15	disappearance of the yellowish discolouration caused by the brightener
15 - 45	bright bluish surface
45 - 120	increasingly matt colour - increasing corrosion protection

Using the Blue Chromate Conversion Coating

Pour the Blue Chromate Conversion Coating solution in a suitable receptacle and dip the galvanized object for 15 to 120 seconds in the solution. The chromate conversion coating has to be done as soon as possible after the plating process because the zinc will create a passivation layer that makes the chromate conversion coating impossible. After an exposure time of only 15 s, the yellowish discolouration will disappear (see above). With a longer immersion time (about 30 seconds), there will be a bright bluish surface. If the immersion time is even longer, you can achieve a further matt effect. This layer has the highest corrosion-resistance, but it won't be as bright. The indicated time spans are not obligatory and they also depend on the state of the galvanization, on the temperature, and so on - so please control regularly if the result is according to your desires. Keep in mind: the zinc layer will be removed by the chromate conversion coating, but only 2 µm at its highest after 4 minutes of immersion!

Application example

Blue Chromate conversion coating of an galvanized object with different exposure time spans

A steel component has been galvanized with the Tifoo Zinc Electrolyte + brightener additives. Because of the brightener, the zinc will turn yellowish. The Tifoo Blue Chromate Conversion Coating can remedy that amongst other things. The following picture gallery shows the effect of the different exposure time spans on the surface of the galvanized object.



After galvanizing, a hint of yellow can be seen



Immersion into the blue chromate conversion coating



After a few seconds of immersion



After 30 to 40 s, bright bluish colour can be seen

Security

Causes skin irritation and serious eye irritation. Wash your hands thoroughly with water after use. Wear protective gloves/ clothes/ glasses. IF ON SKIN: Wash with plenty of water. In case of skin irritation: consult a doctor. Take off contaminated clothes. IF IN EYES: Rinse carefully with water. Take out contact lenses if present and possible to do. Keep on rinsing.

Waste disposal

Please ask your local disposal centres of hazardous or toxic waste.

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