

# Perma-Gold™ Industry Standard Yellow Dichromate

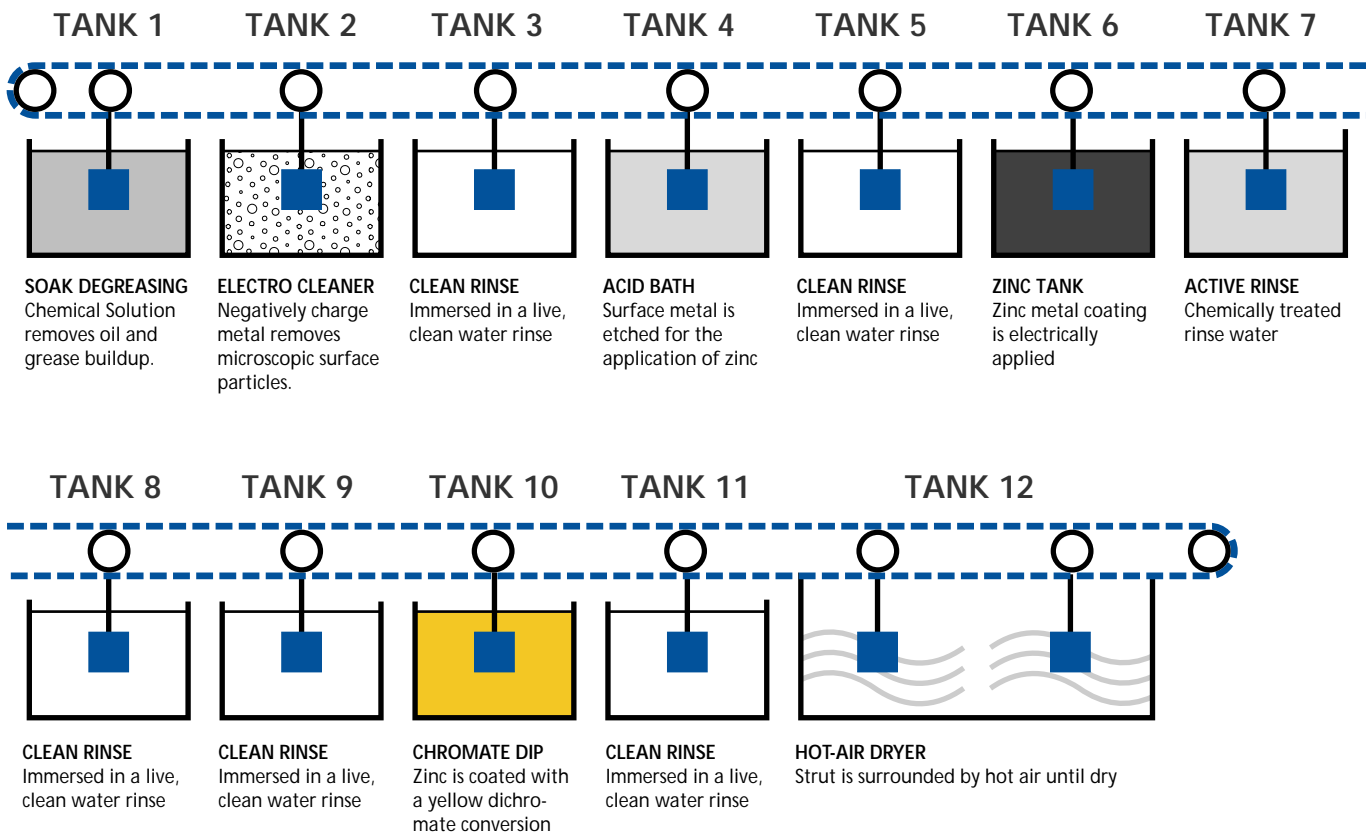
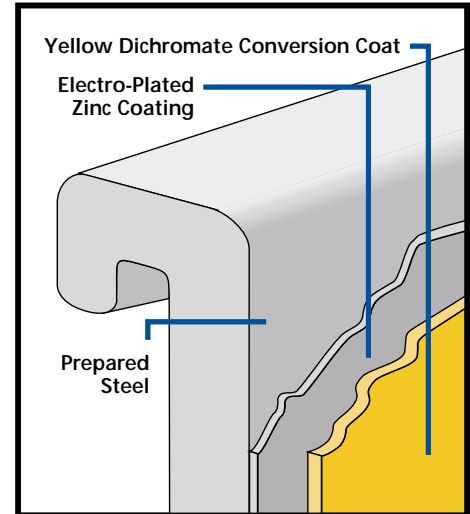
The high quality Perma-Gold finish is a zinc dichromate finish applied over an electro-galvanized zinc plating and is totally compatible with the aesthetics and performance of yellow dichromate finishes used on other brands of metal framing.

A .5 mil electro-galvanized plating is used instead of a standard galvanized coating. This creates a cohesive molecular bond between the steel and the applied zinc coating. The strength of this bond repels corrosion and prevents future blistering and peeling. This electro-galvanization process, performed in compliance with specification ASTM B633, ensures an even distribution of the zinc.

The gold colored zinc dichromate is applied over the electro-galvanized surface to produce a chemically-bonded, nonporous surface barrier. This provides protection from moisture and air to extend the life of the zinc and to provide an excellent surface for painting if desired. The Perma-Gold finish also provides a low electrical resistance when the system needs to be grounded.

To eliminate exposed surfaces, the channels and fittings are plated after all fabrication. The zinc coating provides sacrificial protection on exposed edges when field cutting is necessary or scratches occur during construction and handling.

The long-term corrosion resistance of zinc is directly proportional to thickness. Industrial grade finishes with heavier zinc finishes for greater long-term protection are also available and are described on the reverse side.



### PERMA-GREEN® II (GR)

Channel and parts are carefully cleaned and phosphated. Immediately after phosphating, a uniform coat of a highly effective rust-inhibiting acrylic enamel paint is applied by electro-deposition and thoroughly baked. Color is Perma-Green per Federal Standard 595a color number 14109 (dark limit V-). The resulting finish will withstand 400 hours of salt spray when tested in accordance with ASTM designation B-117.

#### PERMA-GREEN® II TECHNICAL DATA

##### STEEL SUBSTRATE PREPARATION

Eight stage continuous cleaning, phosphate process.

Substrate after "prep": sealed iron phosphate conversion coating.

##### COATING

Thermoset acrylic

Color: Green Federal STD. 595A, Color No. 14109, Dark Limit V-

Hardness: 2H.

Coating Process: Anodic Electrodeposition.

##### PERFORMANCE

Salt Spray:

Scribed: exceeds 400 hours per ASTM B117.

Unscribed: exceeds 600 hours per ASTM B117.

Chalk: nominal at 1,000 hours per weatherometer G-23 test.

Checking: None at 1,000 hours per weatherometer G-23 test.

Fade: Less than 50% compared to standard epoxy E.C. coatings.

##### ENVIRONMENTAL ISSUES

Formulated as a "heavy metal"-free coating (trace elements only).

Outgassing in service: essentially none at 350°F for 24 hours.

### PLAIN (PL)

Plain finish designation means that the channel retains the oiled surface applied to the raw steel during the rolling process. The fittings have the original oiled surface of the bar-stock material.

### ZINC COATING

Unistrut products are available in three types of zinc coatings:

- electroplated
- pregalvanized
- hot dip galvanized.

Zinc coatings offer two types of protection:

1. Barrier: The zinc coating protects the steel substrate from direct contact with the environment,
2. Sacrificial: The zinc coating will protect scratches, cut edges, etc. through an anodic sacrificial process.

The service life of zinc coating is directly related to the zinc coating thickness as shown below.

#### COMPARISON OF ZINC GALVANIZED FINISHES

Finish	Zinc Thickness
Hot Dip Galvanized	2.6 MIL
Pregalvanized	.75 MIL
Electro-Galvanized	.2 to .5 MIL
Perma-Gold	.5 MIL

### ELECTRO-GALVANIZED (EG) ASTM B633 TYPE III SC1

In the electroplating process, the part to be zinc coated is immersed in a solution of zinc ions. An electric current causes the zinc to be deposited on the part.

Zinc plated parts typically have a zinc coating of .2 to .5 MIL and are recommended for dry indoor use.

### PREGALVANIZED ZINC (PG) ASTM A525

Pregalvanized steel is zinc coated by a hot dip process. Steel strip from a coil is fed through a continuous zinc coater which cleans, fluxes and coats the steel with molten zinc. After cooling, the steel is recoiled.

The pregalvanized zinc coating conforms to a G-90 thickness designation per ASTM A653 GR 33. The zinc thickness is .75 MIL or .45 oz./sq. ft. of surface area.

This coating is offered on Unistrut channel and is a well-proven, time-tested performer for indoor and outdoor applications.

### HOT DIP GALVANIZED (HG) ASTM A123 OR A153

In hot dip galvanizing, the finished part is immersed in a bath of molten zinc. This method results in complete zinc coverage and a thicker coating than pregalvanized or plated zinc.

The zinc coating is typically 2.6 MIL or 1.5 oz./sq. ft. of surface area.

This is the coating of choice for applications where severe corrosion is a design factor.

### SPECIAL COATING

When specific applications require other than standard available finishes, special finishes can be supplied per customer requirements.