Stelmi America, Inc., a mill volume producer of long length hard chrome plated steel bars, uses an advanced chrome plating process that is absolutely unique to the North American market. Stelmi America produces hard chrome plated steel bars with a performance capability that focuses on the mobile hydraulic cylinder industry. Offering unparalleled uniformity and corrosion resistance, our chrome plated bars are used in the production of construction, agricultural, forestry, mining and highway equipment as well as a wide variety of material handling applications.
The Stelmi hard chromium plating process is a continuous horizontal feed operation that uses enclosed plating machines rather than open baths. An automated material handling system grips the bars, transfers the required electrical charge to each bar, and feeds them through the plating machine. The steel bars are advanced and rotated, driven one by one, through circular anodes immersed in the chromium solution. Precision ground and polished bars enter the machine from one side and exit, fully chrome plated, from the other. Stelmi bars are more uniform and fully plated end-to-end, unlike any conventional plating process.

All other bar plating operations use stationary bars hung horizontally on a large frame or rack. The steel bars are fixed on this rack, submerged in a tank, and electrically energized. Conventional platers use stick type anodes that are spaced out on the sides of the plating tank. With straight anodes there is no way to create an electrical field concentric to the round bars and this generates variation in the plate thickness down the length of the bar. Conventional plating methods also leave unplated areas on both ends of each bar, and fixed electrical contacts create unwelcome heavy plate at the bar ends. None of these shortfalls exist with the Stelmi process; the chromium plating is done with a series of circular anodes, and the bar advances and rotates through each of the anodes. Using anodes that conform to the shape of the bar assures a homogeneous and dimensionally uniform chrome layer.

The traditional manufacturers of chrome plated bars enhance their corrosion resistance by buffing the surface with various types of wax or oil. Stelmi’s hard chrome plated bars offer better corrosion resistance without any use of these temporary coatings. Stelmi is pure chrome plate. The Stelmi process generates extremely high quality products and allows for superior environmental controls, as well as requiring far less on-site chromium and a third less energy than traditional methods.

The Stelmi hard chrome plating method offers significantly better dimensional uniformity, and, in salt spray testing, the products achieve over 500 hours of neutral salt spray corrosion resistance with zero corrosion. This level of corrosion resistance is five times the industry norm.

Stelmi’s chrome plated bars have become recognized in the market for their superior surface quality, uniformity, and corrosion resistance, which is proven in the field as well as the lab.
Stelmi America’s hard chrome plated steel bars or induction hardened chrome plated bars are available in a wide range of material conditions.

**SPECIFICATIONS**

1045 to 75,000 PSI min. yield strength - 1” to 5” diameter
1045/1050 to 100,000 PSI min. yield strength (ASTM A-311 Class B)
1” to 4.50” diameter
Alloys and higher strength steels are available

**GRADES and SIZES**

- 1045 to 75,000 PSI min. yield strength - 1” to 5” diameter
- 1045/1050 to 100,000 PSI min. yield strength (ASTM A-311 Class B)
- 1” to 4.50” diameter
- Alloys and higher strength steels are available

**LENGTHS**

- 24 ft lengths are standard or can be produced to your specifications (20 ft length minimum, 30 ft length maximum)

**INDUCTION HARDENED (if specified)**

- 50 Rc minimum surface hardness/0.050” min. effective case depth

**STANDARD CHROME PLATE THICKNESS**

- 0.001” per side minimum for a minimum 500 hours of corrosion resistance
- Concentric anodes give superior plate thickness uniformity and no unplated bar ends
- 0.0005” per side minimum also available. 100 hour corrosion resistance

**CHROME PLATE SURFACE**

- 67 to 72 HRc chrome plated hardness
- 16 Ra maximum - 6 to 12 Ra standard finish

**DIMENSIONAL TOLERANCES**

- Stelmi’s unique hard chrome plating process utilizes anodes that conform to the shape of the bar, which allows for more exacting size tolerances than conventional plating methods.

**STANDARD TOLERANCES:**

(Undersized variation only; +0.000”)
From 0.750” to less than 1.500” = -0.001”
From 1.500” to less than 2.500” = -0.0015”
From 2.500” to/including 3.000” = -0.002”
Over 3.000” to/including 4.000” = -0.003”
Over 4.000” to/including 5.000” = -0.005”
If you need tighter tolerances please let us know.
Metric sizes available

**Benefits:**

- Significantly better corrosion resistance, in laboratory testing and in field service, without using wax or other temporary coatings - it's PURE plate.
- Greater uniformity in the chrome plate layer - consistent thickness - side to side and end-to-end.
- Increased long-term field service life.
- Premium product attributes with competitive price.
- A range of corrosion resistance.
- An environmentally correct process.

Superior corrosion resistance with NO surface waxes, NO oils, NO cover-up of any kind... PURE chrome plating from a better way to plate.

888-888-ALRO
Alro is an authorized distributor for Stelmi America

Stelmi America Headquarters located in Marshall, Michigan