

# For Ohio Hard Chromium Plater:

**"The Bigger the Better!"** Currently operating in a 24,000 ft<sup>2</sup> shop, the company's consistently increasing order volume has prompted the decision to increase shop size by nearly 50 percent. The addition, which will be under roof by November and operational by June 1995, will house a new, long-tank process for plating bars and rods. This growth is remarkable, in that there is no sales force, yet this is a six-day-per-week, three-shift-per-day operation, serving customers from as far away as England, France and Mexico. If not the growth, the steadiness of work can be attributed, at least in part, to the fact that much is repeat business, involving repair and rehab of parts after the service life of their coatings has ended.



Plated in a single operation, this 25-ft piston rod is being finish-ground in a giant cylindrical grinder.

**Not only is the old saying, "The bigger the better" true about the size of the parts plated at this Youngstown, Ohio, facility, it's also true of the company, itself, as preparations are underway to add 10,000 ft<sup>2</sup> of floorspace.**

**H**ard chromium is a functional finish,

not to be confused with decorative

chromium. They may look similar, but the former is a harder, more durable finish, used for high-wear industrial applications; the latter, more for corrosion resistance and shiny good looks. Many of the items plated at Youngstown Hard Chrome Plating and Grinding get about the hardest wear imaginable: As mandrels for reaming solid bars of steel to make seamless pipe, and as giant piston rods for such mammoth engines as those on ocean-going vessels (many for the U.S. Navy). Hardness of finishes applied here measures 9.0 on the Moh Scale and 70 on the Rockwell C comparison chart. Finish can be to one RMS, or matte, at tolerances within .0005 in.

## How Big is "Big"?

The company can plate a part up to 50 ft-long, using a 60-ft tower-and-crane system, over a 30-ft-deep tank that holds 2,200 gal of chromic acid solution and

uses 3,000 lb of lead anodes and operates at 140 °F. Such a part would have one end plated first, then it would be turned and the other end finished in an identical manner. Afterward, the lap would be ground, in-house, to eliminate any seam in the finish. Dies as small as 1/4-in. are plated here, too, but it is the capacity to finish pieces too big for most other shops that sets this company apart.



Parts as long as 50 ft can be hoisted into the 60-ft tower and plated in the 30-ft-deep tank below.

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A family business, Youngstown Hard Chrome was founded in 1963 by Richard S. McCarthy, president, and all four of his children own an interest in the company. Though his two daughters are not actively involved, sons Richard W. (plant superintendent) and Dan (vice president) are largely responsible for day-to-day operations; and son-in-law, "Butch" Ritter, is office manager.

## Not Just Bigger ...

There is more to the company's success than mere size capability. The finish they put on these big parts might not be pretty enough for the bumper on a show automobile, but quality is important to all 30 employees. Each piece is carefully inspected throughout the process, to ensure good preparation and plating. "We're always quality-conscious, but it just makes sense to be extra-careful when you're plating parts this big," say Dan McCarthy. "Would you want to strip and re-work something that size?"

## Environmental Investment

It has always been company policy to protect the environment, putting in a treatment system from the very beginning. And over the last five years, management has invested an additional \$300,000 to upgrade equipment to a level beyond current compliance requirements. The air in the shop and going out the stack, despite the huge tanks and vast quantities of solutions, is remarkably fresh—99.8 percent clean.

In an industry where shop closings seem commonplace, and in a town that was expected to die with the steel mills, this growing family-owned business puts

Plating and Surface Finishing