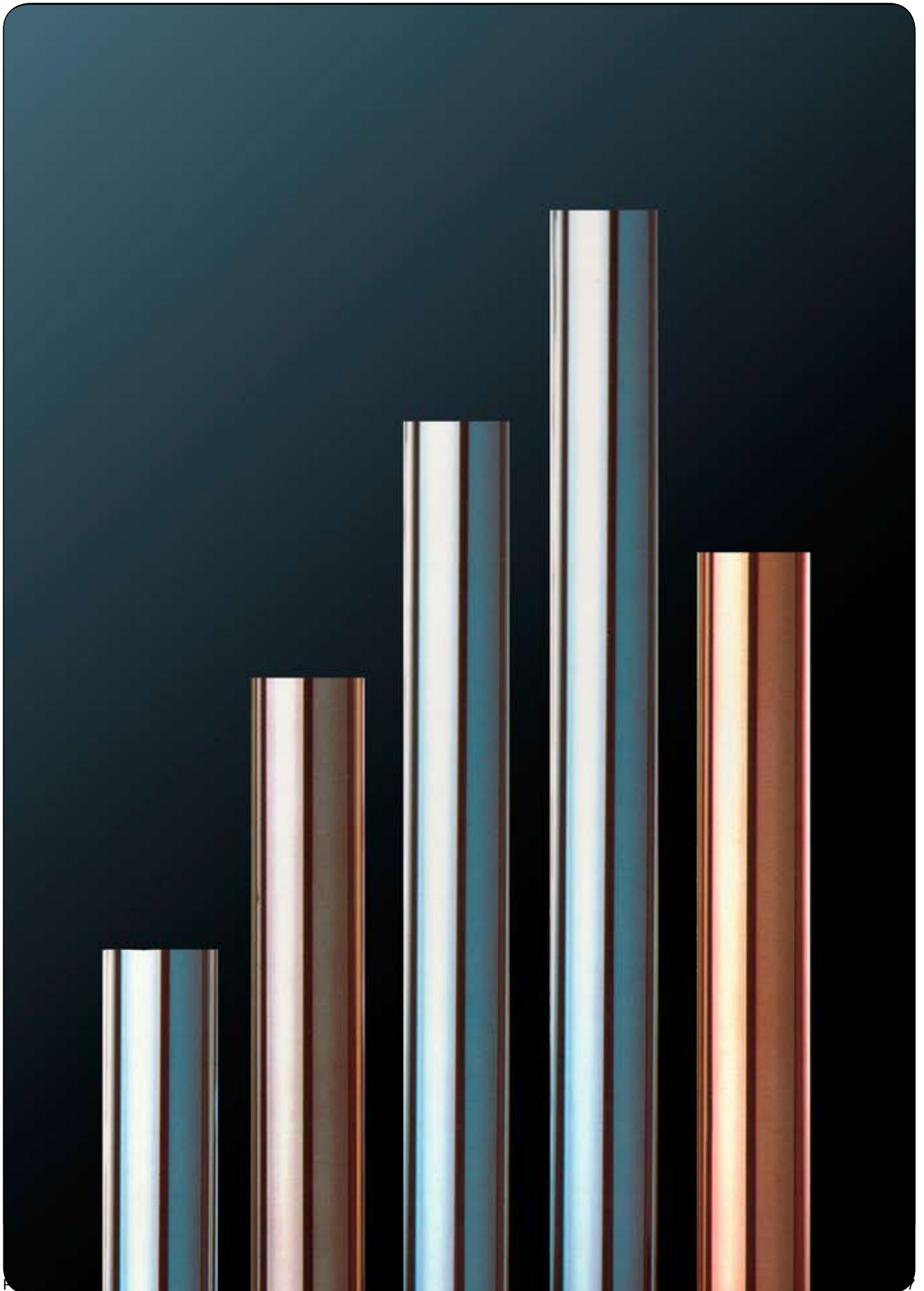


H-REIS

H REIS LIMITED

INDUSTRIAL HARD CHROME



Stainless Steel Chrome Bar

Carbon Steel Chrome Bar

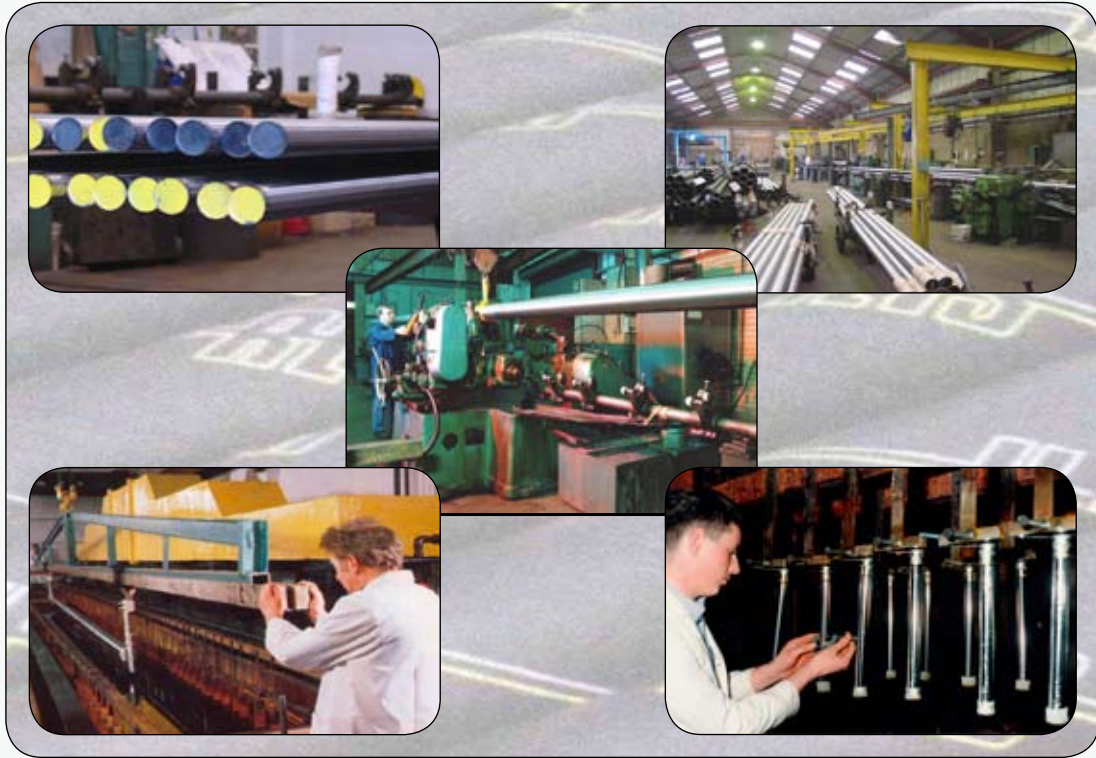
Centreless Grinding

Hard Chrome Plating

Straightening

Polishing

Volume Production Capacity



Production

Straightening 200 Tonne Press for bars and tubes up to 280mm diameter x 15000mm long

Centreless Grinding Volume and Specialised Parts for bars and tubes up to 300mm diameter x 15000mm long - 1200 kgs per piece

Centreless Polishing 0.2 Ra Standard Finish. 0.1 available by special request.

Hard Chrome Plating Volume & Large Bar or Tube capacity up to 300mm diameter x 15000mm long - 5 tonnes per piece.

Chrome Bar Manufacture Carbon Steel (20MnV6 & CK45) 100 hour and 200 hour
Stainless Steel (431S29'T', AISI316 & AISI304) 500 hour Acetic.
15 to 200mm diameter, 6000mm Random Lengths.

Special Non Up to 300mm diameter x 15000mm long - 5 tonnes per part.
Any available grades of stainless or carbon steel bars or tubes.
Common examples: 17/4 Ph, WS 1.4462, Monel K500, AISI 4140, AISI 4340,
Increased corrosion protection to customer order.
Increased plating thickness as required.



Hard Chrome Plated Stainless Steel Bar

- Material** 431 S29 T
Tensile 850-1000 N/mm² Yield 680 min N/mm².
- Plated Deposit** 25 my Micro Cracked Hard Chrome. Surface Hardness 1100-1200 Vickers. Surface Finish 0.2 Ra max (0.15 Ra Average). Diameter Tolerance f7.
- Corrosion Rating** Grade 10 rating to BS5466 Part 6 after 500 hours, using an Acetic Salt Spray Test To BS 7479 ASS. At least 50mm left un-chromed on test piece.
- Size Range** 18mm - 200mm (1/2" - 8") in 6000mm - 6200mm Random Lengths.
- Packing** Cardboard Tube.
- Comments** The premiere quality Chrome Bar available, manufactured to the highest standards offering unsurpassed levels of corrosion protection and durability for the most demanding applications. Higher yield strength can enable the use of smaller diameter rod giving further cost and weight savings over competitor products. Stainless base material ensures corrosion protection of machined areas/spigots.

The Advantages Of Chrome Plated 431S29T Stainless Steel Compared to Nickle Chrome Plated Carbon Steel.

Corrosion Protection

Our salt spray testing program is currently returning results of Rating 10 (No Corrosion) after 500 hours using an Acetic Acid Salt Spray Test. This is equal to 1500 hours using the more normal Neutral Salt Spray Test. This equates to greater than four times more corrosion protection than NiChrom products. We are about to start testing to 1000 hours ASS and expect to achieve rating 10.

Further to this on every Salt Spray Test we complete we leave at least 10% of the surface area un-chromed and ask for this to be rated with the plated surface. This is not possible with NiChrom.

Therefore the customer will get unsurpassed levels of corrosion protection on both the plated surface and the un-plated (machined) parts of their hydraulic ram.

Higher Yield Strength

We order 431S29T with a minimum Yield Strength of 680 N/mm².

Most NiChrom is produced using 20MnV6 with a minimum Yield Strength of 440 N/mm². This higher yield can enable the customer in some cases to use a smaller rod diameter when designing from new. Bringing obvious savings in both cost and weight.

Simpler Processing = Greater Reliability

Because our 431S29T product is plated with one layer 25µm thick and Nichrom is plated in two stages and layers each a minimum of 25µm total layer 50µm. Quality control at the plating stage is halved making the plated stainless inherently more reliable. Increasing the thickness of any plated deposit always increases the difficulty of achieving a successful bond to the base material. Increasing the number of plated layers from one to two again increases the problems. Chrome Plated 431S29T with 25µm of homogeneous deposit does not suffer from either of these possible problems, reducing the potential for customer claims for faulty plating. In addition, the reduced thickness will reduce chipping of the interface between the plating and the base material when the customer machines the bar, making it an easier product to use.

Cost

Due to simpler processing and a general reduction in the market cost of 431S29T we are able to offer the above advantages at a lower rate than NiChrom.

Presiege

There is a prestige factor to a stainless steel ram which the customer can use when marketing their product to gain a competitive edge. Most of our larger customers for Chrome Plated Stainless Steel make mention of this in their literature.

Note

A cautionary note regarding welding of 431S29T. When substituting Chrome Plated 431S29T for NiChrom it is possible that the customer may need to adapt their welding process to suit the new material. Many of our customers have been successfully welding 431 piston rods for many years and we can offer more detailed advice for specific cases when they arise.

Steel Bar Specifications

Stainless Steel 431 S29 T (WS 1.4057)

Chemical (%)

C	Si	Mn	P	S	Cr	Ni
0.12-0.20	1.0	1.0	0.040	0.030	15.0-18.0	2.0-3.0

Mechanical

Tensile N/mm ²	Yield N/mm ² min	Elongation min on 5.65√S _a	Impact Izod min.	Hardness HB
850-1000	680	11	< 63mm 25 > 63mm 15	248-302

Un-Plated Ends

Because H.Reis Limited offers a more specialised chrome plating service, we are often asked to quote for bars to a specific length. This obviously saves scrap ends produced by cutting random lengths. We believe this is one of the advantages we are able to offer our customers over more traditional producers of chrome bar.

When we are chrome plating bars or tubes we need to hold the parts while in the vat. On bars this will result in an un-plated area at one or both ends depending upon the size of the bar.

This is common practise when producing 6000mm lengths of chrome bar and I'm sure you will have seen the results on your stock.

The photograph below shows a classic example of how this looks in practise.



This illustration is a piece of 45mm Chrome Bar and would have un-plated ends no greater than 50mm in length.

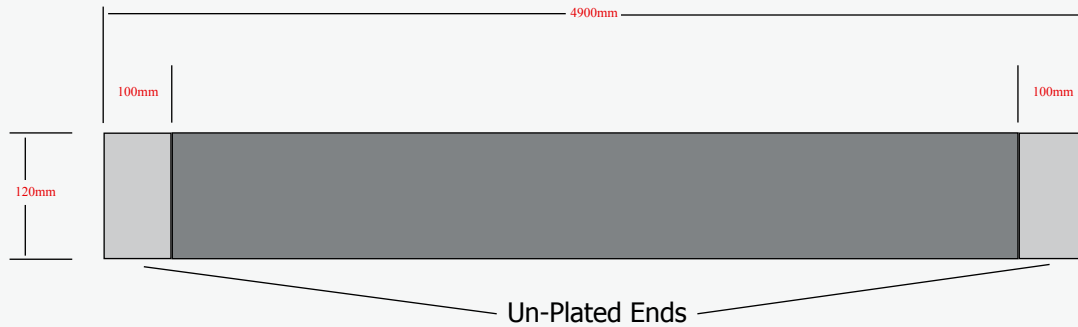
To take a more specific example lets assume you have an enquiry for a piece of chrome bar 120mm diameter x 4700mm long. Without any other information, when quoting we will add 200mm to length you have requested to enable us to hold the bar during plating.

If along with the enquiry you are able to tell us where the bar will be machined, we can use these dimensions to calculate where we can hold the bar during plating.

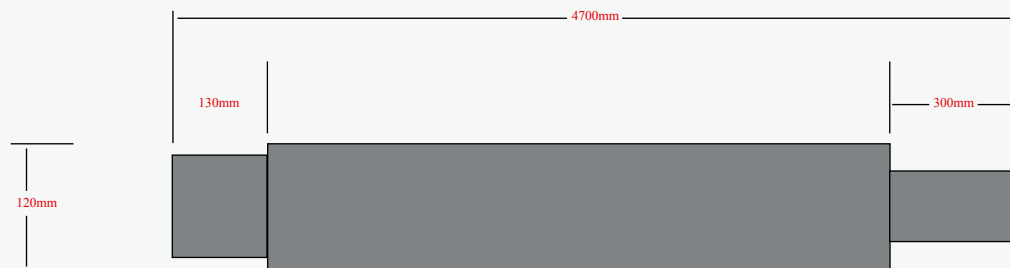
Un-Plated Ends - continued.

Enquiry for 1 off 120mm x 4700mm Chrome Bar

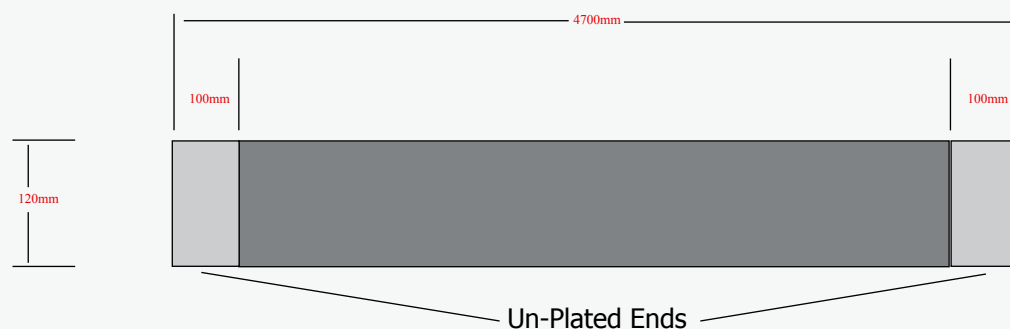
We would quote for and if successful produce the following.



The customer actually wishes to produce the following machined rod.



We could have quoted and produced the following.



The obvious saving being 200mm of material and saw cutting. Whilst this may not be a great deal of money when dealing with carbon steel. In stainless steel the saving can be considerable.

This is only a theoretical example but for the greater amount of the cut length bars we produce, the same rules will apply.

Un-Plated Ends - continued.

For tubes the rules are different because we can use the bore to locate our plating jigs on, as in the photograph below.



Therefore it is more usual to plate tubes for the full length. But if un-plated areas are required this can be produced.

In Conclusion.

If it is possible to ask the customer when he first enquires for chrome bar to be supplied in cut lengths, what lengths will be machined at each end. We will be able to save you and the customer money on the bars we supply.

If the customer must have the full length plated (perhaps there is no external machining) then this can be supplied, either by making the bar longer (as already described) and then cutting off the un-plated ends or a number of other jiggling methods as may be suitable.



How To Find Us

From M5 Junction 2

1. Leave the motorway at junction 2.
2. Take 2nd exit from island (past "Toys-R-Us" on left).
3. Follow A4034 straight on through two sets of traffic lights.
4. Bypass town centre by filtering right to island.
5. Straight on at island (2nd exit).
6. Follow bypass round to next set of traffic lights, go straight on.
7. Down steep hill to next island (cemetery on right).
8. Straight over next island (2nd exit).
9. Straight on until you see "a r c" car wash on the right.
10. H.Reis Limited immediately opposite on the left.

If Lost Ring

+44 (01384) 567727