

SHEFFIELD™ REDI CASE Induction Hardened, Chrome Plated Shaft

Sheffield Redi Case is a well balanced Electric Furnace steel that has been stress relieved, turned, ground and polished. It is then induction hardened and electro chromium plated.

This is an upgrade for Sheffield Redi Chrome where increased strength and substantially greater wear resistance are required.

Advantages

INDUCTION HARDENED – for excellent wear resistance.

CHROME PLATED – .001” per side of uniform chrome plating which is twice the industry standard, less likely to show “pitting” than other chrome plated products.

SURFACE FINISH – superior micro finish in the range of 12 / 15 RMS.

CORROSION RESISTANT – has performed well in salt spray tests.

ABRASION RESISTANT – offers excellent abrasion resistance in maintenance applications where sliding wear causes pre-mature failure.

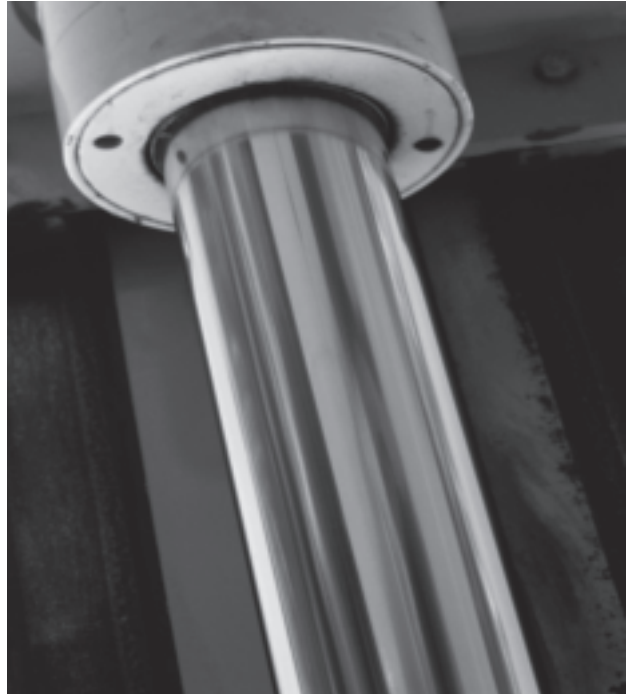
HIGH FATIGUE STRENGTH – combats fatigue failure, the number one cause of shaft failure in most maintenance applications.

EXTRA HEAVY PLATING IS AVAILABLE UPON REQUEST.

HARD CHROME/ON TOP OF A CASE HARDENED SURFACE.

BOXING RECOMMENDED.

Past Protected Trade Name Of Pyramid Steel Company – Silvacase™



Sheffield Redi Case performs under the most difficult of conditions, especially heavy construction.

Typical Physical Properties*

Minimum Surface Hardness.....	.50 Rc
Depth of Plating.....	Per Side .001”
Yield Strength.....	Approx. 110,000 P.S.I.
Elongation.....	11%
Reduction of Area.....	37%
*Based on 1” cross section of material tested	

Typical Applications

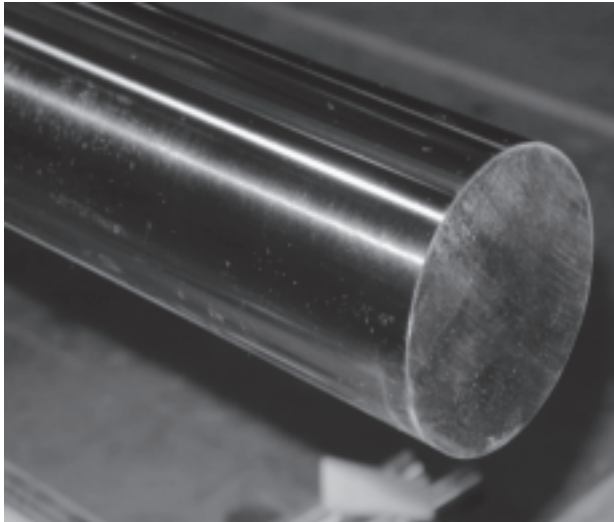
Piston Rods	Pneumatic Thrust Pins
Cylinder Shafts	Hydraulic Shafts
Locator Pins	Dowel Pins

Stock Lengths

10 / 12 Ft Random Lengths
20 / 24 Ft Random Lengths
Custom Cut Lengths

SHEFFIELD™ REDI CASE

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CALL US FOR OUR CUTTING SERVICES.

Available Sizes (English)

1/2"	1-1/8"	2"	3-1/4"
5/8"	1-1/4"	2-1/4"	3-1/2"
3/4"	1-3/8"	2-1/2"	4"
7/8"	1-1/2"	2-3/4"	4-1/4"
1"	1-3/4"	3"	4-1/2"

Call for special size requests.

Typical Diameter Tolerances (English)

Up to 3" Round	(+.000"/-.002")
Over 3" Round to 4" Round	(+.000"/-.003")
4" Round and Above	(+.000"/-.004")

Available Sizes (Metric)

12 MM	20 MM	30 MM	40 MM	80 MM
15 MM	25 MM	35 MM	50 MM	

Call for special size requests.

Typical Diameter Tolerances (Metric)

Up to 38 MM Round	(+.000"/-.001")
Over 38 MM Round to 60 MM	(+.000"/-.002")
Over 60 MM Round and Above	(+.000"/-.003")

General Machining Data

Steel shaft materials that have extremely high surface hardness, and/or, shafts that may have subsequently been hard chrome plated, require specific but not difficult machining guidelines. **CAUTION:** Working with any hard materials requires the use of machine operators familiar with the machining of such materials. Utilize appropriate safety gear; to include goggles, helmet, gloves, etc.

Rigidity of the machine is required. Avoid excessive tool overhang. Use of high caliber, heavy capacity, machines is required to avoid chatter and vibration. Orient the cutting insert to a 45 degree side cutting edge angle (SCEA). This will help to minimize "notch" effect. Keep the area to be machined close to the chuck.

Use of a steady-rest is not recommended unless you are able to use a live center in the tailstock.

Speed: 280/320 sfm

Feed: .005"/.007" per rev.

Depth of Cut: .125"

Coolant: No Coolant

Motor Horse Power: Approx. 7 HP

BEST RESULTS: Utilizing "Hot Pressed" Ceramic inserts. Discuss type and style with your supplier. Advise them on the general hardness and nature of the shaft. **NOTE:** Very high heat will be generated during the machining process. Chips will be dark red in color, and some sparking may occur. **DO NOT APPLY COOLANT**, as thermal shock will occur, destroying the ceramic tooling. Do not allow the insert to "dwell", or rub as this will cause work-hardening ahead of the tool. Because of the extreme high surface hardness of the shaft, notching will occur on the ceramic insert, at the depth of the cut line, 1/8" DOC. This phenomenon should not prohibit the tool from making many successful cuts. Once the hardened, and/or, chrome layer has been removed, the use of conventional carbide tooling, and the liberal use of coolant, should be sufficient to complete the machining operation.