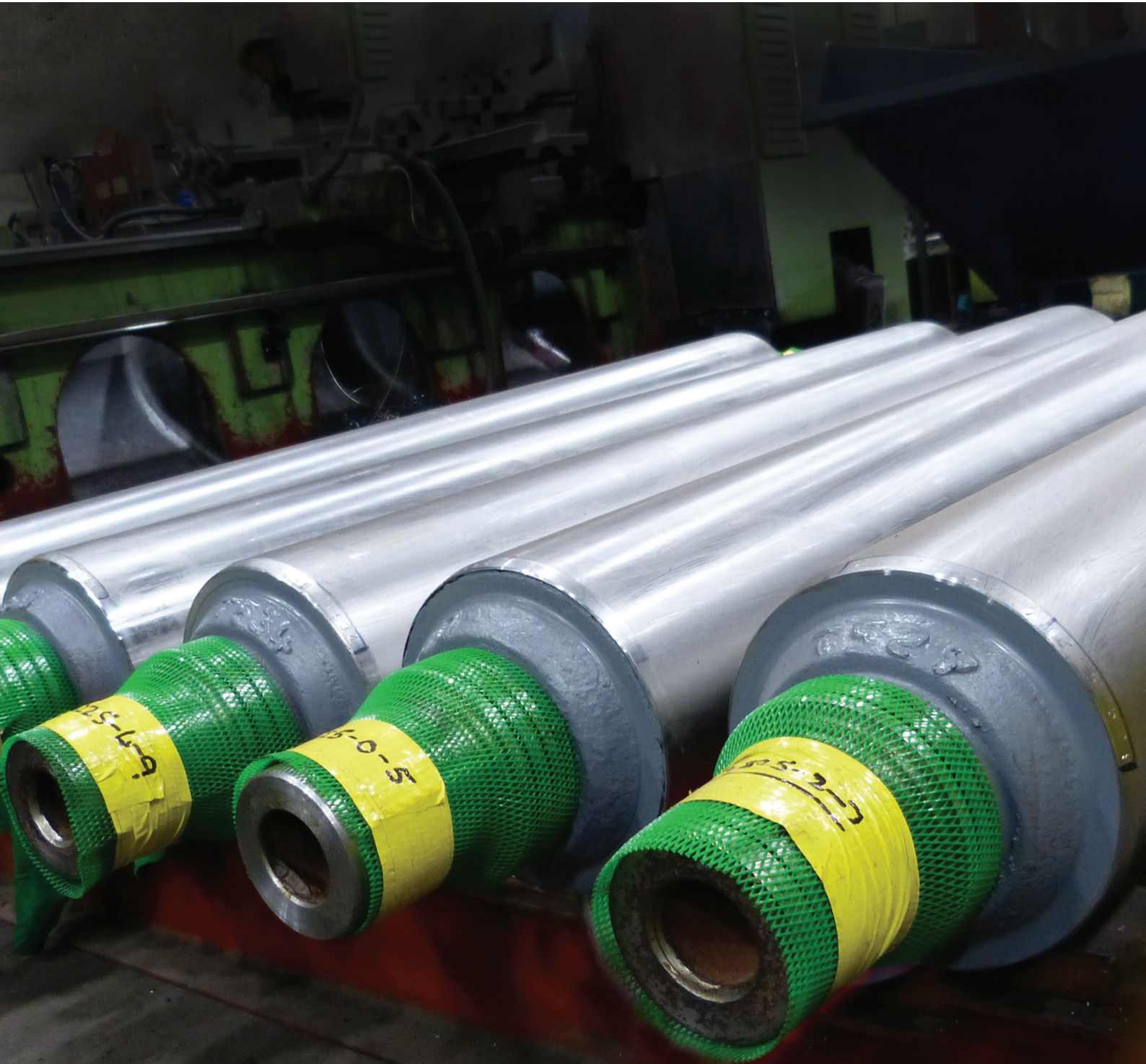


Hardfaced Roll Manufacture & Refurbishment

RED DOG
ROLL RECLAMATION



*achieving product and life extension
through refurbishment technologies*

Hardfaced Roll Manufacture & Refurbishment

Red Dog Roll Reclamation is a leading UK specialist in the manufacture and refurbishment of hardface rolls for steel mills, food manufacture, and other industries. It provides a single source access to all aspects of roll engineering, delivering ready to fit solutions for all types of roll wear products and application requirements.

Red Dog Roll Reclamation is able to call upon over sixty years of experience in the development and use of sophisticated wear resistant alloys. This provides customers with a wide choice of materials and hardfacing processes.

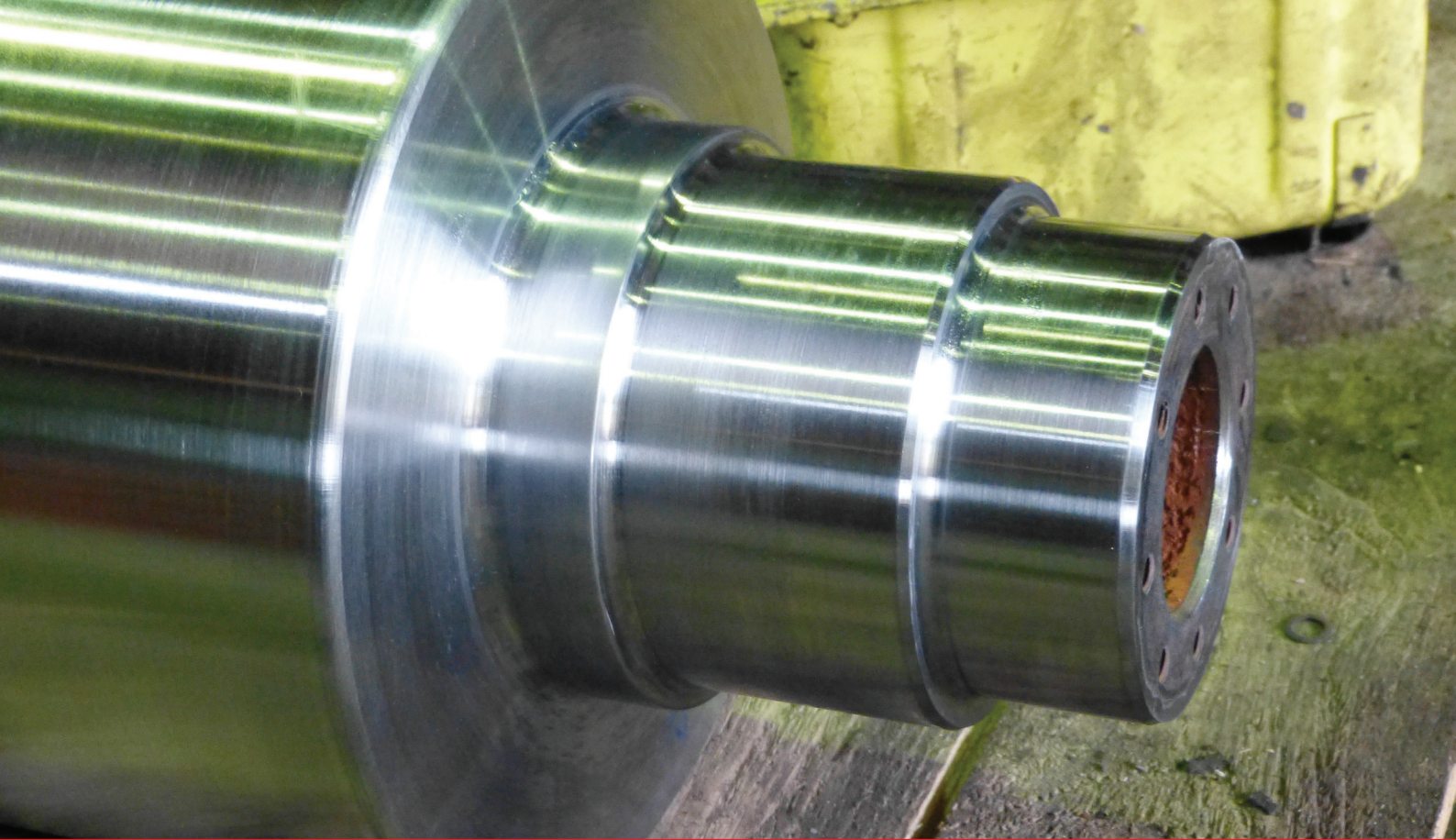
Design & Manufacture of New Rolls

Red Dog Roll Reclamation works closely with customers to design and develop a wide range of rolls for use at ambient or elevated temperatures, with a choice of surface finishes down to $0.4\mu\text{m}$ (16µin). This includes calendar rolls, conveyor rolls, crusher rolls, grooved rolls, and specially profiled roll sets for bar straightening.



Nationwide Collection and Delivery

A nationwide collection and delivery service for rolls and other items of plant is available and on-site work can also be undertaken if required.



Repair and refurbishment service

In addition to the cost saving achieved by recovering worn rolls, which might otherwise be scrapped, the correct selection of hardfacing alloy can deliver considerable gains in useful life over the original product.

This service typically involves pre-machining worn rolls to the correct profile and removing any defects, rebuilding with a suitable 'buttering layer', hardfacing with a wear resistant alloy, and finishing to customer specification.

Post-weld heat treatment and dynamic balancing are also available.

As well as roll reclamation, Red Dog undertakes the manufacture or repair of many types of associated roll plant such as bearing housings, heavy duty chocks, mandrels, hoist drums, drive shafts, spindles, etc.

Ultrasonic, dye penetrant, magnetic particle, and other non-destructive testing procedures are carried out in-house by qualified inspectors.

All manufactured under strict quality control systems approved to BS EN ISO 9001:2008.

Typical roll applications

Steel mill rolls

Red Dog Roll Reclamation manufactures and refurbishes rolls and associated equipment for various sections of steel plant, including:

- Continuous casting
- Hot strip and plate mills
- Hot and cold levellers
- Section mills
- Chocks, spindles, and drive shafts

Hot and cold strip mills

Down coiler pinch rolls, cradle rolls, mandrel segments, deflector rolls, and a wide range of table rolls and end furniture.

Typical roll hardfacing alloys and applications

Low Alloy Cr/Mo Steel

Matching parent materials

Roll journals, table rolls, primary mill rolls

12-14% Martensitic Steel

Continuous casting rolls

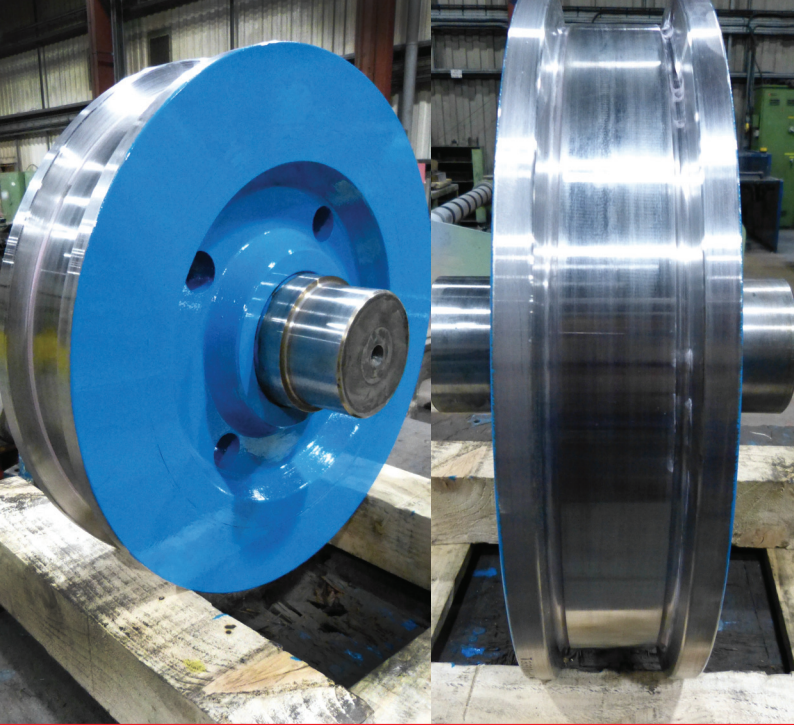
Run-out table rolls

Food industry cracking and flaking rolls

6% Cr 'Type H11' Tool Steels

Pinch and guide rolls for strip mills

Calendar rolls for floor coverings



Other Industries

Crane wheel refurbishment

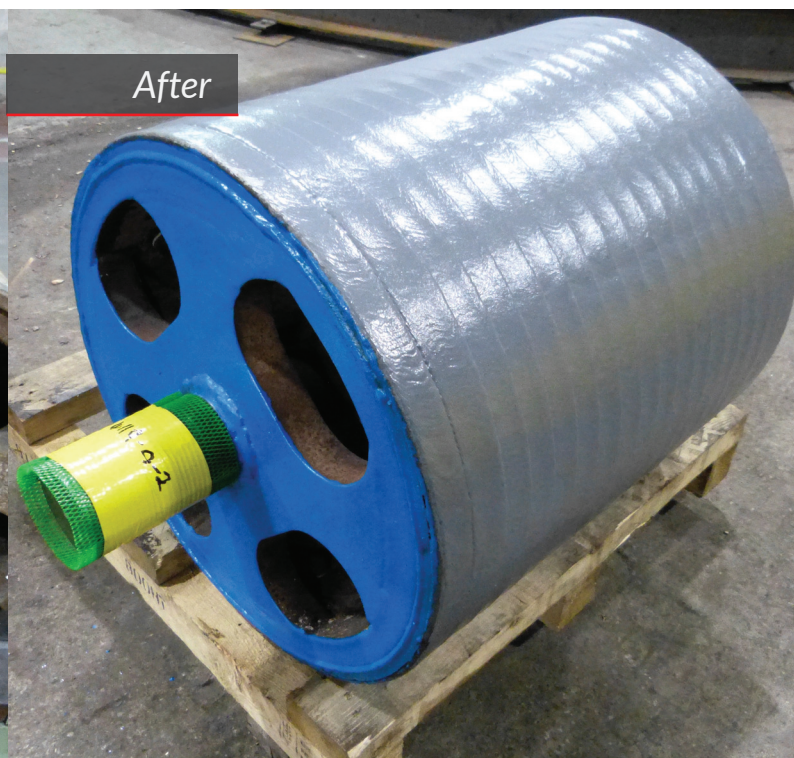
Red Dog Roll Reclamation also offers a complete crane wheel refurbishment service. This service includes for the collection and delivery of the items, stripping the bearing housings and dismantling the tyre from the hub. During the refurbishment process the tyre is re-welded to the original profile, then refitted to the wheel, thus providing a significant enhancement on life.

Food industry rolls

The use of low fat food products has led to increased problems with surface corrosion on conventional chill cast iron rolls. Red Dog Roll Reclamation offers a solution to this problem with a range of rolls for cracking and flaking cereals, biscuit making, etc, which are hardfaced in corrosion resistant alloys such as 12-14% martensitic steel.

Engineering capability

Red Dog Linings has fully equipped and integrated workshop facilities capable of the manufacture and fabrication of Red Dog Hardfaced plate, Red Dog roll manufacture and reclamation, as well as a wide range of refurbishment of industrial plant items which involve general engineering, machining, and fabrication skills, all available under one roof.





Our Facilities

Machine Shop

Turning lathes

7 off manual centre lathes with capacity up to 5.5 metres between centres and a maximum swing-in gap of 985mm, fitted with digital read-outs

Colchester Mascot 600 with 1.4m between centres and a maximum swing of 430mm over slide

Optimum D420 x 1500 with digital read-outs 1.5m between centres and a maximum swing of 250mm

C.N.C lathe- Colchester Tornado 100 slant bed with barfeed
Max dia. 186mm, length 350mm

Millers

Vertical mill – fitted with 1600 x 600mm table, offering maximum height and column to spindle distances of 305mm, with digital read-outs

Bed mill – capable of handling items up to a maximum 2.5m in length, 900mm width, and 1.27m height, with digital read-outs

Grinder

Chevalier grinder semi automatic surface grinder. 500mm x 1500mm table size

Borers

2 x 2 axis horizontal borers 1 with digital read-out, 6 tonne table, and 102mm spindle.

1 x 2 axis Webster Bennett vertical borer with digital read-out 48" chuck, maximum height 28"

Drilling

Radial drills – with a maximum height of 1.14m and a maximum column to spindle capacity of 711mm

In-house NDT

Dye penetrant inspection and magnetic particle inspection
PCN Level II ultrasonic inspection

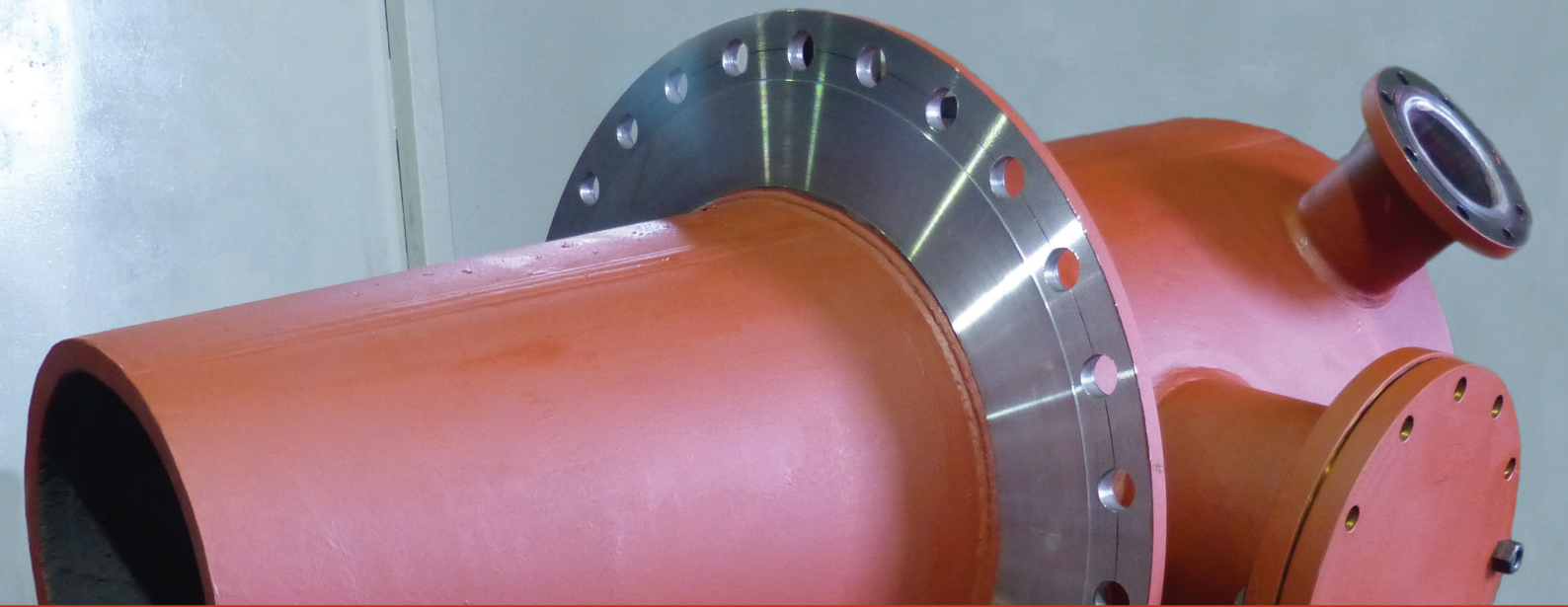


Hardfacing Shop

Automatic and semi-automatic hardfaced welding machines:

- 5 off high deposition bulk welding machines** with 20 off high deposition multi process open arc and submerged arc hardfacing heads
- 3 off column and booms** with automatic hardfacing systems for the overlay and refurbishment of equipment
- 3 off multi head orbital submerged arc welding machines** used for roll refurbishment welding with welding capacity up to 40 tonnes
- 2 off pipe overlay machines** - automatic hardfacing internal diameter producing either circumferential or longitudinal hardface beads; with water cooled facility to reduce pipe distortion

- Stress relieving**
- 1 off Teisen Gas stress relieving heat treatment furnace
 - 1 off LTM electric stress relieving heat treatment furnace
 - 1 off Greenbank pre-heat treatment soak oven



Fabrication Shop

Profiling

Viper CNC hi-def plasma profiling with True Hole technology
Cutting dimensions up to 8000mm x 3000mm x 40mm
Orbital tool head for countersinking and edge chamfering
Oxyfuel cutting up to 150mm thickness
2D CAD input including DXF formats

CNC plasma

with orbital tool head for countersinking and edge chamfering
Cutting dimensions 3500mm x 3000mm
Hand plasma and oxyacetylene burning torches

Forming

Press brake 250 tonne capacity producing corners, cones and bends
Forming rolls bending up to 200 tonne capacity
Cone rolling – up to 30mm thick

Straightening rolls Flattening up to 30mm thick plate

Welding

21 sets of 600 Amp water-cooled MIG sets manual and semi-automatic processes
Welding – 11 MMA sets
TIG welding
Pressure testing equipment

Positional equipment

Manipulators ranging from 1 tonne to 40 tonne
Powered tank rolls from 1 to 20 tonne
2 axis manipulators – 2, 3, 5, 10 and 40 tonne capacity

Overhead crane

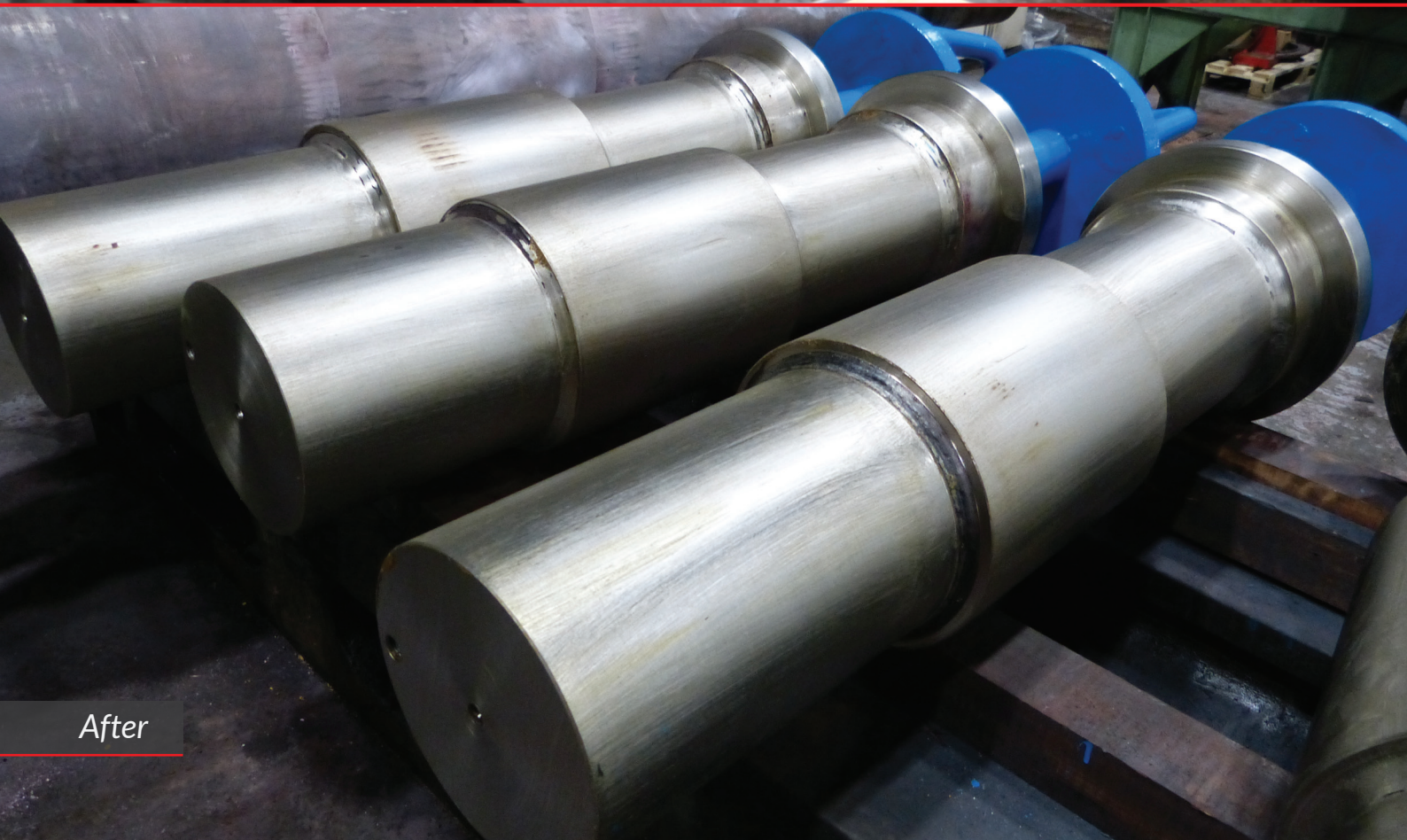
All workshops are served by two adjacent 10 tonne overhead cranes with a maximum straddled lift of 18 tonnes.

Transport

HGV rigid body capacity 16 tonne
Ford Transit pickups - 2 off x 1 tonne



Before



After

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MADE IN
SHEFFIELD



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