

Restoration of North Bridge Waverly Station, Edinburgh



Broken elements



Components are cleaned, visually inspected and cracked detected using MPI (magnet Particle Inspection), this identifies any unseen defects. Gas Fusion Welding is employed to repair defects and missing parts reinstated using material identical to the parent material.



Before



Fully Restored

Cast Iron Welding Services Ltd

+44 (0) 1530 811308

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castironwelding.co.uk

Units 3-5 Samson Road,
Hermitage Industrial Estate
Coalville, Leicestershire
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The Rochester Bridge, Decorative Columns Beautifully Restored.



Before restoration begins extensive corrosion is clear to see.



Before



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Missing sections are reinstated using Gas Fusion Welding. The intricate hand-painted decorative design which features exotic fruit, foliage and ribbons is then applied to complete the restoration.

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Seamless, permanent, sympathetic repairs to **heritage cast iron**, since 1946

- ✓ One call for all your needs - a cast iron guarantee for projects of all size
- ✓ Your precious metal - safe in our hands
- ✓ Foundry gas fusion repairs to cast iron components large or small



Independently verified **89% reduction** in
CO₂-EQ emissions, compared to replacement.



Contact us today for a free consultation

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Technical Information

Gas fusion welding of cast iron ensures a homogeneous stress free weld with improved metallurgical and machining properties compared to those of the parent metal.

All castings are pre-heated at a controlled rate until the optimum welding temperature is reached. Whilst the entire component is maintained at this temperature, the area to be remanufactured is then subject to the application of intense localised heat bringing it to a fluid state.

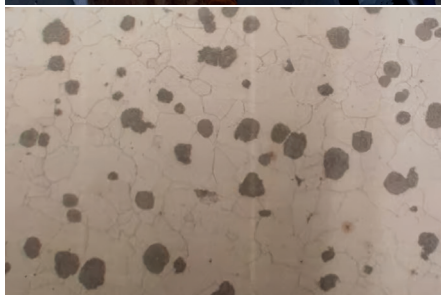
The welding operative maintains a molten pool of the base metal into which is fed a carefully selected, own manufactured, cast iron filler material at the same grade.

Controlled cooling from the fluid state to ambient temperature ensures a stress free homogeneous weld deposit.

These examples of welding sections magnified 105 times illustrate the integrity of the weld interference of spheroidal graphite irons.

Material Testing

Castings are manufactured in several types of material it is important that before any welding is carried out a full material analysis should be established.



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Cast Iron Welding Services
Specialists in cast iron repair
& restoration since 1946

We remanufacture operational defects caused by:



Fractures due to overheating or third-party arc welding



Mechanical damage



Eroded water-cooled valve seat pockets

Erosion in the valve seat pocket can take the pocket beyond the manufacturer's last standard oversize.

Cast Iron Welding Services utilises a process known as 'Gas Fusion Welding'. We rebuild the entire valve seat chamber with new material and machine it to accept the manufacturers standard size valve seats. The rebuilt cover is hydraulically tested, witnessed by class and returned to the customer complete and ready to fit.

Remanufactured cylinder heads are fitted with appropriate new parts such as valve seats, valve guides, injector sleeve and guide bolts. Only original or OEM specification parts are fitted, and a complete rocker side build-up can also be carried out if required. Following a pressure test we paint your cylinder head in the finish colour of your choice, protect all bare metal parts against transit and storage corrosion and pack in a suitable box. Shipment can take place to a warehouse, repair shop, port or vessel of your choice, wherever they are in the world.

Remanufacturing can **save up to 75%** of the cost of a new replacement component

REMANUFACTURING LIFE CYCLE (CYLINDER HEAD ~ 1,200 KG)



NEW CARBON FOOTPRINT
824 KG CO₂eq

TOTAL CO₂EQ SAVINGS
89.4%