SKANSKA

Fabrications

Delivering fabrication solutions that help build for a better society

Our Bentley Works fabrication facility has been established in Doncaster, South Yorkshire, for over a century

Introduction

We have a rich heritage of manufacturing steelwork solutions that help build for a better society, producing everything from small intricate components through to large steel structures for buildings and infrastructure, that help businesses thrive and keep communities connected.

Welding at Bentley Works

Our fabrication services encompass a wide range of sectors including **nuclear, water, defence, energy, offshore, oil & gas, road, rail, and bridges**. We leverage advanced technology and techniques to ensure the highest standards of quality and safety in all our fabricated components.

Our wide-ranging certification and accreditations include: ISO 9001, ISO 45001, ISO 14001, SCCS, UKCA, RQSC, RISQS, Fit 4 Nuclear, CE Marking to Exc. Class 3 and National Highways Sector Scheme approval.

We are certificated to carry out structural steel fabrication in line with British Standard EN 1090-2 and BS3834. Our workshops are CE-certified for structural steelwork, demonstrating that products meet European health, safety and environmental standards.

Specialising in:

- Bridges
- Plate girders
- Bespoke fabrications
- Columns and grillages
- Structural steelwork
- Temporary steelwork
- Access steelwork
- Pipework: modular, bespoke and prefabricated

Accreditations

Specialist off-site fabrication, manufacturing, engineering and servicing

We designed and built our Bentley Works facility to the highest environmental standards. Featuring over 5,000 square metres of high-tech fabrication, engineering and manufacturing workshops.

Shop floor at Bentley

These state-of-the-art workshops, along with our rich heritage, enable us to combine the latest technology with traditional manufacturing techniques. Off-site manufacturing at our facility improves the quality and safety performance of our customers' specific projects, while reducing on-site activity, cost and installation time.

Using a wide range of techniques coupled with specialist equipment and precision tooling, our highly-skilled team transforms raw and recycled materials into bespoke and modular structural solutions. We also produce an extensive range of tooling and equipment for the specialist piling and foundations industry.

Our experts use the latest technology, such as computer numerical controlled (CNC) machines, to produce intricate and bespoke designs

We specialise in:

- Installation
- Bespoke and modular units
- Heavy industrial platework
- Medium size portals
- Large span truss work
- Steel columns
- Props and walling beams
- Riser frames for machinery
- Steel tubes and liners
- Modular and acoustic housings
- All aspects of architectural steelwork
- Piling and ground engineering
- Foundation tooling

Plunge Columns

Our credentials

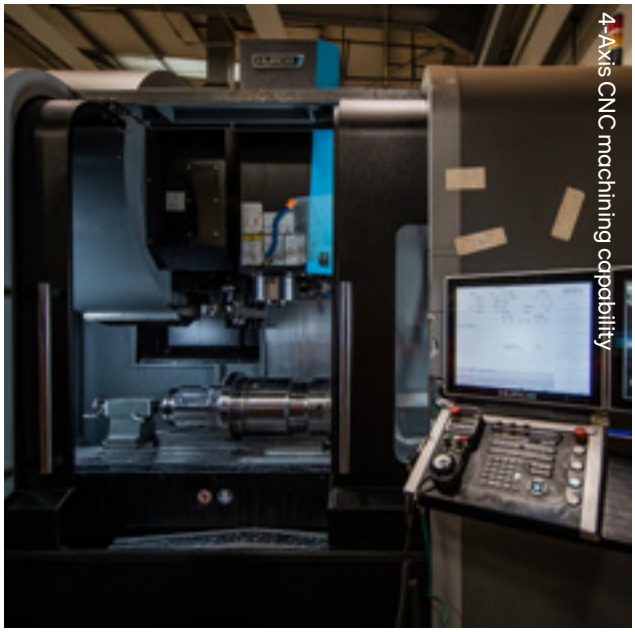
Our team of mechanical and civil engineers are competent and skilled in fabrication, welding, electrical engineering, hydraulics and computer numerical control (CNC) specialised machining.

At the forefront of research and innovation, we maintain an extensive list of patents and trademarks and our products have been hugely influential in the piling and foundation industry.

We are a recognised bridgework manufacturer; building bridges from small modular pedestrian units through to plate girders, trusswork bridges, and bridges with complex plate work. We also manufacture all types of sign gantries and support structures for highways and other infrastructure projects.

M42 A45 Footbridge - fabricated at Bentley Works

Complete fabrications solutions from design and manufacture through to delivery and installation on-site



4-Axis CNC machining capability

Specialist services

We offer a comprehensive range of services to support construction projects.

These include stud welding, specialist materials, coatings, line boring, material profiling, specialist welding and 4-Axis CNC machining capability.

Supply and installation of Bridge Bearings both Mechanical and elastomeric to your required specification.

We provide a nationwide installation service to support all industrial and construction projects. Our team of experienced steel installation experts and our collaborative approach, we can ensure on time - on budget results while also maintaining the highest quality and safety standards.

Repair maintenance

We repair and maintain a wide range of plant and machinery.
Our experienced technicians use specialist equipment to carry out precision work at Bentley Works as well as at site locations.

We provide a 24-hour, seven-days a week service, supporting customers across the UK and Ireland.

ANDON System

The ANDON system, originating from the Toyota Production System (TPS), is a traffic light system that alerts operators about issues on the production line. It helps us identify productivity and time losses, enabling us to take corrective action.

We provide work-based training to operators on using the system and its different light permutations. Early feedback data is already showing insights into our productivity and efficiency.

Fabricated in Bentley Works, installed Scotland

ANDON system

Solutions helping to build for a better society

M42 A45 Church Lane Footbridge

Birmingham, UK

Highways UK

Completed, May 2023

£2 million


M42 A45 Footbridge


M42 A45 Footbridge

The Church Lane footbridge was a sixty-four-meter span precambered lattice structure footbridge, comprised of ninety-four tonnes of steel. In addition to the bridge deck the works encompassed ten ramps and two staircases. The project totalled three hundred and thirty tonnes of steelwork

Duniface Bridge

Fife, Scotland

Story Contracting

June 2024

£1.15 million


Duniface Bridge installation


150-metre footbridge at Duniface

The Duniface Bridge spans the newly reinstated Levenmouth Rail line and the picturesque River Leven, linking communities north to south, provides enhanced walking and cycling routes and fostering greater access to nearby amenities and communities. This 150-metre, 190-tonne steel structure was meticulously assembled from six sections ranging between 27 and 31 tonnes each.

Solutions helping to build for a better society

No. 1 Court chiller units and walkways

- Wimbledon, Surrey, UK
- All England Lawn Tennis Club (AELTC)
- Ahead of programme
- On budget
- £420,000

We were approached to develop and manufacture a series of chiller units and a gantry walkway for the prestigious No.1 Court at the All England Lawn Tennis Club in Wimbledon. The project formed part of the overall redevelopment of No.1 Court including the new retractable roof package, also delivered by Skanska. The chiller units make up the main air conditioning system for the entire structure.

Our scope of works included; the connection design, detailing, fabrication, welding, shot-blasting, painting, fitting out of the units and site installation. Every aspect except the installation was carried out at our Bentley Works facility to extremely high standards to CE Certification, BS EN 1090.

Our fabrication expertise helped achieve precise dimensional aspects of the units and our in-house painting capability ensured that the product was finished to meet strict AELTC specification, as well as the aesthetic demands that come with a venue as iconic as Wimbledon's All England Club. This was a full fabrication package, from concept and design right through to manufacture, transportation and installation.

The walkway and staircase complies with very high safety specifications as it is designed to carry hidden electrical cables. The installation of these onto the roof by our fabrications team was the final phase in this complete fabrications package.

Better communication, greater efficiency, more precise work programmes and reduced risk

1-5 Grosvenor Place structural columns

5 Grosvenor Place, London, UK

- Sir Robert McAlpine
- Ahead of programme
- On budget
- £2.9 million

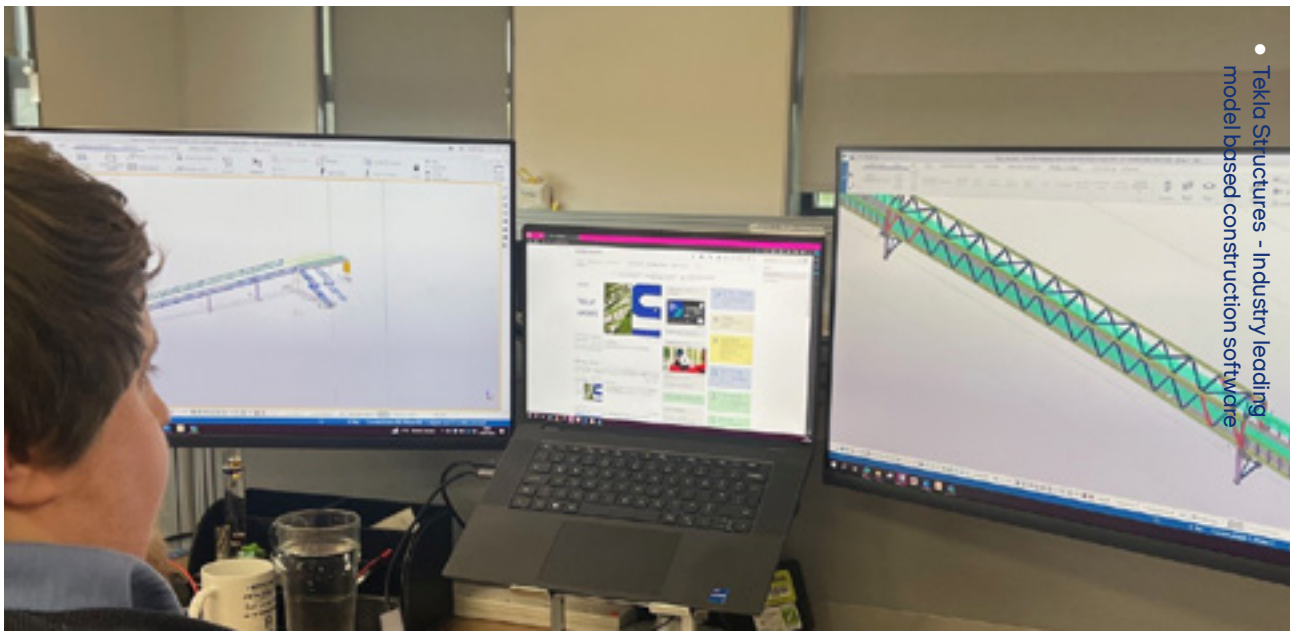
1-5 Grosvenor Place is a prestigious central London hotel and residential development overlooking Hyde Park Corner and Buckingham Palace.

Our design, manufacturing and logistical expertise offered Sir Robert McAlpine an improved off-site fabricated product; a perfect solution to its top-down basement construction process. This not only reduced cost and programme time, but also improved quality and minimised risk, including safety.

By investing and developing in our techniques, we were able to splice the 35-metre columns into two sections. We could then transport them in manageable lengths while still meeting the specified overall vertical tolerances of 1/1000 when they were connected together on-site. Approximately 2,500 tonnes of structural steel was manufactured and delivered over a four-month period with 150 fabricated columns and plate girders forming an integral part of the overall structure and basement solution.

The columns, manufactured to CE Standard BS EN 1090 Execution Class 3 and weighing 30 tonnes each, were completed nine weeks ahead of schedule. Efficiencies were achieved by investing in equipment such as portable stud welding capabilities, CNC profiling, increased drilling capacity and software upgrades for our CNC machines.

The non-destructive testing inspection (NDT) of the welding was done in-house by our team of qualified inspection technicians.

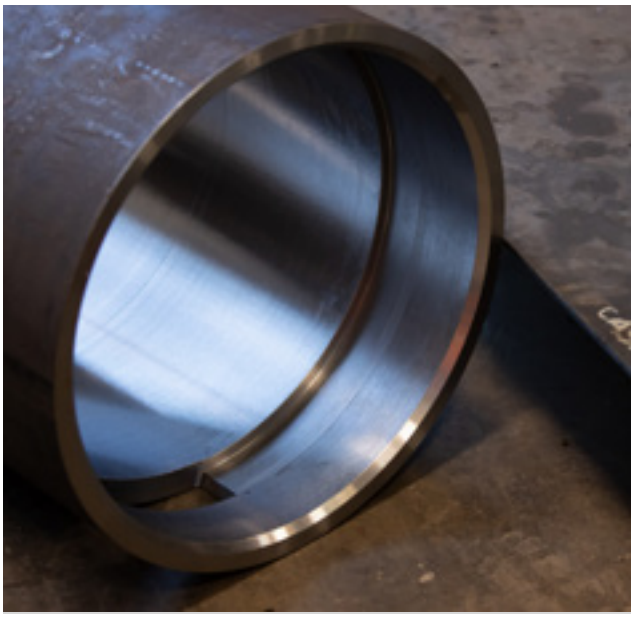


• Tekla Structures - Industry leading model based construction software

BIM and Design

By investing in digital engineering and having a team of highly skilled engineers and designers we're able to deliver projects to extremely high specifications, while reducing risk, saving time and improving efficiency.

Using a variety of digital tools and techniques we provide a complete solution for our customers



A range of digital tools:

- Finite element analysis
- Joint design
- Engineering calculations
- Product development
- Design optimisation
- Design troubleshooting
- Value engineering
- Analyse tolerances and producibility
- 2D and 3D design specialists
- Tekla Structures construction software


Combining the latest technologies with our highly-skilled team we deliver safer, more efficient sustainable projects
HURCO
HURCO

Solutions helping to build for a better society

52 Lime Street anchor system

London, UK

Byrne Bros

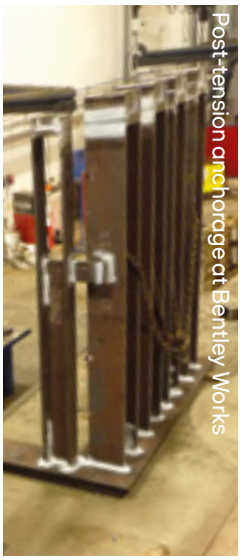
On programme

£250,000

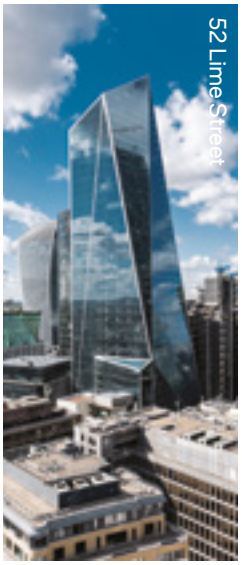
We were involved in the design and manufacture of a series of post-tension anchorage units for 52 Lime Street, one of London's high rise buildings. The development, located in the City of London, and is supported by the huge steel structures.

The welding in the units was particularly demanding, with some of the full penetration fillet welds having over 70 runs each. High-grade steel and pre-heating plate material with thicknesses in excess of 100mm were used to form the base and high level anchorage units.

Independent weld testing consultants confirmed that it was one of the most challenging weld designs they had seen.



Post-tension anchorage at Bentley Works



52 Lime Street

Ramsey Mill bridge

Cambridge, UK

Skanska UK

On programme

On budget

£50,000

Cambridgeshire County Council required pedestrian access across the High Lode section of the river Nene. Skanska provided a complete package to supply, manufacture and install a footbridge with a cycle path. The fabrications team manufactured the 12.5 metre bridge steelwork frame and wooden decking off-site and delivered and installed it on-site over the river.

River Irwell bridge suppport structures

Manchester, UK

Skanska UK
On programme
On budget
£90,000

This project involved the design, manufacture and installation of a temporary support frame, to enable upgrade work to take place to the existing bridge over the River Irwell in Manchester.

We provided the temporary works solution along with relevant design and certification.

Ludgate tower crane girders

Ludgate, London

McGee
Ahead of programme
On budget
£130,000

We manufactured the tower crane base and grillage for a multi-storey office and retail development in Ludgate, London. The tower crane base was made up of eight manufactured plate girders with a combined weight of 80 tonnes. It was manufactured and installed on site to extremely high tolerance.

Solutions helping to build for a better society

ESS Lund proton collider

European Spallation Source, Sweden

Skanska Sweden

Ahead of programme

On budget

£340,000

We were proud to support our Swedish colleagues working to build a research facility, ESS Lund. Home to the world's most powerful neutron which will enable scientific breakthroughs aimed at addressing some of the most important societal challenges of our time.

We designed and manufactured 63 double wall permanent liners for this project. This resulted in the joint-development of an innovative solution to overcome the potential effects of earthquakes. Made to CE Execution Class 3, the units were produced eight weeks ahead of schedule and achieved the extremely high standards and strict traceability demands required by our customer and by the prestigious research facility project in Sweden.

London Power Tunnels cable brackets

London, UK

National Grid

Ahead of programme

Ahead of budget

£50,000

National Grid approached us with a project to manufacture over 3,000 cable tunnel brackets. Using our design and manufacturing skills, we were able to offer an alternative product that not only reduced costs by £50,000, but also cut the delivery time by four weeks.

Foundation tooling

We offer a comprehensive and wide range of foundation tooling and equipment to support all piling projects.

These include:

- Augers for continuous flight augering (CFA), rotary, displacement and smaller ground engineering works
- CFA and rotary boring heads
- Digging buckets
- Cleaning buckets
- Core barrels
- Segmental casing
- Slip casing
- Casing clamps, belly bands and jacking units
- Casing drivers and adapters
- Auger cleaners
- Tremmie racks and equipment
- Cage hanging equipment
- Mini pile ancillary equipment
- Tooling adaptors

Sustainability

Bentley Works is our most sustainable facility in the UK, developed to the highest environmental standards. The site is extremely energy efficient with almost no impact on the environment. Our plant and machinery are equipped with low emission engines and use recycled hydraulic oils. This is not only good news for the environment, but also for our customers, our business and the future of the construction industry.

The buildings at the facility have natural lighting and cooling, solar panels that generate energy and a dual-fuel heating system that uses biomass and waste oil from machinery.

These have helped to reduce the workshops' energy usage by 40 percent and the office accommodation usage by 25 percent.

Bentley Works is our most sustainable facility in the UK

CNC Roller

Contact us

Bentley Works in Doncaster has good transport links, and is easily accessible from the M1, A1 and M18 and the East Coast Main Line.

For all queries please contact one of our team below:

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