BARNSHAWS
GROUP

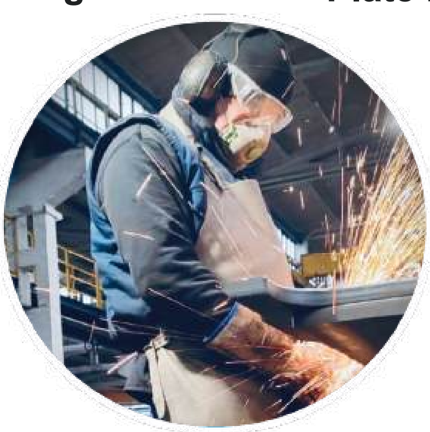
COMPREHENSIVE STEEL BENDING SERVICES ALL IN ONE PLACE

Section Bending

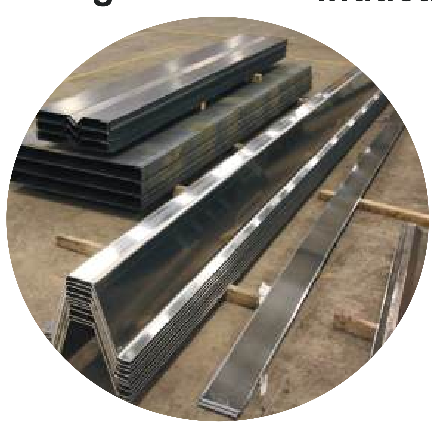
Plate Rolling

Induction Bending

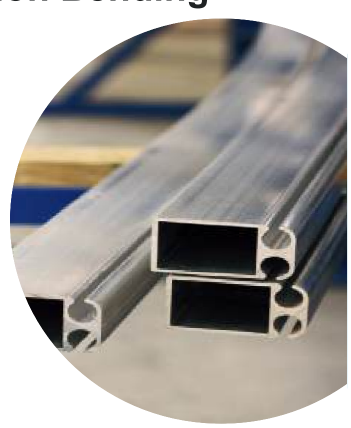
Tube & Pipe Bending



Welded Cylinders



Press Braking



Aluminium Bending

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ABOUT US

Barnshaws Polska is part of the Barnshaws Group, a leader in steel bending since 1969. With the largest production capacity range in Europe, we provide comprehensive services in profile, plate, and tube bending, as well as induction bending, serving clients from the construction, industrial, energy, and infrastructure sectors.

Our presence in Poland began in 2014 with the opening of our plant in Siemianowice Śląskie. In 2025, we expanded operations with a modern facility in Toruń, enabling us to serve customers in northern and central Poland even more effectively and to reduce order lead times.

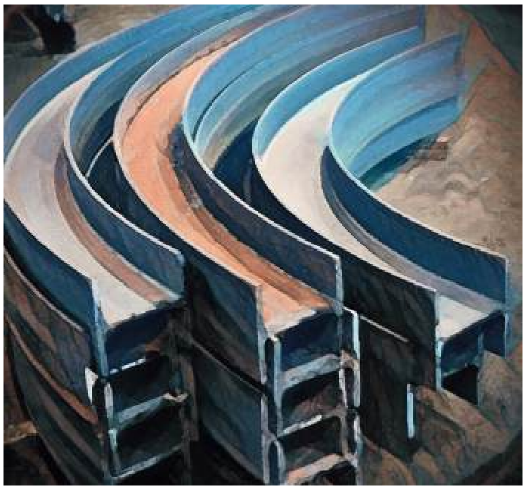
Thanks to our advanced machinery and experienced team of specialists, we are able to execute even the most demanding projects, ensuring the highest quality and precision. Our mission, “Customer First”, reflects our commitment to an individual approach to every order and to building long-term business relationships.

We invite you to cooperate with Barnshaws Polska — a partner that combines tradition with innovation, offering reliable solutions in the field of steel bending.

SECTION BENDING

KEY FEATURES

- Bending capacity to be able to handle the largest sections that can be produced in the mill.
- The world's largest capacity range.
- Sections up to 35m long.
- The most advanced bending systems available
- Any size order is achievable.
- Multiple bends possible.
- Faster and more energy efficient in comparison with other methods.
- A completely controlled and recorded process.



TUBES & PIPE:

- Tubes & Pipes up to 1524mm:
- RHS up to 500 x 300 x 20mm - (Rectangle)
- SHS up to 500 x 500 x 20mm - (Square)

PLATE ROLLING

KEY FEATURES

- Advanced Plate Rolling Capabilities up **to do 3500 mm.**
- Thickness: up **to 100 mm**, depending on plate width, radius and diameter.
- Complete supply or free issue service for each job.
- Quick turnarounds and high-quality service.
- Multipurpose Manufacturing Facilities.
- Equipped with the most modern plate rollers in Europe for a first-class finish.
- Pre-bending of thick plates to minimize waste.
- Overhead cranes with up to **20 tonnes** lifting capacity.

EDGE PREPPING FOR WELDING SERVICES

- Machined, flame cut and plasma edges.
- First-class finish for faster and more efficient product completion.

CONE BENDING

KEY FEATURES

- Barnshaws offers a service of bending cones from either free issue material or complete supply.
- Capability to bend conical components from sheets of varying thickness and diameter.
- Specialised plate rollers enable precise forming of cones with large angles and lengths.
- Hardened rollers with robust support ensure high quality and process consistency.
- Cone bending is performed with full control and recording of technological parameters.
- Orders can be fulfilled as single units or in series production.

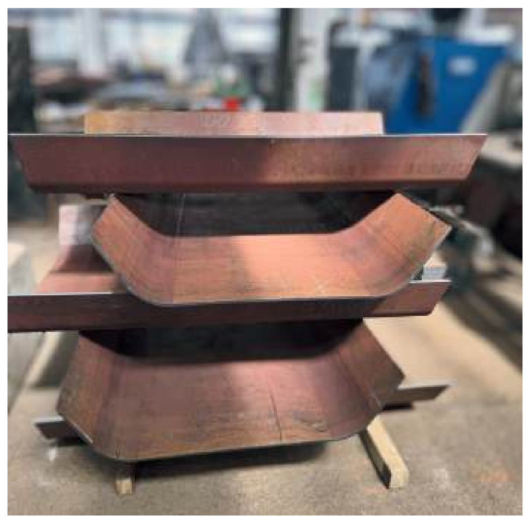
TYPICAL APPLICATIONS OF CONES IN INDUSTRY

- Feed and discharge hoppers.
- Conical tanks and silos.
- Pipe reducers and transition pieces.
- Cyclones and filtration components.
- Turbine casings and nozzles.
- Protective covers / technical shields.
- Stern thruster / bow thruster elements for ships.
- Architectural structural elements.

PRESS BRAKING

KEY FEATURES

- Barnshaws are happy to operate on either complete supply inclusive of material or on a free issue basis with or without cutting services.
- Bending capacity covers materials up to **80 mm** thick.
- Section lengths up to **13 meters** giving flexibility of design.
- **1600 tonne** capacity.
- Profile bending to a wide range of dimensions.
- Special profiles to suit customers' specific requirements.
- Any size order is achievable.



MATERIALS CAPABLE OF BEING COLD FORMED INCLUDE:

- Structural, fine grained, marine, high yield and off shore grade steels ie S275 & S355.
- Hardox and HB Wear resistant materials.
- Copper
- Duplex and super duplex stainless steels.
- Austenitic and martensitic stainless steels
- Exotic materials such as monel and titanium.

INDUCTION BENDING

KEY FEATURES

- Induction pipe bending from 50.8mm (2”) up to 813mm (32”) outside diameter and up to 50mm thickness.
- RHS bent about minor axis up to **500 x 300 x 20**
- SHS up to **400 x 400 x 20**
- UB and UC up to **500mm**
- Sections can be curved to smaller radii than with cold bending techniques.
- Surface unaffected by the process.
- Multiple bends are possible on a single length of pipe.
- Reduced welding requirement with compound bends, improving finished pipework integrity.
- Faster and more energy efficient than traditional hot bending methods.

TYPES OF BENDS

- Quarter 90° bend
- Angle bend 0-120°
- Cross over bend
- S-bend/offset bend

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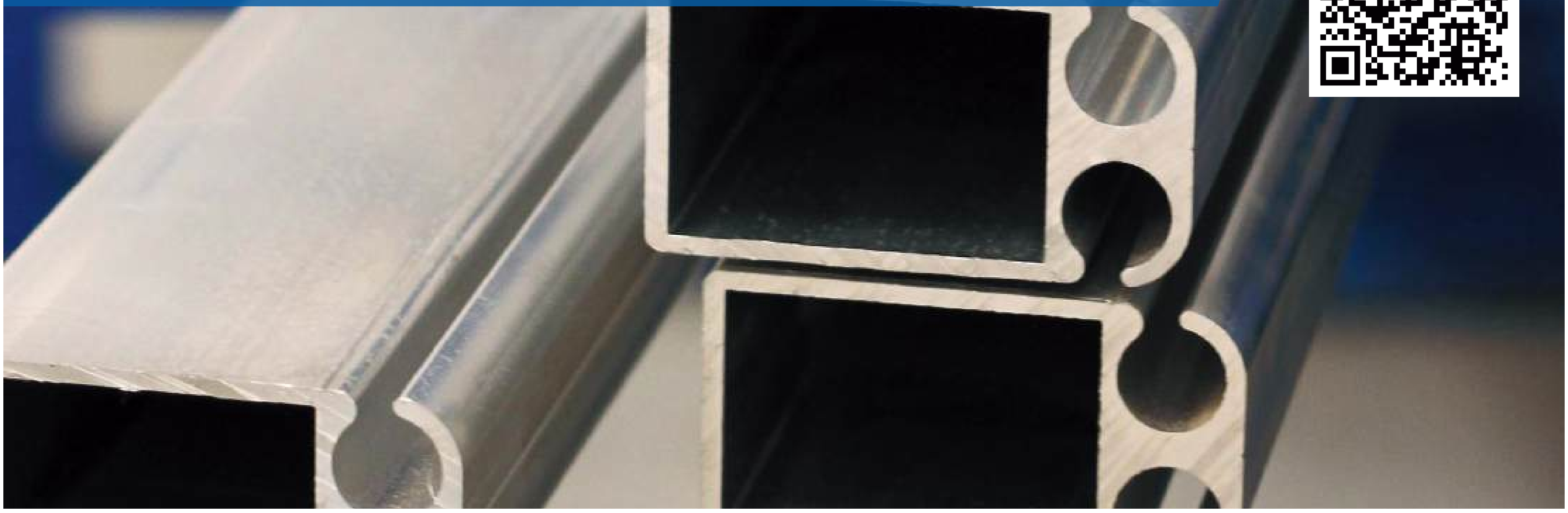
ALUMINIUM BENDING

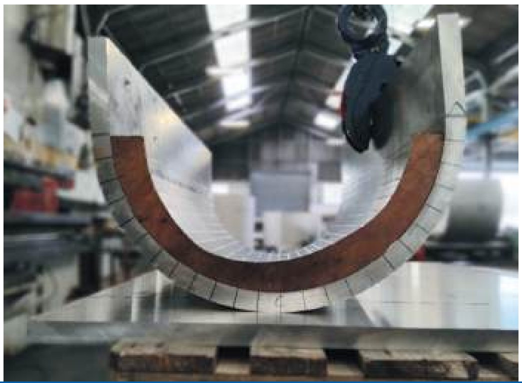


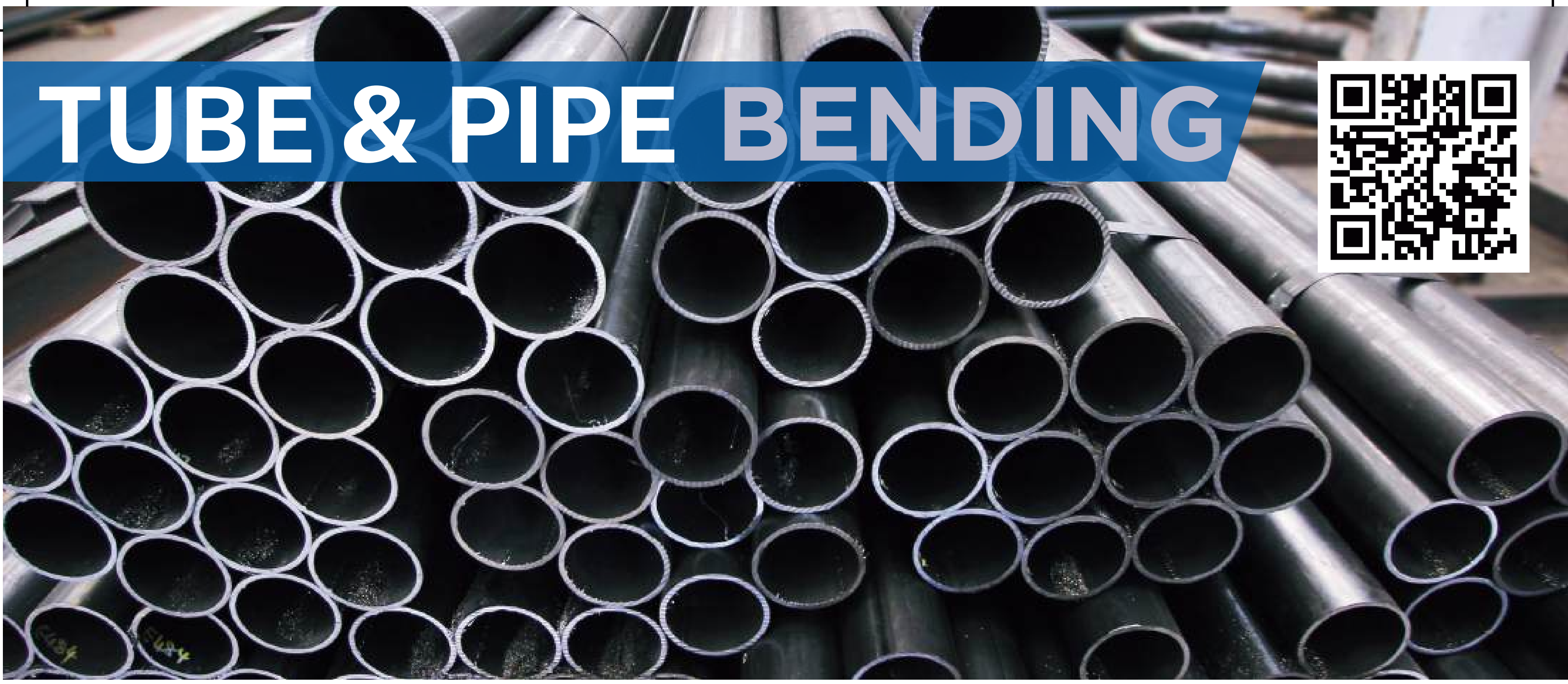
KEY FEATURES

- Highly experienced team
- Almost any section is bendable.
- Little or no marking of section and plates surface
- One off, batches or thousands
- Saw cutting to length
- Clean non-ferrous bending areas
- Advanced filling system

TYPICAL APPLICATIONS FOR ALUMINIUM BENDING INCLUDE

- Automotive – trucks, buses, coaches, caravans
- Aerospace
- Construction
- Curtain walling
- Office and interior
- Rolling stock
- Medical & Leisure
- Marine
- Architectural





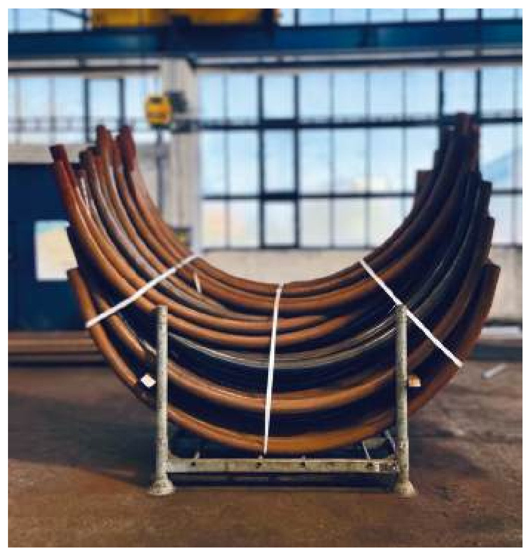
TUBE & PIPE BENDING

THREE ROLLER BENDING

- Bending of pipes and tubes up to **Ø1524 mm** with a wall thickness of **100 mm.**
- Capability of cold bending thick-walled pipes (e.g., **Ø1300 mm**, wall thickness **70 mm, radius 50 m**).
- Bending of profiles with a section modulus up to **120,000 cm³** – ideal for large structures.

INCREMENT BENDING

- Tubes and pipes with diameters up to 1524mm (60 inches) and wall thicknesses up to 100mm.
- Ability to cold bend thick-walled tubes, (e.g. 1300mm outside diameter tube with a 70mm wall thickness, bent to a 50m radius)
- Our bending machines have the capacity to bend sections with modulus up to 120,000 cm3, enabling the use of optimal design for various structural applications.



MANDREL BENDING

- Mandrel bending can be performed on tubes up to 115 mm in diameter.
- This bending method is commonly used for tighter radii in tubing, typically around 3 times the outer diameter (3D).

WELDED CYLINDERS

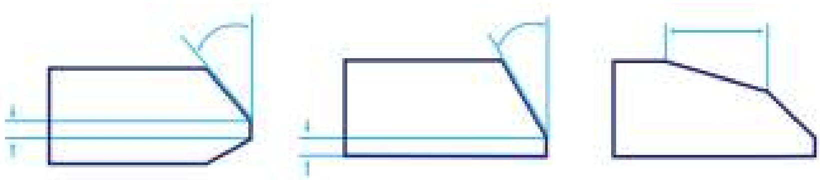
KEY FEATURES

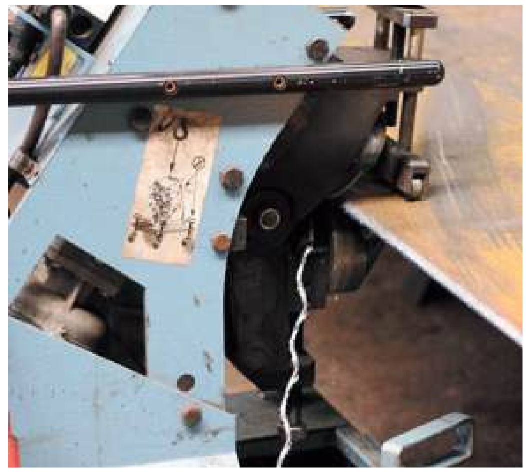
- Column and Boom manipulators allow us to weld cylinders from **450 up to 4200mm.**
- Small diameters down to **350mm** can be Submerged Arc Welded from the inside.
- All procedures and welders' qualifications to EN/ASME codes.
- NDT and PWHT services are available.
- MMA, MIG, and TIG processes are also available.
- All cylinders are being re-rolled and inspected after welding to maintain contracted tolerances. This standard practice eliminates the need for customers to return cylinders that may have distorted after their welding.
- The results are interpreted to all major codes.
- Barnshaws can offer single cylinders or multiple belted shells circumferentially welded up to **20 meters** in length.
- The only restriction is a total of **20 tonnes.**

ADDITIONAL SERVICES

EDGE PREPPING

Double V • Single V • Non-standard





SAWING

At Barnshaws we can offer saw cutting to length and end forming subject to requirements.

BENDING OF SPIRAL ELEMENTS

From polished handrails for spiral staircases to multi-coil heat exchanger tubing, Barnshaws' offer also includes spiral bending of rectangular section profiles

BEAM STRAIGHTENING

At Barnshaws, we not only bend profiles with precision but also specialize in straightening them. Our expertise ensures profiles are skillfully shaped and corrected for any deformations, delivering components that meet the highest standards of strength, accuracy, and reliability for diverse applications.

CASE STUDIES

MARKETS

General Engineering and Fabrication: Flexible bending services for projects of any scale.

Civil Engineering: Components for bridges, tunnels, foundations, and specialized structures.

Power Generation: Bent components for renewable energy, nuclear power, and combined heat and power plants.

Offshore: Pipes, tanks, and structures for the shipbuilding sector.

Oil and Gas: Steel tanks, pipelines, and assembly kits.

Construction: Architectural profiles for prestigious projects.

Commercial Vehicles: Rails and components for trailers and tipper trucks.

Industrial Machinery: Components for construction and industrial machinery.

Defence: Bending and rolling of components for the defense sector.

Facades: Precision bending of decorative non-ferrous metal components.

THE METROPOLITAN COMMUNICATION STATION

SECTOR: Commercial

SERVICE: Profile bending

LOCATION: Lublin

PROJECT

A modern Metropolitan Communication Station has been built in the heart of Lublin, representing a major infrastructure project that combines transportation functions with contemporary, eco-friendly architecture. Designed as a two-storey metropolitan station, it serves as a landmark for the Lublin urban area.

CHALLENGE

The project called for an impressive support structure consisting of 15 pillars shaped like tree canopies. It had to be visually lightweight yet structurally strong, necessitating the use of large, precisely bent steel profiles

SOLUTION

Our company supplied and fabricated nearly 500 steel components, including:

- Rectangular profiles 200x100 mm, 8 and 12.5 mm thick and 12 m long, bent in challenging positions to radii of 6.4 m and 3.8 m.
- HEB200 I-beams, 12 m long, bent to a 4.5 m radius.

The total order weighed 300 tonnes. The bent profiles formed a structure resembling tree canopies, while the HEB200 beams created external rings connected to vertical elements serving as the “trunks.”

RESULT

The project was successfully completed, both technically and aesthetically. It created a modern public space featuring greenery on the façades and roof, helping to combat smog and improve urban air quality.

HUŠTÁK-KRÁĽOVA BICYCLE BRIDGE

SECTOR: Commercial

SERVICE: Profile bending

LOCATION: Banská Bystrica, Slovakia

PROJECT

In Banská Bystrica's Hušták district, the modern Hušták–Kráľova bicycle bridge was built to offer cyclists a safe and efficient route, while its innovative and striking design makes it stand out from traditional engineering structures.

CHALLENGE

A key structural feature of the bridge was the use of sheets bent into an offset cone shape with two different radii—one at the base and one at the top. This design provided:

- high strength and load-bearing capacity,
- optimized structural weight,
- spatial efficiency while preserving the aesthetic of the spiral form.

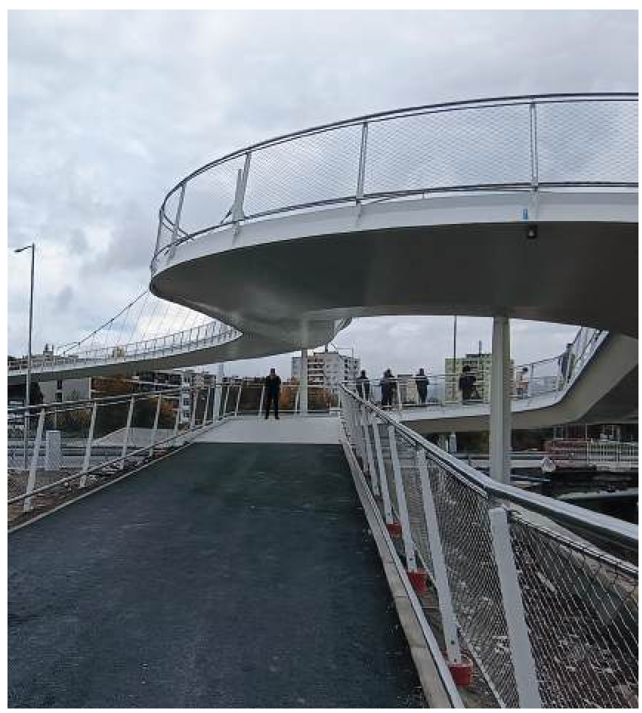
Extreme precision was required, as each bridge element had unique dimensions and bending radii.

SOLUTION

Our company completed a key phase of the project by bending 325 conical sheet metal panels, with a total weight of 63 tonnes. Each element was unique, requiring a tailored approach, precision, and the use of advanced technology and engineering expertise. This resulted in a spiral structure with an offset conical profile.

RESULT

The completed bridge not only fulfilled all technical specifications but also stood out for its distinctive design. Its spiral structure combines functionality with a striking aesthetic, showcasing a contemporary approach to urban architecture.



OIL STORAGE TANK

SECTOR: Energy

SERVICE: Sheet bending

LOCATION: Nelahozeves, Czech Republic

PROJECT

The new steel crude oil tank in Nelahozeves, Czech Republic, is part of the expansion of the central oil terminal, which stores the country's strategic energy reserves. The terminal handles oil from the Druzhba and IKL pipelines, with a total capacity of 1.55 million m³, enough to cover up to 90 days of demand in the event of an energy crisis.

CHALLENGE

In connection with the construction of the new tank, Metrostav a.s.—a leading Czech construction company—sought a supplier of precisely bent steel sheets with high weight and varying specifications. The project required not only large-scale production but also strict dimensional tolerances, which were essential for the efficient assembly of the tank.

SOLUTION

Barnshaws Polska completed the most demanding phase of the project—precision bending of steel plates:

- 531 steel plates, 10–39 mm thick, 2–3 m wide, and 10 m long,
- Stiffening rings bent both inward and outward,
- Total bent steel weight: 2,100 tonnes,
- Maintained tank diameter tolerance: 10–15 mm,
- Tank diameter: over 84 metres.

RESULT

Thanks to high precision and timely execution, the steel components were seamlessly assembled by the Metrostav team. The completed tank enhanced the Czech Republic's strategic oil storage capacity, while Barnshaws Polska once again reinforced its position as a leader in metal bending for the energy sector.

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LOFTESNES BRIDGE

SECTOR: Infrastructure

SERVICE: Steel tube bending

LOCATION: Sogndal, Norway

PROJECT

As part of the road infrastructure upgrade in Norway, the new Loftesnes Bridge was constructed to replace the aging 1954 crossing over the Sognefjord. The bridge connects the banks along national road Rv 5, improving traffic flow and road safety.

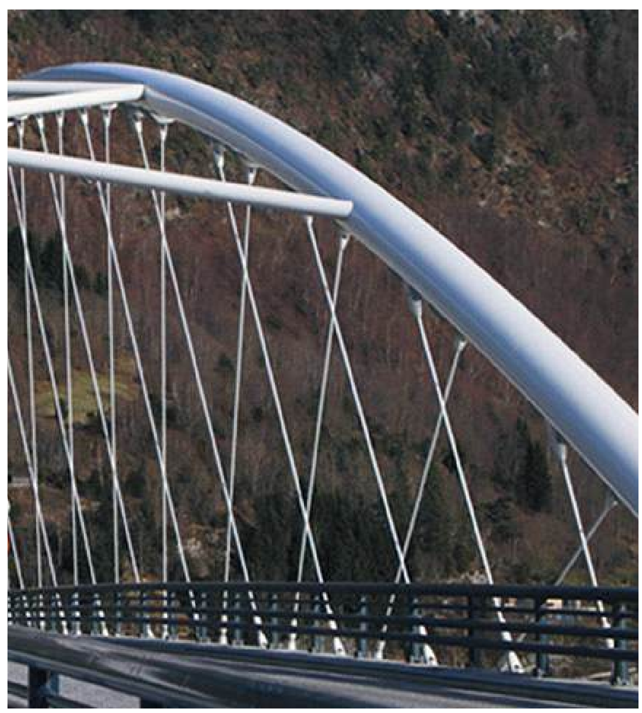
CHALLENGE

The new bridge's standout feature was its two central steel arches, demanding extremely precise bending of large steel tubes. The project required tubes with custom dimensions and a massive bending radius of 65 metres, with fast component delivery and minimal impact on the surrounding infrastructure being essential.

SOLUTION

Barnshaws Polska was tasked with bending the large steel tubes forming the main structure of the bridge:

- 20 individual steel tubes, 813 mm in diameter and 30–40 mm thick,
- Tube lengths of up to 10 metres,
- Bending radius: 65 metres,
- Total weight of bent tubes: approx. 125 tonnes,
- The tubes formed the primary arches of the bridge structure, which had a total weight of 420 tonnes.



RESULT

Thanks to timely and precise execution, Barnshaws Polska provided effective support to the contractor. The bent tubes were transported to the site and installed using an 800-tonne floating crane. The result is a modern bridge structure with distinctive white arches, perfectly complementing the natural beauty of the Sogndal region.

WIELUN RING ROAD

SECTOR: Infrastructure

SERVICE: Steel tube bending

LOCATION: Wieluń, Poland

PROJECT

As part of the road infrastructure upgrade near Wieluń, a new overpass was constructed to improve traffic flow and city access. A key element of the structure was the steel support tubes, the fabrication of which was entrusted to Barnshaws Polska.

CHALLENGE

The new bridge's defining feature was its two central steel arches, requiring precise bending of large steel tubes. The project called for custom-sized tubes with an impressive 65-metre bending radius, alongside quick component delivery and minimal impact on the surrounding infrastructure.

SOLUTION

Barnshaws Polska was tasked with bending the large steel tubes forming the bridge's main structure:

- 20 individual steel tubes, 813 mm in diameter and 30–40 mm thick,
- Tube lengths up to 10 metres,
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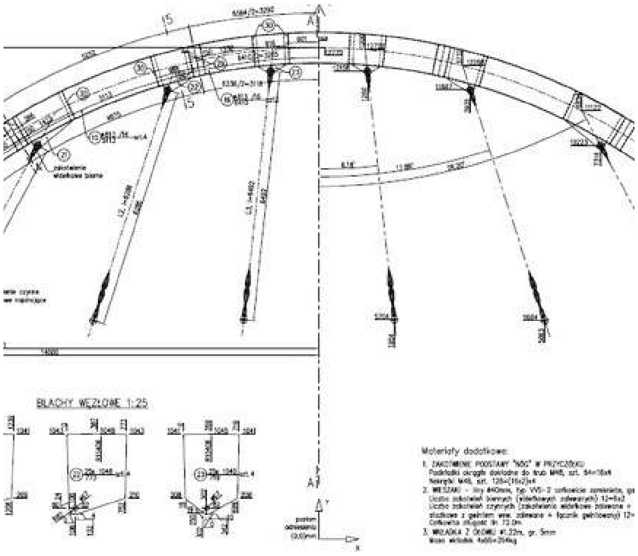
RESULT

Thanks to timely and precise execution, Barnshaws Polska provided effective support to the contractor. The bent tubes were transported to the site and installed using an 800-tonne floating crane. The result is a modern bridge structure with distinctive white arches, perfectly blending with the natural beauty of the Sogndal region.



THE FOREST OPERA

SECTOR: Cultural / Architectural

SERVICE: Steel tube bending

LOCATION: Sopot, Poland

PROJECT

For the construction of the new roof of the legendary Forest Opera in Sopot, Barnshaws Steel Bending undertook the bending of the largest steel tubes ever cold-bent.

CHALLENGE

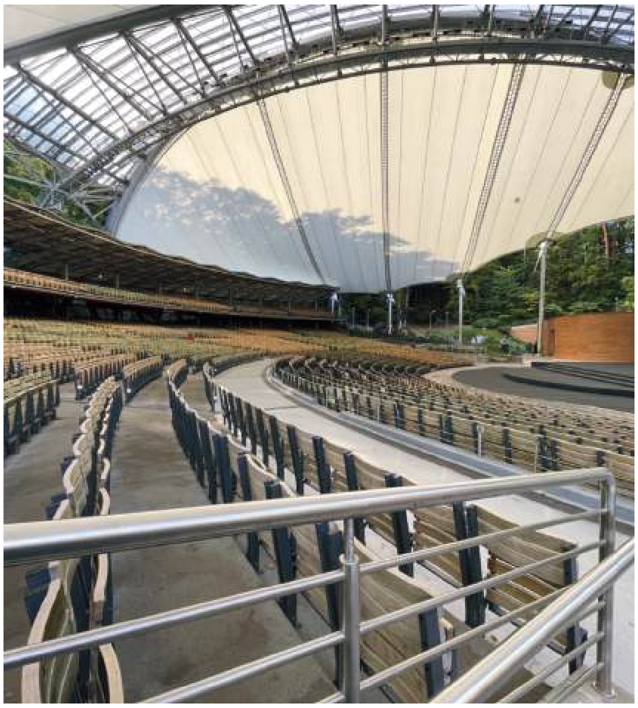
Architects and contractors required 16 steel tubes of enormous dimensions:

- Diameter: 1300 mm
- Wall thickness: 70 mm
- Bending radius: 50 metres
- Total tube weight: 400 tonnes
- Bending strength index: 79,000 cm^3

Until now, such elements were produced using welding or induction bending, but neither method provided the required aesthetics or structural continuity. Cold-bending tubes of this size posed a significant technological challenge due to their dimensions, wall thickness, and the force required, demanding absolute precision and strength.

SOLUTION

Barnshaws successfully completed this ambitious project, producing all 16 tubes in just 14 weeks. Using advanced high-pressure rolling technology, the tubes were bent without any cutting or welding. This achievement proved that cold-bending steel tubes of unprecedented size can be done while maintaining both structural integrity and aesthetic quality.



RESULT

Barnshaws' precise tube bending enabled the Forest Opera to feature a modern, durable roof structure, showcasing an innovative approach to stage architecture.

BARNSHAWS POLSKA

If you have a project requiring precision bending, get in touch with us.

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