

ANGLE RING

- section *bending*
- induction *bending*
- press *braking*
- plate *rolling*
- pipe *forming*
- spiral *bending*



For ALL your bending needs





Unrivalled Experience

Established in 1951, Angle Ring is the leading bending specialist, offering a comprehensive service for section bending, plate rolling, press braking, pipe forming and heavy plate forming & fabrication.



One Location

All production, whether hot bending, cold rolling, press braking, plate rolling or mandrel bending, is carried out on a single site in the heart of the UK, giving unrivalled flexibility, and a central location from which to serve the UK & Europe (see rear cover for details).



Unique Machinery

We design and build the majority of our own machinery, pioneering many of the industry standard techniques used for bending beams, channels and joist.



Small Or Large

Whether you require a single bend, small batch, or steelwork for a large contract we treat your requirements with the same respect, and will deliver regardless of the size of the order.



Delivered To Your Location

We run our own fleet of vehicles and deliver to any UK destination. For deliveries outside the UK we employ commercial hauliers to offer a comprehensive delivery service to any location, anywhere in the world.

All Industries Served

Angle Ring is able to meet the varied demands from the wide range of industries we serve, offering service, deliveries and quality documentation in line with your requirements.

- **Construction and civil**
- **Process and energy**
- **General engineering**
- **Architectural metalwork**
- **Shop-fitting and interiors**



Quality Assurance

In-house Quality Control systems are based on procedures developed and proven throughout industry. Their flexibility enables us to meet the varied demands of customers in the wide range of industries we serve.

For Offshore and Pipeline contracts we operate under First Point Assessment guidelines instigating QA policies specific to the contract, and work in partnership with the customer to ensure every aspect of production is controlled and documented.



company *profile*



Any Section

The entire range of standard UK and continental steel sections can be curved.

A full range of materials can be formed, including mild steel, high yield steels, stainless steels, aluminium, brass, titanium, copper & bronze.

We have unparalleled cold bending capacity in Europe and can accommodate all commercially available 'open' sections.

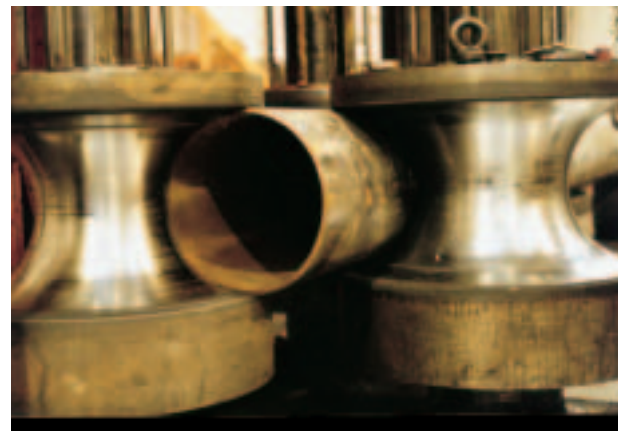
Our cold rolling machinery can also bend tubes up to 508mm diameter, square hollows up to 400x400mm and rectangular hollows up to 500x300mm.

Larger tubes and hollows can be curved using our purpose built hot bending equipment.



Accurate - Fast - Economical - Flexible

The cold rolling process is able to produce smooth accurate bends with minimal set-up costs and consistent results.



Any Shape

We can bend to any shape, whether a constant radius or more complex bend, for example ellipses, parabolas, reverse bends or to co-ordinates.

We can also offer sections, bars, tubes and plates curved in three dimensions, details can be seen on page 10.

Any Length

We are able to curve any length of bar available.

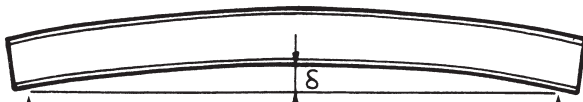


Structural T-Profiles

Angle Ring offers beam splitting and cold straightening to form regular 'equal' T-Profiles or off-centre cutting to give long or short stalk T-Profiles and T-Profiles with narrow or unequal flanges. Tapered T-Profiles can also be formed and fabricated to form tapered beams if required.

T-Profiles can be supplied straight or curved with minimal lead times.

- Full range of British and European T-Profiles
- Bespoke T-Profiles
- Straight or curved



Accurate Cambers

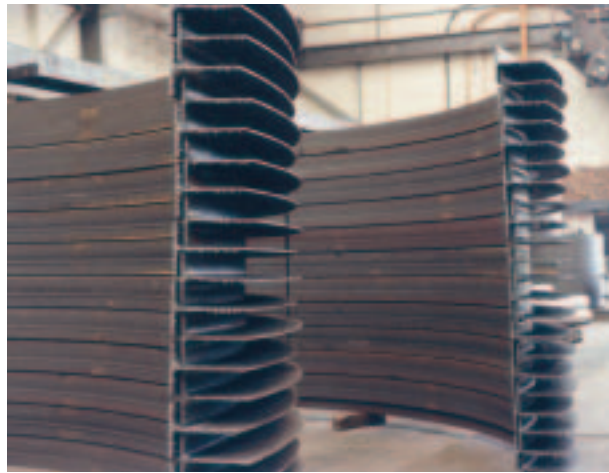
Typical camber tolerance +6 -0mm (or ± 3mm)

Reverse Camber



Tube Manipulation

Angle Ring offer a cold tube manipulation service producing tight radius and multi-directional bends in tube, pipe and hollow sections.



Cambering – All Sections, Any Shape

Our cambering process gives smooth accurate cambers.

- Single rise cambers
- Cambers to ordinates
- Parabolic cambers
- Reverse cambers
- Cambers in any size section
- No minimum camber



Castellated and Cellular

We offer an unsurpassed range of curved Castellated, Cellular, or bespoke beam sections.

- All standard sizes
- Curving in either axis
- Bespoke sizes



Hot (Induction) Bending

Angle Ring has developed unique induction bending techniques that allow sections, tubes or pipes to be smoothly and accurately curved for the structural, petrochemical or pipeline markets.



Low Deformation, Tight Radius

The induction bending process enables sections to be curved to much smaller radii than with cold rolling techniques and with minimal change in section shape.

Sections, tubes and hollows can be curved to single radii, multiple radii, elliptical or parabolic profiles, ordinates or even three dimensional shapes with our induction bending process.



Induction For Structures

For structural buildings and feature steelwork the main advantage of our induction bending process is the ability to curve 'open' sections such as beams and channels to tight radii unachievable by other methods.

Bars up to 30 metres long can be curved as a single length with either cold rolling, or hot bending. Since we offer both processes from a single site we can provide the best combination of quality and cost to suit any particular application.

Tubes up to 915mm diameter and the entire range of RHS and SHS can be curved, including Corus 'Jumbo' sections.

All our induction bending can be offered with the same close tolerances as our cold rolling methods.



Petrochemical And Offshore

Since we designed and built our first induction bending machine we have offered high quality hot bent pipe for the oil, gas and petrochemical industries.

- From 88.9 O/Dia*
- Up to 914mm O/Dia x 50mm thick
- Short or long radius bends
- Low deformation
- High degree of accuracy
- Long lengths up to 30 metres
- Circular or non-circular curves

*(we offer smaller sizes by cold rolling or mandrel bending methods)



Quality Assurance

In-house quality control systems are based on procedures developed and proven throughout the industry, with proper care and close control over every order – however small.

Individual QA specification can be met with full supporting documentation.

We are members of the First Point Assessment scheme.



hot**bending**



Plate Rolling And Forming

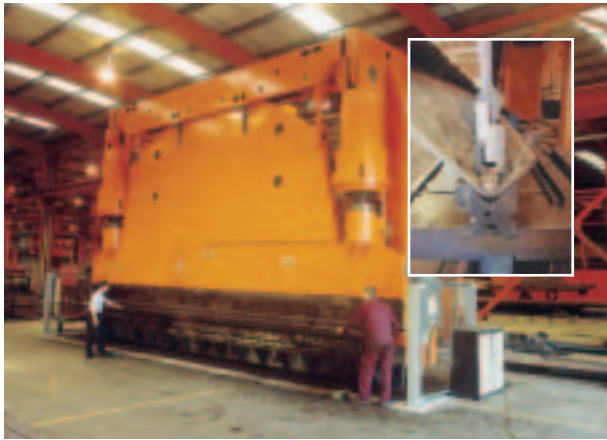
Having acquired the long established Birmingham business of T Morley & Co we have successfully re-located the entire company within our modern premises at Tipton.

Their particular expertise is the manufacture, assembly and testing of heavy steel cylinders. Expanding upon their previous capacity has enabled us to offer plate bending up to 3050mm wide in a full range of thicknesses.

We undertake plate bending as both part of the fabrication process and as a separate service.

- Up to 35mm thick in plate up to 3050mm wide
- Up to 60mm thick in plate up to 1830mm wide
- Up to 150mm thick in plate up to 1300mm wide
- Up to 200mm thick in plate up to 750mm wide
- Edge / End preparing where required
- Welding to internationally recognised standards
- Fabrication by Lloyds approved welders.
- Full quality control procedures

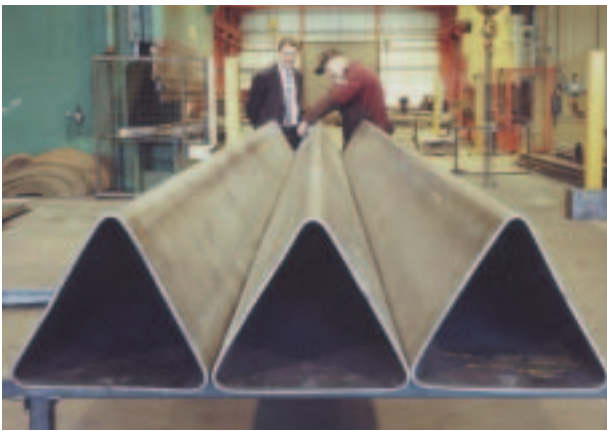




Press Braking

We operate a range of press brakes up to 1200 tonnes capacity to press, form and fold plate including edge preparation and welding where required.

- Press Braking up to 10000mm long (25mm thick at 10000mm)
- Edge preparation up to 10000mm
- Longitudinal welding up to 10000mm



Bespoke Structural Sections

Open or closed structural sections can be produced to specific requirements, with full welding available if required.

Thanks to our extensive cold rolling and hot bending range we can also curve most items once pressed.

Pipe Forming – To ASTM Specification

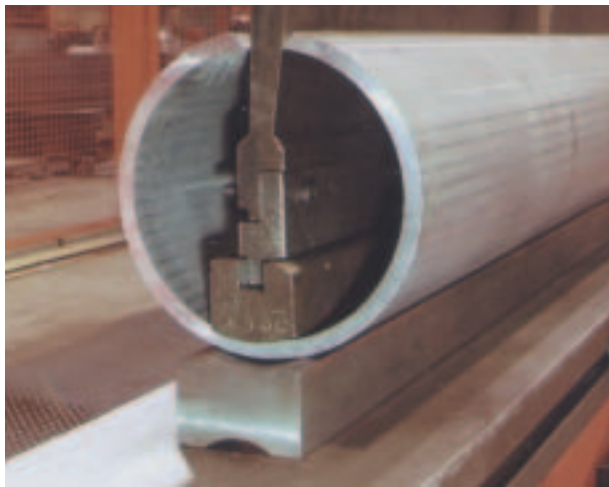
As part of our forming services we offer specialist forming of standard and non-standard pipe sizes from stainless steels, carbon steels, aluminium and titanium.

Pipes can be formed up to 10000mm long and fully welded if required.

All welding procedures are in accordance with ASME IX or BSEN287/288 boiler and pressure vessel codes, and witnessed by Lloyds register of shipping.

- Full supply to ASTM specification
- Full QA Support
- Fully welded as required.
- Austenitic stainless steels
- Duplex and Super Duplex
- Nickel alloys, copper nickel
- Other materials by request

For technical information on any of our services contact sales, or visit www.anglering.com



press *braking*

pipe *forming*



3 dimensional *bending*

Spiral Solutions

Thanks to innovations made at Angle Ring, a large range of sections can now be curved accurately to three-dimensional profiles to suit spiral or helical staircases, complex architectural buildings, or modern sculptures.

A comprehensive range of channels, beams, hollow sections, tubes and plates can be curved, together with the facility to bend larger tubes (up to 915mm diameter) for supporting steelwork or architectural features.



- All PFC, RSC, UPN or equivalent sections
- RHS up to 300x100mm
- Fabricated RHS up to 430x200mm
- Tubes from 6mm to 915mm diameter
- Plates up to 200mm thick
- Beams up to 406x140
- All spirals are offered to tight tolerances



1
ANGLE - TOE IN



2
ANGLE - TOE OUT



3a
ANGLE - 'V' PULLEY



3b
ANGLE - INVERTED
'V' PULLEY



4
T PROFILE - ON EDGE



5
T PROFILE -
STALK OUT



6
T PROFILE -
STALK IN



7
BEAM - MINOR AXIS



8
BEAM - MAJOR AXIS



9
COLUMN - MINOR AXIS



10
COLUMN - MAJOR AXIS



11
CHANNEL - TOE IN



12
CHANNEL - TOE OUT



13
CHANNEL -
MAJOR AXIS



14
FLAT - WASHER



15
FLAT - BAND



16
SQUARE - SOLID BAR



17a
S.H.S.



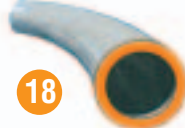
17b
S.H.S. DIAMOND



17c
R.H.S. MAJOR AXIS



17d
R.H.S. MINOR AXIS



18
TUBE



19a
RAIL - ON EDGE



19b
RAIL - HEAD OUT



19c
RAIL - HEAD IN



20
CASTELLATED -
MINOR AXIS



21
CASTELLATED -
MAJOR AXIS



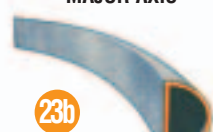
22a
ELLIPTICAL TUBE -
MAJOR AXIS



22b
ELLIPTICAL TUBE -
MINOR AXIS



23a
SEMI ELLIPTICAL TUBE -
ON EDGE



23b
SEMI ELLIPTICAL TUBE -
BASE IN



23c
SEMI ELLIPTICAL TUBE -
BASE OUT



24a
LIMPET - TOES OUT



24b
LIMPET - TOES IN



24c
LIMPET MAJOR AXIS

type numbers

one *location*



one *number*

We operate from one location within the heart of the UK, close to major transport routes. This allows us to offer consistent quality across our entire range and gives you one number to call for all of our services.

THE *ANGLE RING* CO. LTD.

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For ALL your bending needs