

# **INDUTECH**

*induction pipe  
bending*



**INDUTECH**  
INDUSTRIAL TECHNOLOGY



# INDUTECH INDUCTION PIPE BENDING

**INDUTECH** offers to customers the induction bending of carbon, stainless and alloy steel pipes up to 36in (914mm) diameter, wall thickness to 4in (102mm), angles to 180°.

## The design benefits of induction bending

**INDUTECH** induction bending enables pipe to be bent to large non-standard radii economically and to high quality standards.

**INDUTECH** induction bending can produce multiple bends or combined bend-straight segments out of a single length of pipe (see figure 2). This affords reduction of fabrication effort and in particular of welding and associated NDT requirements.



Single and compound bends in stainless, carbon and alloy steels.

## The quality benefits of induction bending

Reduction in fabrication and welding offers significant quality assurance advantages over the use of fittings.

The consistency and predictability of ovality and thinning inherent in the **INDUTECH** induction bending process (see figure 1) contributes to the total system quality and reliability. This has favoured its use in critical applications and with high value materials. Precise time and temperature controls during induction heating and cooling ensure that the pipe's physical properties are maintained or improved.



The induction bending process in operation at **Indutech** demonstrating the narrow heated band, controlled bending and cooling mechanisms. (Insert shows close up of inductor and quench rings.)

**INDUTECH** induction bending is carried out to high standards of quality assurance backed up by the resources of Indutech Canada LP technical and quality control departments.

**INDUTECH** induction bending can be employed to manufacture a wide range of pipe sizes and bend configurations.

The process enables economic advantages to be combined with the stated design and quality benefits.

**INDUTECH** will be pleased to quote for induction bending work and to explain further the other Indutech services and products as outlined on back page.



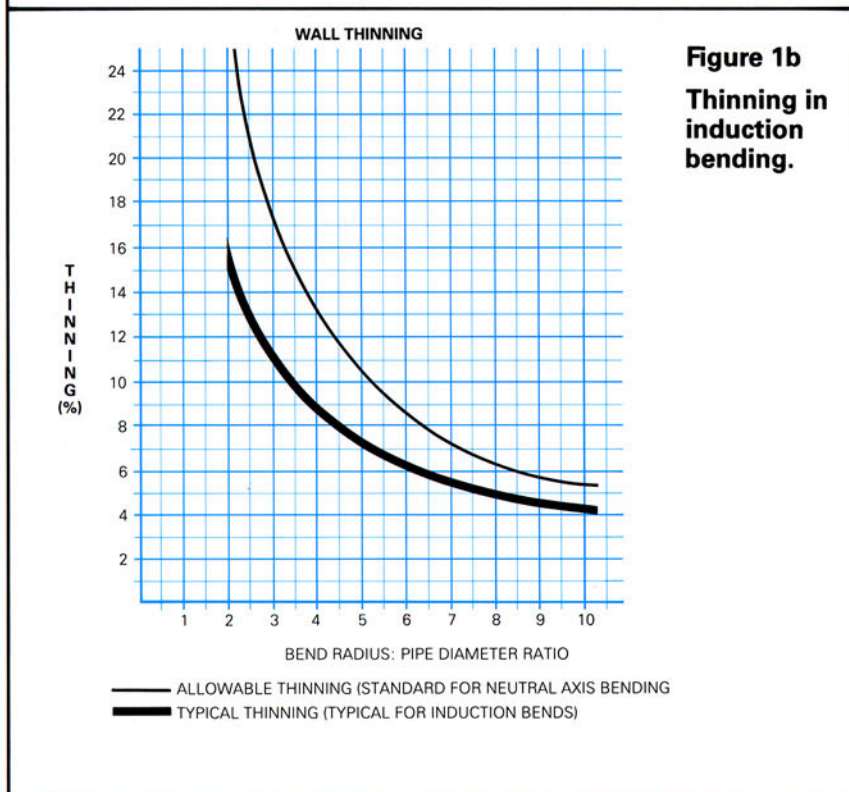
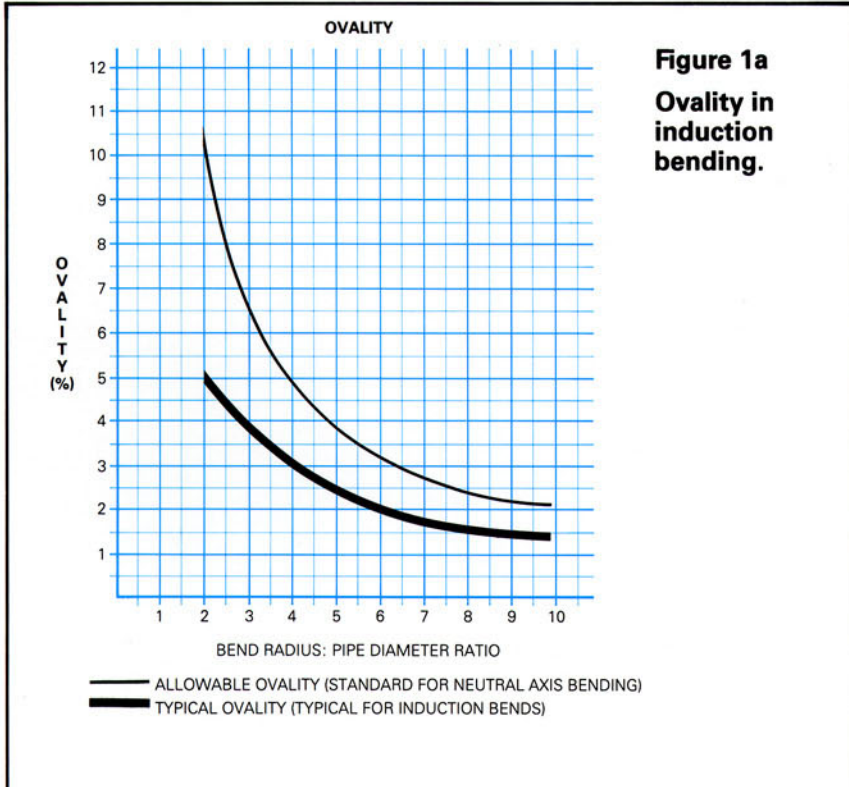
Q.A. technician monitoring wall thickness with ultrasonic equipment.



# INDUTECH INDUCTION PIPE BENDING

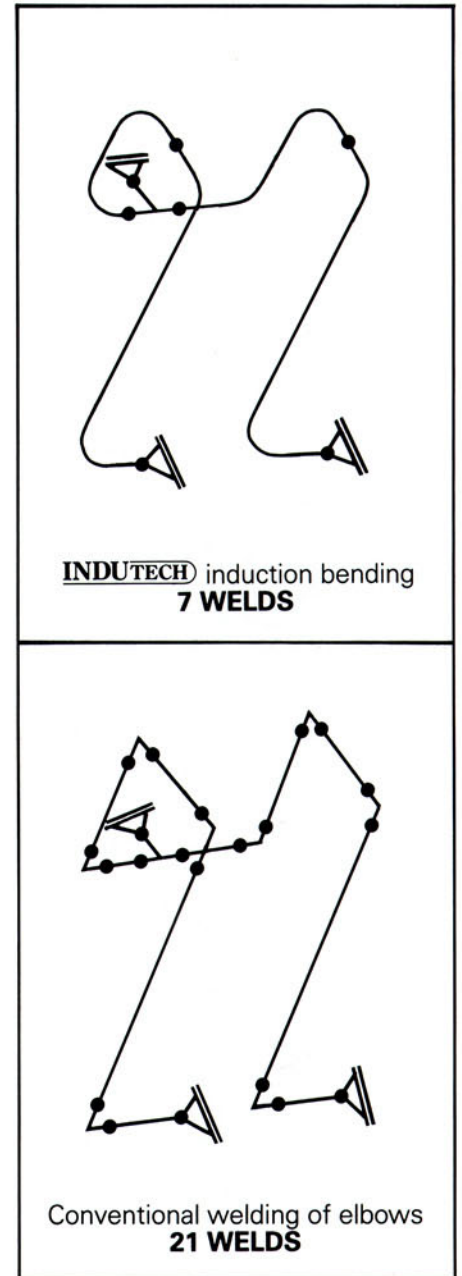
**Figure 1**

INDUTECH are able to undertake induction bending of a wide range of sizes, bend radii and thicknesses as indicated on this chart.



**Figure 2**

Comparison between induction bending and conventional use of elbows on a typical pipework configuration.



Additional advantages of bends vs. fittings are:

- lower installation cost
- improved flow
- reduced operating cost

# OTHER **INDUTECH** PRODUCTS

## COLD BENDS



### ROTARY DRAW BENDER

- capacity to NPS 6" (168.3mm)
- radii of 3D and 5D
- angles to 180°

### ROLL BENDING

- capacity to NPS 6" (168.3mm)
- radii of 36" and larger
- angles to 360°
- pipe coils



NASPipe's monolithic structure facilitates in service ultrasonic measurement of wall thickness.

## **NASPipe**

Abrasion resistant induction hardened steel piping in straight lengths, bends, tees and laterals

Diameter -  
2-1/2" (64mm) - 24" (610mm)

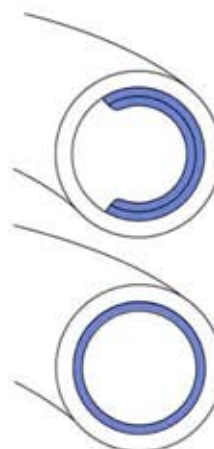
Lengths -  
40' (12.2m) stock; 50' (15.2m) special order

Nominal I.D. Hardness - 600 BHN (57 HRc)  
Nominal O.D. Hardness - 250 BHN (25 HRc)

## **INDULAY** - ABRASION RESISTANT CHROMIUM CARBIDE WELD OVERLAY FOR PIPES AND BENDS

**INDULAY** is a unique process which gives a smooth continuous overlay on a one piece pipe bend. It eliminates the need for bends of segmented construction. Integral tangents can be overlaid in the same continuous manner.

Pipe Diameter - 3" (76.2mm) to 40" (1016mm)  
Radius - 1 diameter to 20 diameters



Single Pass 190° or  
Double Pass 190°

Weld Thickness -  
3/16" - 1/4" single;  
5/16" - 3/8" double

Single or Double Pass -  
Both 360°

Weld Thickness -  
3/16" - 1/4" single;  
5/16" - 3/8" double

Hardness Range - 575  
BHN (56 HRc) - 720 BHN  
(64 HRc)

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