



U BEND TUBES

Pantani Divisione Tubi core business is U bend tubes for heat exchangers applied mostly in **Oil & Gas plants, Chemical & Petrochemical plants, Refineries, Power plants, Renewable energy plants.**



MATERIALS

Pantani Divisione Tubi experienced U bending on following materials:

- Copper alloys
- Carbon steel
- Low alloy steel
- Stainless steel (austenitic, ferritic, super austenitic)
- Duplex alloys (UNS S32750, UNS S32760)
- Titanium (Gr.2, Gr.12)
- Monel alloys
- Nickel alloys



U BEND DIMENSION CAPABILITY

- Tube OD: Min. 12,7mm / Max. 31,75mm
- Tube thickness: Min. 0,70mm/Max. 4,19mm
- Bending Radius: Min. 1,5 x OD/Max. 1250mm
- U tube straight "leg" length: Max. 12500mm
- Straight tube: before U bending: Max. 27000mm



DIMENSIONAL CONTROLS ON U BEND TUBE

- Ovalization of bending portion
- Thinning of bending portion
- Leg spacing length
- U bend tube length (leg + radius + (0,5 x OD))
- Difference between legs length
- Straightness of legs
- Deviation from bend plane
- Twist of bending portion
- Squareness and cleanliness of tube ends
- Complete visual check



TOLERANCE

Standards usually required to establish U bend tube tolerances:

- ASTM A556/556M
- ASTM B395 / B395M
- ASTM A688/688M
- ASTM A803/803M

TEMA Section 5 § RCB 2.31 - DIN 28179

Special tolerances are available upon customer requirements.

Please, consult our technical department.

POST BENDING HEAT TREATMENT BY ELECTRIC RESISTANCE (Joule Effect)

After U bend (cold forming), heat treatment of bending portion may be required.

Pantani Divisione Tubi is equipped with 2 heat treatment machines and 1 nitrogen generating machine (to protect stainless steel tube surface during annealing).

Temperature is controlled through the entire heat treated area by fixed and portable infrared pyrometers.

POST BENDING NDT CONTROL

- Hydrostatic Test
- Air Underwater Test
- Pulsating Test
- Dye Penetrant Test
- Magnetoscopic test



PACKING

Any type of packing is available according to customer needs to worldwide destinations.

