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BUTT WELDING FITTINGS AND SPECIAL PRODUCTS HOT INDUCTION BENDS AND CLAD BENDS WELDED AND CLAD PIPES



TECTUBI RACCORDI S.p.A

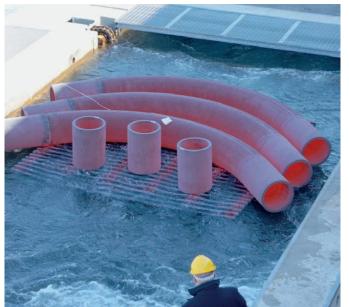
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TECTUBI RACCORDI - GIEMINOX

TECTUBI RACCORDI Manufacturing

Company profile

Tectubi Raccordi has a very long historical background. Founded in 1954 and entered in the **Allied International Group** in 2003, **Tectubi Raccordi** was the first Italian manufacturer of steel buttweld pipe fittings.

During the years the company has acquired a position of leadership both on the Italian and international markets, acting as a reference point for the entire sector for fittings and bends, responding to the combined needs of oil & gas pipelines, shipyards, chemical and nuclear installations.

The company, with headquarters in Podenzano and 5 plants in the North of Italy, had reached a yearly capacity of 48,000 tons of fittings up to 120" in all material grades, 10,000 tons of bends up to 60" (hot induction bending and cold forming), and 7,500 tons of welded and clad pipes:

- **Podenzano** (Piacenza): all sizes of welded and seamless fittings (elbows, tees, reducers, caps, special pieces) up to 60" in all types of ferrous, non-ferrous and special alloy materials and special products. Cold forming tees up to 16";
- **Castel San Giovanni** (Piacenza): mandrel elbows up to 56". Elbows, tees, reducers, caps and special pieces seamless and welded up to 120";
- Calendasco (Piacenza): seamless and welded cold formed elbows in stainless steel and special alloys up to 16";
- Carbonara Scrivia (Alessandria): cold bending elbows and hot induction bending elbows up to 60";
- Schio (Vicenza): welded pipes thin wall and heavy wall up to 100" and 12 mt length. Clad/lined pipes.

Tectubi Raccordi is approved by the major players and is certified, among others, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, AD 2000-Merkblatt HP0 - W0 - PED 2014/68/EU, ASME Section III NCA 3800 and compliant with RCC-M rules.



Company details

Company Name TECTUBI RACCORDI S.p.A.

Registered Office Via Roma, 150 29027 Podenzano (Piacenza), Italy

Chamber of Commerce REA/PC 157708

Paid Capital Euro 5,160,000.00

VAT No. IT 01230470997 Sales Office & Administration Via Roma, 150 29027 Podenzano (Piacenza), Italy

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Website www.tectubiraccordi.com

TECTUBI RACCORDI Manufacturing

Products & target markets

Tectubi Raccordi produces a wide range of fittings, such as elbows, tees, reducers, caps, bends and many others from 1/2" to 120" diameter in all material grades, according to international standards and clients' requirements.

The target markets of **Tectubi Raccordi** can be divided into up/mid/downstream, which include onshore and offshore/subsea plants, oil&gas pipelines, refineries, and power generation such as nuclear and thermal power plants. **Tectubi Raccordi** manages the whole cycle of production, distribution and aftersales services in all these markets.

EPC companies represent the largest part of its capacity.

Close co-operation with clients gives the company the opportunity to develop the market and the products in line with trends in the field of energy.



Standard fittings

TYPE OF PRODUCT	DIMENSIONS	STEELS	EXECUTION
Elbows	Up to 120"	All grades	Seamless and welded (cold formed, hot formed and by mandrel)
Equal and reducing tees	Up to 120"	All grades	Seamless and welded (cold formed and hot formed)
Concentric and eccentric reducers	Up to 120"	All grades	Seamless and welded (cold formed and hot formed)
Caps	Up to 120"	All grades	Seamless (cold formed and hot formed)

Special fittings

TYPE OF PRODUCT	DIMENSIONS	STEELS	EXECUTION
Reducing elbows	Up to 60"	All grades	Seamless and welded
Special radius bends (3D)	Up to 56"	All grades	Seamless and welded segmentable
Special radius bends (2,5D 3D 4D 5D 7D 10D 18D)	Up to 60"	All grades	Seamless and welded (hot induction and cold formed)
Barred tees	Up to 120"	All grades	Seamless and welded (cold formed and hot formed)
Special flow tees	Up to 120"	All grades	Seamless and welded
Equal and reducing crosses	Up to 120"	All grades	Seamless and welded
Equal and reducing laterals	Up to 120"	All grades	Seamless and welded

Special products

TYPE OF PRODUCT	DIMENSIONS	STEELS	EXECUTION
Headers and extruded manifolds	Up to 120"	All grades	Seamless and welded
Split tees	Up to 120"	All grades	Seamless and welded
"Y" pieces	Up to 120"	All grades	Seamless and welded

More than 50 years of experience in the nuclear

70's: production of fittings for Italian NPPs in Caorso and Trino Vercellese in cooperation with Ansaldo Nucleare and General Electric and first relationships with Framatome and EDF for the construction of the first NPPs in France (Phoenix and Super-Phoenix).

80's & 90's: production of fittings for the Italian NPP in Montalto di Castro and the first NPP in China in cooperation with Framatome (AREVA NP).

2000 - today: supplies of standard and special fittings for the new generation of NPP (EPR and AP1000) in France, China, South Korea and South Africa.



Cold bending

The company's cold bending process enables the manufacture of a wide range of products such as bends with radius exceeding 4D and angles up to 180°, with a minimal thickness reduction.

The bends can be in carbon steel, alloy steel, stainless steel, duplex and titanium, welded (SAW or ERW) or seamless, with diameters ranging from 2" to 60".

Allowances

4D BENDS			
External diameter	+0% -3%		
Angle	30' ÷ 1°		
Thickness	11% maximum reduction of extrados		
Ovalisation	3%		
5D BENDS			
External diameter	+0% -2%		
Angle	30' ÷ 1°		
Thickness	8% maximum reduction of extrados		
Ovalisation	2%		
7D BENDS			
External diameter	+0% -1,5%		
Angle	30' ÷ 1°		
Thickness	6% maximum reduction of extrados		
Ovalisation	1,5%		





Hot bending

The company has recently increased its capacity with the purchase of a new induction bending machine, Schäfer SRBMI 1400. This machine enables the production of bends in diameter from 2" to 56", bending radius from 250 mm to 10,000 mm and thickness from 7 mm to 100 mm.

The machines, electronically interfaced, are provided with a control system which enables them to adapt to variations in load, while keeping control over the temperature, reducing heat losses to a minimum. The material properties are retained accordingly, even after the bending and heat treatment process, in accordance with applicable specifications.

Allowances

3D BENDS			
Angle	30' ÷ 1°		
Thickness	11% maximum reduction of extrados		
Ovalisation	3,5%		
5D BENDS			
Angle	30' ÷ 1°		
Thickness	8% maximum reduction of extrados		
Ovalisation	2%		
7D BENDS			
Angle	30' ÷ 1°		
Thickness	6% maximum reduction of extrados		

1.5%

Certifications

Ovalisation

- ISO 9001: 2015 by Bureau Veritas
- ISO 14001: 2015 by QS International
- ISO 45001: 2018 Certification by QS International
- ISO 17025 by Bureau Veritas
- ISO 3834-2: 2006 Certification by TÜV SUD
- ABSA Statutory Declaration
- AD 2000 MERKBLATT HP0 by TÜV NORD
- AD 2000 MERKBLATT W0 by TÜV NORD
- AD 2000 MERKBLATT W0 PED 2014/68/EU Certification by TÜV NORD
- ASME Quality System Certificate as a Material Organization ASME SECTION III NCA 3800 Certificate No. QSC - 603
- BV MARINE "Recognition for BV mode II scheme"

Characteristics

MACHINE	COJAFEX PB 600		COJAFEX PB 1000	SCHÄFER SRBMI 1400
Bending radius	250 ÷ 3,050 mm		800 ÷ 5,100 mm	800 ÷ 10,000 mm
Diameter	2" ÷ 18"		8" ÷ 40"	8" ÷ 56"
Development	5,000 mm MAX		8,500 mm MAX	11,500 mm MAX
Pipe lenght	8,400 mm MAX		12,000 mm MAX	15,400 mm MAX
	3D	11%	11%	11%
Thickness reduction	5D	8%	8%	8%
	7D 6%		6%	6%

Clad induction bends

Tectubi Raccordi Bending Division manufactures a wide range of clad induction bends for applications under the most demanding conditions and services. All bends with R/D<4 are offered as hot induction bends, whereas for R/D≥4, **Tectubi Raccordi** offers cold formed bends as an alternative to hot ones.

Product range

3D BENDS		
Outside diameter	from 2" to 56"	
Wall thickness	from 7 mm to 100 mm	
Pipe length range	from 8.4 m to 15.4 m	
Bending radius	from 250 mm to 10,000 mm	
Maximum envelope	from 5 m to 11.5 m	
Backing materials	carbon steels, hi-yield grades, low alloy steels	
Corrosion resistant alloy	S30403, S31603, S31703, S41000, N06625, N08825, etc.	

- NNSA China nuclear Certification
- NORSOK M-650
- PED 4.3 2014/68/EU by Bureau Veritas
- RCC-M rules France nuclear compliance

In addition to these Certifications, issued by public entities and organizations, **Tectubi Raccordi** has Approvals issued by private and public companies, such as: **ADNOC**, **BP**, **Chevron, EDF-UTO, EIL, ENI, Gas de France, Gazprom, KNPC, KOC, National Grid, NCOC, NTPC, ONGC, Open Grid Europe, PDO, PG & E, Qatar Gas, QP, Saudi Aramco, Shell, SNAM Rete Gas, Total, TransCanada.**

TECTUBI RACCORDI Manufacturing

Materials used and related International Standards

CARBON AND ALLOY STEEL FOR ROOM, MODERATE AND ELEVATED TEMPERATURES

ASTM / ASME A/SA 106 API 5L: Gr.B - Gr.C ASTM / ASME A/SA 335: Gr.1 - Gr.11 - Gr.12 - Gr.5 Gr.22 - Gr.9 - Gr.91 ASTM / ASME A234: WPB WPC - WP1 - WP11 - WP12 WP5 - WP22 - WP9 - WP91 WP92 EN 10216-2: P195GH P235GH - P265GH 20MnNb6 - 16Mo3 8MoB5-4 - 14MoV63 10CrMo5-5 - 13CrMo4-5 10CrMo9-10 15NiCuMoNb5-6-4 X11CrMo5 - X11CrMo9-1 X10CrMoVNb9-1 X10CrWMoVNb9-2 X20CrMoV11-1 and equivalent grades EN 10253-1 EN 10253-2 RCC-M: CL2 - CL3 - NC grades P265GH - P280GH P295GH - P355NH - TU42C AE250B1 (other grades can be supplied upon request).

CARBON AND ALLOY STEEL FOR LOW TEMPERATURE SERVICE

ASTM / ASME A/SA 333: Gr. 6, Gr. 3, Gr. 8 and equivalent grades ASTM / ASME A/SA 420: WPL6 - WPL3

STAINLESS STEEL

ASTM / ASME A/SA 312: TP304 - TP304L - TP304H TP304LN - TP304N TP316 - TP316L - TP316H TP316LN - TP316N - TP317 TP317L - TP321H - TP347 TP347H - S31254 and equivalent grades ASTM / ASME A/SA 403: WP304 - WP304L - WP304H WP304LN - WP304N WP316 - WP316L - WP316H WP316LN - WP316N WP317 - WP317L - WP321 WP321H - WP347 WP347H - WPS31254 RCC-M: CL1 - CL2 - CL3 grades Z2CND17.12 Z2CN18.10 - Z2CND18.12N (other grades can be supplied upon request) ASTM A774: TP304L TP316L TP317L - TP321 **TP347** Equivalent grades of EN 10253-3 EN 10253-4 (former AFNOR-DIN-BS equivalent grades).

COPPER ALLOY

Copper-nickel ASTM / ASME B/SB 466: UNS C70600 (CuNi 90/10) UNS C71500 (CuNi 70/30) and equivalent grades.

TITANIUM ALLOY

ASTM / ASME B/SB363: WPT2 - WPT12 and equivalent grades

HIGH YIELD STEEL FOR PIPELINE AND OFFSHORE

API 5L: Gr. X42 - X46 - X52 X60 - X65 - X70 - X80 EN 10208-2: L245NB L290NB - L360NB - L415NB L360QB - L415QB - L450QB L485QB - L555QB - L360MB L415MB - L450MB L485MB and equivalent grades ASTM A860/MSS-SP75: WPHY 42 WPHY 46 - WPHY 52 - WPHY 60 - WPHY 65

WPHY 70 grades - WPHY 80 only as per MSS-SP75

AUSTENITIC/FERRITIC STAINLESS STEEL

ASTM / ASME A/SA 790:

UNS 31803 (duplex) - UNS 32750 (superduplex) UNS 32760 (superduplex) UNS 32550 (superduplex) and equivalent grades ASTM / ASME A/SA 815: UNS 31803 (duplex)

NICKEL ALLOY

ASTM / ASME B/SB 366: UNS N04400 - UNS N06600 UNS N06625 - UNS N08020 UNS N08800 - UNS N08811 UNS N08825 - UNS N10276 and equivalent grades.



ASME B31.1 - ASME B31.3 ASME B31.4 - ASME B31.8

EN 13445 - 13480 - 12952 (former BS PD 5500 Swedish ordinance AFS 1994:39)

DIN 2413 - TRD301

AD 2000 Merkblatt B2-B3-B9

STOOMWEZEN rules for pressure vessels

Manufacturing Standards

ASME B16.9 - ASME B16.25 MSS-SP43 - MSS-SP75

DIN 2605 - 2606 - 2615 2616 - 2617 - BS 1640

GOST 17374 - 17375 17376 - 17377 - 17378 17379 - 17380





GIEMINOX - TECTUBI RACCORDI Welded Pipes Division

Company profile

Since 1980 **Gieminox**, established in Schio, Vicenza, Italy has become a well-established manufacturer of longitudinally welded pipes, clad pipes, lined pipes, fittings and auxiliary components in stainless steel, nickel and nickel alloys, duplex and superduplex.

In 2011 **Tectubi Raccordi** incorporated **Gieminox** into **Gieminox-Tectubi Raccordi Welded Pipes Division**, thus broadening the product range through the direct production of welded pipes up to 100" and clad/lined pipes from 6" up to 100" OD in every type of steel. Since then, the company has invested in equipment such as brake presses, heat treatment furnaces, rolling/welding/ turning machines, so as to guarantee the highest production standards according to the international specifications.

The company produces welded pipes up to 70 mm wall thickness and up to 12,2 meter lengths, solid CRA (Corrosion Resistant Alloy) pipes, bi-metal lined pipes, overlaid clad pipes and longitudinally metallurgically-welded clad pipes, designed to meet specific requirements in terms of mechanical and corrosion properties.

Gieminox-Tectubi Raccordi Welded Pipes Division serves worldwide projects in the oil&gas, chemical and petrochemical industries, power plants, mining industry, water treatment plants, engineering and construction.

Products and target markets

LONGITUDINALLY WELDED PIPES

MANUFACTURING RANGE Outside diameter: from 3" to 100" and including all non-standard sizes, per ASTM/ASME/DIN standards Wall thickness range: from 3 mm to 70 mm. Length range: up to 12.2 m

BI-METAL LINED PIPES

MANUFACTURING RANGE Outside diameter outer pipe: from 6" to 24" Wall thickness outer pipe: from 10 mm to 35 mm Length range: from 2 m to 12,2 m



LONGITUDINALLY WELDED CLAD PIPES

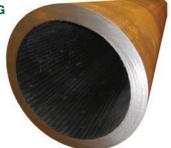
MANUFACTURING RANGE Outside diameter outer pipe: starting from 6" to 100" Wall thickness outer pipe: from 10 mm to 70 mm Length range: up to 12.2 m



WELD OVERLAY CLADDING

MANUFACTURING RANGE

Outside diameter pipe: from 6" to 48" Wall thickness outer pipe: from 6 to 70 mm Length range: up to 12,2 m



Company details

Company Name GIEMINOX TECTUBI RACCORDI S.R.L. Welded Pipes Division

Registered Office Via Lago di Vico, 22 36015 Schio (Vicenza), Italy Chamber of Commerce REA/VI 344108

Paid Capital Euro 2,000,000.00

VAT No. IT 03670350242 Administration and Works Via Lago di Vico, 22 36015 Schio (Vicenza), Italy

Telephone + 39 0445 575959

Fax + 39 0445 575305 E-mail info@gieminox.com

Website www.gieminox.com

GIEMINOX - TECTUBI RACCORDI Welded Pipes Division Manufacturing

Materials used and related **International Standards**

STAINLESS STEEL

304/L - 304/H - 316/L 317/L - 321/H - 347/H 309/S - 310/S - 410/S - 904L P5 - P9 - P11 - P91 254SMO - 6Mo - 253Ma **UREA** grades

CARBON AND ALLOY STEEL FOR ROOM, MODERATE AND ELEVATED TEMPERATURES

NICKEL AND NICKEL ALLOYS

DUPLEX AND SUPERDUPLEX STAINLESS STEEL

UNS S31803 - UNS S32205 UNS S32750 UNS S32760 UNS S32550 - UNS S32101

UNS N02200 - UNS N02201 UNS N10276 UNS N06622 UNS N06455 - UNS N10665 UNS N10675 - UNS N06600 UNS N06601 - UNS N06617 UNS N06625 - UNS N08825 UNS N08800 - UNS N08810 UNS N08811 - UNS N08330 UNS N08020 - UNS N08028 UNS N08031 - UNS N06059

TITANIUM

UNS R50250 - UNS R50400

COPPER-NICKEL ALLOY

UNS C70600 (Cu/Ni 90/10)

CARBON STEEL OR HIGH YIELD STRENGTH STEELS ARE USED AS **OUTER PIPES:**

API 5L grades: X42 - X52 - X60 - X65 - X70 EEMUA grades: EP360 - EP415 - EP450 EP485 DNV grades: 360Mpa - 415Mpa 450Mpa – 485Mpa

Design codes

ASME B31.3 AD 2000 Merkblatt W0 PED 97/23/CE API 5L/5LC/5LD DNV OS-F101

Manufacturing **Standards**

ANSI B36.10 - B36.19 B16.25 ASTM A268 - A269 - A312 A358 - A778 - A790 - A928 B444 - B474 - B514 - B515

B517 - B673 - B705 - B725 B862 EN 10217-5 - 10217-7 10296-2 NORSOK M630 API 5L/5LC/5LD DNV OS-F101



Certifications

- · ISO 9001:2015 by BUREAU VERITAS
- ISO 3834-2:2021 by TÜV SUD
- API Monogram Certificate 5L/5LC/5LD
- ASME PRT Certification
- · Marine and offshore Certificate by BUREAU VERITAS
- DNV Certificate



- NORSOK QTR UNS S31254/ S31803/ S32205/ S32750/ S32760/ N08926
- PED 2014/68/EU by TÜV ITALIA

In addition to these Certifications, issued by public entities and organizations, Gieminox Tectubi Raccordi has Approvals issued by private and public companies such as EIL India, Petronet LNG and Saipem.



TECTUBI RACCORDI - GIEMINOX

ALLIED IN THE WORLD







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