

**Arvedi** Tubi Acciaio  
Welding Relations



**Arvedi**  
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Finarvedi is the holding company of the Arvedi Group, the core business of which is composed of steelmaking activities with annual volumes of over 3.5 million tonnes of high quality products destined for the most demanding markets.

The Arvedi Group, founded in 1963 by Giovanni Arvedi, can count over 3,000 employees and a consolidated turnover of over € 2 billion.

Seven manufacturing companies, operating in four specific sectors, make up the Arvedi Group's nucleus:

- **Acciaieria Arvedi SpA** (Cremona), manufacturer of hot rolled, pickled and galvanised coils using Arvedi proprietary ISP/ESP technology which, covered by over 400 patents, constitutes the only case of continuously cast thin slabs rolled in-line in "endless" mode, i.e. without interruption;

- **Siderurgia Triestina** (Trieste), producer of pig iron and equipped with plants for the production of cold rolled special products;

- **Arvedi Tubi Acciaio SpA (ATA)** (Cremona), manufacturer of ERW-welded hot-reduced carbon steel tubes, cold calibrated ERW-welded tubes, and its subsidiaries:

- **Metalfer**, specialised in the cold drawing of ATA mother shells with two works in Roè Volciano (Brescia - Italy) and Corbetta (Milan - Italy), MF Automotive (Avigliana TO - Milan) and MF Poland (Biesko Biala - Poland), cutting-to-measure, pre-processing and logistics;

- **Metalfer do Brasil Ltda** (San Paolo - Brazil) specialised in the production and cold drawing of carbon steel welded tubes;

- **Ilta inox SpA** (Robecco d'Oglio - Cremona), manufacturer of welded stainless steel tubes;

- **Arinox SpA** (Sestri Levante - Genova), stainless steel precision strip re-rolling centre.

The companies of the Arvedi Group, thanks

to investments in innovative technologies and plants and research and development of high quality products, have assumed leading roles at an international level.

In fact, a large share of production (on average over 40% with points of up to 80%) is made up of steel products for special applications destined for foreign markets.



## Finarvedi Spa

*Carbon steel*

*Stainless steel*

**Acciaieria Arvedi SpA**



*Hot rolled pickled, galvanised and painted carbon steel coils*

**Arvedi Tubi Acciaio SpA**



*Black, galvanised and coated carbon steel welded tubes*

**iltainox SpA Arinox SpA**



*Stainless steel welded tubes*



*Cold rolled stainless steel precision strip*

**Siderurgia Triestina Srl**



*Pig iron production*

**Metalfer SpA**



*Cold drawn carbon steel tubes*



*Stainless steel and copper-nickel alloy pressfittings*

**Metalfer Poland**

**Metalfer Automotive**

**Arvedi Metalfer Brasil Ltda**



*Welded and cold drawn carbon steel tubes*

[www.arvedi.it](http://www.arvedi.it)



Advanced technology, experience consolidated over the years, the constant search for quality, flexibility and customer service, are the strong points of **Arvedi Tubi Acciaio S.p.A.**, a leader in welded tube for special applications.

With a production capacity of over 600,000 tpy and a turnover of €400 million, constantly rising, the Cremona-based company holds a considerable share of the market in the automotive, mechanical engineering, thermal applications, plant and construction sectors.

**Arvedi Tubi Acciaio**   
Welding Relations

Its stretch-reducing mill and ERW production lines, fitted with the most advanced automation technology, allow customers to be offered a vast range of products that can meet the strictest requirements and standards.

ATA's production range meets the requirements of three basic areas of application, namely special, energy and civil engineering and includes round tube and pipe in diameters from 17.2 to 355.6 mm, square hollow sections from 100x100 mm to 300x300 mm and rectangular hollow sections from 120x80 mm to 400x200 mm in a range of wall thicknesses from 1 to 16 mm.

# TUBE MANUFACTURING PROGRAMME

WALL THICKNESS (mm)																						
Ø OD	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	9.0	9.5	10.0	11.0	12.5	15.0	16.0	
17.2																						
19.0-20.0-21.3																						
25.4																						
26.4-26.9-28.0																						
30.0-30.8-32.0																						
33.7																						
35.5																						
38.0-40.0																						
42.0-42.4																						
44.5-45.0																						
48.0-48.3																						
50.0-50.8-51.0																						
54.0-56.0-57.0																						
60.0-60.3																						
63.5-65.0																						
70.0-72.0-73.0																						
76.1																						
80.0-82.5																						
88.9-90.0																						
100-101.6																						
108.0																						
114.3-115																						
127.0																						
133.0																						
139.7																						
152.4																						
159.0																						
168.3																						
177.8																						
193.7																						
219.1																						
244.0																						
273.0																						
323.9																						
355.6																						
Ø OD	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	9.0	9.5	10.0	11.0	12.5	15.0	16.0	

- HOT STRETCH REDUCED
- HOT STRETCH REDUCED + WELDED (COLD FORMED AS WELD / SEAM ANNEALED / HOT FINISHED)
- WELDED (COLD FORMED AS WELD / SEAM ANNEALED / HOT FINISHED)

Hot rolled		
standard	application	description
EN 10296	GSM-mechanical	Welded steel tubes for mechanical applications
EN 10210-1/2	GSM-structural	Hot rolled welded tubes for structural applications

Precision tube		
standard	application	description
EN 10905-3	Precision applications	Cold calibrated – precision - round welded steel tubes
EN 10296	Cold mechanical	Welded steel tubes for mechanical applications

Hot finished structural		
standard	application	description
EN 10296	Hot finished mechanical	Welded steel tubes for general mechanical applications
EN 10210 1/2	Hot finished structural	Normalised welded tubes for structural applications
EN 10225	Offshore hot structural	Normalized welded tubes for offshore structural applications

Cold-finished structural		
standard	application	description
EN 10219-1/2	Cold structural	Cold-formed welded tubes for structural applications
EN 10305-5	Cold structural	Square and rectangular cold-calibrated welded hollow sections
EN 39	Cold structural	Welded tubes for scaffolding/metal structures
EN 12899	Cold structural	Welded tubes for road signs
ASTM A500	Cold structural	Cold-formed welded steel tubes for structural applications
ASTM A252	Cold structural	Welded steel tubes for pilings

Energy & Power		
standard	application	description
EN 10217-1	Pressure applications	Welded steel tubes for pressure applications at ambient temperature
EN 10217-2	Pressure applications	Welded steel tubes for pressure applications at high temperature
EN 10217-3	Pressure applications	Welded tubes in fine grain alloy steel for pressure applications
EN 10217-4	Pressure applications	Welded steel tubes for low temperature applications
ASTM A178	Pressure applications	Welded steel tubes for boilers and heat exchangers
ASTM A214	Pressure applications	Welded steel tubes for heat exchangers and condensers
EN 10255	Gas and water	Non-alloyed welded steel tubes suitable for welding and threading
UNI 7683	Conduit	Welded tube cable conduits for flame-proof and explosion-proof electrical installations
ASTM A53	Pressure applications	Black and hot-dip galvanized welded tubes
EN ISO 3183	Line pipe	Welded steel tubes for combustible fluids line pipes
API 5L	Line pipe	Line pipe
EN 10224	Line pipe	Welded steel tubes for conveying liquids
EN 253	district heating	Welded tubes for district heating
ISO 11960	OCTG	Tubes for petroleum applications – casing and tubing
API 5CT	OCTG	Tubes for petroleum applications – casing and tubing



# TUBE MANUFACTURING PROGRAMME

METRIC SIZES (mm)										
Square	4.0	4.5	5.0	6.0	8.0	10.0	12.5	14.2	16.0	Rectang.
100 x 100										120 x 80
110 x 110										120 x 100
120 x 120										140 x 80
140 x 140										150 x 100
150 x 150										160 x 80
160 x 160										180 x 100
180 x 180										200 x 80
200 x 200										180 x 100
										200 x 80
										200 x 100
										200 x 120
										200 x 150
										250 x 100
										250 x 150
										300 x 100
										250 x 200
										300 x 150
250 x 250										300 x 200
300 x 300										400 x 200
Square	4.0	4.5	5.0	6.0	8.0	10.0	12.5	14.2	16.0	Rectang.

IMPERIAL SIZES (inches)									
square	0.180	0.188	0.250	0.313	0.375	0.500	0.625	rectangular	
inches	mm							mm	inches
4" x 4"	101.6 x 101.6							127 x 76.2	5" x 3"
4.5" x 4.5"	114.3 x 114.3							127 x 101.6	5" x 4"
5" x 5"	127 x 127							152.4 x 76.2	6" x 3"
5 1/2" x 5 1/2"	139.7 x 139.7							152.4 x 101.6	6" x 4"
								152.4 x 127	6" x 5"
								177.8 x 76.2	7" x 3"
								177.8 x 101.6	7" x 4"
6" x 6"	152.4 x 152.4							177.8 x 127	7" x 5"
								203.2 x 76.2	8" x 3"
								203.2 x 101.6	8" x 4"
7" x 7"	177.8 x 177.8							203.2 x 152.4	8" x 6"
								241.3 x 101.6	9 1/2" x 4"
								254 x 101.6	10" x 4"
8" x 8"	203.2 x 203.2							254 x 152.4	10" x 6"
								254 x 203.2	10" x 8"
								304.8 x 101.6	12" x 4"
								304.8 x 152.4	12" x 6"
10" x 10"	254 x 254							304.8 x 203.2	12" x 8"
	mm							mm	
inches	0.180	0.188	0.250	0.313	0.375	0.500	0.625	inches	

## ARVEDI COLD FORMED HOLLOW SECTIONS

With the start-up of Line 12, and the subsequent expansion of the production range, the ARVEDI manufacturing programme for cold-formed round tubes widened to a diameter of 355.6 mm and wall thickness of up to 16 mm; the production of square hollow sections in the range from 100x100 to 300x300 mm and rectangular ones from 120x80 to 400x200 mm with wall thickness from 4 to 16 mm was also added to the production of circular sections.

These tubes are used in a wide variety of applications and in particular in the structures of civil and industrial buildings.

Arvedi cold-formed round, square and rectangular structural tubes are high-frequency induction-welded and made in the European formats provided by standard **EN10219-1/2** and American formats (imperial sizes) in conformance with standard **ASTM A500**.

Arvedi structural tubes are produced in conformance with standards EN 10219, ASTM A500 and according to the customer's design or specifications in commercial or customized lengths (with the option of removal of the internal bead) with plain ends in the following steel grades:

- **basic steel grades: S235 – S275 – S355J2 – Gr. B – Gr.C**

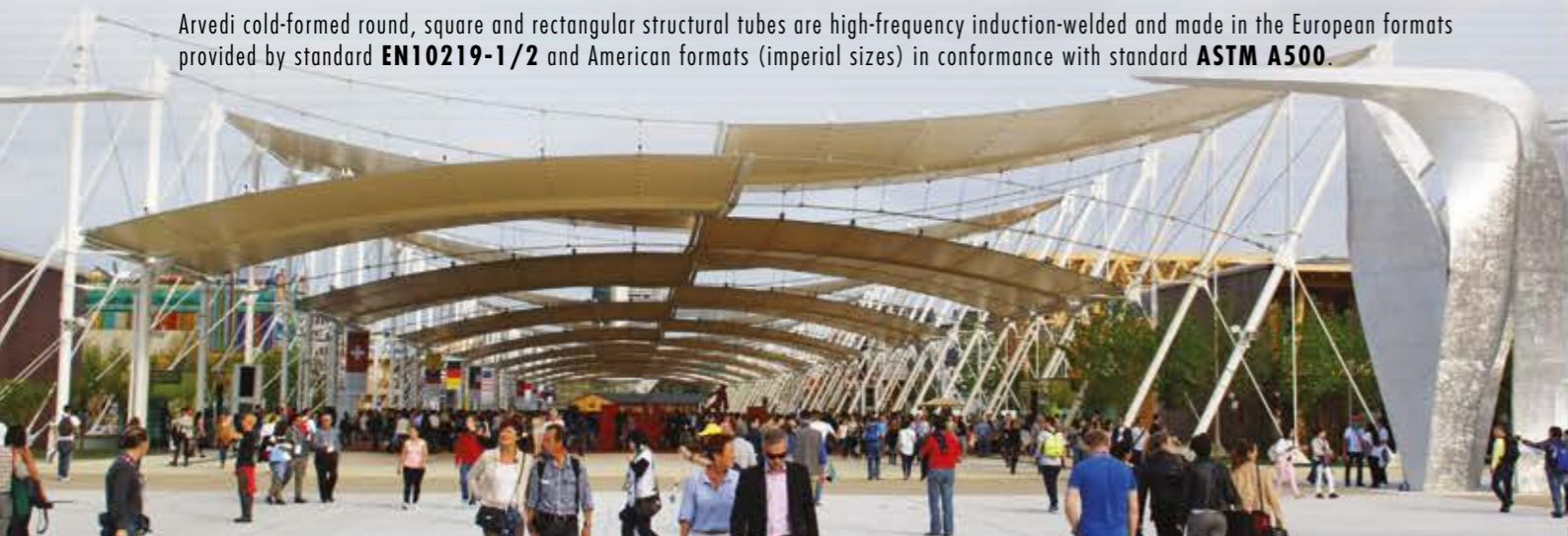
- **high strength (HSLA): S420MC – S460MC**

- **ultra high strength (UHSS): S500MC – S700MC**

and other steel grades with high mechanical characteristics and/or to customer specifications.

For the steel grades included in the standard EN10219 supplies are **CE** certified and are accompanied by an EN10204 performance certificate (in accordance with directive EU 305/2011).

Arvedi Tubi Acciaio is CE certified for construction products: **EN10219: licence no. CE 1608 CPD P064**



# THE ARVEDI HOT FINISHED

## The perfection of cold formed with all the benefits of hot finished

Arvedi hot-finished round, square and rectangular structural tubes are high-frequency induction-welded tubes made in accordance with standard EN10210-1/2.

### Arvedi hot finished structural tubes, as well as the special features of cold-formed welded tubes, such as:

- precision, control and uniformity of geometry and dimensions
- absence of eccentricity
- close tolerances on wall thickness
- precision of the corner radius
- excellent surface finishing, both in terms of absolute roughness and surface scale
- in line with the prescriptions of standard EN 10163-3 class D, subclass 3

### have all the benefits of hot finished tubes, such as:

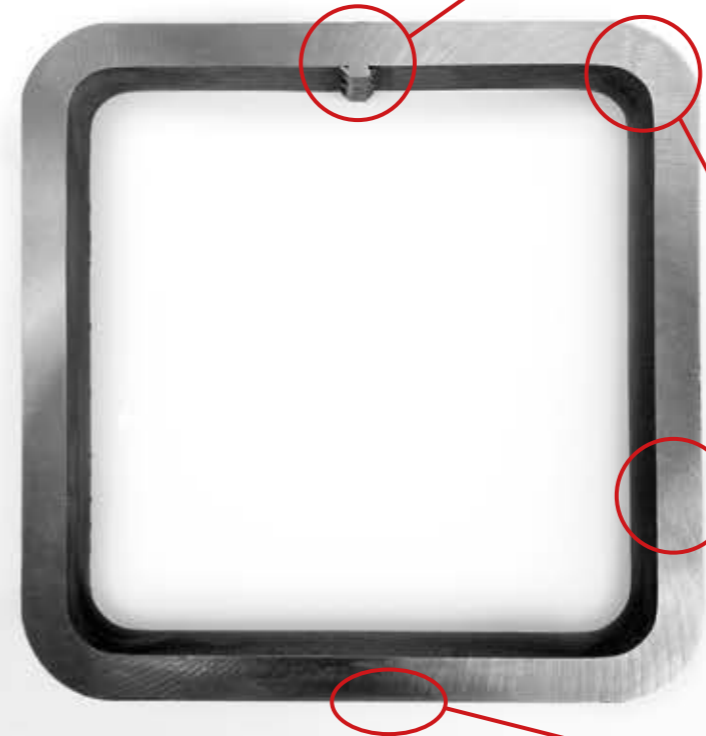
- homogeneity of the technical characteristics: workability, weldability, ductility, plasticity and bendability
- absence of tensions in the section edge areas and the tube welding area
- suitability for welding on the edges of the whole Arvedi size range, overcoming the limits defined in Eurocode 3 (also for wall thicknesses >12.5 mm).

Arvedi Hot Finished tubes, compared to those of some of our rivals, thanks to the type of heat treatment carried out – full body normalising (with temperature above the Ac3 austenitising temperature):

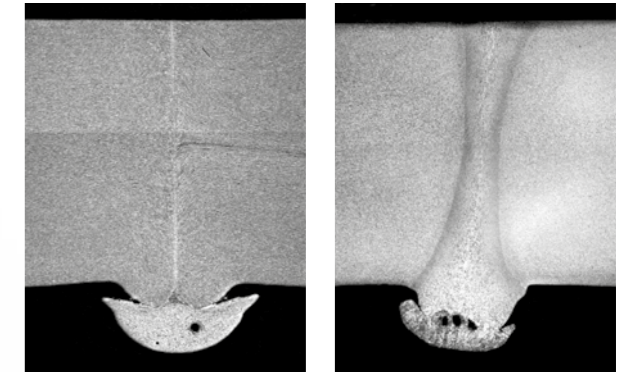
- are optimal for use in building steel structures in seismic areas since they fully comply with the prescriptions of the Ministerial Decree relative to construction products (point 11.3.4.9);
- thanks to their extensive plastic range they have a large capacity to absorb energy, a characteristic which makes them ideal for constructions, structures, plants and machinery subject to sudden loads, repeated loads, fatigue and vibrations;
- are ideal for curving and bending and generally present a high level of workability.

Moreover, Arvedi Hot Finished tubes, compared to our best rivals, also add:

- control of the position of the internal welding bead, always at the centre of the larger side, (optionally) removal of the internal welding bead, the same thickness on the sides and edges of the section;
- absence of eccentricity, both in the hollow section and along the tube
- uniform wall thickness and weight along the whole length of the single tube or hollow section and no differences between one and another
- customizable sizes and lengths



**WELDING ASPECT:** welding and heat affected zone completely re-transformed; no residual stress, same structure, same hardness as the base material. Inner seam can be removed upon request.



ARVEDI HOT FINISHED

HOT FINISHED OF SOME COMPETITOR

**CORNER RADII:** precise and tight corner profile; external radius <math>< 2xT</math> (stricter than the standard requirement: radius  $\leq 3xT$ ). No residual stress, same structure, same hardness as the base material.

**SECTION SHAPE:** zero eccentricity. For greater geometrical precision and closer tolerances.

**SURFACE:** better surface aspect and finishing. Scale-free, low roughness.

## THE ADVANTAGES OF USING LEONARDO

### Innovative design

Leonardo is the height of innovative material and is successfully applied in modern buildings, major engineering works and daring architectural constructions. The hot finished tube gives a 360° freedom of interpretation of design allowing a high degree of workability, bendability and the possibility of all kinds of joints, without limitation or special prescriptions.

Precisely because of the architectural aspects and the technical qualities indicated, Leonardo is also an advantage in reconstruction works, adaptations and building renovations.

### Competitiveness

Leonardo allows prefabricated structures to be obtained and finished directly in the construction sites; the metal structures are easy to transport and simple to install and are also easy for constructing large civil, industrial and public structures in short times with low maintenance costs.

### Safety and durability

Leonardo's static and dynamic behaviour is excellent and, being hot finished, has a high plastic range. The structures made with Leonardo are fail-safe: able to sustain vibrations, unexpected loads and seismic events, absorbing energy and deforming without breaking. Durability can be guaranteed by the use of steel with improved characteristics against atmospheric corrosion (Corten) or by galvanizing and painting.

### Sustainability and efficiency

Leonardo is 100% recyclable. Leonardo, produced with steel from the Acciaieria Arvedi, a steelworks which produces steel from scrap using an innovative process, has a much smaller carbon foot print than Hot Formed Hollow Sections and/or Hot Finished Hollow Sections produced from integrated-cycle steel.

### Certified steel

Leonardo Hot Finished Hollow Sections are made in accordance with standard EN10210 and are CE certified in compliance with the European Directive on Buildings 305/11.



# THE ARVEDI HOT STRETCH-REDUCED

Arvedi hot rolled tubes (Arvedi LC<sup>®</sup> and GSM<sup>®</sup>) are produced on the hot stretch-reducing mill, a unique plant that allows small and medium/small-diameter tubes to be obtained with the internal bead removed, even those with thick walls in the normalised state.

The production cycle, starting from hot rolled strip, foresees forming, HFI welding and removal of the internal bead of the "mother shell" which is subsequently heated in an induction heater and hot rolled on the stretch-reducing mill.

The excellent degree of workability, appreciated by users of Arvedi LC<sup>®</sup> tube, is the result of a controlled hot reduction process which, besides supplying the tube in the normalised state, guarantees complete homogeneity of the material's mechanical and physical characteristics.

## Arvedi LC<sup>®</sup> tubes

Arvedi LC<sup>®</sup> is the Arvedi trademark identifying the production of tubes and pipes for the plumbing and heating sector obtained with a hot rolling process. These tubes and pipes, in compliance with standard EN 10255, are used for plumbing and heating plants. After the production process these tubes and pipes are hot-dip galvanised using SHG lead-free zinc with a high degree of purity.

Arvedi LC<sup>®</sup> tubes can be supplied with the following ends:

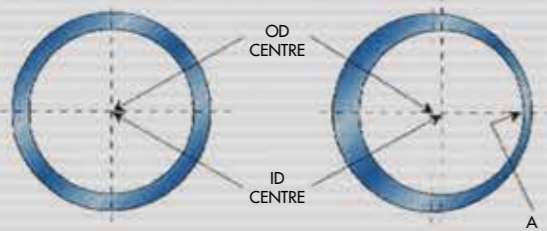
- plain, square cut and bevelled
- threaded with EN 10226-1 threading and with coupling in compliance with standard EN 10241 screwed onto one end
- grooved: suitable for using "Vitaalic"-type screwed couplings

## Arvedi LC/GSM tubes vs Seamless eccentricity absent or negligible both in the cross section and along the tube length



CONCENTRIC TUBE

ECCENTRIC TUBE



## Arvedi GSM<sup>®</sup> tube

The characteristics of homogeneity and workability of Arvedi LC<sup>®</sup> tube are enhanced in the heavy wall mechanical tubes (GSM<sup>®</sup>) where the ratio between wall thickness and diameter is pushed to ratios of over 30%.

The peculiarity of the Arvedi process, with rolling of a mother shell "not obtained through drilling" but through welding starting from a strip with limited thickness variations and the use of a stretch-reducing mill with individually motorised stands, guarantees that tubes are obtained with superior geometrical characteristics, negligible eccentricity and limited internal polygonality.

## ARVEDI TUBES FOR CONSOLIDATION APPLICATIONS

### Self-drilling bars

Arvedi Tubi Acciaio is the European leader in the production of hot rolled tubes for the manufacture of self-drilling anchor systems, used for consolidating tunnel roofs and for stabilising land such as steep slopes and landslides.

The standard steel grades are **S355J2H, S355 mod., 28MN6, 34MNB5, 38MNB5.**

In collaboration with its customers' technical offices ATA studies and develops suitably customised and optimised steel grades and specific sizes in order to increase the workability of the bars and obtain the best performances on site and in operation.

### Expandable rock bolting system

These special section tubes are produced to specific ATA specifications and can be supplied crude or full body normalised.

### Micropiling

Micropiling is produced in compliance with standard EN 10219 or EN 10296 in commercial length bars, with the internal bead removed and with smooth ends in the following steel grades:

**basic steels: S235 – S275 – S355J2**

**high strength: S420MC – S460MC**

**ultra-high strength: S500MC – S700MC**

other steel grades with high mechanical characteristics: **N80**

For the steel grades included in the standard **EN 10219** supplies are certified (as per European Directive **305/11 CE**) and are accompanied by **EN10204** certification and declaration of performance (as per regulation **EU 305/2011**).

**Arvedi Tubi Acciaio is CE certified for construction products:**

**EN10219: licence no. CE 1608 CPR P064**

**EN10210: licence no. CE 1608 CPR P063 and 1608 CPR P157**





# APPLICATIONS

## ARVEDI PRECISION TUBES

### Welded Precision Tubes

Starting from steel strips, produced by Acciaieria Arvedi, which guarantee constant mechanical characteristics and close wall thickness tolerances, ATA produces high frequency induction welded (HFI) precision tubes in conformance with standard **EN 10305-3** and in accordance with customer specifications.

These tubes, which have the most stringent prescriptions on dimensional tolerances are often processed with deep deformations and the obtained finished products are then frequently subjected to occasional or continuous fatigue stress. Industrial plant parts, machinery such as rolls, moving structures and crane parts are examples of their applications.

### Mother shells for drawing

ARVEDI mother shells for cold drawing represent ATA's core business where it is the leading European company and the only independent supplier of these products. These tubes can be produced as hot stretch-reduced and welded, and rolled from cold welded black or pickled strip, to standards **EN 10305-3**, **EN 10210**, **EN 10296** or to customer specifications; they are made in a wide range of steel grades and in the full size range of diameters from 17 to 355.6 mm and wall thicknesses from 1.5 to 16 mm.

ARVEDI mother shells for drawing are suitable for cold drawing to obtain tubes with close tolerances and low roughness used in particular in the automotive sector and cylinder industry.

## ARVEDI AUTOMOTIVE TUBES

The high frequency induction welded (HFI) precision tubes produced by ATA in compliance with standard **EN 10305-3** and/or in accordance with customer specifications are used in the car and truck components sector.

Arvedi Tubi Acciaio is an appreciated supplier of the leading car manufacturers and their subcontractors.

The quality management system at Arvedi Tubi Acciaio in Cremona is certified **ISO TS 16949**.

Thanks to a team composed of engineers and experts in the sector, it supports its customers in the various project phases, from the choice of steel to the development of the product down to the launch of the finished series, guaranteeing efficient after-sales assistance.

Synergy between Acciaieria Arvedi and ATA leads to the development of specific steel grades dedicated to individual projects.

Once they are series, these grades are produced with the innovative ISP and ESP processes with controlled thickness, mechanical and physical characteristics, properties appreciated by car manufacturers which become constancy and uniformity of behaviour under processing and then in performances on the vehicle.

Integration upstream with Acciaieria Arvedi guarantees short supply times of the raw materials and considerable production flexibility.

Integration downstream with Metalfer SpA and Metalfer Automotive offers the end customer the possibility of receiving the cut-to-size tube on a just-in-time basis.

Subsequent processing carried out by the customer includes bending, hydroforming, cold and hot forming and mechanical processing for making small and large series of automotive parts such as axles, camshafts, stabilising bars, chassis parts, engine and bodywork supports and reinforcements and safety parts.



## BOILER TUBES AND HEAT EXCHANGERS

Arvedi tubes for pressure applications are high frequency welded (HFI) products in alloy and non-alloy carbon steels.

The excellent final characteristics are achieved using raw materials of constant and uniform quality from Acciaieria Arvedi and ATA's special production equipment which allows close dimensional tolerances to be respected.

The results are better workability and repeatability in the welding, rolling expansion and curving phases.

These tubes are mainly used in industrial and domestic boilers, high and low temperature heat exchangers and in applications for the conveyance of pressurised fluids in the chemical and petrolchemical industries.

The reference standards are:

**EN 10217-1** for uses at ambient temperature

**EN 10217-2** for uses at high temperatures

**EN 10217-3** for fine grain alloyed tubes

**EN 10217-4** for uses at low temperatures

**ASTM A214** electrically welded carbon steel heat exchangers and condensers

**ASTM A178** electrically welded carbon steel tubes for boilers and heat exchangers

The tubes for pressure applications can be supplied in lengths up to 15 metres and in the following states:

- welded and calibrated
- normalised along the weld area
- normalised in a controlled atmosphere
- hot rolled

On request, in the order phase, it can be agreed to supply the tubes by completing the product documentation with PED (pressure and equipment directive) certification in conformance with the requirements of European Directive 97/23/EC and/or AD 2000 TRD 102/ADW4 certification.

## ENERGY AND POWER

### DISTRICT HEATING

Arvedi produces and supplies tubes for district heating in line with the provisions of standard EN253 and stringent customer specifications.

ARVEDI tubes for district heating are welded tubes produced in accordance with the series of standards EN 10217 and can be supplied seam annealed or full body normalised, they are made in steel grades provided by the standards or in special steel grades in accordance with customer specifications and ensure use in extreme conditions; depending on the application requirements the ARVEDI tubes can be supplied in lengths ranging from 6 to 16 metres.

As completion of production documentation Arvedi Tubi Acciaio can provide PED (pressure equipment directive) certification in compliance with the requirements of European Directive 97/23/EC.

### WATER PIPE

Arvedi Tubi Acciaio uses high quality carbon steels characterised by excellent physical and mechanical properties. The repeatability of these characteristics allows tubes to be obtained that are highly weldable and workable in the installation phase.

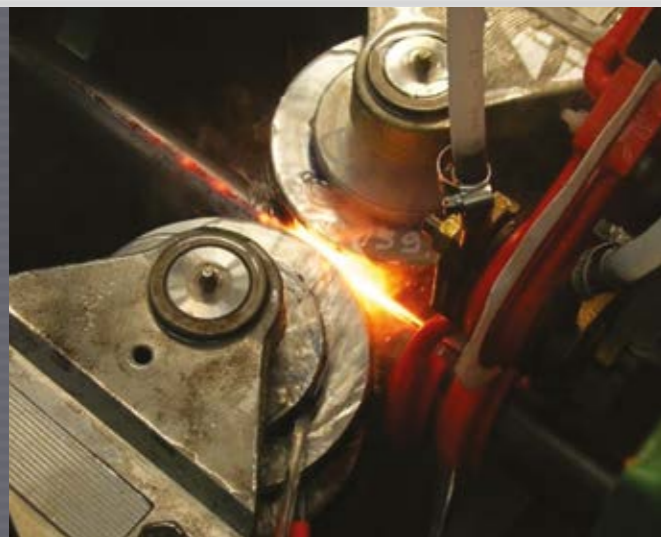
The water pipes are produced with (HF) longitudinal welding from hot rolled strip, comply with the prescriptions of standard EN 10224 and can be coated externally with polyethylene and lined internally with epoxy varnish.

Arvedi water pipes are made and supplied in compliance with standard EN 10244 and CE certified (in accordance with European Directive 305/11 CE) and are accompanied by a performance declaration (as per directive EU 305/2011).

### LINE PIPE

ARVEDI line pipes are tubes destined for conveying pressurised fluids and are typically used in the civilian and industrial oil and gas sectors.

These pipes are supplied both crude and coated in polyethylene and are produced and supplied in accordance with standard API5L and ISO 3183. ATA produces line pipe using high frequency (HF) induction welding without the addition of filler materials.





## OCTG CASING AND TUBING

OCTG tubes are used in wells and oil & gas production plants; these tubes are produced and supplied in compliance with standards **API5CT** and **ISO 11960**.

ATA produces OCTG tubes using high frequency induction welding (HFW) without the addition of filler material.

Following welding:

- diameters up to 3" are rolled in a hot stretch-reducing mill
- diameters over 3½" are normalised along the weld area or full body normalised.

ARVEDI tubes are produced in the following Group 1 steel grades:

- **H40 / K55 / J55 / N80**

A particular steel grade is also available:

- "J55 upgradable", developed in collaboration with Acciaieria Arvedi, suitable for upgrading to steel grades **N80, L80** and **P110**

Production range of **API 5CT**:

## TUBING

LABEL diameter	OD		wall thickness		Weight	
	Inch	mm	Inch	mm	lb/ft	kg/m
1.050	1.050	26.7	0.113	2.87	1.14	1.70
			0.154	3.91	1.48	2.20
1.315	1.315	33.4	0.133	3.38	1.70	2.53
			0.179	4.55	2.19	3.26
1.660	1.660	42.4	0.125	3.18	2.09	3.05
			0.140	3.56	2.30	3.42
			0.191	4.85	3.03	4.51
1.900	1.900	48.3	0.125	3.18	2.40	3.53
			0.145	3.68	2.75	4.07
			0.200	5.08	3.65	5.43
2.063	2.063	52.4	0.156	3.96	3.24	4.70
			0.225	5.92	4.50	6.74
2 3/8	2.375	60.3	0.167	4.24	4.00	5.95
			0.190	4.83	4.60	6.85
			0.254	6.45	5.80	8.63
			0.217	5.51	6.40	9.52
2 7/8	2.875	73	0.276	7.01	7.80	11.61
			0.216	5.49	7.70	11.46
3 ½	3.500	88.9	0.254	6.45	9.20	13.69
			0.289	7.34	10.20	15.18
			0.226	5.74	9.50	14.14
4	4.000	101.6	0.262	6.65	10.70	16.36
			0.271	6.88	12.60	18.75
4 ½	4.500	114.3				



# THE ENVIRONMENT: A CERTIFIED PASSION

The OHSAS 18001 certified management system involves the ownership, management and all employees in a programme of continuous improvement to ensure the safety and health of the workers.

Arvedi Tubi Acciaio's commitment to the protection of the environment is shown not only by the constant monitoring and strict compliance with the emissions standards imposed by national laws and the decrees of regional and local governments, but also by the fact that it was among the first Italian companies to obtain **ISO 14001** environmental certification.

Still with a view to reducing the impact on the environment, particular efforts are directed at energy saving and for this reason an energy management system has been implemented, certified in compliance with **ISO 50001**, the aim of which is to constantly improve energy efficiency.

The production of tubes destined for special applications, working in a spirit of innovation in order to improve production process performances, strengthening relations with customers and improving their degree of satisfaction with products and performances in line with expectations, are the results achieved thanks to **ISO 9001** certification, and for automotive products **ISO TS 16949**.

An important step in the development of its organisation was the adoption of the Organisation, Management and Control Model as per Decree Law 231/01 and a Code of Ethics. The Code of Ethics adopted clearly and transparently defines the values as a whole which inspire Arvedi Tubi Acciaio and are set out in order to establish clear rules of behaviour for carrying out its professional activity.

### System Certifications



	Certification	Date first issued	Issue by
Quality	ISO 9001:2008	26/01/1987	IGQ
	ISO TS 16949:2009	20/11/2001	IGQ
	API Q1	09/01/1985	API
Environment	ISO 14001:2004	12/05/2005	IGQ
Safety	OHSAS 18001:2007	31/12/2009	IGQ
Energy	ISO 50001:2011	03/09/2014	IGQ

### Product Certifications



5CT - 0392  
5L - 0293



PED 54/2020/  
MUC



Germanischer Lloyd

WZ 844 HH 2



1608 CPR P063 EN10210  
1608 CPR P157 EN10210  
1608 CPR P064 EN10219  
1608 CPR P129 EN12899  
EN10224  
EN10255





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