Finarvedi is the holding company of the Arvedi Group, the core business of which is composed of steelmaking activities with annual volumes of over about 4 million tonnes of products characterised by high quality and destined for the most demanding markets.

The Arvedi Group, founded in 1963 by Giovanni Arvedi, can count about 2500 employees and a consolidated turnover of over €2 billion.

Four manufacturing companies, situated in northern Italy and operating in three specific sectors, make up the Arvedi Group’s steelmaking nucleus:

• Acciaieria Arvedi S.p.A. (Cremona), Europe’s first example of a mini-mill for hot rolled carbon flat steel products;
• Arvedi Tubi Acciaio S.p.A. (Cremona) and Iltainox S.p.A. (Robecco d’Oglio-Cremona), operating respectively in the welded and cold drawn carbon steel and welded stainless steel tube sectors;
• Arinox S.p.A. (Sestri Levante-Genova), manufacturer of re-rolled stainless steel precision strip.

The companies of the Arvedi Group, thanks to their production, organization and logistics structures, have assumed leading roles not only in the panorama of Italian industry but also internationally. In fact, a considerable share of their production (on average about 45%, with peaks of up to 85%) is destined for foreign markets.
It is a very modern industrial works, which, thanks to its technological, environmental and ergonomic conception: since 2010, when production on the new ESP line started, it can be defined as a new system for steel manufacturing.

The steel works has been in operation since 1992 and is Europe’s first and the world’s second mini-mill for the manufacture of flat rolled steel.

The compactness and speed of the production cycle allow extraordinary flexibility and a high level of service.

The manufacturing process, based on the innovative Arvedi ISP and ESP Technologies, allows liquid steel from the melt shop to be transformed into ultrathin gauge hot rolled coils of the best quality and at competitive costs in a single, extremely compact cycle.

Acciaieria Arvedi in Cremona produces over 3 million tonnes per year of coils and has 1420 employees.

The production mix is directed towards both thin and ultrathin gauges (down to 0.8 mm) and quality steels. Arvedi ultrathin steel has precision and surface characteristics enabling it to compete with and replace cold rolled material. Its quality steels range from steels for cold forming and constructions, re-rolling, high strength micro-alloyed and boron steels, heat treatment (case-hardening and tempering) steels and the new generation of multi-phase steels, a key product for cars. Tests have also been conducted with positive results on the 300 and 400 stainless steel series and on magnetic steels, production of which is expected soon.

The coil is further finished on pickling, hot-dip galvanising and pre-painting plants which together process a considerable share of production in order to serve end customers directly.

Production range: Gauges from 0.8 to 12 mm
Widths 1000 to 1570 mm
The process technology, now called as a whole “Arvedi ISP/ESP”, is based on the casting of a thin steel strand rolled in-line and continuously into the coiled product, developed at the end of the 1980s on the ideas of the Chairman, Giovanni Arvedi, it is covered by 460 patents covering the most important industrialised countries regarding both the technology as a whole and the single plant component parts.

The idea, which became reality in 1992 in the Cremona works, was to produce large quantities of hot rolled thin gauge products through a process line which transforms the steel produced in an EAF or converter in the liquid state into quality steel coils that conventional plants and other thin slab technologies were unable to produce or produced at non-competitive costs.

With the ISP (In-line Strip Production) line the transformation of the liquid steel into quality coils through casting and continuous in-line rolling is achieved directly in the first rolling phase in only 180 metres and about 15 minutes, exploiting the energy contained in the liquid steel and its high plasticity at high temperatures. The pre-rolled strip is heated in the Induction Heater, accumulated in the Cremona Box and subsequently rolled to the final thickness. Thanks to this innovation, conceived and realised for the first time in the world within the Arvedi Group, the product has excellent qualities, energy consumption is very low and large quantities of ultrathin hot rolled steel in all steel grades can be produced. Fifteen years after stable start-up of the initial technology, after intense phases of study and applied research conducted within Acciaieria Arvedi, a new technology was developed called ESP (Endless Strip Production) which represents important and definitive technological progress.

This great leap forward in development has been made concrete with the start-up in 2009 of the new ESP line which, through a totally in-line and continuous process, enhances and takes to completion the strong points already highlighted by the earlier technology from which it derives, the first of which is the high temperature endless rolling which exploits the energy content of the liquid steel in an even more complete way. In brief, over a length similar to ISP (only 180 metres) and in 4 minutes the new ESP process transforms the liquid steel into coils with gauges down to 0.8 mm through a rolling line composed of 3 roughing stands and 5 finishing stands. Installed power is much lower than conventional plants since rolling is carried out at high temperatures, and stresses and energy consumption are consequently lower. Compared with the ISP line productivity is more than doubled, thanks to the higher casting speed the Cremona Box is no longer present (in this way the process is fully continuous), and the induction heater is dimensioned with reduced criteria and power.

The ESP technology, because it is completely continuous, reduces energy consumption to the minimum technically achievable, has higher performances (more homogeneous quality and particularly close dimensional tolerances), easier management of production of even thinner gauges with further cost reduction and even lower impact on the environment.

A Consteel electric furnace (tapping capacity 250 tonnes) supplies the ESP line with liquid steel with the most precise analysis and purity characteristics. The steel is cast into thin strands through the mould system (patented by Arvedi) to obtain the best quality characteristics with a high degree of reliability. The liquid steel is cast into thin strands through the mould system (patented by Arvedi) to obtain the best quality characteristics with a high degree of reliability. An innovation of epochal value: the direct connection of casting and rolling. The thin strand leaving the mould is reduced in thickness while the core is still liquid and directly rolled at a high temperature to obtain a high precision intermediate strip with a homogeneous structure. These intermediate strip, is re-heated in the Induction Heater, the first example of its kind in the world, and subsequently reduced to the final thickness by the finishing mill which operates at constant speed and temperature to obtain the best product characteristics. The continuously rolled strip, cooled with the most suitable means to give the steel the desired mechanical and structural characteristics, is cut and subsequently wound on the downcoiler. The products cover the broadest range of steels and gauges down to hot rolled ultrathin gauges (0.8 mm) which for many applications can replace cold rolled strip.
Acciaieria Arvedi's particular plant conception makes its special products, with a higher added value, the strong point of its sales mix as they can be produced flexibly and economically. Italian and foreign customers also recognize in Arvedi steel the best quality characteristics as regards weldability, formability, strength and constancy. These positive characteristics are consequently reflected in significant savings for all those industrial productions where steel is the raw material.

Arvedi steel meets end-users' primary requirements
- it is directly hot rolled in the broadest range of gauges - down to 0.11 mm - and widths - 1550 mm - even for thin gauge high strength steels;
- it guarantees higher strength values and consequently a saving in weight due to the use of lower gauges;
- thanks to close dimensional tolerances, similar to those of cold rolled products, it increases processing yield;
- it is welded and processed better because it is very clean, being obtained from a production and refining cycle that guarantees a very low inclusions level.
The advantages of pickled and hot dip galvanised steel

The coil coming from the cast-rolling plants (ISP and ESP) is further treated on pickling and hot dip galvanising plants to supply end users with a product having a surface ready to use and protected from corrosion.

The continuous pickling lines, equipped with skinpass plant, have a capacity of about 3 mtpy and are able to process even ultrathin hot rolled gauges, supplying a product which for many applications is equivalent to cold re-rolled material.

The galvanising lines, among the most recent in Europe, have a capacity of 1,000,000 tpy and a production range with gauges from 0.3 to 4.0 mm and finishing which includes tension levelling, skinpass and surface protection such as chemical passivation in accordance with standard 2002/95/EC (RoHS) and oiling.

The hot dip galvanised steel produced by Acciaieria Arvedi combines the excellent characteristic of protection from corrosion with the guarantee of the quality of the underlying steel.
Partners to our customers

Acciaieria Arvedi carries out pre-processing activities on steel strips, being equipped with a vast and modern range of cutting lines for flat rolled products. Its logistical position allows processing and distribution activity to end users over a vast market area, in particular for the car, white goods and construction industries.
The Arvedi pre-painted steel. A safe and environmentally sustainable product

Thanks to the installation of the pre-painting line, Acciaieria Arvedi is able to completely verticalize flat rolled steel production from the hot-rolled strip up to the pre-painted galvanized coil. This result is achieved in a single production site through compact, environmentally sustainable processes which guarantee the highest quality for the final product.

The advanced coil-coating technology together with the high quality of the coating system guarantee an excellent aesthetic result and durability over time. Aesthetics and durability are added to the intrinsic quality of the basic steel.

The choice of the most suitable coating can be either made by the Customer or proposed by the Arvedi technicians.

The best-known and industrialized coating systems are polyester coatings, HD (high-durability) polyester coatings and paints with PVDF (polyvinylidene fluoride) resins. Other customized painting systems are always available upon request.

Arvedi pre-painted steel is a safe product, free of CrVI, lead and other heavy metals, as prescribed by the EU REACH provisions for the protection of human health and the environment against the risks from chemical substances.

Furthermore, the steel substrate is obtained through our innovative Arvedi ISP/ESP® processes which fully exploit steel’s recyclability and significantly reduce CO₂ and NOₓ emissions compared to conventional steelmaking processes.
The summary of constantly developing industrial thinking

Acciaieria Arvedi, in parallel with the development of new products, has particularly reinforced its European sales network so as to improve the level of collaboration with customers and has set up a technical engineering service in order to help find new product solutions. Arvedi steel presents itself to the market as an absolutely new product since it is obtained through a highly innovative process that is constantly under development and which gives the hot rolled strip unique characteristics and properties that are reflected in real advantages for end users.

A team of engineers specially trained for process and product development gives technical assistance to customers so as to realise new projects and are aided by European study and research centres of the highest level, among these can be cited the Politecnico di Milano and Centro Sviluppo Materiali in Rome (Italy), the Technical University of Aachen - RWTH, the University of Freiberg (Bergakademie), the BFI centre of materials analysis in Düsseldorf (Germany) and Adveqt (Canada).
### Summary of the production range

**Black and pickled coils**

- **ARZINC 420 H**
- **ARZINC 260 H**
- **HX 300 LAD**
- **Steel Grade:**
  - S 600 MC
  - S 500 MC
  - S 460 MC
  - S 380 MC (FEE 380)
  - S 315 MC
  - Fe E 275 TM (FEE 270)

**From**

- **UNI EN 10292**

**Forming Steels**

- **Cold forming steels**
  - FIAT 52812
  - Microalloyed

**From**

- **S 600 MC**
- **S 500 MC**
- **S 460 MC**
- **S 380 MC**
- **S 315 MC**
- **Fe E 275 TM**

**To**

- **ARZINC 800 DP**
- **ARZINC 600 DP**
- **Steel Grade:**
  - Fe 800 DP
  - Fe 600 DP

**To**

- **ARZINC 350 s**
- **Steel Grade:**
  - S 350 GD + Z
  - S 280 GD + Z
  - S 220 GD + Z

**Gauges:**

- mm 5.00
- mm 12.00

**Black and pickled coils (ref. EN 10051)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Standard</th>
<th>Description</th>
<th>Thickness</th>
<th>Width</th>
<th>Mill tolerance</th>
<th>Overall tolerance</th>
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<td>0.80</td>
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<td>1.27</td>
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<td>2.50</td>
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<td>± 0.58</td>
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### Dimensional tolerances. Thickness tolerances

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<th>Thickness (mm)</th>
<th>Overall tolerance</th>
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<tr>
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<tr>
<td>0.50 ÷ 1.00</td>
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<tr>
<td>1.00 ÷ 1.50</td>
<td>± 0.25</td>
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<tr>
<td>1.50 ÷ 2.00</td>
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<tr>
<td>2.00 ÷ 3.00</td>
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<tr>
<td>3.00 ÷ 6.00</td>
<td>± 0.60</td>
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</tbody>
</table>

### The strong points of Arvedi steels and their main characteristics

**QUALITY**

- Three-stage rolling process
- Small batch production of coils with outstanding characteristics.

**PROCESSABILITY**

- The solidification process after casting provides homogeneous structures with high cold formability characteristics to be obtained.

**HIGH STRENGTH**

- Premium Coils: high performance steels with high yield points, after the substitution of cold rolled strip.

**ASSISTANCE**

- Our research department is available to designers and engineers for the better value added approach for the design of end products.

### Galvanised coils and strips (ref. EN 10143)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Standard</th>
<th>Description</th>
<th>Thickness</th>
<th>Width</th>
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<td>51 CRV</td>
<td>EN Standard</td>
<td>Steel Grade:</td>
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<td>800 ÷ 1000</td>
<td>± 0.24</td>
<td>± 0.21</td>
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<td>EN Standard</td>
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<td>EN Standard</td>
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<td>EN Standard</td>
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<td>55 CRV</td>
<td>2000 ÷ 3000</td>
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<td>± 0.21</td>
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</table>

### The immediate benefits for the processing industry

**SPREAD**

- Exact matches from the same material supplier.
- Real savings in time and costs.

**FLEXIBILITY**

- Steels for cold forming are available in surface quality classes.

**SERVICE**

- Competitive prices and fast delivery.

### Summary of the production range

**Black and pickled coils**

- **FIAT 52812**
- **Microalloyed**

**Cold forming Steels**

- **UNI EN 10115**
- **Steel Grade:**
  - Fe E 340 ZNT/F
  - Fe E 270 ZNT/F

**From**

- **Cold forminig steels**
  - DX 52 D+Z
  - DX 51 D+Z

**To**

- **DX 51 D+Z**
- **DX 52 D+Z**

**Gauges:**

- mm 12.00
- mm 0.80

**Gauges:**

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>Overall tolerance</th>
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<tr>
<td>0.40 ÷ 0.60</td>
<td>± 0.13</td>
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<tr>
<td>0.60 ÷ 1.00</td>
<td>± 0.13</td>
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<tr>
<td>1.00 ÷ 1.50</td>
<td>± 0.15</td>
</tr>
<tr>
<td>1.50 ÷ 2.00</td>
<td>± 0.18</td>
</tr>
<tr>
<td>2.00 ÷ 3.00</td>
<td>± 0.20</td>
</tr>
<tr>
<td>3.00 ÷ 6.00</td>
<td>± 0.25</td>
</tr>
<tr>
<td>6.00 ÷ 12.00</td>
<td>± 0.40</td>
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</tbody>
</table>
Arvedi ultrathin steels

Research and development programmes conducted in collaboration with:
- Europe's leading independent laboratories
- Centres of Excellence
- Leading Universities

Arvedi ultrathin steels

In the thin and ultrathin gauge range (less than 1.5 mm) the offer of Arvedi steels effectively covers a large part of those applications traditionally oriented towards the use of cold rolled strip. Thanks to ISP/ESP technology, where reduction of slab thickness is achieved with a "liquid core", industrial production can be achieved of gauges that are unique in the world in terms of low carbon content steels for cold forming, structural steels and above all micro-alloy, high elastic limit steels. The geometrical characteristics of the ultrathin strips amply conform to the parameters set by European reference standards (fig. 1).

The excellent degree of cold formability, as shown by the limit curve (fig. 2) is substantially identical to that of a cold rolled product of the same steel grade and gauge (tests conducted by leading independent laboratories).

Mechanical characteristics remain practically constant along the whole strip and throughout the cross-section. Homogeneity of the mechanical characteristics, confirmed by the tests conducted (fig. 3), is guaranteed by the fine-grain metallographic structure (in accordance with ASTM standards values are between 10 and 12) and by the high level of production process automation from the melt shop to casting and rolling.

The reliability of the process also guarantees the repetition of the mechanical characteristics in the various production campaigns.

Constant gauge for the whole coil length

Gauge control

The coils produced at Arvedi present particularly close and constant gauge tolerances.

This very important result is made possible by the integrated management of the pre-rolling and rolling phases which are governed by specific plant and software programmes, wholly developed by our technical staff.

The particular conception of the process, with pre-rolling of the slab immediately after solidification in the continuous caster, allows precise gauge and profile control to be carried out on the hot slab and thus a final product to be prepared for finishing rolling with very precise and reliable geometrical characteristics.

The final formability of the strip, as shown by the limit curve (fig. 2), is substantially identical to that of a cold rolled product of the same steel grade and gauge (tests conducted by leading independent laboratories).

Mechanical characteristics remain practically constant along the whole length and throughout the cross-section. Homogeneity of the mechanical characteristics, confirmed by the tests conducted (fig. 3), is guaranteed by the fine-grain metallographic structure (in accordance with ASTM standards values are between 10 and 12) and by the high level of production process automation from the melt shop to casting and rolling.

The reliability of the process also guarantees the repetition of the mechanical characteristics in the various production campaigns.

Width 1250 mm

Cold rolled
tolerance

EN 10131

Coil no. 84580001 width 1,250 mm Th. 1.00 mm

Cold rolled
tolerance

EN 10131

Cross-section

(measured 25 mm from the edge)

Cold rolled
tolerance

EN 10131

High precision of the cross-section

Cold rolled tolerances with 1,250 mm Th. and 1,000 mm longitudinal profile

Cold rolled tolerances with 1,250 mm Th. side by side

Cold rolled tolerances with 1,500 mm Th. side by side

Cold rolled tolerances with 1,250 mm Th. edge by edge

Cold rolled tolerances with 1,500 mm Th. edge by edge

Colours:
- Red:
  - Head End
  - Tail End
- Blue:
  - Center
- Black:
  - Tail End

Arvedi data from RWTH / IEHK report of 01/2006

Cold rolled data from RWTH / IEHK report of 01/2006

Mechanical characteristics, A%, edge - centre - edge over the coil length steel grade S 420 MC gauge 1.25 mm

To the left:
- Ag: Head End
- A80: Center
- A80: Tail End

To the right:
- Head End
- Center
- Tail End

Experimental research and development programmes conducted in collaboration with:
- Europe's leading independent laboratories
- Centres of Excellence
- Leading Universities

Arvedi ultrathin steels

In the thin and ultrathin gauge range (less than 1.5 mm) the offer of Arvedi steels effectively covers a large part of those applications traditionally oriented towards the use of cold rolled strip.

Thanks to ISP/ESP technology, where reduction of slab thickness is achieved with a "liquid core", industrial production can be achieved of gauges that are unique in the world in terms of low carbon content steels for cold forming, structural steels and above all micro-alloy, high elastic limit steels. The geometrical characteristics of the ultrathin strips amply conform to the parameters set by European reference standards for cold rolled products (fig. 1).

The excellent degree of cold formability, as shown by the limit curve (fig. 2) is substantially identical to that of a cold rolled product of the same steel grade and gauge (tests conducted by leading independent laboratories).

Mechanical characteristics remain practically constant along the whole strip and throughout the cross-section. Homogeneity of the mechanical characteristics, confirmed by the tests conducted (fig. 3), is guaranteed by the fine-grain metallographic structure (in accordance with ASTM standards values are between 10 and 12) and by the high level of production process automation from the melt shop to casting and rolling.

The reliability of the process also guarantees the repetition of the mechanical characteristics in the various production campaigns.
Acciaieria Arvedi has gained a leading role both in Italy and Europe in the high strength steels sector - HSLA (High Strength Low Alloy) - and in the new-generation steels - AHSS (Advanced High Strength Steel) - such as Dual Phase.

Since 2006 the high strength steel range as a whole has constituted the general core of products sold. High strength steels are aimed mainly at the car industry which is increasingly committed to building safer, lighter and more ecological cars. This position of excellence has been achieved thanks to a precise strategy which, starting from investments in the integrated cast-rolling lines based on avant-garde technology - ISP/ESP - have led to the decision to pursue the aim of quality specifically addressed to the high strength steel segment; with their combination of excellent characteristics for processing and welding and with lower costs due to a lower ferroalloy content, there is enormous scope for their application in the building of self-propelled vehicles and in particular cars.

Some possible applications - frame structural elements

- Rear seat frame
- Wheel disks
- Front suspension mounts
- Roof cross bar
- Floor components
- Motor support
- Rear seat frame
- Side impact bars
- Roof cross bar
- Rear seat frame

Main applications of the various steel grades produced for the car industry
### Table of Pickled Steels

<table>
<thead>
<tr>
<th>Type</th>
<th>Steel Grades</th>
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<th>1.25</th>
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### Table of Galvanized Automotive Steels

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<th>Steel Grades</th>
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</table>

### Some Possible Applications

- Suspension mounts
- Arms
- Wheel disk
- Brake plates
- Seat sides
- Frame elements
- Headrest
- Safety belts

Arvedi steels for the car industry
The range of steels for structural applications is composed of both traditional construction steels, produced in conformance with EC Directive 89/106/CEE (Directive for Construction Products) guaranteed by the relative CE trade mark and by improved weather resistance steels.

Acciaieria Arvedi offers many advantages for customers that use hot-dip galvanised structural steels:
- a vast range of coatings (differentiated if needed on the two sides and with up to 450 g of zinc per square metre);
- “tailor-made” strip gauge in conformance with project prescription gauge tolerances, to a maximum of 4 mm;
- quality assurance of the steel below the zinc coating thanks to in-house management of all production phases, from the liquid steel to rolling.

### Table of structural steels

<table>
<thead>
<tr>
<th>Steel grades</th>
<th>gauge (mm)</th>
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</thead>
<tbody>
<tr>
<td>S 235 JR J2</td>
<td>1.0 1.2 1.5 1.8 2 3 4 5 6 7 8 9 10 11 12</td>
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<tr>
<td>S 275 JR J2</td>
<td>7 8 9 10 11 12</td>
</tr>
<tr>
<td>S 355 JR J2</td>
<td>CD</td>
</tr>
<tr>
<td>S 355 JR W</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12</td>
</tr>
<tr>
<td>S 355 JR WP</td>
<td>1 2 3 4</td>
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</tbody>
</table>

### Table of galvanized structural steels

<table>
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<tr>
<th>Steel grades</th>
<th>gauge (mm)</th>
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<td>0.25 0.40 0.75 1</td>
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<tr>
<td>DX 52</td>
<td>1.5 2 3 4</td>
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<tr>
<td>S 230 GD + Z</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>S 230 GD + Z</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>S 230 GD + Z</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>S 330 GD + Z</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>S 330 GD + Z</td>
<td>1 2 3 4</td>
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</tbody>
</table>
Acciaieria Arvedi offers the market a pre-painted product characterized by the highest quality and safety standards. Before delivery, the product is subjected to numerous controls aimed at verifying its mechanical characteristics, correspondence of the colour with the reference sample, hardness and brightness of the paint as well as a series of application tests to check both general characteristics and suitability for the particular applications requested by the customer.

The quality of the steel substrate is guaranteed by the in-house management of all the intermediate production phases, from hot rolling to coating. Personalized colour and painting cycle make the product particularly versatile and allow numerous applications, from the building industry to industry generally.

**Production capacity:** 150,000 annual tons

**Size range:**
- Minimum thickness: 0.3 mm
- Maximum thickness: 1.2 mm
- Maximum width: 1500 mm

**Colours:** can be in all RAL colours and customized colours upon request.

**Appearance:** smooth or wrinkled.

**Main coating systems:** polyester, HD (High durability) polyester and PVDF (polyvinylidene fluoride). Other coating systems are available upon request.

**Polyester:** this painting system offers flexibility and good outdoor wear with an excellent cost/performance ratio. Main outdoor applications are corrugated sheets, insulating panels, building materials and other building sector accessories.

**HD Polyester:** it has a very high resistance to exposure to sunlight. It is classified as a long-life product thanks to its excellent chalking resistance and very low colour variation over time. Typical applications are for residential buildings with high exposure to sunlight.

**PVDF:** this product is suitable for installations in areas with high levels of pollution and sunlight.
The excellent quality of Arvedi steels can fully meet the demands of end users from numerous areas of industry. Thanks to collaboration between our experts and customers’ technicians, products can be personalised on the basis of specific application requirements. For example, it is possible to roll strip to the most suitable gauges within prescribed tolerances so as to optimise production yield in terms of quantity; or modulate mechanical characteristics in conformance with reference specifications so as to maximise the efficiency of pressing and moulding processes. Once a product has been developed, subsequent production campaigns are carried out in every way identical to the previous one; in this way products always present the same requirements and therefore allow considerable savings in terms of machine preparation and setting times.

The particular conception of the ISP and ESP lines also allows particularly short delivery times and offers the possibility of reacting quickly to any non-standard production.

<table>
<thead>
<tr>
<th>Steels grades for the main areas of application in industry</th>
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</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td><strong>Industrial and civil shelving</strong></td>
</tr>
<tr>
<td><strong>Components for white goods</strong></td>
</tr>
<tr>
<td><strong>Pressure vessels</strong></td>
</tr>
<tr>
<td><strong>Earthmoving machinery</strong></td>
</tr>
<tr>
<td><strong>Industrial vehicles</strong></td>
</tr>
<tr>
<td><strong>Structural profiles</strong></td>
</tr>
<tr>
<td><strong>Oil piping</strong></td>
</tr>
<tr>
<td>$32/350$ $42/450$ $600/700$ $320/350$ $420/500$ $600/700$ $320/350$ $420/500$ $600/700$ $320/350$ $420/500$ $600/700$</td>
</tr>
</tbody>
</table>
Quality - Environment - Safety: always our guiding concepts

Acciaieria Arvedi’s environmental and safety policies are based on the recognition of the importance of protecting the environment and health and safety at work. The environment, health and safety at work and the relative results of these – as shown from the environmental management system certification in accordance with ISO 14001:2004 and OHSAS 18001:2009 - are considered an essential part of the company’s management system.

System certifications:

<table>
<thead>
<tr>
<th>Type of certification</th>
<th>Date first issued</th>
<th>by</th>
</tr>
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<tbody>
<tr>
<td>Quality management system ISO 9001: 2000</td>
<td>22 / 06 / 2000</td>
<td>IGQ, IQNET</td>
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<tr>
<td>Environmental management system ISO 14001: 2004</td>
<td>22 / 12 / 2004</td>
<td>IGQ, IQNET</td>
</tr>
<tr>
<td>Safety management system BS OHSAS 18001:2007</td>
<td>31 / 12 / 2009</td>
<td>IGQ, IQNET</td>
</tr>
<tr>
<td>TÜV - PED (Pressure Equipment Directive) 97/23/EC for pressure vessels</td>
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<td>TÜV</td>
</tr>
</tbody>
</table>

Licences, approvals and product certifications:

<table>
<thead>
<tr>
<th>Type of certification</th>
<th>Field of application</th>
<th>by</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD Merkbaltt W 0/TRD 100</td>
<td>Pressure vessels and boilers</td>
<td>TÜV</td>
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<tr>
<td>EC marking in conformance with Directive Steel for structural 89/106/CEE of the EC Council of 21/12/88</td>
<td>Steel for structural applications as per EN 10025-2</td>
<td>IGQ</td>
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<tr>
<td>Authorisation decree</td>
<td>Metallic constructions</td>
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<tr>
<td>DM 9/1/96 by the Public Works Ministry for construction steels</td>
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</table>
ISO 14001 certification given to Acciaieria Arvedi, Arvedi Tubi Acciaio and Ilta Inox guarantees the respect of those principles and procedures where the protection of the environment is an essential value. This result has been achieved by means of investments in plants, training and the awareness that man makes the quality of the environment.

The environment: a certified passion

Acciaieria Arvedi

Arvedi Tubi Acciaio

Ilta Inox

Istituto Italiano di Garanzia della Qualità and the company Det Norske Veritas Italy have certified the environmental management systems of Acciaieria Arvedi, Arvedi Tubi Acciaio and Ilta Inox designed according to ISO 14001.
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