

## Tubular Products Europe

ArcelorMittal Europe's Tubular Products division is a pan-European producer, manufacturing tubes and pipes in four countries and delivering its products through proximity agencies located in eight countries across the continent as well other major international markets.

Active in the energy, construction, engineering and automotive sectors, the company produces and markets virtually the full spectrum of tubular products, with an increasing share of value-added products developed in cooperation with its customers.

Tubular Products offers the broadest product range, from seamless to spiral and longitudinal welded tubes, available in both small and large outside diameters, as well as a variety of processes and/or finishing, including ERW, HFI, precision, cold-drawn, HSAW and LSAW.

### **A wide range of seamless pipes**

ArcelorMittal Europe's division Tubular Products offers seamless pipes with outside diameters ranging from 21.3mm - 508mm and wall thicknesses of up to 50mm. Access to high-quality steels allows the division to create pipe and tube solutions for the most challenging applications. Its mills in Romania and the Czech Republic have supplied many complex orders, including structural tubes for the Azerbaijan Olympic Stadium, piping systems for the UK Navy's flagship aircraft carriers, and oil and gas projects across the world.

### **Flexible large-diameter welded facilities**

Tubular Products' highly flexible operations enable it to meet the demands of both large and small projects. The division has the capability to produce individual pipes, making it the ideal supplier for small projects with many components. A wide range of grades is available in strengths of up to X70. Additional services include end preparation for sockets, cut-to-length pipes and an in-house coating facility.

### **Extensive small welded offer**

Small, welded cold-formed and hot-finished tubes are produced at Tubular Products' mills in Eastern Europe in Karviná (Czech Republic), Krakow (Poland), and Iasi (Romania), and in France in Lexy, Rettel, Fresnoy and Vincey. These products are typically used in construction, and in the transportation of fluids and gases. The range is constantly developing to meet customer requirements for high value-added products. Over the past two years, Tubular Products Europe has made important investments to increase its production of galvanized and colour-coated tubes. These investments have enabled it to increase the variety of grades on offer and improve its logistics systems.

### **A leading manufacturer of automotive tubing**

Due to their contribution to structural strength, reduced number of welds and light weight in relation to the optimised number of joints, steel tubes help to lower costs, increase safety and reduce overall mass - critical factors for car manufacturers. With five production sites in Europe specialising in automotive tubes, Tubular Products Europe is a leading manufacturer and marketer of tubes for the automotive industry with a wide range of welded and cold drawn mechanical steel tubes and tubular shapes, fabricated parts and precision components. The products are used for a wide range of high-value added applications, ranging from suspension systems to crash management components to axle housing assembly systems and instrument panels or seat structures.

## **Key investments and R&D**

ArcelorMittal's customers benefit from the group's global R&D capabilities which include **1,400 full-time researchers, \$278m dedicated to research in 2017** and a worldwide network of laboratories in Europe and Americas (12 major research centres).

In recent years, the group's European mills have made major investments in state-of-the-art equipment for the production of pipes and tubes, including:

- A new **colour-coating line** for cold-formed welded tubes at **Iasi** (Romania) in 2016
- A new **melamine colour-coating line** at **Karviná** (Czech Republic) commissioned in autumn 2016
- A new **hot-dip galvanizing line** at **Krakow** (Poland) in 2017

Other important areas of development are being conducted in the following locations:

- **Vitry** (France), which is constantly developing parts for automotive applications. As weight is a key consideration for carmakers, Vitry has adapted and developed a low-carbon steel crash component that is lighter and more cost-effective than aluminium - just one example of how ArcelorMittal is using innovation and imagination to create additional value for the customer.
- **Roman** (Romania) Replacement of the OCTG threading lines and coupling shop are underway. This will lead to a capability to produce premium connections for challenging applications in Oil and Gas exploration and production.
- **Fresnoy** (France) has developed into an excellence centre for coated precision tubes such as highly appreciated and innovative Magnelis<sup>R</sup> tubes which ensure corrosion protection up to 10 times higher than conventional hot-dip galvanized tubes.

## Innovating for different markets

### Seamless

The Seamless Business Unit of Tubular Products Europe manufactures and markets steel pipes and tubes for the full spectrum of industrial, engineering, and energy segments.

Access to high-quality steels allows us to create solutions for the most challenging applications. Our mills in Romania and the Czech Republic have supplied many complex orders including pipes for the TengisChevroil Future Growth Project in Kazakhstan and other oil and gas contracts across the world

Applications:

- Oil & Gas exploration
- Hydraulic cylinders
- Hydrocarbon transportation
- Structural applications
- Power generation
- Engineering and mechanical applications

The following plants produce seamless pipes in a broad range of sizes and grades in carbon and alloy steel:

- **Ostrava**, the Czech Republic's largest steelmaker has integrated steel making and rolling facilities and has continuously invested in upgrading its facilities to produce a superior range of billets suitable for the production of pipes and tubes. The tube mill in Ostrava manufactures the full range of seamless products in the range 21.3mm to 273mmOD.
- **Roman** is the one-stop shop for the entire range of tubular products required in the energy industry, producing seamless pipes for oil and gas projects around the world in a broad size range from 168.3mm to 508mm..

### Large Diameter Welded

Our Large Diameter Welded mills offer a wide range of products which meet the highest standards in all major applications. By working closely with our customers, we ensure that our pipes and tubes meet all customer specific requirements.

Our highly flexible operations make us the ideal partner for both large and small pipeline projects in the energy sector. We also manufacture and supply pipes for piling and structural application

Applications:

- Hydrocarbon transportation
- District heating systems
- Water distribution
- Piling and structural applications

The following plants produce Large Diameter Welded pipes in a broad range of sizes and grades:

- **Ostrava** manufactures spiral-welded line pipes for the gas industry as well as pipes for District Heating and Structural applications.
- **Galati** (Romania) produces LSAW pipes for the transportation of oil, gas, hydrocarbons and water.

### Automotive Tubing

Tubular Products Europe is a leading manufacturer and marketer of welded and cold drawn mechanical steel tubing and tubular shapes, fabricated parts and precision components for the automotive industry.

Main applications:

- Suspension systems
- Crash management components
- Axle housing assembly systems
- Welded precision tubes for manufacturing of seats, instrumental panel beams, filler pipes, engine cradles and reinforcement components
- Complex hydroformed and other high-value added automotive applications

Five of Tubular Products' plants provide tailor-made solutions to the group's automotive customers. These include welded and cold-drawn welded tubes, and components based on global quality standards such as ISO TS 9001 and ISO TS 16949.

**Hautmont (France)** Located in northern France close to Maubeuge the ArcelorMittal Hautmont, Tubular Products factory (formerly Vallourec Précision Soudage) was built at the beginning of the 20th century. Its production of cold sized welded precision tubes ranges from 20mm - 130mm outside diameter and from 0.9mm - 6mm wall thickness, with lighter and heavier wall-to-diameter ratios. In addition to standard low carbon steel, the factory produces high-strength low-alloy (HSLA), Dual Phase and (Trip) AHSS grades. Today, the plant is dedicated to meeting the demand for tubes from the automotive industry. Hautmont handles every stage of a tube's production, including slitting, ERW<sup>1</sup> welding, NDT<sup>2</sup> testing and annealing. Its tubes are used in numerous functions (front and rear suspension systems, body in white, engine environment, driveline systems..) for customers all over Europe. Hautmont also has cutting facilities with chamfering, length-measuring, washing and automatic packaging.

**Chevillon (France)** The Chevillon plant (also formerly Vallourec Précision Soudage) is located in northeast France in the Marne valley. The tubes manufactured range from 10 mm - 55 mm outside diameter and from 0.6 mm to 3 mm wall thickness. In addition to the standard low carbon steel grades, the factory also produces HSLA<sup>3</sup> and Dual Phase steels. Production is aimed predominantly at the automotive market, which requires welded precision tube for the manufacture of seats, instrument panel beams, crash components, filler pipes, engine cradles, reinforcement components and shock absorbers. The core manufacturing process on site consists of slitting, welding, NDT testing, and cutting, including brushing, length measuring and washing.

---

<sup>1</sup> ERW – Electric Resistance Welding

<sup>2</sup> NDT – Non Destructive Testing

<sup>3</sup> HSLA – High Strength Low Alloy

**Karviná (Czech Republic)** has a long tradition of producing longitudinally welded products for the mechanical industry and, more recently, the automotive market. Its facilities include tube mills, annealing furnaces, coating lines, cold-drawing benches, and machines for cutting and chamfering. A hot stretched reduction process is used in tubemaking for homogenous properties. The site also produces tubular products on cold sizing lines within narrow tolerances.

**Vitry le François (eastern France)** This facility is a major supplier of automotive tubular parts, including tubular cross parts for twist beam rear axles, and crash management parts and components. The facility's core business is to design, develop and produce components which meet the quality standards required by the automotive industry. At Vitry, the emphasis is on tailoring the component to the individual requirements of each carmaker. Working closely with ArcelorMittal Automotive and the R&D team in France, Vitry's dedicated team of engineers and designers provide tailored solutions to meet its customers' needs.

**Fresnoy (France)** is located in the north of France close to the automotive centre of Valenciennes and has more than 70 years of tradition in the production of steel tubes. Today's range includes precision steel tubes for automotive as well as industrial applications. It is a centre of excellence for Magnelis®, sendzimir galvanized and aluminized tubes.

For the second time, ArcelorMittal is presenting its tubes for the automotive industry at the International Trade Fair Tube in Düsseldorf. The group will be showcasing rear axles beams and front crash components, produced at its plants Vitry and Hautmont.

### Small Welded Industrial

ArcelorMittal Europe's division Tubular Products has a long tradition as a supplier of high quality products to the mechanical tube market, which is the division's biggest single market. Tubular Products offers a comprehensive and diversified range of tubular products that includes precision and cold-drawn tubes, cold and hot finished hollow sections, cold and hot finished pressure pipes as well as plain, galvanized or colour-coated pipes in a vast array of steel grades. The division's excellent tube making process guarantees the performance of its steel tubes for engineering applications and a wide range of mechanical ones.

#### Main applications

- Structural applications
- Scaffolding and fencing
- Gas and water transportation
- Farm machinery equipment
- Mineral mining equipment
- Storage systems
- Heavy construction equipment
- Furniture

Six plants are specialised in the production of welded steel pipes for the mechanical engineering industry:

**Krakow** (Poland, produces longitudinal welded tubular products for mechanical purposes, such as building, water distribution, and scaffolding. Its location in the southern province of Malopolskie ensures reliable distribution throughout Poland, Czech Republic, Slovakia, Germany, Denmark, and the Baltic states. The products are produced from hot and cold rolled coils. Krakow is also a centre of excellence for galvanized products. In the last 12 months, the site has considerably increased its hot-formed range with new dimensions for structural and rectangular pipes.

**Karviná** (Czech Republic) has been manufacturing longitudinal welded thin-wall sections and pipes and thin-wall opened sections since 1929. The majority of the products are used in the mechanical and civil engineering industry because of their low weight and the possibility to use the products for installation of various utility lines. The company also produces precision cold-drawn and calibrated tubular products for the automotive industry. Located in the Eastern Czech province of Moravia, it is well positioned for distribution in the Czech Republic, Northern and Western Europe. Karviná opened a new melamine colour-coating line in autumn 2015.

The line will be used for coating pipes with lengths of 3 - 7.5m, and diameters of 17.2 - 219 mm, to be used in fire extinguishing systems, water mains in greenhouses and utility lines in production halls or shopping centres.

**Iasi** (Romania) is the largest producer of longitudinal welded steel pipes in Romania, and the nation's market leader for mechanical tubes. From its location in Eastern Romania, it can easily distribute products throughout the country and in neighbouring countries, including Northern and Western Europe. The site also produces cold rolled profiles and crash barriers for motorways. Since 2015, the site offers new grades for hollow structural sections, and in 2016, it opened a new colour-coating line for cold-formed welded tubes.

**Lexy** and **Rettel** (France), referred to now as ArcelorMittal Lexy, are part of the newly acquired plants (which includes also Vincey and Fresnoy) from the previous Lorraine Tubes company owned by Condesa. They are located in the Lorraine region in Western France. It is the largest French producer of welded cold formed and hot finished tubes. Its complete dimensional range and acknowledged quality makes it an ideal supplier of all kinds of structural tubes for stockholders as well as for most demanding construction projects all over Europe.