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Metallurgical plants in Romania and the Czech Republic



2023

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Introduction

As can be seen from historical development, steel has always been the basis for economic growth. At first, a large share of production was in the USA, from where the center of gravity shifted to Europe, including Eastern Europe, and here, too, steel was a guarantor of national prosperity. Around the year 2000, a new phenomenon suddenly appeared a literal boom that came from Asia. What the Chinese have built on the East Coast is a "miracle" that once again confirmed the power of political factors. We know that the biggest issues remain, especially in the areas of trade, environment, and energy. However, concrete solutions go beyond the level of an individual state, be it Romania or the Czech Republic, and concern all the important countries of the European Union in metallurgical terms, on which the steel industry is dependent. Global trade in steel products will continue to affect not only China but also other developing countries.

Four main areas affecting production, steel, and consumption of steel products in the Czech Republic, in Europe, and the world are the issues of overcapacity, environment and energy, conditions of foreign trade, and support of technical education, which is related to the general opinion about steel affecting the interest of the younger generation.

Romania and the Czech Republic had to face some of the highest inflation rates in Europe. The catalyst for this was the war in neighboring Ukraine. The rising cost of food and energy, as well as the influx of refugees, has put significant pressure on the economies of the countries. Due to the level of uncertainty, many consumers have either postponed or canceled their purchasing decisions. Demand in most consumer regions has become weak. There has been a significant decline in private consumption and a lack of new investment.

Both countries have introduced monetary policy tightening by raising interest rates in an attempt to reduce activity. Access to finance - both at the macro and microeconomic levels - has become increasingly constrained. There has been a noticeable slowdown in housing construction. Commercial construction activity is limited. Public projects are on hold and budgetary challenges persist.

Other industries have also been hit hard. White and yellow goods activity is down sharply. Modest growth in automobile production runs counter to this trend. Regional steel buyers closely tied to the auto industry believe this is a consequence of unfulfilled orders rather than part of a long-term trend.

Due to unfavorable trading conditions, Central European flat and long steel producers have been forced to make significant price concessions in recent months. Nevertheless, rolling mills in the Czech Republic were able to maintain higher prices compared to producers in Southern Europe.

A contributing factor is supply-side considerations. At the beginning of the year, several steel producers in the region took decisive steps to withdraw capacity. This allowed them to bring their production in line with market demand. Consequently, mill delivery times have remained extended until recently.

The Czech and Romanian markets have become immune to the same degree of import penetration as their southern European counterparts for geographical reasons. Imports at competitive prices remain scarce, except for products from South Korean plants with local warehousing facilities. Potential third-country suppliers are often disadvantaged by high freight costs, long delivery times, and the need for large numbers of vessels. As a result, steel buyers tend to purchase their products from regional sources.

Flat steel prices in Central Europe, as in the rest of Europe, are believed to be approaching the bottom of the current cycle.

It is hoped that production disruptions will ensure price stability during the summer months. However, steel demand is unlikely to improve significantly in the medium term. Tight monetary policy is expected to continue as inflation is forecast to remain high in 2024. The evolution of the European steel market will continue to be subject to a high degree of uncertainty, which is likely to continue to undermine demand from steel-using sectors.

1. Romania

In 1989, the Romanian steel industry had a total capacity of about 18 million tons of steel per year and an equivalent annual production of 13.4 million tons of steel produced in 33 production units, the number of people employed in the steel industry was about 150,000 (more than ¼ of them in the Galati steel plant). The subsequent evolution was marked by a sharp decline, more pronounced than in some Central European countries, which also faced economic difficulties characteristic of the transition period so that production in 1995 was less than half of the 1989 level. At the same time, the number of employed people decreased, reaching the level of 2000 almost twice (76.8 thousand people).

Currently, the domestic market absorbs about 45% of production, the rest is exported, with the European Union being the main external partner (about half of total exports). Importantly, however, the steel industry, which contributes about 8% of Romania's annual industrial production, is one of the few industries that can support, through its exports, all imports of raw materials, energy, spare parts, as well as part of its investment needs. In Romania, the iron and steel industry provides more than 90% of the steel products required by some strategic sectors, the profile of activity almost completely covers the domestic needs for products and by-products of iron, steel, and their derivatives.

While all over the world the most common technology for steel production is oxygen converters, with low power consumption, Romania has them only in the Galati plant. In addition, most plants do not have pollution avoidance equipment.

The main objectives of restructuring the iron and steel industry, developed by the Ministry of Industry and Resources, include:

- correlation of production capacities and the structure of products and semi-finished products with internal and external (increasing the production of pipes and hot-rolled strips at the same time as reducing the products destined for the mining and oil sectors);
- modernization of production facilities through the introduction of more efficient and environmentally friendly technologies;
- reduction of specific consumption of raw materials and energy;
- increasing labor productivity and improving working conditions;
- achieving efficient exports of metal products by increasing the share of products with a higher degree of processing;
- further reduction of hired personnel to optimal values.

The energy crisis, the war in Ukraine, high inflation, rising interest rates, depreciation of the euro, and supply chain disruptions hit European industry, including Romania's industry, during 2022. As a result of soaring energy and raw material prices, major industrial producers suffered significant losses and many were forced to reduce or temporarily halt production. The slowdown in industrial activity is hurting the prospects for economic recovery. Another aspect that has affected the metallurgy activity is the difficulty in supplying raw materials.

The increase in production costs against the background of higher energy prices does not allow Romanian products to be competitive in European markets.

In addition to the political and energy crisis, an important challenge for the steel industry in 2023 is the acceleration of the decarburization process, to comply with increasingly strict regulations in this field on the one hand, and to face the challenges of market competition on the other hand. An important step in this direction is to stop exporting scrap metal, as it is a particularly valuable resource suitable for reuse.

Another major problem of the industry is the shortage of qualified personnel due to the lack of an educational system that prepares new generations for these particular professions.



1.1. Liberty Galati SA



Liberty Galati SA is the largest steel mill in Romania, located in the southeastern part of the country, in Galati, Galati County, one of the leading European producers of metallurgical products. The production complex is fully integrated, starting from raw materials, sintering, blast furnace, steel foundry, plate mill, hot rolling mill, cold rolling complex, galvanizing, and organic coating lines.

Construction of the plant began in 1961, and two years later the first production stage, the plate mill, was opened. Fully integrated production began in July 1968, when all major production sites were completed and the first batch was produced by Steel Shop No. 1.

The plant was originally a state-owned company until it became a registered company with shares in 1991. Ten years later, LNM Holdings Group (later ArcelorMittal) bought the state's shares. In 2018, ArcelorMittal announced the sale of several steel plants, including the Galati steel plant.

Liberty House Group, part of the GFG Alliance owned by industrialist Sanjeev Gupta, completed the acquisition of the Galati steel plant on July 1, 2019. The plant has now been renamed LIBERTY Galați.

LIBERTY is a global steel and mining business headquartered in London, with a rolling capacity of over 20 million tons per year and a liquid steel capacity of over 14 million tons per year, present in 10 countries, with 35,000 employees and a turnover of USD 20 billion.

The company has an integrated business model and product range from liquid steel made from raw and recycled materials to high-quality, precision structural steel.

The capacity of Liberty Galati SA is 3200 thousand tons per year.

Number of employees - 5066.



Production

- Cold-rolled products

- Steels for cold forming (EN 10130, steel grades DC01; DC03; DC04)
- Steel for enameling (Standart EN 10209, DC01EK; DC04EK; DC03EK)
- Structural steels (Standard Galati, DC01_DRUMS; HC220; DC01_CS; DC01 LOW S&P)
- Cold rolled steel flat products with high yield strength for cold forming (Standart EN 10268, HC260LA; HC300LA; HC340LA; HC380LA)
- Full hard (Standard Galati, SAE1012_FH_MPS; SAE1012_FH; RH20_FH; ST-K80_FH; ST-2K50_FH; ST-OK_FH; DC01RB_FH)

Coil weight: 3.0 - 17.5 tons

The inner diameter of the coil: 610 mm

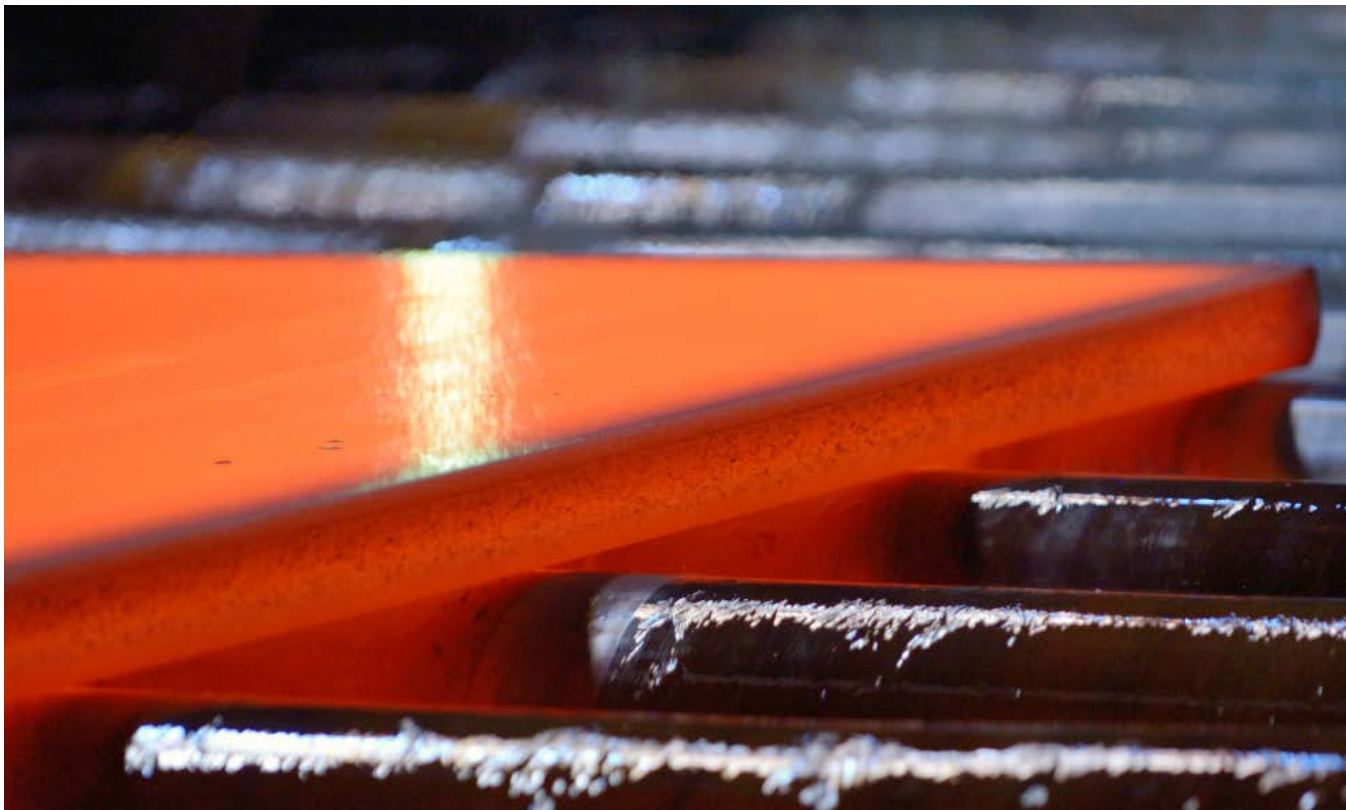
The outer diameter of the coil max. 1500 mm

Delivery in bundles in sheets max. 5.0 tons, delivery in bundles of coils, max. 7.0 tons



- Hot Dip Zinc Galvanized Material

- Low Carbon Steels for Cold Forming (Standard EN 10346, Steel Grade DX51D)
- Steel for Construction (EN 10346, S220GD; S250GD; S280GD; S320GD)



- Heavy Plates

- Structural Steel for General Application

- Weldable Fine Grain Structural Steels – Normalised

- Steels for Quenching and Tempering

- TMCP Steel - Weldable fine grain structural steel TMCP Steel - Weldable fine grain structural steel

- Offshore Steel - Weldable Structural Steels for Fixed Offshore Structures

- Structural Steel with Improved Corrosion Resistance

- Pipeline Steels

- Structural Steel for Bridges

- Boilers & Pressure Vessel Steels

- Shipbuilding

Thickness

- 6.00 - 40.00 mm shear cutting

- 40.01 – 200 mm flame cutting

Plate unit weight for width 1500-1900 mm: max. 11.3 MT

Plate unit weight for width over 1900 mm: max. 15 MT

Max. weight 18 MT with mill acceptance



- Hot Rolled Pickled & Oiled Products

- Steel for Cold Forming (EN 10111, DD11, DD12, DD13, DD14)
- Structural Steels (EN 10025-2, S185, S235, S275, S355)
- HSLA Steels (EN 10149, S315MC, S355MC, S420MC, S460MC, S500MC)
- Steels for Gas Cylinders (EN 10120, P245NB, P265NB, P310NB)
- Steel for Pressure Vessels - Elevated Temperature (EN 10028, P235GH, P265GH, P295GH, P355GH)

Dimensional capability

- Thickness: 1.5 – 6 mm • Width: 870 - 1500 mm • Coil Weight: 3.0 – 23.5 tons • Inner Coil Diameter: 610mm / 750mm • Outside Coil Diameter: max 2200 mm



- Longitudinally Submerged Arc Welded Pipes



- Hot Rolled Products

- Steels for Cold Forming (EN 10111, DD11; DD12; DD13; DD14)
- Structural Steels (EN 10025-2, ASTM A283, Steel Grade S185; S235; S275; S355 ASTMA283GRADE C)
- HSLA Steels (EN 10149-2, S315MC; S355MC, S420MC; S460MC, S500MC)
- Steels for Gas Bottles (EN 10120, P245NB, P265NB, P310NB)
- Steel for Pipes (API 5L, Galati Standard, Grade B/X42/ X46/X52/ X52M/X60M S355HF)
- Steels for Pressure Vessels - Elevated Temperature (EN 10028 P235GH; P265GH; P295GH; P355GH)
- Weathering Steels (EN 10025-5 S235JOW/S235J2W/ S355JOW / S355J2W / S355K2W / S355JOWP / S355J2WP)
- Steels for Re-Rolling
- Steels for Quenching and Tempering (EN ISO 683-1, EN 10083, 22MnB5, 28Mn6, 30MnB5, 38MnB5, C40, C40E, C45, C45E)
- Floor Plates
- Shipbuilding Grades (DNV – GL, ABS, VL A, VL B, VL D, VL E, VL A32 A36, D32, D36, E36 ABS A, ABS B, ABS E, ABS AH32, AH36, DH32, DH36, EH 36)
- Hot Rolled Sheets



Dimensional capability

- *Coil Weight: Please refer to weight matrix on page 18*
- *Inner coil diameter: 762 mm (-12mm/+88 mm)*
- *Outside coil diameter: max 2100 mm*
- *Delivery in bundles weight: 2.5 - 15 tons*

Development prospects

The company is investing almost €1 billion in the GREENSTEEL transformation plan to become carbon neutral by 2030. This plan is part of the CN30 (Carbon Neutral 30) vision, which aims to be sustainable and carbon-neutral by 2030.

The strategy will ensure the long-term economic, social, and environmental sustainability of LIBERTY Galati so that it can reinvest profits and continue to supply high-quality steel and jobs for future generations.

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1. 2. Dan Steel Group Beclean SA



Dan Steel Group Beclean SA a DSG Group company, has been active for over 25 years in the metallurgical field of wire and wire products and covers the needs of customers in various sectors: industry, construction, and agriculture.



The wire plant is located in Beklin, Bistrica-Neseud County, with an asset consisting of more than 40 hectares of land, buildings with a total usable area of 75,460 square meters, and related equipment.



Production activities

Production of ferrous metals in primary forms and ferroalloys (nails, galvanized wire, woven wire, welded mesh, panels, etc.) intended for sale on domestic and foreign markets (Hungary, Poland, Serbia, Czech Republic, Czech Republic, Slovakia, etc.).

Production capacity of more than 100,000 tons/year.



Production equipment

Furnaces for wire processing, wire drawing machines such as UDZSA 2500; UDZSA 1250; UDZSA 630; UDZVG; KISTNER; HERBON, welded wire mesh lines, fence edge panel production lines, hot and electrolytic galvanizing lines, automatic wire mesh weaving machines, automatic nail making machines, automatic nail packing lines for packing nails into boxes of certain sizes, modern fence panel plasticizing line, automatic hexagonal mesh weaving machines for making gabions, automatic welding line for wire mesh in rolls.

Manufacturing products



- Wire for various applications:

- rigid matting wire
- glossy stiff wire



- printing wire
- drawing wire for screws
- black soft wire
- agricultural spiral wire
- galvanized wire
- plasticized wire

- Welded fittings:

- welded meshes
- welded beams

- Fences

- barbed wire fences

- square or hexagonal woven mesh fences

- fence systems with posts and welded panels

- Gabions

- gabion nets

- gabion boxes

- gabion mattresses

- gabion bags and accessories necessary for Gabion assembly.

- Nails

- construction nails

- target nails

- scoop nails

- Wagner's nails



Latest company news

The measures imposed by the European Commission in 2018 on imports of certain categories of products belonging to the steel industry forced Dan Steel Group Beclean SA to obtain raw materials from the EU under much more onerous contractual terms for this, and with prepayments, the plant has accumulated debts of more than EUR 35 million.

At the beginning of 2023, Dan Steel Group Beclean's wire mill began bankruptcy proceedings. At the end of April, an auction was organized for its sale at a starting price of EUR 25.9 million plus VAT.

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1.3. Otelu Rosu steel plant (LDME)



Otelu Rosu Steel Plant is a steel plant operating in Otelu Rosu, Caras-Severin, Romania. is located on an industrial site located in the west of Romania, in Valea Bistrei. LDME (Danube Laminorul Iron and Steel Works) acquired the assets of the Otelu Rosu plant in 2019 from the Mechel Group. In turn, LDME is Sunningwell Steel SA, which was incorporated in 2019. The shareholders intend to make Sunningwell Steel a Polish steel holding company covering the acquired assets in Poland, Romania, and possibly other Central and Eastern European countries. OTELU ROSU can produce billets from low-, medium-, high-carbon, and high-alloy steel for further rolling of reinforced concrete rebar, wire, and special steels.



The projected production capacity is 850,000 tons/year of liquid steel. The total land area owned by the Otelu Rosu plant is 85.3695 ha.



Main production equipment

- 100-ton EBT electric arc furnace, upgraded in 2011 and equipped with the COSS preheating system (Fuchs technology) COSS stands for Continuous Optimized Shaft System
- COSS uses waste gas heat to preheat scrap metal, which allows the plant to significantly reduce costs (on raw materials and electricity) and improve steel quality.
- Units LF1, LF2 were modernized in 2011.
- Continuous casting machine STS No.1 modernized in 2011
- CONCAST continuous casting machine STS No. 2
- Electric furnace and TP dedusting system equipped with bag filters 2,200,000 m³/h (TECOAER company)
- SIERRA T 800 2 pcs.) scrap cutters Scrap shredder ZDAZ

Sales revenue of \$0.55 million

Products

Square steel billets

Square side: 140, 150, 160 mm.

Contacts

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<https://ldme.web-bank.eu/services/otelu-ro-su-steel-plant/>



1.4. Donalam SRL (AFV Beltrame)



Donalam SRL, is a manufacturer of hot-rolled carbon and low-alloy steel rounds, with a range of diameters from 80 mm to 300 mm and lengths from 4 m to 13 m, depending on customer requirements.

Donalam was founded in 2006 by AFV Beltrame Group to start steel production in Romania.

AFV Beltrame Group



Founded in 1896, AFV Beltrame Group is now one of the largest producers of rolled steel and specialty steels in Europe. The Group owns 7 plants in Italy, France, Switzerland, and Romania, employing more than 2,500 employees, selling more than 2 million tons of steel annually, and doing business in more than 40 countries.

The Romanian subsidiary of AFV Beltrame Group, Donalam, owns two production plants: one in Calarasi, with more than 15 years of activity in the production of hot-rolled steel products, and, as of February 2022, a combined plant in Targoviste, where the production of reinforced concrete products was restarted in the summer of 2022.

1.4.1. The steel mill in Calarash

Donalam SRL has acquired the heavy-rolling mill of the former steel plant in Calarasi, strategically located logistically in the southeast of Romania, 100 km from Bucharest, close to the border with Bulgaria, and connected to national roads and railways, with access to ports on the Danube and the Black Sea.



Production began in 2008, resulting in an investment of more than 54 million euros in the acquisition, modernization, and re-equipment of the rolling mill production line.

Ongoing investments totaling more than 80 million euros resulted in a 35% increase in productivity between 2014 and 2015.



Aiming to create added value, starting from 2016 Donalam changed its market positioning strategy from a commodity producer to a company focused on personalized orders. A new business concept of raw material production in Germany and then lamination and finishing in Romania was adopted, to optimize production and bring the company to a new standard of product and service quality.

Total plant area 307,293 sq.m.

Production capacity of 400,000 tons of rolled steel products.

Products

Large-sized bars/profiles made of alloy steel (diameter over 80 mm) by hot rolling method.

Donalam products are used in a variety of industries including:

- Oil and gas industry
- Automotive industry
- Large mechanical and hydraulic equipment
- Agricultural machinery and equipment



Sales markets

Most of the production (approximately 85-90%) is exported, Donalam is one of the most important exporters in Calarasi County.

The strategic location of the plant, near the Danube and the Black Sea, facilitates the transportation of raw materials sourced from Germany and the export of finished products to most of Europe. In the oil and gas segment, distant markets such as Singapore, Japan, China, and India.



Certification

Quality management system ISO 9001:2015. ISO 14001:2015 Environmental Management System.
ISO 45001:2018 Occupational Health and Safety Management System
The offered products comply with the European norms EN 10060, EN 10380, and EN 10221.

Contacts

SC Donalam SRL

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1.4.2. Tyrgovisht Special Steels Plant

The Tyrgovisht Special Steels Plant started its operation in 1973. Since 1978, it has been equipped with modern technologies for the production of special alloyed and high-alloyed steels necessary for the development of the national, civil, and defense industries. A forging and stamping department was also established as part of the complex.



In 2002, the plant was privatized and transferred to the trading company Swiss Conares. Conares later became part of the Mechel Group. In March 2022, the Italian Beltrame group buys the special steel plant in Târgoviste for 38 million euros. The new owner offered to invest 500 million euros to reconstruct and modernize this mill.

The plant from Targoviste resumed operations in June 2022, putting Romania back on the concrete steel production map. AFV Beltrame Group began the process of hiring staff and modernizing the plant and started production of steel-concrete products under the Donalam brand name.



Thus, the company became the only full-cycle reinforced concrete producer in Romania, which will supply about half of the domestic needs in the construction sector to end the local market's dependence on imports from Europe and beyond.

To restart the mill's operations, Beltrame hired about 730 employees, some of whom are former COS Târgoviste employees.

In 2018, Donalam SRL had a turnover of 437,253,606 lei, 257 employees, and a production volume of 120,000 tons of rolled steel products.



The plant in Targoviste, the only full-cycle reinforced concrete producer in Romania, has a production capacity of about 10,000 tons per month. The target for 2023 is to increase this capacity to 30,000 tons per month, i.e. more than 300,000 tons per year, to cover half of the domestic needs of the construction sector and reduce Romania's dependence on imports.

Thus, the plant will provide Romania with about half of the country's demand for reinforced concrete for construction, which is about 600,000-700,000 tons per year. Currently, Romania imports all this material from countries such as Bulgaria or Turkey.

Contacts

Headquarters in Targoviste

Gesti Street No. 9-11

Târgoviste (Romania), Dâmbovita county

Development prospects

AFV Beltrame Group will invest EUR 300 million in a new environmentally friendly rebar and wire rod plant in Romania, with construction scheduled to start in the second half of 2023. The plant will have a production capacity of around 600,000 tons per year of steel rebar and wire rod. Beltrame Group's investment will contribute to the creation of 250 new local jobs as well as almost 1,000 indirect jobs, of which at least 800 are in the construction phase and approximately 150 are in the production phase.

Contacts

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1.5. ARTROM STEEL TUBES



is a leading Romanian manufacturer of seamless steel pipes and steel, with a significant share of the European market for industrial seamless steel pipes, with two production plants located in Romania, as follows:

Artrom Steel Tubes m Artrom Steel Tubes steel mill.

Number of employees in 2022: around 2,350.

Turnover in 2022: more than 390 million euros

1.5.1. Artrom Steel Tubes Pipe Plant – производител стальных бесшовных труб, расположенный на юге Румынии, в городе Слатина. Завод производит стальные бесшовные трубы для промышленного применения, в том числе для машиностроения и автомобилестроения.

Сегодня трубный завод Artrom Steel Tubes is a seamless steel pipe manufacturer located in the southern Romanian city of Slatina. The plant produces seamless steel pipes for industrial applications, including mechanical engineering and automotive applications.



Production facilities

1. Hot-rolling workshop no. 1 (asset)

Contains the following main facilities:

- Piercing mill– Stieffel type, made in Russia, with a capacity of 200.000 t/year.
- Elongating rolling mills



- TPA 200 ASSEL stand made in Russia, with a capacity of 120.000 t/year, is used for mechanical tubes and mother tubes for further cold-rolling.
- Mannesmann AWW 550 ASSEL stand made in Germany, with a capacity of 80.000 t/year, is used for line pipes and tubes for the boiler.
- Straightening machines.
- Cutting-off machines.
- Beveling machine.
- PM inspection.
- Ultrasonic inspection equipment.
- Pressure test machine.
- Varnishing equipment.

2. Hot-rolling workshop no. 2 (cpe)

Contains the following main facilities:

- Piercing mill – Diescher type SWW 780, made by Mannesmann, Germany, with a capacity of 200.000 t/year.
- Elongating Bench roller – Made by Mannesmann, Germany, with a capacity of 150.000 t/year.
- Hot reduction line No.1 – Contains a walking beams furnace for reheating and normalizing and a stretching-reducer with 28 rolling-mill stands, made by Kocks, with a capacity of 65.000 t/year.
- Hot reduction line No.2 – Contains a walking beams furnace for reheating and normalizing and a stretching-reducer with 20 rolling-mill stands, made by Kocks, with a capacity of 85.000 t/year.



- Reheating and normalizing furnace (CVP) – maximum furnace temperature 10000
- Battery for finishing No. 1
- Battery for finishing No. 2
- Ultrasonic inspection equipment.
- Eddy's current inspection equipment.
- Pressure test machine.
- Varnishing equipment.



3. Cold-rolling & drawing workshop no. 3 (cold)

Contains the following main facilities:

- Cold rolling Pilger mill HPT 250 – 10000 t/year capacity, is used for precision tubes with an outer diameter between 90÷210 mm.
- Cold rolling Pilger mill LAPIR 50 – 5000 t/year capacity, is used for precision tubes with an outer diameter between 20÷38 mm.
- Cold rolling Pilger mill LAPIR 75 – 6000 t/year capacity, is used for precision tubes with an outer diameter between 20÷60 mm.
- Cold rolling Pilger mill SKW 75 – 7000 t/year capacity, is used for precision tubes with outer diameter between 20÷60 mm.
- Cold drawing – bench – 15 t force.
- Cold drawing – bench – 30 t force.
- Cold drawing – bench – 45 t force.
- Cold drawing – bench – 60 t force.
- Cold drawing – bench – 150 t force.
- Continuous furnace.
- Straightening machines.
- Cutting-off machines.
- Ultrasonic inspection installation.
- Beveling machine.
- Oiling by soaking equipment.
- External oiling machine.



4. Automotive & hydraulic cylinders workshop no. 5 (ach)

Contains the following main facilities:

Skiving and Roller Burnishing machines – 25000 t/year capacity, is used for inside skiving and roller burnishing of precision tubes with outer diameter up to 420 mm, and lengths up to 12 m.

- Centerless OD grinding machine – 5800 t/year capacity, is used for OD grinding of tubes with an outer diameter between 25÷160 mm.
- Precision fix length cutting machine – 1500 t/year capacity, is used for precision fix length cutting of tubular products with an outer diameter between 15÷76 mm.
- Mechanical machining center.

5. Heat treatment plant workshop no. 6 (htp)

- Annual capacity: about 165.000 tons from which 90.000 tons of Premium Heat Treatments.
- Austenitizing hardening furnace (HT) – maximum furnace temperature of 10000
- Tempering and normalizing furnace (LT) – maximum furnace temperature 10000
- Quenching sprayer – for pipes with WT up to 20 mm.
- Quenching tank – immersion type – for pipes with WT up to 60 mm.
- Hot straightening machine – maximum linear straightening less than 0.8 mm/1 m and 1 mm/1 m (applies to 1.5 mm from both ends of pipe). Maximum linear straightening not more than 5 mm.
- Water treatment plant
- Cooling beds
- Normalizing furnace with protective atmosphere (Nassheuer) – maximum furnace temperature 10000
- Stress relieving furnace (CTTI) – maximum furnace temperature 7000
- Normalizing and annealing furnace (CTTF) – maximum furnace temperature 10000C



Products

- Mechanical pipes
- Pipes for boilers and high temperatures
- Pipes for gas and water transportation
- Pipes for low-temperature applications
- Pipes for tubing and raw pipes for tubing and casing pipes
- Mechanical pipes for manufacturing connecting parts
- Precision pipes
- Pipes for hydraulic cylinders
- Cold-finished pipes with grinding and internal bluing
- Piston rod tubes

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<http://www.artrom.com/who-we-are/>

1.5.2. Artrom Steel Tubes Steel Plant



Artrom Steel Tubes is located in Resita, southwest Romania, approximately 400 km from the Artrom Steel Tubes pipe plant.

The plant has more than 260 years of history and experience in the production of steel and rolled products. Today, however, the running technologies are state-of-the-art. In February 2007, the steel mill launched a new continuous casting line with a capacity of 450,000 tons per year, and in 2010 launched a new EDP with a capacity of 110 tons. The production flow consists of EDP, LF, vacuum system, and continuous casting machine.



The steel plant produces round billets for pipe production (177, 220, 280, and 350 mm) and 260 x 340 mm blooms.

The main technical features:

- Number of strands = 3
- Yearly capacity = 450,000 t/year
- Designation = steel for pipes and sections
- Type of Construction = Molds and curved strands
- Machine radius = 13 m – Ladle Capacity = 100 t
- Dummy bar = chain type



Production capacity

The plant specializes in seamless pipes and can produce 500,000 metric tons of steel for electric arc furnaces and 700,000 metric tons of rolled steel products.



Products

Steel (continuous cast billets or bloom)

Round billets size $\varnothing 177$ mm, $\varnothing 220$ mm, $\varnothing 280$ mm, $\varnothing 350$ mm

Blooms 260 x 340 mm

Steel-making route:

Electric Arc Furnace – Ladle Furnace – Vacuum Degassing (by request) – Continuous Casting



Contacts

Traian Lalescu Street, No. 36, 320050, Resita, Caras-Severin, Romania

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<http://www.artrom.com/>

1.6. ArcelorMittal

1.6.1. ArcelorMittal Hunedoara



ArcelorMittal Hunedoara (formerly Combinatul Siderurgic Hunedoara - Siderurgica SA) is a steelworks in Romania that has been producing steel since 1884. It was privatized on April 20, 2004.

Production facilities

Hunedoara's production site consists of one electric arc furnace, a ladle furnace, one CCM, and a section rolling mill.

-Sections with widths from 100 to 270 mm and lengths from 6 to 12 m, conventional and special mining sections;

-Round products with diameters from 180 to 310 mm. The final purpose (continuous casting and rolling) of these products is the production of seamless oil and gas pipes.

Steelmaking capacity of electric arc furnace and nominal crude steel capacity of 800 tons per year, actual steel production in 2021 200 thousand tons per year.



Finished products

- Columns and Beams: IPE, IPN, HE
- Channels: UPE, UPN
- Angles
- Round bars: R

Main areas of activity

The company produces pipe billets, medium and light steel sections, reinforced concrete products, wire, and special and mining profiles.

On December 1, 2011, a new rolling mill for Euro profiles with a capacity of 400,000 tons per year was launched and production of round laminates, new profiles, and classic profiles began.

Sales revenue of \$150.93 million



Products

ArcelorMittal Hunedoara's Long Steel Products:

- Hot rolled European wide flange H sections (Steel grade S235JR; S235JO; S235J2; S275JR; S275JO; S275J2; S355JR; S355JO; S355J2)
- Hot rolled European I sections (S235JR; S235JO; S235J2; S275JR; S275JO; S275J2; S355JR; S355JO; S355J2)
- Hot rolled taper flange I sections (S235JR; S235JO; S235J2; S275JR; S275JO; S275J2; S355JR; S355JO; S355J2)
- Continuously cast round billets (35M; 20Mn10; G52S(N); BNO; T70S; T81S; P11; P12; P22; 16Mo3)
- Hot rolled round billets (35M; 20Mn10; G52S(N); BNO; T70S; T81S; P11; P12; P22; 16Mo3)
- Hot rolled round steel bars for general purposes (S235JR; S235JO; S235J2; S275JR; S275JO; S275J2; S355JR; S355JO; S355J2)
- Hot rolled steel standard channels (S235JR; S235JO; S235J2; S275JR; S275JO; S275J2; S355JR; S355JO; S355J2)
- Mining section (31Mn4)
- Angels (S235JR; S235JO; S235J2; S275JR; S275JO; S275J2; S355JR; S355JO; S355J2) (300W; 300WT; 350W; 350WT; A572 GR.50; A572 Gr.60)

Results for Q1 2023.

ArcelorMittal Hunedoara (stock code SIDG), reported a loss of LE18.2 million in the first three months of 2023, compared with a loss of LE29.7 million in the same period of 2022, in business of LE155.7 million, down 20.8%.

The company's assets rose 25% in Q1 2023 compared to Q1 2022, to 446.8 million lei, according to calculations made by ZF based on data from its quarterly financial report published on the Bucharest Stock Exchange. Having recorded a net negative result in 2022 due to a provision for impairment of fixed assets amounting to 84 million lei, the company is making efforts to recover in the existing global scenario due to the war in Ukraine, exaggerated increases in the price of electricity and gas.

Contacts

DJ 687-No. 4, Hunedoara, code 331111, Hunedoara County, Romania
+40254716121

office.hd@arcelormittal.com

<http://www.arcelormittalhunedoara.ro/>

1.6.2. ArcelorMittal Tubular Products Iasi SA

ArcelorMittal Iasi is the largest producer of longitudinally welded steel pipes in Romania and the leading producer of industrial pipes in the country.



- Produces the largest and widest range of offered tubular products
- High-quality seamless carbon and low-alloy steel tubing
- Capacities include 6-inch and 16-inch plunger machines and a 20-inch piling machine with tapping and heat-treating equipment.

Contacts

Small welded

Calea Chisinaului Street 132 Iasi 700180, Romania

Tel: +40 232 20 31 03

iasi.tubularproducts@arcelormittal.com

Seamless

Stefan cel Mare 15A/1

Roman 611038, Jud. Neamt, Romania

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roman.tubularproducts@arcelormittal.com

<https://tubular.arcelormittal.com/>

1.7. Erdemir Romania



OYAK Mining Metallurgy, the largest producer of flat-rolled products in Turkey, is the owner of Erdemir Romania.

OYAK Mining Metallurgy, an electrical steel manufacturer in Europe, supplies fully processed electrical steel strips and coils to NGOs, with over 85% of sales exported globally. The company's products and services are designed for the production of all electrical applications, electric motors, power transformers, and generators.



Certification

Standart ISO 9001, ISO 14001 и ISO 45001:2018. Certificate of quality management system IATF 16949:2016,



Contacts

Erdemir Romania SRL

Soseaua Gaesti Nr: 18 Dambovita County
130087 Targoviste Romania

Tel.: +40 245 607 110

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www.erdemir.ro

<https://www.oyakmadenmetalurji.com.tr>

1.8. Ocelinox Târgoviște



Ocelinox Târgoviște is a specialty and long steel company from Romania, founded on June 1, 1974. In 1997, the controlling interest in Ocelinox (51%) was acquired by Samsung Deutschland GmbH, a subsidiary of Samsung Corporation Group.



At the end of 2006, the company expanded its production range with welded stainless steel tubes.

The production capacity for stainless steel sheets and strips is 60,000 tons per year and for small sections and wire is 100,000 tons per year.



Manufacturing

Our Capabilities

Rolling

ZM

- 3 cold rolling lines type Sendzimir Mill (20-high cluster mill configuration)

Heat Treatment

BA / DG / APC / APH

- 2 bright annealing lines – heat treatment in a controlled atmosphere (BA)
- 2 degreasing lines (DG)
- 1 annealing line for cold rolled coils (APC)
- 1 annealing line for hot rolled coils (APH)

Leveling

TL/SKP

- 2 tension leveling lines (TL)
- 1 skin pass line (SKP)

Slitting

SL

- 7 slitting lines (SL)

Special Processing

DB/MC/SP

- 1 edge trimming line (DB)
- 2 multi-coil lines (MC)
- 2 spooling lines (SP)

Packing

PK

- 3 packing lines (PK)



Products

- Precision

The “Precise” products are cold rolled products of narrow material with thicknesses from 0.05 mm – 0.8 mm and slit in widths between 5 mm – 625 mm. Surface type: 2H, 2R (BA).

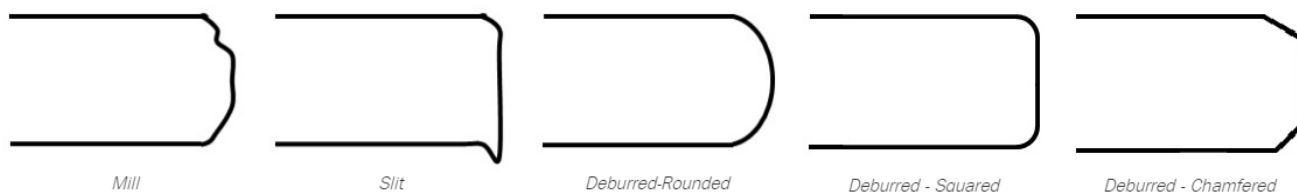
- Standard

The “Standard” products are cold rolled products of wide material with thicknesses between 0.25 mm – 1.5 mm (thickness above 0.8 to 1.5mm to be agreed upon before ordering) and slit at widths between 40 mm – 1250 mm.

The final surfaces are: 2D; 2B.

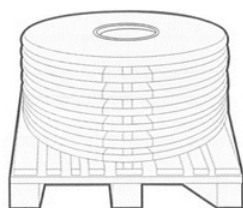
By edge condition

- Mill
- Slit
- Deburred-Rounded
- Deburred - Squared
- Deburred – Chamfered

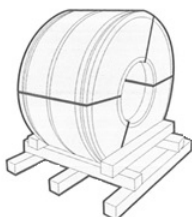


By packing style

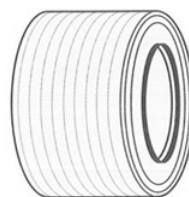
- Eye to sky
- Eye to side
- Spool
- Multi-coil



Eye to sky



Eye to side



Spool



Multi-coil

Steel grades Austenitic

1.4310-301 HT1, 1.4310-301 HT3, 1.4310-301 HT5, 1.4301-304, 1.4301-304PS, 1.4307-304DL, 1.4303-305, 1.4404-316L, 1.4571-316Ti, 1.4541-321, 1.4828-309, 1.4833-309S, 1.4372-201*, 1.4306-304L*, 1.4301-304MS*, 1.4845-310S*, 1.4539-904L*

*) Available only on inquiry.

Steel grades Ferritic

1.4512-409Li, 1.4016-430, 1.4510-439, 1.4113-434*, 1.4000-410S*

*) Available only on inquiry.



Classification

Dimensions and tolerances

Strips by Thickness Range (Accordingly with ISO 9445)

Strips by Width Range (Accordingly with ISO 9445)

Spooled strips by Thickness Range (Accordingly with ISO 9445)

Trimmed strips by Thickness Range (Accordingly with ISO 9445)

Certification

Otelinox products are tested and inspected in our laboratories equipped with the most modern instruments.

Product certification on delivery is carried out by DIN EN 10204.

Contacts

Strada Gaesti no. 16, Târgoviste, Dâmbovica, Romania

+40 245 209 108

resourceumane@otelinox.ro

<http://www.otelinox.ro/>

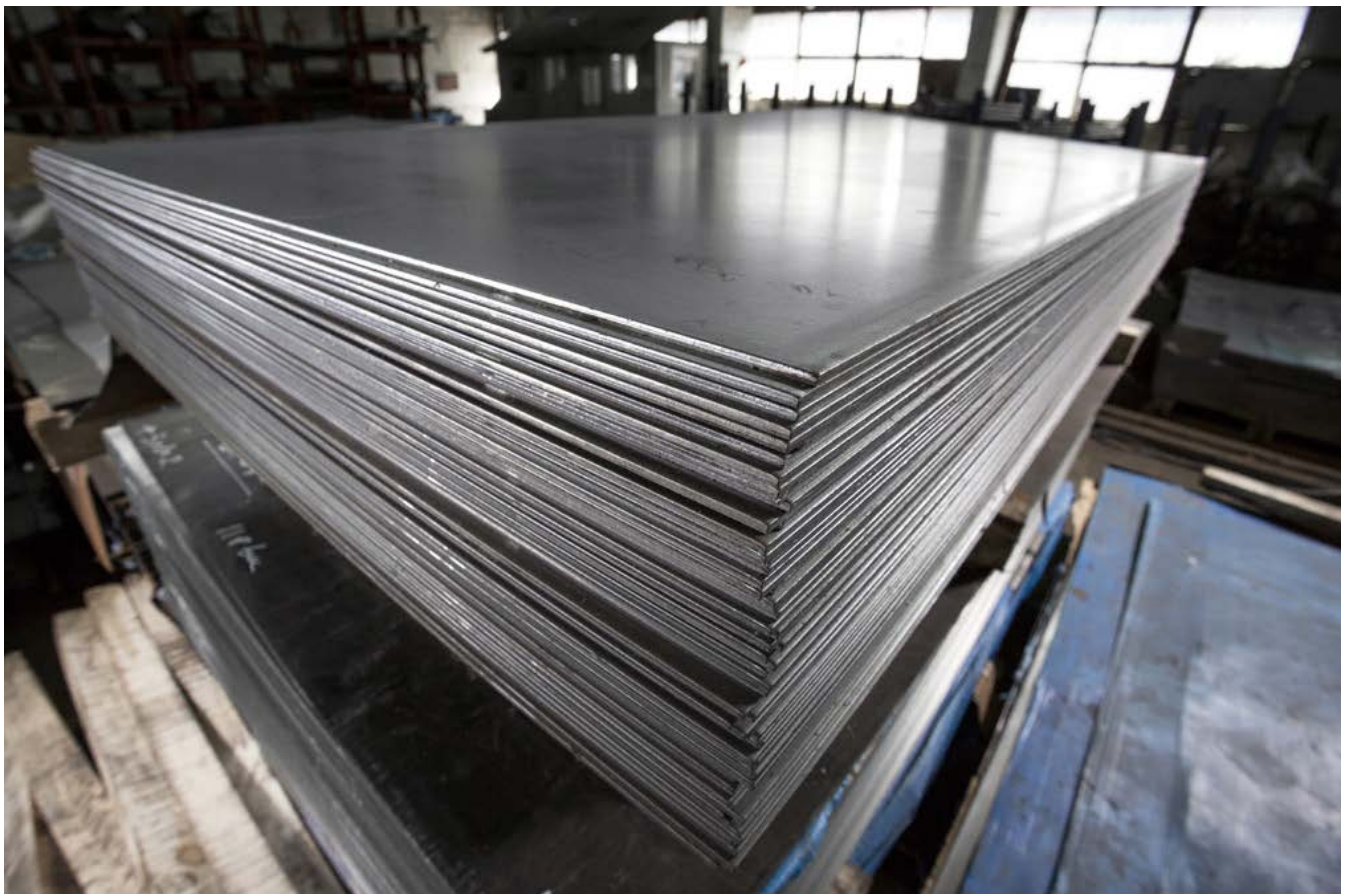
1.9. Grantmetal SA



Grantmetal Bucharest, a stainless steel company, was established in 1991 by separating it from the Bucharest Metallurgical Research Institute, which had been operating since 1976.



The company produces a wide range of products: bars, wire, pipes, fittings, stainless steel bars, cast iron, and steel products.



The products and services offered by the company are mainly addressed to the Romanian market.

Products

1. Stainless steel sheets



- Stainless steel sheets and coils

Composition: austenitic stainless steel, refractory stainless steel, ferritic stainless steel, martensitic stainless steel.

Thickness: 0,1 - 12 mm; Width: 500 - 2000 mm

Grades: AISI 304/AISI 304L/AISI 321/AISI 321H/AISI 316/AISI 316L/AISI 316Ti/AISI 309/AISI 309S/AISI 310/AISI 310S/AISI 405/AISI 410/AISI 420/AISI 430.

Surface: matte; mirror (BA) with or without PVC film; satin with or without PVC film.

- Stainless steel sheets

Composition: austenitic stainless steel, refractory stainless steel, ferritic stainless steel, martensitic stainless steel.

Thickness: 0.3 - 100 mm

Width: 1000 - 2500 mm

Length: 2000 - 12000 mm

Brands: AISI 304/AISI 304L/AISI 321/AISI 321H/AISI 316/AISI 316L/AISI 316Ti/AISI 309/AISI 309S/AISI 310/AISI 310S/AISI 405/AISI 410/AISI 420/AISI 430/W1.4462/B1.4410/B1.4501/B1.4507

Surface: matt; mirror (BA) with or without PVC film; satin with or without PVC film;

- Striped or perforated sheets
- Expanded sheet of stainless steel

2. Stainless steel pipe

- Longitudinally welded pipes

Round tubes

Outer diameter: 6-1000 mm;

Wall thickness: min. 1 mm;

Grades: AISI 304/AISI 304L / AISI 316/AISI 316L/AISI 316Ti/AISI 309/AISI 309S/AISI 310/AISI 310S/AISI 321/AISI 321H.

Surface: matt; mirror (BA); satin



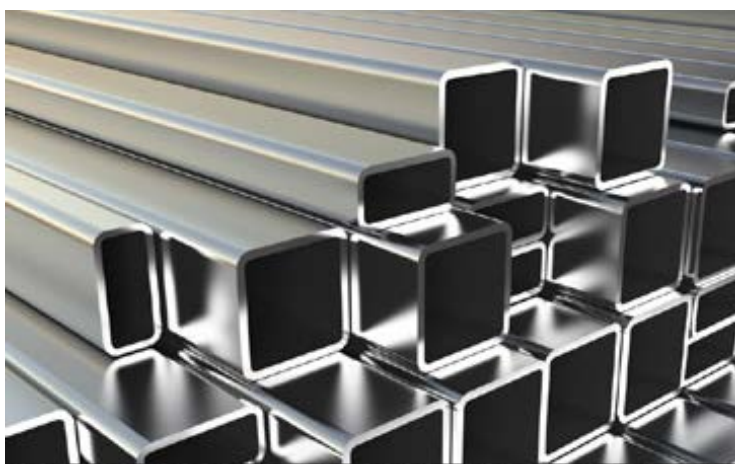
Square and rectangular pipes

Side: 10 - 300 mm

Wall thickness: min. 1 mm

Brands: AISI 304/AISI 304L/AISI 316/AISI 316L/AISI 316Ti/AISI 309/AISI 309S/AISI 310/AISI 310S/AISI 321/AISI 321H

Surface: matt



- Drawn or rolled pipes

Austenitic and refractory stainless steel

Outer diameter: 6-609,6 mm;

Wall thickness: min. 1 mm;

Grades: AISI 304/AISI 304L/AISI 316/AISI 316L/AISI 316Ti/AISI 309/AISI 309S/AISI 310/AISI 310S/AISI 321/AISI 321H

- Thick-walled drawn pipes (hollow bars)

Outer diameter: according to the technical data table;

Wall thickness: according to the technical data table;

Grades: AISI 304/AISI 304L/AISI 316/AISI 316L/AISI 316Ti/AISI 309/AISI 309S/AISI 310/AISI 310S/AISI 321/AISI 321H

- Alloy and carbon steel pipes

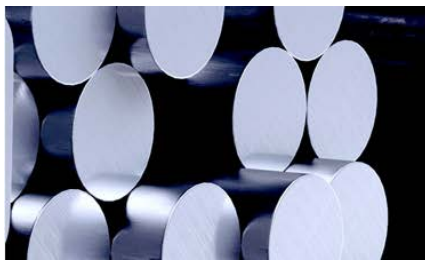
Outer diameter: 6-45 mm;

Wall thickness: min. 1 mm;

Brands: OLT 35/OLT 45/P 195GH/P 235GH/P 265GH/E 235/E 275/E 355



- Stainless steel rods



Round rods



Hexagonal rods



Square rods



Strip



Corner

- Stainless steel wire

Cold drawn wire

Composition: austenitic stainless steel, refractory stainless steel.

Diameter: 0.05 - 8 mm

Marks: AISI 304 / AISI 304L / AISI 321 / AISI 314 / AISI 316 / AISI 316L / AISI 316Ti / AISI 309 / AISI 309S / AISI 310 / AISI 310S

Welding wire and electrodes



Electrodes: External diameter: 1,6-5 mm;
Marks: E308L; E309L; E310L; E316L; E347.

Welding wire:

Diameter: 0.8 - 2.4 mm.

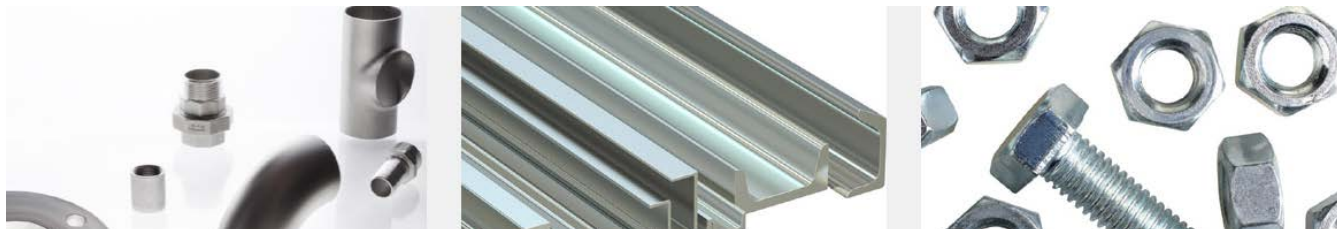
Grades: E308L; E309L; E310L; E316L

The cold-drawn wire from resistive alloys

Diameter: 0.05 - 8 mm

Grades: Cr20Al5 / Ni40Cr20Fe / Ni60Cr15Fe / Ni80Cr20

- Other stainless steel products



Stainless steel fittings, elbows, flanges, joints

Stainless steel profiles of various types

Stainless steel screws, nuts, washers, rods

Various shapes of parts cut from sheet metal

Areas of application



Stainless steel towers in refineries

Stainless steel for the chemical industry

Manufacturing Industry - Stainless Steel Components for Airplanes

Agriculture

Automotive



Construction, etc.



Contacts

General Directorate: Bucharest, Mehadiiev Street No. 41, room E02-E08; P01; P02; P06 and P07,
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Secretariat

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office@grantmetal.ro

vanzari@grantmetal.ro

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1.10. Saturn SA Alba Iulia



Saturn SA Alba Iulia is a private limited company whose main shareholder is CIMU srl Cinisello Balsamo (MI) - Italy. The company was founded in 1972, started production in 1975, and is one of the most important Romanian foundries for the production of cast iron parts.



The plant was designed and built by the German company BUDERUS WETZLAR, the main machines were also imported from Germany. The technology for making cast parts is based on German know-how. BUDERUS WETZLAR also trained part of the technical staff.

The main object of the company's activity is the production of plate and spherical parts made of gray cast iron, supplied in a cleaned state, with stamping, priming, and heat treatment for stress relief.



Production activities

Molding:

- It takes place on two mechanized molding lines with frame sizes 2400x1600x200 - 500 [mm], respectively 4000x2400x200 - 700 [mm], and a manual molding line for large and oversized parts, where it is possible to mold both in frames and on the ground;
- mechanized lines have carts for moving molds between workplaces, mixers, vibrating tables, units for model removal, painting, and mold closing, and a mechanized line for core production.;
- Uses molding mixtures based on cold self-curing furan resins using 85-90% reclaimed sand;
- Has pneumatic conveying units for sand.



Iron production:

- The iron production section is equipped with electric induction furnaces:
 - 3 furnaces with a capacity of 12.5 K each for melting pig iron;
 - 2 furnaces with a capacity of 55 K each to keep pig iron in a liquid state;
- BROWN BOWERY furnaces and related installations.
- The sector has equipment for rapid analysis of the main elements.
- Type of developed pig iron:
 - gray cast iron according to EN 1561, type ENGJL 200, 250, 300 (FcX);
 - nodular cast irons to EN 1563, type ENGJS 600-3, ENGJS 400-15 (Fgn);
- Other cast iron.



Cleansing:

- Has two vibro-discussion units and two sandblasting units.

Heat treatment for stress relief:

- Conducted in two furnaces, one of which has a movable sub. They can handle parts weighing up to 35 tons/piece and measuring 8 x 3 x 1.7 m (L x W x H).

Manufacturing products

- parts for machine tools (drums, casings, columns, stationary and movable tables, racks, plates, stationary and movable transoms, etc.);
- parts of metallurgical equipment (ingots, casting bridges and funnels, coke oven shields);
- counterweights for machine tools, forklifts, overhead cranes, and hoisting cranes;
- other parts (rudders, crowns, etc.).



Characteristics of molded parts:

Length: 500 - 16,000 mm;

Weight: 80 - 40,000 kg.

More than 80% of production is intended for export to EU countries.

Certification

The company uses a quality system by EN ISO 9001:2015, certified by TÜV Süddeutschland Germany.

Contacts

St. Cabin 57

510185, Alba Julia, Alba County.

+40258812764

Saturn@saturn-alba.ro

www.saturn-alba.ro.ro

2. Czech Republic

Currently, there are only three companies in the Czech Republic with a complete metallurgical cycle, i.e. from pig iron production through steel production to the production of semi-finished steel products and especially rolled products. These are Liberty Ostrava, with the Nová huť steelworks in Ostrava, Vítkovice Steel, and the steel company Třinecké železářny in Třinec.

According to 2016 figures, the Czech Republic produced 5.3 million tons of crude steel and 5.2 million tons of rolled steel, with 58% exported mainly to the EU market and only about 12% to so-called third countries. In terms of individual customer sectors, the Czech Republic is still dominated by the production of metal products and the automotive industry, followed by the production of machinery and equipment, and then the construction industry, whose share of customers here is 14%, but in other European countries, it averages around 35%. In contrast, the automotive industry is represented by a higher share than usual on average. What has not changed for several years is the foreign trade results, which show that imports exceed exports. To be precise, the share of imports in apparent consumption has long been above 70%.

Before the outbreak of hostilities in Ukraine in 2022, the Czech Republic received 75% of its iron ore from Ukraine. In 2021, the Czech Republic imported about 19 billion crowns worth of ore from Ukraine. This is about half of all imports from Ukraine to the Czech Republic. The largest Czech steel mills are now forced to work from stockpiles and look for new sources of strategic raw materials.

Therefore, the costs of steel plants are rising. We must also add to them the record cost of other raw materials used for steel production, such as coal and scrap metal. In addition, the rise in energy prices, from which the European industry is now suffering, is not insignificant.

In general, the outlook for the steel industry is optimistic, with companies in the sector investing, investing heavily, and investing for the long term.

2.1. Liberty Ostrava as



Liberty Ostrava is an integrated steelworks located in the southern part of Ostrava in the area of Kunčice, Kunčiček, and Bartovice, which in 2019 was purchased by LIBERTY Steel Group, part of Sanjiv Gupta's global GFG Alliance, with the approval of the European Commission. On July 1, 2019, the Nová huť Ostrava Steelworks will bear the name LIBERTY Ostrava.

LIBERTY Steel Group is part of the global GFG Alliance Group and has three industrial divisions: steel LIBERTY Steel Group, aluminum ALVANCE, and energy SIMEC. Headquartered in London, the company operates in 10 countries, employs 35,000 people, and has a turnover of 20 billion US dollars.

Together with its subsidiaries, LIBERTY Ostrava employs 6,000 people.

Production capacity

3.6 million tons of steel per year

Scope of application

Steel is mainly used in the construction, mechanical engineering, and petrochemical industries, in the production of road barriers and pipes.

In addition to the Czech market, the products are supplied to more than 40 countries worldwide.

Steelworks is the largest steel producer in the Czech Republic. Steel is produced by the oxygen method in four tandem furnaces with an annual output of more than 3 million tons. After production, the steel is brought to the specified parameters for casting in a ladle furnace. The liquid steel is then successively poured into billets, slabs, or slabs on three ZPO machines.

Certification

The entire range of steel and composite products complies with the requirements of EN ISO 9001:2000, the plant is EMS certified by the auditing company TÜV NORD according to EN ISO 14001. In 2003, the Czech Occupational Safety and Health Office authorized the Ocelárna plant to use the "Safe Company" label.



The blast furnace shop within LIBERTY Ostrava has four blast furnaces. Currently, the operation of two blast furnaces with an annual output of more than 2 million tons of pig iron is sufficient to meet the needs of pig iron customers.

Most of the liquid pig iron production is for the metallurgical process, approximately 3.5% of the pig iron production is solidified on the casting machine, in several grades according to the customer's requirements for the chemical composition of these solid or foundry iron castings. The smallest production volume (about 0.5%) is for the foundry of Liberty Engineering Products Ostrava s.r.o.

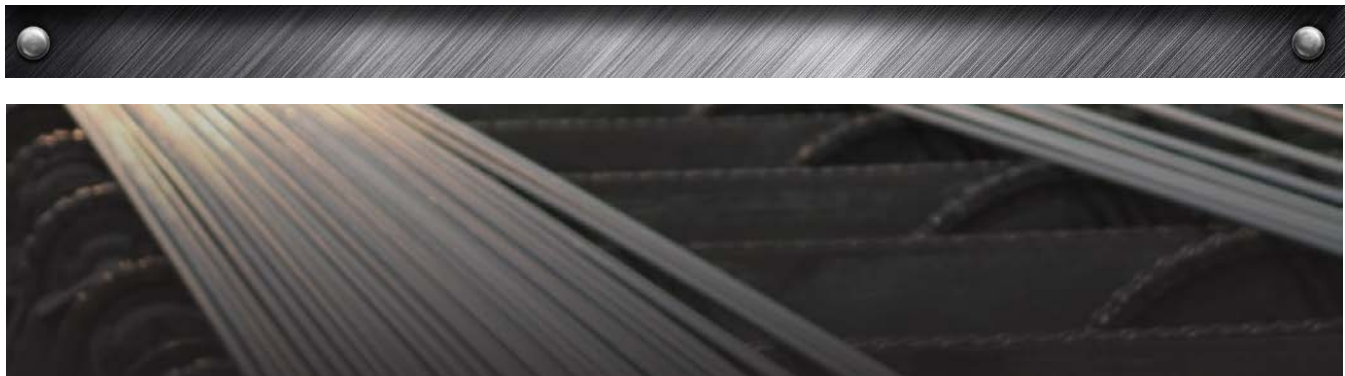
Blast furnace charge ore is mainly provided by agglomeration of pulverized ores at our own Agglomeration plant, the rest of the charge consists of pellets, lump ore, and secondary raw materials. Blast furnace coke is supplied by the neighboring KHZ, and part of metallurgical coke and other fuels are purchased from external sources.



In addition to the production of pig iron and sinter, which is intended only for own consumption, blast furnace slag products are sold to third-party consumers, namely slag crumb of several granulometric grades, produced mainly for construction purposes, and blast furnace granulate for further processing into cement and glass plants.

The range of cast iron and slag products meets the requirements of ČSN EN ISO 9001, 14001, 45001, and 50001 standards and is regularly certified annually by an external certification company (TUV NORD, Bureau Veritas, etc.). The certification body confirmed the compliance of the quality management system for the production and supply of steel and foundry pig iron and blast furnace slag products with the ČSN EN ISO 9001 standard.

Over seventy years of operation, the company has produced 147 million tons of pig iron and almost 177 million tons of steel.



Products

1. Long products

- Bar steel

- Hot-rolled steel bar round \varnothing 10 - 110 mm
- Hot-rolled steel flat bar 18 - 170 mm wide, 5 - 60 mm thick, 180 mm thick 8 - 25 mm, and 200 mm thick 10
- L steel hot-rolled steel bars 35×35 - 150×150 mm
- Steel bar of cross-section L unequal hot-rolled steel bar 100×65 - 140×90 mm

- Beams

- Hot-rolled steel bars IPN: 140, 160, 180, 200, 220 mm
- Hot-rolled steel bars VPE VEP: 140, 160, 180, 200, 220 mm
- Hot-rolled steel bars FEA/HEB (IPB, HEB): 100, 120, 140 mm
- Hot-rolled steel bars UPN: 50,65,80,100,120,140,140,160,180,200,220 mm
- Hot-rolled steel bars UE UE: 80,100,120 mm

- Special profiles

- Steel beam section I155 for overhead tracks
- Rails for mine and field tracks 93/18 and 115/24
- Crane rails JKL 55

- Reinforcing steel

- Steel bars for concrete reinforcement \varnothing 10 - 50 mm

- Wire rod \varnothing 5,5 - 14,0 mm

- Threaded rods

- Threaded anchor rods 15 - 26.5 mm for building construction
- Threaded rods with right-hand thread 18 - 75 mm for geotechnical applications
- Left-hand threaded rods 16 - 75 mm for geotechnical applications
- Threaded rods 16 - 28 mm for mining applications
- Bolt rods 18, 5 - 31 mm for mining applications

- Cast semi-finished products

- Square 115, 130, 160, 180 mm
- Circle 160, 200, 270, 350, 400 mm

2. Sheet metal



Sales revenue of 1,670.35 million dollars

Development prospects

In 2020, entrepreneur Sanjeev Gupta's GFG Alliance completed a strategic analysis in Ostrava and will invest around 20 billion crowns in transforming the smelter here by 2030. In the next ten years, a new and unique steelmaking technology (the first in Europe) will be built here to replace the existing tandem furnaces and the rolling mills will be radically modernized. It is planned to install two new electric hybrid furnaces to replace four decommissioned tandem furnaces.

The main goal of the transformation is to achieve carbon neutrality at LIBERTY Ostrava and the entire GFG Group by 2030.

Contacts

Liberty Ostrava a.s., Vratimovská 689/117, 719 00 Ostrava-Kunčice

T: +420 59 733 1111

<https://libertysteelgroup.com/cz/>

2.2. Vítkovice Steel AS

VÍTKOVICE | STEEL

Vítkovice Steel AS is a steel company operating on the premises of Vítkovice Steel Works in Ostrava, producing thick plates, sheet metal, and billets.





Products

- *Sheet metal*

The plate rolling mill was founded in 1971 and underwent a major modernization in 1999, which significantly improved sheet geometry, surface quality and expanded the product range.

The plates are produced from continuously cast slabs.

The range of plate thicknesses from 5 to 100 mm (200 mm) and widths from 1000 to 3200 mm.

Areas of use



- steel and bridge structures
- ships
- transportation machines and vehicles
- wear plates
- Pressure vessels used at normal and elevated temperatures
- special military equipment

- sheets resistant to atmospheric corrosion
- shaped firings
- product pipelines
- marine construction



- *Shaped blanks*



Processing of thick hot-rolled plates into initial semi-finished products for further machining for the production of machine parts in the form of shaped blanks.



Firing is carried out on firing units equipped with a plasma torch and oxy-gas burners. The surface of the workpieces is ground, slag residues are removed from the cut edges.

Annealing of individual shapes is an operation immediately preceding welding. It is an indispensable condition for the required quality of welded joints and affects the cost of manufacturing welded products.

The firings are performed on MGM Tábor's top-of-the-line CNC machines for beveled shape firing with a three-burner autogenous unit and an MGM 3D plasma torch for beveling. Also with a PIERCE vertical plasma burner and on MESSER-GRIESHEIM, ESAB, and VANAD firing units equipped with oxy-gas burners.

- sheet metal

The beginning of sheet metal production at VÍTKOVICE STEEL, A.s. dates back to 1935.

The sheet rolling mill was established in 1971 and underwent extensive modernization in 1999, which made it possible to significantly improve the geometry of the rolled sheet, surface quality and expand the product range. Sheets are made from continuously cast slabs.

The assortment of sheets is rolled in thicknesses of 5 - 100 mm (200 mm) and widths of 1000 - 3200 mm.





The quality level of the range of sheet metal produced on heavy profile machines is guaranteed by several certificates.

The profile rolling mill consists of a heavy section line whose main production filling is sheet metal, but other types of profiles can also be rolled here.

Certification

Vitkovice Steel AS holds a certificate for Quality Management System (QMS) according to EN ISO 9001:2015 (TÜV NORD), as well as a certificate for Environmental Management System (EMS) according to EN ISO 14001:2015 and ISO 45001:2018 certification.

Contacts

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2.3. Třinecké železářny/Tršinec Steel Works



TŘINECKÉ ŽELEZÁŘNY

Třinec Steelworks is the largest producer of steel long products. It is located in the town of Třinec, Moravian-Silesian Region, Czech Republic. The plant's output accounts for more than a third of the total steel production in the Czech Republic.

Moravia Steel is the main shareholder of TŽ, being the largest Czech company controlled by national capital.

Třinecké železářny employs 6,500 people.



Production capacity 2.5 million tons annually.

More than 180 million tons of steel have been produced since its inception.



Main products

Wire rod, rails and components, long products, cast and long semi-finished products, seamless pipes, and drawn steel.



Products

- Rails

- Wide gauge rails with wide support up to 75 m long.
- Rail switching
- Ribbed or streetcar rails
- Rails for mountain and field railroads in sizes from S10 to S20.
- Accessories (backing plates, clamps, couplings, sliding profiles)

- Wire rod

- Mild steel wire rod
- Wire rod for ropes and strands
- Wire rod for steel tire cords
- Wire rod for welding accessories



- Wire rod for joints and machine parts
- Wire rod for chains
- Wire rod for springs
- Wire rod for bearing production
- Free-cut steel rod
- Annealed wire rod
- Cold-drawn wire rod
- A wide range of wires from low-carbon, high-carbon, and special steels, and wire rods are produced with modern technology and sold mainly in the EU 28 markets.
- Bar steel

Round, square, and hexagonal rolled products

Construction, carbon, micro-alloy, cement, and alloy wire rod.

Flat and wide steel

Flat rolled steel with dimensions 25×5 - 150×60 mm, wide rolled steel with dimensions 160 - 520×5 - 70 mm

Profile steel

Steel for leaf springs, angles, plows, and wedges, U- and I-profiles

Concrete steel

Ribbed concrete rods 10 - 32 mm diameter

- Semifinished products

Cast semi-finished products

These are conciliates cast on a block continuous casting machine.

Rolled semi-finished products

Rolled blocks, billets, and gates

- Seamless tubes

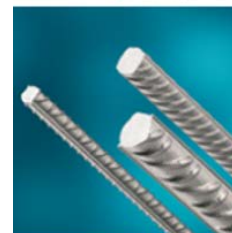
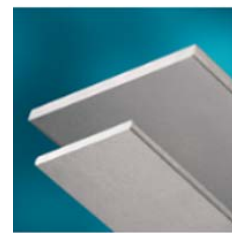
The production program consists of steel seamless pipes from unalloyed and alloy steels. The production of seamless pipes at pipe rolling mills is characterized by sophisticated technology for a wide range of steels and a wide dimensional product range.

- Refined steel

Drawn steel

Wire rod and wire drawn into round, hexagonal, and square bars and round drawn wire.

Cleaned, ground, and split bars





Other products

- Coke products

- blast furnace coke
- tar
- benzene
- ammonium sulfate

- Auxiliary metallurgical products

- metal and metal-containing additives for processing in metallurgical production
- granulated blast furnace slag for the construction and cement industry
- iron amendment for clinker production in cement plants
- a mixture of artificial aggregates and metallurgical crushed stone for rehabilitation and land reclamation purposes

Development prospects

Třinecké železářny is preparing a major modernization of its steel plant and a significant reduction of greenhouse gas emissions by up to tens of percent. Part of the investment of about ten billion dollars is the construction of an electric arc furnace to produce steel primarily from scrap by 2030. The introduction of this technology involves securing a stable supply of electricity from renewable sources.

Třinecké železářny will begin using a new iron ore cold briquet-ting line this year to provide some of the raw material for the blast furnace and reduce carbon emissions.

In addition, by the end of this year, the company planned to start reusing coke oven gas to heat various production facilities.

Třinecké železářny will start using a new line of cold briquetting of iron ore this year to provide part of the raw material for the blast furnace and reduce carbon emissions.

In addition, by the end of this year, the company planned to start reusing coke oven gas to heat various production facilities.

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