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# **PJSC " Arcelor Mittal Kryvyi Rih" (Ukraine)**

**Krivorozhstal Integrated Iron-and-Steel Works**

**Company's business profile**

**Sample PDF**

Moscow  
November, 2014

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## ANNOTATION

This report (business portrait) is a description of one of the largest Ukrainian steel companies - **PJSC “Arcelor Mittal Kryvyi Rih”**.

The report consists of **11** sections, contains **11** pages and includes **14** tables, **6** figures and **4** appendices.

The business portrait is based on desk research. As information sources, data Ukrstat (the State Statistics Committee of Ukraine), the State Customs Service of Ukraine, official statistics of rail transport, annual and quarterly reports of issuers of securities, as well as Internet sites of companies-producers were employed.

The **first section** is a general information about the company.

The **second section** provides data about the structure and capacities of the enterprise, its product mix .

The **third section** gives the volume of output of products for various processes and their dynamics, and discusses the development trends.

The **fourth section** is devoted to sources of raw materials and their suppliers, both domestic and foreign .

Marketing of products is discussed in the **fifth section**, supplies on the domestic market and for export are considered separately.

The **sixth section** we consider the competence of the company, determining its competitiveness.

Data on productivity, staffing, compensation can be found in the **seventh section**.

The **eighth section** is devoted to one of the most important areas of functioning of industrial companies at the present stage - environmental activities.

The privatization of the company, its course, the shareholders and their impact on the company are described in the **ninth section**.

Data on the financial condition of the company during the years 2001-2013 are shown in the **tenth section**.

The **eleventh and final section** is devoted to the development program of the enterprise and the implementation of planned projects.

**Appendices** provide information about the main technological equipment and its characteristics, the enlarged product portfolio, the geographical structure of exports of rolled products by kinds in 2001-2013, as well as the company address book.

## **1. General Information**

Krivorozhstal Integrated Iron-and-Steel Works is located in the city Krivyi Rih (Dnepropetrovsk region).

Krivorozhstal, as Mining-Metallurgical Works, was organised in October, 1996 by the governmental decree through merging of three enterprises - Krivorozhstal Metallurgical Works, Krivorozhsky coal-tar chemical plant and Novokrivorozhsky GOK. In addition, since 2001 the Mining Administration named after Kirov became part of the company. Thus, at present, the enterprise has a complete metallurgical production cycle and also a complete raw material recourses cycle, which is its obvious.

The enterprise releases steel products from carbon steel and alloyed steel. It is the main Ukrainian producer of reinforcing bar from carbon steel (including heat-resistant high-strength rebar), as well as wire rod and rolled steel.

In 2012, the company has regained the first place in terms of steel production in Ukraine. In 2013, the enterprise released almost 19.5% of the total production of rolled ferrous metals in Ukraine, while in 2007-2011 - 16-20%. According to data for 2013, the share of the enterprise on the domestic market of rebar and wire rod exceeded 50%.

At the company shareholders meeting on January 12, 2006, Krivorozhstal was renamed Mittal Steel Kryvyi Rih. In 2007 the company name was changed to ArcelorMittal Kryvyi Rih (AMKR).

On April 21, 2011, JSC "Arcelor Mittal Kryvyi Rih" changed its form of organization to the Public Joint Stock Company (PJSC) "Arcelor Mittal Kryvyi Rih".

Production capacities of PJSC "Arcelor Mittal Kryvyi Rih", which has a full production cycle, in 2013 were designed to release annually more than 8 million tons of rolled steel, 8.1 million tons of crude steel and 6.8 million tons of pig iron.

Paramzhit Kalon was appointed the Acting Director General of PJSC "Arcelor Mittal Kryvyi Rih" by the decision of the Supervisory Board of the enterpris from September 25, 2014. This is the fifth head of "Kryvorizhstal" for six years the plant is part of a multinational corporation.

Awards and achievements of PJSC "Arcelor Mittal Kryvyi Rih" in 2013:

- The second place in the ranking of socially responsible companies of Ukraine, compiled by the Ukrainian rating magazine "GVardiya";
- The second place among 100 Ukrainian companies in the Index of transparency;
- The winner in the category "Development of cleaner production technologies" by the results of the XII All-Ukrainian competition "Ecological quality and safety".

## 2. The enterprise structure, capacities, range of products

ArcelorMittal Kryviy Rih ("Krivorozhstal") is a unique in its scale and capabilities enterprise with a complete metallurgical cycle.

The basis of the production cycle of the enterprise is a significant raw materials base of deposits of ferruginous quartzites. The development of these fields is carried out by two divisions of the enterprise - the Mining Administration and the Mining-Concentration Complex.

The **Mining Administration** implements the underground ore mining (the shaft named after Artem and the shaft "Prokhodcheskaya") and the open-cut mining (the quarry "Yuzhny" or Mining workshop). The Mining Administration also includes a crushing-sorting plant.

The Mining Administration produces sinter-ore with the iron content at least 53.5%, as well as a sub-standard rock mass fraction (blast furnace lump) with the iron content at least 34%.

In 2013 balance reserves of the iron ore deposit were estimated at about XX million tons.

The design capacity of the mining administration is XX million tons of sinter iron ore and XX thousand tons of other crude ore.

**Mining-Concentration Complex (Novokrivorozhsky GOK)** extracts and concentrates low-iron magnetite quartzites, and releases commodity iron ore. Its production is the iron ore magnetite concentrate with the iron content of 65.51% and 10.5% of moisture.

The resources base of the Complex is presented by the Novokrivorozhsky and Valyavkinsky ferruginous quartzite deposits, mined by two open pits: # 2-bis and # 3. Balance reserves of magnetite ferruginous quartzite exceed 700 million tons.

The mining and processing production includes two divisions:

- the mining-transportation unit (the mining administration, crushing plants # 3 and 4, the mining and transportation shop);
- the crushing and concentrating unit (the crushing plant, ore dressing plants (ROF-1 and ROF-2), the sludge shop).

As of 01.01.2014, design capacities of the complex were as follows:

For crude ore mining – XX million tons per year, including XX million tons per year in the open pit # 2-bis and XX million tons per year in the open pit # 3;

For concentrate – XX million tons per year, including XX million tons per year at the concentrator # 1 (ROF-1) and XX million tons per year at the concentrator # 2 (ROF-2).

The process flow sheet of the Mining-Concentration Complex is presented in Fig. 1.

### **The Coke production:**

The coke production includes:

- The coal preparation plant, whose main task is the receiving, unloading, storage of coal concentrates, as well as the preparation of the charge and its loading into coal towers of coking shops;
- The coke shop number 1, designed to produce coke and coke oven gas from the coal charge supplied by the conveyors from the coal preparation plant;
- The capture shop. The main objective of the shop is the cooling of coke oven gas, the extraction of coking products from it and its subsequent transfer to the desulfurization shop;
- The desulphurization plant, which is designed to clean the coke oven gas of hydrogen sulfide followed by obtaining technological sulfuric acid from hydrogen sulfide gas.

The coke production was designed at XX coke oven batteries. Currently batteries # 1, 2, 3, 4 are operated, of the design capacity of XX million tons per year of the 6% humidity coke. Coke batteries # 5, 6 in October 2012 were mothballed for reconstruction.

Coke-oven batteries number 1-2, 3-4 are operated in blocks. Coke-oven batteries # 1-2 are charged by the steam-injection method, and coke-oven batteries number 3-4 – by using the hydroinjection method.

The own coke output is not sufficient for "Krivorozhstal", so it purchases additional coke, including that from abroad.

### **Metallurgical production**

The metallurgical production of PJSC "ArcelorMittal Krivoy Rog" includes the sintering and blast furnace, steelmaking and rolling departments.

#### ***Sintering and blast furnace department***

The sintering and blast furnace department conducts the making of pig iron. The sintering and blast furnace department includes:

- the sinter shop of metallurgical production. The production capacity is up to XX million tons per year, it is composed of 5 sintering machines with the sintering area of 62.5 m<sup>2</sup> each;
- the sinter shop # 1, with a capacity of XX million tons, consisting of 6 sintering machines with the sintering area of 75 m<sup>2</sup> each;
- the sinter shop # 2, of the XX million tons capacity, consisting of 6 sintering machines with sintering area of 135 m<sup>2</sup> each;
- the sinter shop # 3. It is used to prepare the charges of sintering plants # 1, 2.

The base-to-acid ratio in the sinter is 1.17. The iron content in the sinter is 54.83%, in the concentrate – 65.41%.

The blast furnace shop #1 includes 5 blast furnaces (# 1, 5, 6, 7, 8) of the volumes of 1,719 m<sup>3</sup>, 2,000 m<sup>3</sup> (3 furnaces), 2,700 m<sup>3</sup> and of the total capacity of XX million tons per year (the design capacity is XX million tons per year). Since

the end of 2009 the major overhaul of the blast furnace # 6 is carried out (the commissioning is planned in 2015). In August 2011, a blast furnace # 5 was stopped for conservation for a major overhaul with the reconstruction.

The blast furnace shop #2, it includes the blast furnace # 9 of the volume of 5,000m<sup>3</sup> and the total capacity of XX million tons per year (the design capacity is 4 million tons per year).

At present, the **production** capacity of the plant for the release of pig iron is XX million tons per year.

*The steelmaking department* is represented by an open-hearth shop (the capacity is XX million tons per year of steel), an oxygen-converter plant (of the total capacity of XX million tons per year) and a small in capacity (XX thousand tons per year) electrosteel shop, which is part of a mechanical-repair complex (Fig. 2).

Thus, "Arcelor Mittal Kryvyi Rih" has the largest in Ukraine capacity for the output of steel – XX million tons per year.

An *oxygen-converter plant* has 6 converters of the capacity 160 tons each. The oxygen-converter plant performs smelting of boiling, semikilled, killed, alloyed, and low-alloyed steels. The steel casting is carried into ingots weighing 8 and XX tons. In addition, the shop includes the section of continuous casting, which includes the installation of the secondary steel treatment of the "ladle-furnace" type and six-strand billet caster of the radial type for the production of billets of carbon, structural and low-alloyed steel with a design capacity of 1.2 million tons. The section was commissioned in December 2011, and reached its design capacity in January 2013.

The *open-hearth shop* has one open-hearth furnace of a rated capacity of XX tons (the furnace # 4) and a double-hearth furnace of a rated capacity of 2x300 tons (the furnace # 6). The shop performs smelting of boiling, semikilled and killed steel. The steel casting is carried into ingots weighing 12.5 tons.

Besides, the steelmaking production includes a preparation shop, a refractory-lime shop, a drop-hammer shop and a shop of repair of metallurgical furnaces.