Severstal launches new technical facility to strengthen waste processing and recycling capabilities

PAO Severstal, one of the world's largest vertically integrated steel and mining companies, announces the opening of a full-cycle testing and piloting facility at the Cherepovets Steel Mill (CherMK, part of PAO Severstal) to test and pilot new waste processing technologies and associated by-products.

The aim of the research laboratory is to enhance technological expertise in waste processing, as well as speed up testing of new technologies, improving the Company’s efficiency in recycling and production of waste products.

Prior to the opening of the new facility, waste processing research and development at the company was conducted at CherMK’s existing laboratory and research sites, and at leading educational institutions around Russia. At these facilities, projects related to the development of Severstal’s main production processes were prioritized over waste processing research. The new facility will change this by reducing development time, ensuring ease of access to pilot facilities and any necessary expertise. In addition, the company will now be able to create new products and technologies, from which it can benefit economically.

Severstal has a long history of cooperation with scientific institutions, and the creation of its own testing facility will increase the Company's competence in waste recycling and creating new products. Successful examples include the recycling of zinc and iron found in dust, concrete road construction technology and soil stabilization using granulated slag in concrete. The latter technology was patented by Severstal in 2019.

The laboratory, which began work at the end of 2020, is equipped with facilities for a wide range of studies, and came to a total cost of more than 25 million rubles. In the future, there are plans to actively develop the research site, moving from hypothesis research and testing to technology adaptation and pilot industrial testing.

Alexander Shevelev, CEO of Severstal, commented:

“Severstal is already a leader in waste recycling in the Russian metallurgical industry. Despite this, we continue to see a great deal of potential for improvement in this area, and we are striving to achieve a global best-practice waste recycling rate of 98.5%, compared to our current rate of 97%.

We have established the Midstream project center to reduce our waste disposal volumes, focusing on minimizing waste that is harder to dispose of, and maximizing extraction of useful materials from waste. We are increasingly recycling more waste, predominantly from gas-cleaning dust from steelmaking and blast furnace operations. Furthermore, we are also experimenting with recycling oily scale, while also working on cleaning up spent emulsion and oily effluents, and we are already starting to see positive results. We actively engage with startups and work with new technologies designed to process valuable production waste, of which there is no shortage of in the steel industry. Establishing a Secondary Resources Research Laboratory is another step in the right direction.

Our specialists’ primarily focus is currently on the waste categories that make up the largest proportion of total waste at CherMK, as well as waste from the Company’s resource assets – slag, sludge, dust, and copper and nickel ore tailings. Severstal has a good knowledge base for working with these waste types, however, to manage metallurgical waste in liquid and gas form, we need to learn more and expand our competencies. These new facilities will enable us to implement sustainable improvements to our energy and raw material efficiency and ensure the reduction or reuse of waste, while also reducing our impact on the environment.”

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