

PRESS RELEASE

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Eurometal reduces ecological footprint by installation of high-efficiency multi-chamber aluminium melting furnace from Hertwich Engineering

Eurometal S.A., a company of the Eko-?wiat group, has placed an order with Hertwich Engineering for the supply of an Ecomelt-PR100 multi-chamber melting furnace for the expansion of its aluminium casthouse in Klomnice, Poland. The plant, with a capacity of 30.000 tons per year, is scheduled to start operation in spring 2021. Hertwich Engineering, based in Austria, is a company of SMS group.



A Hertwich state-of-the-art Ecomelt-PR multi-chamber melting furnace for ecological and economic melting of loose scrap with moderate organic content (reference plant of similar design)

This year, Eurometal S.A., founded in 1990 as Eko-
wiat, celebrates its 30th anniversary of market presence as a powerful supplier of high-precision rolled aluminium products (coils, strips, sheets), extrusion profiles, tubes, machined components and foundry alloys for the automotive industry.

The company operates three locations in Poland, which are being continuously extended and modernized to expand the market position of Eurometal S.A. within the automotive, transport, construction and electronics industries as well as on the market for renewable energy.

At its locations in Stalowa Wola and Bogumilow, Eurometal S.A. operates casthouses for the production of strips, extrusion billets and automotive alloys. In addition, Eurometal S.A. operates a cold rolling mill, strip processing lines and several extrusion presses. The placement of the order for the new Ecomelt PR-100 multi-chamber melting furnace is part of an extensive investment strategy aimed to increase the production capacity at the existing casthouse in Klomnice.

The low energy consumption values and the low emissions of this new melting furnace will reduce the

ecological footprint of the Eurometal Group.

State-of-the art recycling furnace

Eurometal S.A. has chosen a multi-chamber melting furnace with preheat ramp designed for a capacity of 100 tons per day (approximately 30.000 tons per year). The furnace will be integrated into the existing production chain – beginning with scrap recycling through billet casting and extrusion down to machining of components. This furnace type is best suited for the melting of loose scrap with moderate organic content.

The new melting furnace will mainly process clean and painted extrusion and sheet scrap as well as smaller amounts of briquetted sawing and machining chips. To achieve the required alloy composition, charged material will be supplemented by clean primary and secondary aluminium as needed. Also liquid metal from crucibles can be added.

Scrap will be charged partially loose, shredded or briquetted onto the dry ramp in the melting chamber by means of a rail-guided charging machine. During the charging process the working environment is protected from the furnace atmosphere.

The scrap will be preheated for around 30 minutes to a temperature of approximately 500 degrees Celcius by an intense hot-gas flow. Thereby organic compounds are transformed into combustible gases to support the heating system of the main chamber. This way (using suitable scrap), some 50 – 70 percent of the energy otherwise supplied by natural gas can be substituted by the energy content of organic compounds.

After preheating, the decoated material is pushed from the ramp into the melting bath in the melting chamber. At the same time, the next scrap charge is placed onto the ramp by the charging machine. In the melting chamber, scrap is melted by the submerge-melting process to avoid oxidation and melt losses. An electromagnetic side channel pump provides the melt transfer between both furnace chambers as well as an

adequate melt circulation in the main chamber to assure uniform temperature and alloy distribution.

Subsequently, the melt is transferred to the holding furnaces or crucibles by means of an electromagnetic tapping pump.

Additionally, Hertwich will supply a rail-guided skimming machine as well as a flue gas treatment plant to comply with emission regulations in place.

When the melting furnace, including the auxiliary equipment, will have started operation in spring 2021, Eurometal S.A. will own a state-of-the-art recycling plant that can be operated by one operator per shift (including charging, skimming and melt transfer). Along with the low energy consumption values (450 to 550 kWh/ton) and the notable, high-quality metal yield, this plant provides significant economic advantages.

Hertwich Engineering, a company of the SMS group is renowned for its future-oriented, energy saving technologies and outstanding service in aluminium casthouse. The company is active worldwide with design, supply, construction and commissioning of special machinery and equipment for the Aluminium industry. Hertwich is competent for supplying complete Al-casthouse on a turnkey basis (one-stop-shopping). The product range comprises melting equipment for aluminium scrap, conti and batch homogenizing plants, sawing plants, horizontal and vertical casting machines and quality inspection stations, etc. To stay ahead Hertwich relies on its own R&D and proprietary know-how. For 50 years, the advanced technology has revolutionized the industry and the company maintains its worldwide lead.