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Mechatherm Limited are amongst the world leaders in the supply of turnkey DC casting centres. The front cover shows examples ranging from 80 tonne capacity rolling ingot casting centres to 6 tonne capacity billet casting centres. Mechatherm now offer Mechatherm-RJC AccuCast with Air Cast system billet mould tables to produce extrusion billet to rival the highest quality available in the world.

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Polish EKO-SWIAT GROUP celebrates its twentieth anniversary

This feature provides an insight into the developments which have taken place within the Polish EKO-SWIAT GROUP. The organisation is shown to be a major producer of foundry alloys, extrusion billet, and extruded aluminium profiles. Plans are afoot to move into the manufacture of aluminium flat-rolled products.

Despite the difficult market situation, 2009 represented a milestone for EUROMETAL SA and the EKO-SWIAT GROUP, based in Poland. EKO-SWIAT was established in 1990 and has been managed since then by Mr. Jarosław Jaroszewski. After only 20 years, the EKO-SWIAT GROUP, under the same ownership, has achieved a high level of technical and operational development. At the beginning, the company was involved in the production of aluminium alloys, but shortly afterwards began to specialise in primary grades. As an aid to this involvement, the organisation obtained accreditation to ISO 9001 and ISO 14001, a first for an aluminium company in Poland. The certification programme is continuing, with the intention of both companies to acquire ISO 16949 after an audit in April 2010.

In 2003, a horizontal continuous caster, supplied by Maerz Gauschi GmbH, was successfully commissioned in the EKO-SWIAT plant. In 2006, a second facility for the production of aluminium alloys was established – EUROMETAL SA. Customers serving the automotive industry were supplied with liquid aluminium.

Until now the EKO-SWIAT GROUP is the only organisation in Poland to operate horizontal continuous casting machines. The group produces ingots and billets of 7-in and 9-in, which are delivered to the extrusion plant established by EUROMETAL SA in 2004. The latter company operates a 1,900 tonne extrusion press built by SMS Eurnaco and 3,500 tonne extrusion press built by SMS Meer GmbH.

Extrusion facilities
The range of profiles produced on the 1,900 tonne extrusion line cover the 1 xxx and 6 xxx series of alloys, in the weight range: 0.2 kg per m to 10 kg per m. The capacity of the line is approximately 9,500 tonnes of extrusions per year. Two years after commissioning the first extrusion line, a decision was taken to extend the plant with the acquisition of a second extrusion press. As a result, an order was placed for a 3,500 tonne press from SMS Meer GmbH, together with a Turfa Srl runout table and the necessary furnaces. What made the investment exceptional was the establishment of an internal cast-house equipped with a horizontal continuous casting machine for 9-in billets, and a homogenising plant. Also acquired was machining equipment for processing extrusions. This included high-precision saws, a CNC machining centre, a laser cutting machine and a bending unit. A research and development department with a laboratory was also created to support the high level of quality assurance, which was now being provided.

The range of profiles produced with the 3,500 tonne extrusion line covers the 1 xxx and 6 xxx series of alloys, with a weight between 0.5 kg per m and 25 kg per m. The capacity of the line is approximately 14,500 tonnes of extrusions per year. Special features of the extrusion line include linear press container guidance, which provides an improvement in product quality through doser alignment of the container and stem; nitrogen cooling and an air/water intensive quench, which gives greatly enhanced product cooling than any of the standard solutions. The use of such innovative equipment makes it possible to manufacture difficult extrusions, such as multi-chamber profiles,
narrow-tolerance system profiles, bars and profiles for forging, and profiles calling for strict surface requirements.

EUROMETAL SA offers a variety of standard aluminium profiles including round, flat and square bars; F, H- and U-profiles; round, square and rectangular tubes; equal- and unequal-sided angles; advertising and billboard profiles; trailer-system profiles, as well as building system profiles for ventilation facades. The standard profiles are sold through the internet via www.eurometal-sa.pl, where customers have the possibility to check the current stock, before purchasing profiles on-line.

The second group is based on non-standard special-shape profiles, manufactured to customers’ design requirements. EUROMETAL SA offers advice on profiles selection, properties and design.

**Machining and fabrication**

In addition to extruded profiles EUROMETAL SA offers structures assembled from aluminium extrusions. The scope of such operations includes high precision cutting, laser cutting, drilling, milling, threading and bending. The component parts are currently delivered to clients in the automotive industry; ladder manufacturers; the building industry; interior designers and electronic manufacturers.

The current production of cast products by the EKO-SWIAT GROUP is 25,000 tonnes from the EKO-SWIAT plant and 7,000 tonnes from the EUROMETAL SA plant. The EKO-SWIAT GROUP has a total capacity of 56,000 tonnes of aluminium products per year.

EUROMETAL SA’s development plans include expansion of the organisation’s extrusion activities, as well as widening the scope of component manufacturing possibilities and capacity. A new extrusion line is planned with a 2,800 tonne, 10-in billet, indirect press for production of hard alloys in the 2xxx, 5xxx and 7xxx series.

The future plans of the EKO-SWIAT GROUP include a new plant, dedicated to the production of aluminium flat-rolled products. The plant is scheduled to enter production in 2014. It will be a combination of horizontal continuous strip casting and cold rolling technology. Initial capacity of the plant will be 30,000 tonnes per year. With full rolling mill utilization, the capacity will eventually reach 120,000 tonnes per year.

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