

PRESS RELEASE

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SCM builds second Compact Type Remelt Plant for Extrusion Billets

The US-American extrusion plant Service Center Metals (SCM) in Prince George, VA, has placed an order with Hertwich Engineering to supply a second compact type remelt plant for the production of extrusion billets. The new unit processes post-consumer scrap in a continuous, automated process to produce high-grade logs up to 14 inches (356 mm) in diameter. Provisionally, the unit is scheduled to begin operating by the end of 2016.

The company SCM, founded in 2002, operates two extrusion lines. For the recycling of scrap – both its own and from outside – to produce billet for extrusion in its own presses, in 2014 SCM set up a first compact type remelt plant with an output of at least 30,000 tonnes per year. Hertwich Engineering has been building and continuously developing plants of this type since the 1980s. For SCM a plant configuration has been set up, which is unique in many respects and clearly operating to the customer's complete satisfaction. Now Hertwich has received an order to supply a further compact type remelt plant for post-consumer scrap.

The new plant, with a capacity of 45,000 tonnes per year, combines all the working steps, from melting the scrap to the bundled logs, in one, continuous material flow process. The scrap is melted in an Ecomelt PS type melting furnace. In this modern furnace version the

preheat chamber is replaced by a vertical preheat shaft. The material is loaded into the preheat shaft from above. Hot gases are circulated through the scrap in upward direction, whereby the organic compounds are gasified. Produced pyrolysis gases are fed into the main chamber and combusted. At the lower end of the preheat shaft the preheated material submerges into a flowing melt bath and is melted. For generating the necessary melt flow between the chambers a liquid metal pump is used. Due to submersion melting, oxidation losses are minimal. The melt drawn off from the furnace is degassed, filtered, and conveyed to two horizontal continuous-casting units arranged parallel to one another. The maximum log diameter amounts to 14 inches (record-breaking for horizontal casting) and - as another special feature - it is possible to cast two different diameters at the same time. The casting technology for logs of 14 inches in diameter was used for the first time by SCM in 2014. The solidified logs are cut by a flying saw, laid on a storage conveyor and then tested for internal cracks and inclusions. The 100-percent ultrasonic inspection takes place in two units, each with three testing probes. Any defects found are marked and if necessary cut off after the homogenising process. The tested logs are homogenised continuously. Continuous homogenisation is noted for its precise and uniform temperature control during heating and holding. This guarantees constant optimal metallurgical properties. A further advantage is that the energy consumption and the treatment time are substantially more favourable than with the conventional batch furnaces previously used. The cooling station is located immediately after the homogenizing furnace. After having passed through it the logs can be cut to length, stacked and strapped – these work steps are also integrated in the automated production process.

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.