

PRESS RELEASE

December 11, 2019

Otto Fuchs orders aluminum multi-chamber melting furnace from Hertwich

Casthouse expansion in Meinerzhagen



Hertwich multi-chamber melting furnace Ecomelt PS.

Otto Fuchs KG supplements its Meinerzhagen casthouse with one Ecomelt-PS150 melting furnace and two tiltable holding and casting furnaces from Hertwich Engineering, a company of SMS group. The new recycling furnace will be the fifth Ecomelt furnace and

with a capacity of 7.7 tons per hour the largest one at Otto Fuchs. The two casting furnaces, which are also part of the supply scope, are designed for a capacity of 20 tons. This order continues the successful partnership between Otto Fuchs and Hertwich, which has been existing for more than 15 years now.

As an internationally operating and leading company in the non-ferrous metals industry, Otto Fuchs KG is especially known as a strong supplier of high-quality semi-finished products (forgings, extrusion products and rolled rings made of aluminum or other metals) and of forged car wheels ready for mounting. Among other things, Otto Fuchs forged products are used in the automotive, aerospace and construction industries

The high load on these components as well as the extraordinary safety requirements postulate the precise control of all production steps already for the semi-finished products.

Hence, Otto Fuchs consistently relies on its own semi-finished material production to ensure product quality. Return materials arising from further processing (e.g. head and butt ends, burrs and swarf) are almost completely recycled inhouse. Recycling such scrap in a homogeneous, high-quality and most efficient manner represents a challenge to the remelting technology.

The Ecomelt-PS150 furnace currently on order with a melting capacity of 7.7 tons per hour will be the largest multi-chamber melting furnace installed at Otto Fuchs to date. It combines scrap preheating and submersion melting of cleaned scrap in one compact unit. The entire furnace process is fully automated by a measurement and control system.

Scrap is charged from the top into the vertically arranged preheat shaft and preheated to a maximum temperature of 500 °C. Below this temperature, partial melting is ruled out. Combustion gases are ducted from the main chamber to the melting chamber and the preheat shaft.

At the bottom end of the preheat shaft, the preheated material directly immerses into the flowing melt bath of

the melting chamber. An electromagnetic liquid metal pump ensures the proper melt flow between the furnace chambers and the flooding of the shaft floor.

The two single-chamber furnaces, which are part of this order as well, will be placed in the casthouse between melting furnace and casting unit. The molten metal will be transferred from the Ecomelt melting furnace to one of these furnaces for possible re-alloying. Finally, the melt will be transferred via a casting launder to the casting machine, as needed. Both of these furnaces will be hydraulically tiltable. This arrangement ensures a continuous casting operation and reduces downtime for alloy change.

As a result of the steadily increasing consumption of aluminum, the amount of return scrap for recycling will further grow in the future.

The amount of scrap is dynamically rising: While in 1995 some 400,000 tons of scrap were generated in Germany, in 2007 (before the financial crisis) the total scrap production was already 850,000 tons. For 2020, the German scrap production volume is estimated to be more than 1.5 million tons.

Due to its material value, aluminum recycling is economically rewarding. With the future operation of five Hertwich Ecomelt furnaces, Otto Fuchs will have optimally adapted to this development.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 14,000 employees who generate worldwide sales of more than EUR 2.8 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.