

Foseco showcases new technologies for Die Casting at EUROGUSS

The global die casting industry will assemble in Nuremberg, Germany, in January for EUROGUSS 2024 – the leading international trade show for HPDC sector. Taking place in the halls of Messe Nuremberg on 16-18 January, the show and associated technical forum promise the ideal chance to experience the latest trends and innovations in die casting technology and solutions.

In Hall 7A, the Foseco stand will feature many of our recent innovations for non-ferrous foundries and the HPDC section, including:

- Melt treatment.
- Crucibles and refractories.
- Innovative sand core binder solution for HPDC.
- Methoding and applications for high pressure die castings.

Visit our global team of experts at Stand No. 7A/134 to discover how we can help solve the most pressing challenges facing the die casting industry today.

Melt treatment

In recent years, we have added a number of features and technologies to our FDU and MTS automated aluminium melt treatment technologies. These advances provide foundries the opportunity to gain new perspective on and control of their treatment process.

Our SMARTT degassing software offers various programs for rotary degassing; the operator must simply define a target melt quality. Based on ambient conditions, melt temperature, rotor design, and alloy composition, the software then calculates the best treatment practice to achieve that goal. Optimisation modes are also available to reduce inert gas consumption, minimise degasser wear, or provide fastest

degassing and treatment speed. Treatment parameters are automatically relayed to the FDU MTS equipment, while a customised report system records all parameters.

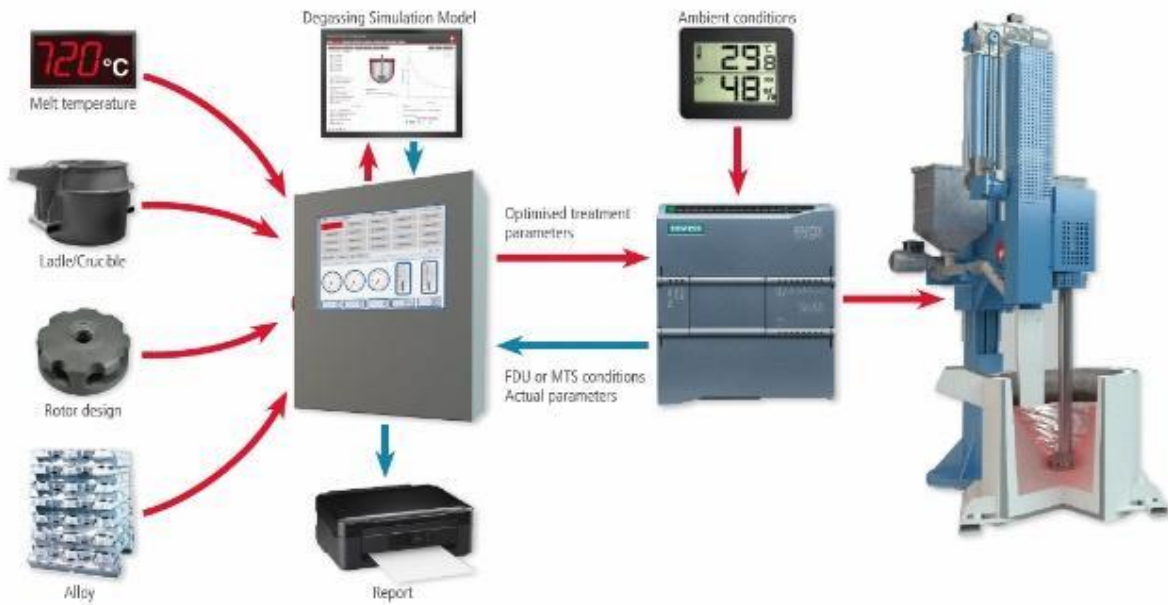


Photo: Automated SMARTT MTS treatment technology.

Granulated fluxes can be added through the automated MTS and provide many advantages, such as improved melt fluidity during casting, reduced inclusions, and improved mechanical properties. Our new range of granulated fluxes includes COVERAL, SIMODAL, and NUCLEANT fluxes, which cover the principal foundry operations of cleaning, drossing, modification, and grain refinement. They have been specially formulated for use in conjunction with FDU and MTS to keep smoke and fume to a minimum.

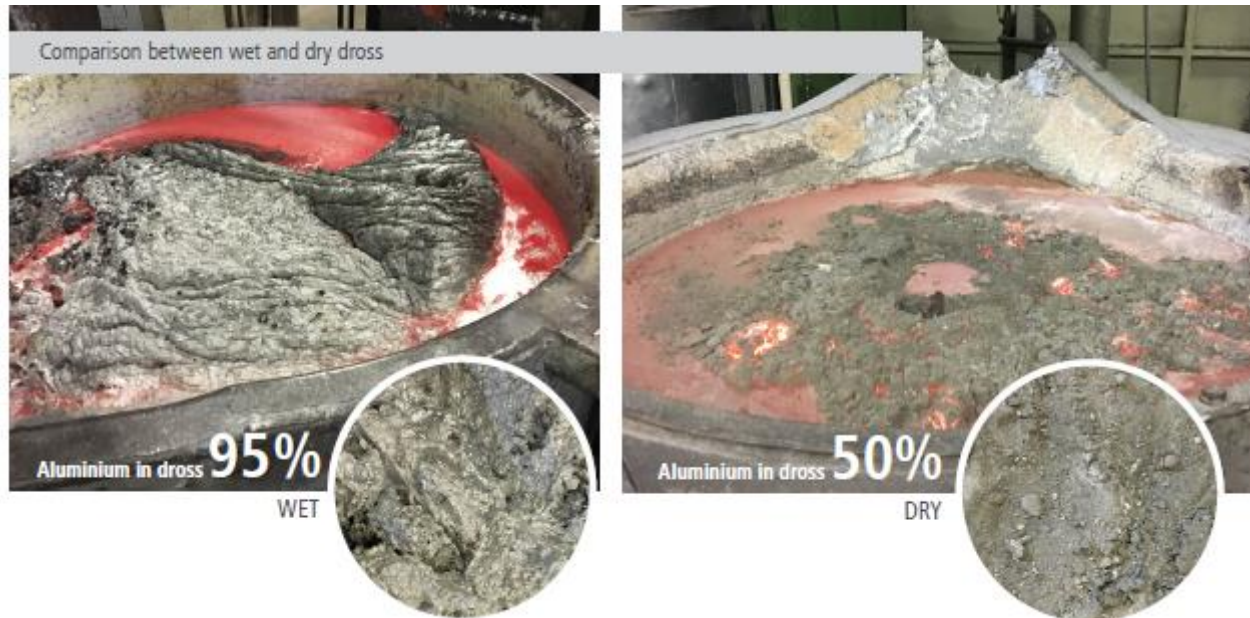


Photo: Cleaning with COVERAL can result to 50% dross dry in the Aluminium melt

Crucibles

We continuously improve our crucible technology to provide solutions that reduce energy consumption, increase output, and improve production efficiency. Recent innovations on display at EUROGUSS 2024 will include:

- ENERTEK ISO crucibles, which utilise a highly-insulating, proprietary Vesuvius coating to significantly reduce heat loss and decrease energy use in induction melting or continuous casting applications.
- DURATEK crucibles, designed to provide extended life, especially in highly-corrosive conditions. The latest DURATEK SUPERMELT crucibles possess superior fracture toughness, high temperature strength, and oxidation resistance to ensure long life in aggressive aluminium melting operations.



Photo: ENERTEK and DURATEK crucibles.

Innovative sand core binder solution for HPDC

A key limitation of the high pressure die casting process (HPDC) is the inability to produce complex, hollow castings, at high volume, and in a cost-effective and sustainable way. This is due to the difficulty in producing suitable cores. Standard sand cores cannot be used, as they are difficult to remove after casting and do not provide adequate surface finish. Salt cores are more suitable, but are expensive to produce and present other operational limitations.

In response to this challenge, we have developed the WASCO water-soluble binder and coating, which we will showcase at EUROGUSS 2024. This innovative binder system demonstrates high bending strength and has been used successfully in both liquid and semi-solid HPDC processes, even in severe conditions. With the use of an appropriate coating, WASCO-based sand cores can exceed 1000N/cm² and are thermally resistant up to 750°C. Post-casting removal is achieved simply by flushing with water, preventing any risk of damage or crack initiation.



Photo: WASCO water solubility shows the clear benefits against conventional cores.

Borken in November 2023

Press Contact:

Martin Scheidtmann, International Trade Show Manager Foseco