Shift towards intelligent lightweight casting

RELEASE AGENTS FOR RHEOCASTING

Excellent metal flow in thin-wall areas

Rheocasting is a cutting-edge semi-solid metal (SSM) casting process that is transforming the foundry industry. In this process, a metal alloy - typically aluminum - is brought into a semi-solid state before being poured into a mold. This innovative approach offers significant advantages over traditional casting methods, including reduced shrinkage, minimized porosity, and enhanced mechanical properties. The result is stronger, more reliable components with superior microstructure and surface finishes.

Ideal for high-volume production, rheocasting improves metal flow, reduces scrap, and enables the creation of complex geometries with greater precision. Its versatility allows it to be applied across a wide range of cast components, alloys, and end-use sectors - making it the smart choice for foundries aiming to lead in efficiency, performance, and sustainability due to the use of secondary alloys with lower carbon footprint.

The use of Rheocasting technology imposes specific requirements on release agents, occasionally subjecting them to demanding operating conditions. Chem-Trend's products provide excellent metal flow in thin-wall areas, while also optimizing microstructure properties essential for high-strength castings.

YOUR BENEFITS AT ONE GLANCE:

- Superior mechanical properties due to less porosity and gas inclusion
- Enhanced surface quality
- Less energy consumption, lower emissions, minimized material waste, better recycling options
- Less soldering

Alloy Categories and Areas of Application

- **Green - AlSi5Cu2Fe:** Reduced environmental impact with secondary aluminum. Rheocasting enables the use of recycled materials without compromising quality, supporting sustainability goals and lowering your carbon footprint.
- **Strong - AlSi7Mg Ecomelt 356.2:** Rheocasting delivers exceptional mechanical properties for demanding applications. Components for telecomm-unications, automotive, and heavy-duty sectors benefit from superior strength and durability, ensuring reliable performance under challenging operating conditions.
- **Cool - AlSi(2,5)FeMg:** Optimized microstructure for superior heat management. Rheocast parts offer enhanced thermal conductivity and stability, making them ideal for applications requiring efficient heat dissipation and thermal reliability.
- **Body - AlSi7MnMg:** Design freedom with thinner, lighter components. Rheocasting outperforms traditional high-pressure and low-pressure die casting by enabling complex geometries and reduced wall thickness, without sacrificing strength or integrity.

Facts and Figures

Product	Application	Alloy Category	Specifics
Chem-Trend® SL-1697S	Emulsion for dilution	Green	Excellent results in microstructure, low gas inclusion
Chem-Trend® SL-60019	Emulsion for dilution	Strong	High performance
Chem-Trend® SL-90143	Emulsion for dilution	Strong	High performance
Chem-Trend® SL-61013	Emulsion for dilution	Cool	Recommended for long flow paths
Chem-Trend® SL-8801	Ready-to-use	Body	HERA™ technology, wax-free
Chem-Trend® SL-68012	Ready-to-use	Body	HERA™ technology, wax-free
Chem-Trend® SL-68022	Ready-to-use	Body	HERA™ technology, silicone-free

To find out which product is appropriate for your specific rheocasting process, please get in touch with us. We offer thorough consultation and training that help you in optimizing your efficiency.

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