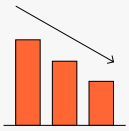


CASE STUDY - DIE CAST

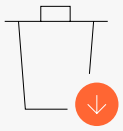
Breakthrough micro-spray application and high-performance release for EV manufacturing.

Chem Trend
Release Innovation™

>99%
WELD FAILURE RATE REDUCTION



REDUCTION IN TOTAL SCRAP



INCREASE IN OVERALL PRODUCTION SAVINGS



WHAT WE ACHIEVED.

When a leading Chinese Electric Vehicle (EV) Original Equipment Manufacturer (OEM), producing integrated/GIGA castings, was facing persistent operational efficiency challenges and inflated costs, they called on Chem-Trend to help them find a comprehensive solution. The issues they were facing were largely tied to their reliance on oil-based release agents. Partnering with Chem-Trend, the OEM was able to achieve high-performance release with a solution that drastically enhanced their integrated die-casting productivity and overall production cost savings while decreasing weld failure rates over 99% and reducing scrap rates. The solution, converting from oil-based to water-based materials, also provided additional HSE benefits.

HOW WE GOT THERE.

The OEM's production team and Chem-Trend joined forces to tackle these challenges, which are also common within the automotive industry. By developing a close working relationship, we were able to gain a deep understanding of the customer's unique processes — an advanced technique that integrates multiple components into a single casting. Through troubleshooting and experimentation, a value-adding solution was tailored to the specific needs of the customer.

OUR SOLUTION.

Our High Efficiency Release Agent (HERA™), a silicone-free, water-based innovation, was introduced to the operation. This breakthrough micro-spray application is designed to use less release agent than traditionally required, allowing die casters to achieve more efficiency, lower costs, and sustainability benefits. For the OEM, it meets multiple criteria for post cast processes while also offering operational, environmental, and safety benefits including:

- Reduction of yellow spots and oil stains on casting surfaces
- Mitigation of cold shut phenomenon caused by oil accumulation
- Substantially lowered weld failure rates
- Reduction in volatile organic compounds (VOC) emissions per local regulations
- Elimination of smoking issues common with oil-based products
- Elimination of slippery surfaces with water-based solutions



HANDPRINT IMPACT.

At Chem-Trend, we pride ourselves on our long history of sustainability efforts. However, it is our effect on our customers' processes that provides the greatest impact. It goes beyond our global Footprint; it is our even wider Handprint.

Here, we achieved the following:

- Reduction in die solder
- Less material waste due to reduction of release agent, welding defects, and rework required as well as improved release of complicated casting geometries
- Reduced energy from transporting product due to local manufacturing and reduction of downtime and improvement in overall equipment effectiveness

Health Materials Energy

For more information about our die cast capabilities, our innovations, or other stories, visit CHEMTREND.COM