

High performance, long-life crucibles with a higher melting output compared to conventional crucibles.



SUSTAINABILITY

THE CHALLENGE

The melt shop in an aluminium foundry plays a critical role in supplying high quality molten aluminium to the casting department. The challenge was to supply a crucible that can maintain those high quality demands with a longer lifetime than conventional crucibles to minimise the number of crucible changes and associated downtime and to optimise melting costs.

This is especially critical in a piston manufacturer that melts aluminium piston scrap almost continuously, with each crucible melting for 740 cycles on average.

FOUNDRY:

MAHLE, a leading international development partner and supplier to the automotive industry, is a pioneer in mobility technologies with a key focus on electromobility and thermal management. Founded in 1920, it has shaped the future of mobility with innovative solutions. Today, every second vehicle in the world is equipped with MAHLE components.

VESUVIUS

PARAMETERS

Alloy: Aluminium

Furnace type: Gas

Crucible type: BPK 800

Melting frequency: Continuous melting, with a few days of shutdown

Average crucible life: 740 melt cycles

Achieved crucible life: 1284 melt cycles

FOSECO PRODUCTS

DURATEK Supermelt crucible



OUR SOLUTION

Our newly developed crucible has improved mechanical properties and a higher protection against oxidation.

Therefore, during its lifetime, the crucible will have a significant slower rate of oxidation and will enable the melting department to keep its consistent melting rate.

KEY BENEFITS

- Longer lifetime
- Improved mechanical properties
- Lower oxidation of the crucible
- Reduced downtime
- Lower melting costs

THE OUTCOME

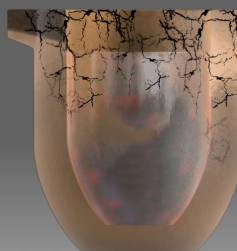
The DURATEK Supermelt crucible achieved 1284 melting cycles - more than 70 % longer than normally seen with competitive crucibles. This extended life will increase the furnace operating "uptime" and production output.

Crucible after usage

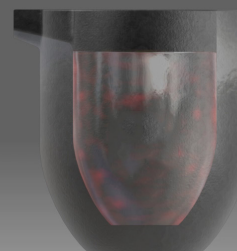


DURATEK Supermelt has drastically reduced oxidation and enhanced mechanical strength

Standard Crucible



DURATEK Supermelt



> LET'S LEARN MORE



THINK BEYOND. SHAPE THE FUTURE.



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