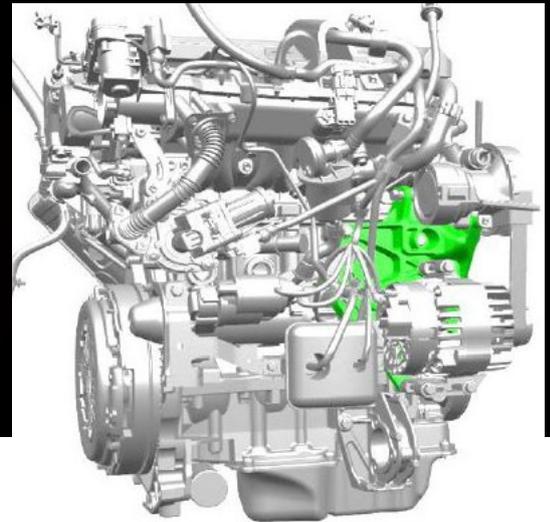


Stabilised and secured melt quality of weight reduction part through the use of SMARTT process control



KNOWLEDGE & PARTNERSHIP

THE CHALLENGE

Sustainability and carbon emissions get more important for automotive industry. HPDC sector aims to reduce casting weight while maintaining mechanical properties. These studies cover many processes and metal quality is one of the most important topics. HPDC manufacturers need highly stable molten metal quality to achieve the high-quality requirements. Achieving stable molten metal quality is quite difficult because of many variable factors in the foundry and mainly factors that we couldn't influence like ambient condition.

FOUNDRY:

Can Metal-HPDC is a company of the Yeşilova Holding Group and a leading manufacturer of high pressure die castings in Turkey, specialising in the automotive sector. Can Metal and has built a reputation for consistent quality, reliability and flexibility in serving the automotive industry. Their plant is equipped with a range of high pressure die casting machines, enabling efficient production of complex series and ensuring fast delivery of HPDC parts.

PARAMETERS

Alloy: AlSi9Cu3
Alloy weight: 1.9 kg / 1.2 kg
Alloy temperature: 710°C
Degassing time: 210 s
Flux amount: 240 g

FOSECO PRODUCTS

FDU MTS 1500
SMARTT process control
FDDR OX rotor / DSK OX shaft
COVERAL*2510 granular flux

OUR SOLUTION

SMARTT is a specially developed software for process control of aluminium degassing. It records and analyses all the initial variables and calculates the optimum parameters for each subsequent degassing and upgassing process. The aim of this optimisation is to achieve a consistent melt quality after each treatment, regardless of the initial conditions. SMARTT calculates the rotor speed and inert gas quantity and sends this data to the unit's control system at the start of treatment. Different optimisation modes (high-speed, low gas quantity, low wear, standard) offer the operator further options and work facilitation to achieve the required melt quality.

KEY BENEFITS

- Recalculated specific parameters for each treatment
- High process reliability
- Decreased treatment times
- Lower oxide levels

> LET'S LEARN MORE



THINK BEYOND. SHAPE THE FUTURE.

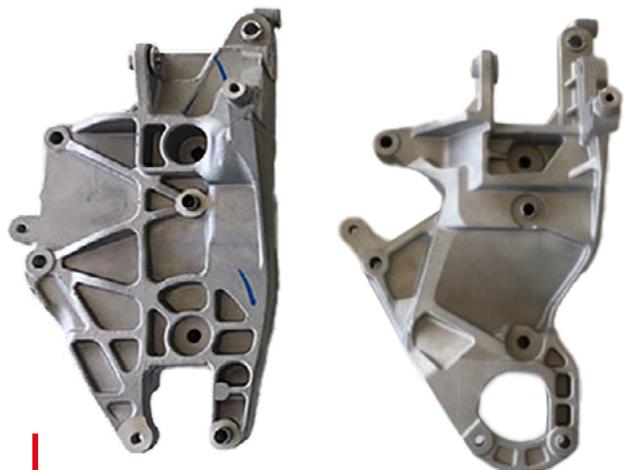


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THE OUTCOME

SMARTT and MTS technology integrated into the FDU unit ensured that molten aluminium was obtained with consistently stable quality. In this way, the sustainability of the mechanical properties of the weight-reduced cast parts is ensured.

SMARTT and MTS Technology for metal treatment



Original Part (Left) - Weight Reduced Part (Right)

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