

# Case Study Syncarb Z2e<sup>2</sup>

-lower energy consumption & improved lifetime

## Info

Product name: ZYLS 1100 x 980 Z2E2 LTP  
Application: Aluminum permanent mold casting  
Casting parts: Cylinder heads

## Parameters

Furnace: Electric resistance furnace  
Capacity: 1300 kg (2866 lbs.)  
Casting temperature: 750 – 770°C (1382 -1418°F)  
Alloy: AlSi7MgCu 0,5 + AlSi8Cu3 (226)



Picture: BNS 600 PT Z2e<sup>2</sup> LTP

## Benefits – Comparison of Syncarb Z2e<sup>2</sup> against existing crucibles\*



less cross adhesion



increased lifetime



less crucible change overs



lower labour charges for  
crucible handling

\*For more details, please refer to page 2.

## Existing Crucible

The customer have used the existing crucible for a period of 38 to 42 weeks over many years. The crucible was changed due to expansion cracks caused by dross.

## Syncarb Z2e<sup>2</sup>

After 12 months of use the Z2e<sup>2</sup> crucible was analysed. As shown in the pictures, the crucibles showed the typical oxidation which is located above the melt level. The thermal conductivity of the Z2e<sup>2</sup> crucible was identical to a new crucible, even after 12 months of use.



Picture 1 Syncarb Z2e<sup>2</sup> after 12 months.



Picture 2 Syncarb Z2e<sup>2</sup> brim oxidation after 12 months.

## Comparison Table / Graph

Product name	Lifetime	Consumption	Savings per year
Existing Crucible	140 days	1,12 kWh/kg	0 €
Syncarb Z2e <sup>2</sup>	390 days	0,87 kWh/kg	1600 €

## Benefits

- Improved lifespan
- Less energy consumption
- Better price value
- Less crucible changes