

Reliable and consistent performance linings for cupola funaces in automotive foundry



KNOWLEDGE & PARTNERSHIP

THE CHALLENGE

ZML Industries S.p.A. wanted a furnace lining suitable for long campaign cupola hot blast with slag corrosion resistance. Additionally the lining should be applicable for continuous work in an automotive environment. The linings were also required to dry fast and to be installed quickly.

FOUNDRY:

ZML Industries S.p.A. in Italy is the leader in aluminium die-casting, grey cast iron casting and in the production of magnet wire.

PARAMETER:

Alloys:

70% grey iron GJJ, 30% ductile iron GGG

Furnace Type:

Küttner long campaign cupola pressured design with 1 syphon box of 1 t capacity; 24 t/h, O2 addition
weekly production of 2200 t

Application Temp.:

1480 °C

Furnace Lifetime:

Syphon box repaired every 2 weeks = 4400 t,
Well repaired every 14 weeks = 30800 t

FOSECO PRODUCTS

- RAMWELL* SMZ granular ramming with SiC & graphite addition
- HYDRA-MAX* SVZ ultra-low cement castable with SiC & graphite addition

OUR SOLUTION

The syphon is relined with RAMWELL SMZ granular ramming technology, the well and tap hole with HYDRA-MAX SVZ ultra-low cement castable, which is a quick installation method with castable technology. Both refractories are applied by use of a planetary mixer and a refractory pump. The drying curve is done with coke.

THE OUTCOME

The application of the new linings systems resulted in reliable and consistent performance. RAMWELL SMZ lining applied to the syphon is easy to remove and fast to turn around. HYDRA-MAX SVZ applied to the well and the tap hole provide fast drying and long performance as well as reduction of infiltration in the bottom well.

KEY BENEFITS

- Reliable and consistent performance
- High resistance to slag (basicity index 0.9)
- Fast drying and long performance
- Easy removal and fast turnaround



Slag hole during production



Slag hole after ramming

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