

# REFRACTORY RELINING FOR A HEARTH-TYPE MELTING FURNACE

## Aluminium GmbH Nachrodt

### Starting situation

Refractory relining for a hearth-type melting furnace including development, assembly during ongoing production, and consideration of specific customer requirements.

### Solution

RATH's engineering team developed an efficient construction solution with the components in the ground and in the side wall, despite the furnace being tiltable to both sides.

### The following were used:

Precast concrete elements, LC concrete, shotcrete, insulating bricks, lightweight refractory bricks and slabs

### Challenges overcome:

Surveying on site, complete bath area with prefabricated components, bath volume concept incl. formation of a melt ramp with increased bath volume, conversion during ongoing production with rail-bound charging, and cleaning manipulation

### Other services:

Consultation and coordination with other trades, demolition of the existing refractory lining using robot technology, site setup, and heating up

### The benefits:

- Long service life of the refractory lining
- High operational reliability
- Low wear
- Optimized cleaning
- Higher quality thanks to prefabricated, heat-treated and factory-tested components
- Very smooth surfaces with lowest open porosity of all components used in the bath area for increased resistance to infiltration

*"RATH was more than convincing in this project, with high technical competence and smooth project handling."*

**Frank Hildebrandt**  
Plant Manager Aluminium GmbH Nachrodt



Aluminum smelting furnace during assembly



Newly lined aluminum smelting furnace



Components on a tunnel kiln car after firing

### CONTACT

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