

Optimized Insulation

Chamber furnace design variant

Success Story!



REBUILDING AND MODERNIZATION

Performance optimization + process reliability + energy efficiency

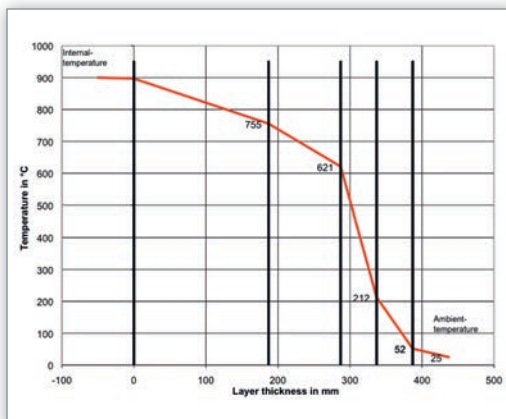
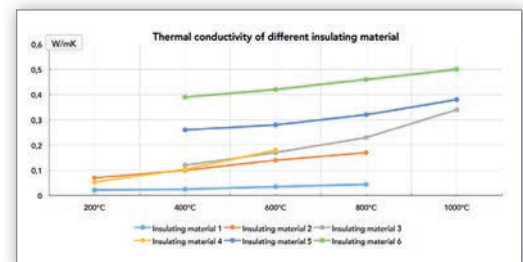
THE TASK: THERMAL REFURBISHMENT OF A CHAMBER FURNACE LINE

The customer's problem: Multiple worn insulation panels on several chamber furnaces. Procedure:

- **Precise analysis** of customer requirements by our experts
- **Structural check** and plant analysis using a **thermal imaging camera**
- **Concept with optimization measures**, well beyond simply replacing the furnace insulation

THE AMBITIOUS GOAL: 30% DECREASE IN LOSSES

- Definition of the **objective by the customer: 30% decrease in wall losses!**
- The first step: **Analysis of material selection**
- **Selection and customization of the perfect material combination** for the customer by using a **heat transfer calculation** that is based on known process parameters



- Determination of **measures** to reduce heat losses, e.g.
 - **Reduce thermal bridges**
 - **Install insulation in a targeted manner**
 - **Insulation of additional fittings**
- After optimization by engineering department
 - **Removal of the old insulation**
 - **Installation of the new, optimized insulation by our specialists**
- The last step: **Validation of improvements** through thermography and by measuring the furnace gas consumption
- **35% decrease in wall losses** for this successful project – 5% above the target!

YOUR ADVANTAGES

- Use of high-quality materials in the best possible combinations
- Customized solutions from a single source
- Increased system availability

YOUR RELIABLE PARTNER

- Competent engineering partner
- Reliable supplier of components
- High level of expertise in plant modernization
- Experienced market leader both for AICHELIN plants and third party plants
- Decades of expertise in insulating furnaces for thermochemical heat treatment