



Installation Story #1 Foamfrax® Insulation

Industry: Ceramic
Location: Northeast United States
Installation Date: April 2001
Operating Temperature: 1500°F (815°C)
Scope of Job: Rotary Calciner Throat Section
3" (76mm) Thick, 8 PCF (128 kg/m³), Foamfrax Grade I
Veneer Over Existing Module Lining



The sidewall lining of this cylindrical unit had begun to exhibit erosion in areas tangent to the endwall burners. Due to the flame impingement, the existing ceramic fiber modules had become grooved 3"– 4" (76mm-102mm) deep at these locations. Repair options available were; full lining replacement, or pinning layers of blanket over the existing module lining. Given both the material and labor cost associated with these options, a 3" (76mm) veneer of Foamfrax Grade I Fiber was chosen and installed in this unit.



For installation over existing ceramic fiber lining systems, the only surface preparation required is to remove any loose or devitrified material on the lining hot face. For the removal of any after service refractory material, refer to the product MSDS for proper material handling guidelines. To minimize any potential airborne fiber levels during this procedure, the lining should be thoroughly wet with water before the loose material is removed.

Prior to installation of the Foamfrax material, the lining should be re-wet with water. When gunning Foamfrax Insulation on the lining surface, the recommended nozzle distance is 2' - 3' (610mm-915mm) from the work surface. Allow the material to fill any pockets/voids and work towards an even surface on the hot face.



After the Foamfrax lining veneer has been installed, use a trowel to smooth the finished surface. Occasionally wetting the trowel allows it to flow freely over the Foamfrax material as it is troweled. Note: There is no critical heat-up/cure-out for Foamfrax Insulation. This unit was put into service immediately after installation, using the customer's normal start up procedure.

With the installation of Foamfrax Insulation, the following customer benefits were realized:

- **Turnkey Installation**
 - A specially trained Unifrax distributor/contractor was able to supply materials, equipment, and installation as a complete package.
- **Fuel Efficiency**
 - The additional lining thickness of Foamfrax Insulation served to further lower heat loss and heat storage values.
- **Extended Service Life**
 - The Foamfrax Insulation upgrade provided extended service life for the calciner and avoided a complete lining replacement and costly downtime.
- **Installation Speed**
 - The complete Foamfrax Installation was completed in four hours, resulting in reduced furnace downtime and increased productivity.