



Installation Story #27 Foamfrax® Insulation

Industry: Steel
Location: Midwest United States
Installation Date: October 2003
Type of Unit: Coil Annealing Furnace
Operating Temperature: 1400°F (760°C)
Scope of Job: 4' Sidewall Section, Foamfrax Grade I 6" (152mm)
Full-Thickness Lining



The previous lining for this annealing furnace was a layered blanket system. This insulation system requires significant installation time, so the customer decided to install Foamfrax Insulation based upon the speed of installation. For this application, Thread-Loc 2 2200 Modules 8 PCF (128 Kg/m³) 6" x 12" x 12" (152mm x 305mm x 305mm) were installed around the bottom perimeter of the annealing furnace. This ring of modules provided a seal area which would accommodate the compression from raising and lowering the furnace onto the base.



Foamfrax Spider Netting was installed on the shell along with Foamfrax "V" anchors, SS-304 3 1/8" long (76mm). The Foamfrax Insulation was installed 6" (152mm) thick over the entire surface. The installers began installing around the "V" anchors and worked outward to ensure a tight fit against the anchors. In the corners, 3" (76mm) of Foamfrax Insulation was installed first, then a layer of Durablanket-S, 8 PCF (Kg/m³) was positioned over 6 Fiberwall studs 4" (102mm), followed by 3" (76mm) of Foamfrax Insulation. This technique is used in order to control lining shrinkage, and eliminate surface cracking at the corner joints.



Once the Foamfrax Insulation had been gunned on the wall, it was lightly tamped to somewhat smooth the surface. A final layer of 1/2" (13mm) foamy/less dense material was installed over the lining in order to provide a material that is easier to trowel. Full-thickness linings must be troweled smooth and then scored on a 2' x 2' (610mm x 610mm) square pattern. This is done to control cracking and limit overall system shrinkage to the joint areas.

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

- **Turnkey Installation Service**

- A specially trained Unifrax distributor/contractor was able to supply materials, equipment, and installation as a complete package.

- **Monolithic System**

- A Foamfrax Insulation Full-Thickness Lining System provided a ceramic fiber lining system without joints, but with all of the inherent ceramic fiber thermal properties such as low heat loss and low heat storage.