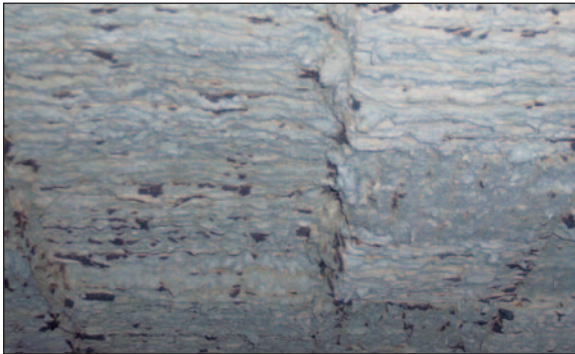




## Installation Story #22 Foamfrax® Insulation

Industry:	Steel
Location:	East Coast United States
Installation Date:	July 2003
Type of Unit:	Carbottom Reheat Furnace
Operating Temperature:	2200°F (1205°C)
Scope of Job:	Furnace Roof, Sidewalls, and End Wall Sections 2" (51mm) Foamfrax Grade II Fiber Veneer Installation, over Chrome Modules



The roof section had shrinkage to the extent that the lining thickness had been reduced by 2" (51mm). There was also a buildup of oxidized material on the face of the modules. Prior to the installation of Foamfrax Insulation, the lining was wet with water and then scraped down to expose clean fiber. Approximately 1" of the surface needed to be removed before all devitrified fiber was removed.



The end wall was in the same condition as the roof. There was less shrinkage than on the roof, but the iron oxide buildup on the sidewalls was considerably worse. Approximately 1½" (38mm) had to be removed from the face of the modules in order to provide a suitable substrate for the Foamfrax Insulation.



On the rammed plastic refractory sidewalls, there was no significant shrinkage; however, the dust, debris, and oxide deposits were evident. The sidewalls were sprayed with a water stream first and then brushed off using push brooms. This was followed by another spray application of water in order to achieve a clean surface for the installation. Fiberstick™ prep was used on all surfaces and was applied using an ARO pump. The use of the ARO pump allows for more control of the Fiberstick solution, produces less waste, and is easier than using a hopper gun.



Because of the shrinkage in the roof sections, the customer was experiencing unusually high cold face temperatures. The Foamfrax Insulation was installed 2" (51mm) thick on all surfaces. This returned the lining to the original thickness, and as a result, lowered the cold face temperature.

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

- **Turnkey Service**

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

- **Extended Service Life**

- The Foamfrax Insulation veneer upgrade over the existing module roof section provided extended service life for the furnace and avoided a complete lining replacement and additional downtime. In addition, the veneer upgrade over the Rammed Plastic Refractory provided a more efficient lining cross section, and as a result, reduced fuel consumption.

- **Installation Speed**

- The entire Foamfrax installation was completed in one eight-hour shift and eliminated the need to constantly pack and repair the lining.