



# Foamfrax™ High Temperature Insulation Installation Case Study #13

## High Temperature Insulation For Tunnel Kiln Low Mass Car

*Foamfrax Grade II High Temperature Insulation  
10" (250mm) Thick, 8pcf (128 kg/m<sup>3</sup>), Full Thickness car Bottom Insulation*

**Industry:** Ceramic Processing  
**Location:** NE United States  
**Installation Date:** July 2002  
**Operating Temperature:** 2300°F (1260°C)

### More Information

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The low heat loss and heat storage properties of refractory ceramic fiber high temperature insulation offer significant fuel savings in low mass tunnel kiln and furnace insulation designs. However, due to the presence of support piers on these cars, installation of either refractory ceramic fiber insulation blanket or modules can require extensive field cutting during installation.

The Foamfrax High Temperature Insulation installation process allows insulating foam/fiber mix to be easily gunned in and around the support piers in a quick, efficient manner. Note that for a successful installation of Foamfrax High Temperature Insulation in this application, the entire car perimeter must be lined with either hard refractory or refractory ceramic fiber insulation modules.

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[www.fyrewrap.com](http://www.fyrewrap.com)

[www.fiberfrax.com](http://www.fiberfrax.com)

[www.isofrac.com](http://www.isofrac.com)

[www.insulfrax.com](http://www.insulfrax.com)

[www.high-temperature-insulation.com](http://www.high-temperature-insulation.com)

[www.refractory-ceramic-fiber.com](http://www.refractory-ceramic-fiber.com)



The Foamfrax High Temperature Insulation was gunned into the car body tightly around the refractory support piers and against the refractory perimeter blocks. Then a wet trowel was used to work the Foamfrax insulation mix around the support piers and smooth the surface of the car deck.



To provide a denser surface, which could be easily cleaned, TopCoat 2600 refractory cement was troweled 2" (50mm) thick over the Foamfrax High Temperature Insulation layer. The result was a monolithic, energy efficient insulation system, which was installed very rapidly. This allowed the customer to return the car back to service quickly.

Following the installation of Foamfrax Grade II High Temperature Insulation, with TopCoat 2600 hot face, the following customer benefits were realized:

- **Turnkey Installation** - A specially trained Unifrax distributor/contractor was able to supply Foamfrax High Temperature Insulation materials, equipment, and installation as a complete package.
- **Fuel Efficiency** – Due to the low heat loss and heat storage properties of Foamfrax High Temperature Insulation refractory ceramic fiber product the fuel efficiency of this operation was significantly improved.
- **Extended Service Life** - The Foamfrax High Temperature Insulation upgrade provided extended service life for the furnace lining, and avoided a complete lining replacement and costly downtime.



- **Installation Speed** - Due to the quick installation of Foamfrax High Temperature Insulation, this project was installed in 2 hours, start to finish, compared to a full day of installation using other high temperature insulation product types.

**Foamfrax** High Temperature Insulation is an advanced gunnable monolithic insulation system comprised primarily of **Fiberfrax** refractory ceramic fiber. There are several Foamfrax grades available, suitable for application under various conditions and temperatures.

**Isofoam** High Temperature Insulation is a similar product, comprised primarily of revolutionary **Isofrax** soluble fiber – to meet European Health & Safety regulations for in-vitro solubility of vitreous fibers.

Both advanced high temperature insulation materials are installed in the same manner.

For more information on **Unifrax** advanced foam high temperature insulation systems visit [www.foamfrax.com](http://www.foamfrax.com) or contact Unifrax I, LLC directly by e-mail: [Foamfrax@unifrax.com](mailto:Foamfrax@unifrax.com)

**Foamfrax™ High Temperature Insulation is a registered product of Unifrax I, LLC**

**Unifrax I, LLC provides a wide range of woven and non-woven products for high temperature insulation, sealing and filtering applications**

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