



# Foamfrax

for  
CPI Applications

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*specialty products that  
save energy, reduce pollution and improve fire safety*

# Overview

- Technology
- Foamfrax Process
- Benefits
- Product Forms
- Target Applications
- Case Studies

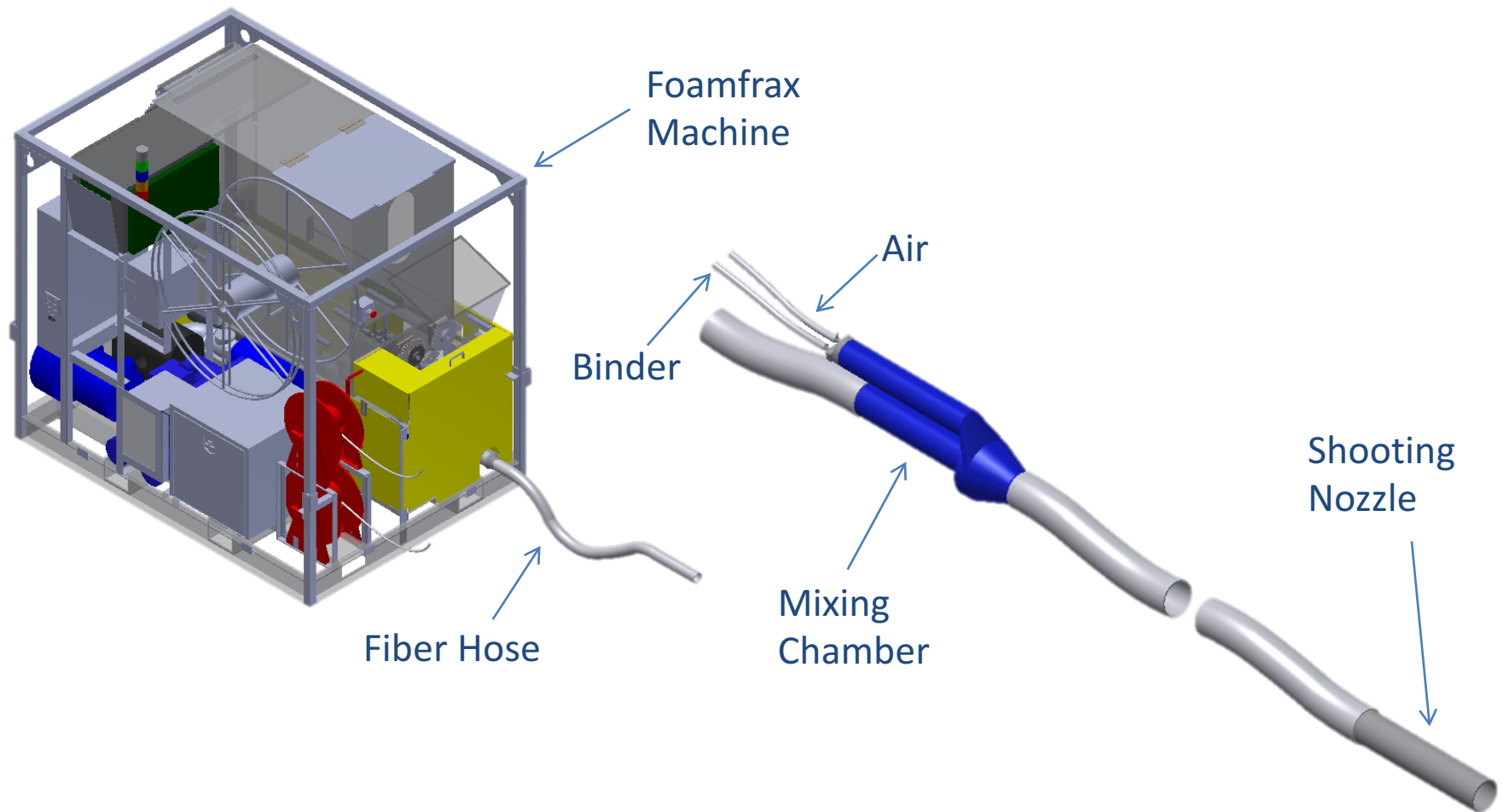




# Technology

- **Proprietary Technology Encapsulates Fibers in Foam Binder Matrix**
- **Unifrax Holds the Technology License for the Refractory Market, Global Agreement**
- **Foamfrax Utilizes Proprietary Binders and Equipment.**
- **Installed by Unifrax Licensed Distributor/Contractors**

# Foamfrax Process







# Benefits

- **Speed of installation**
- **Low airborne fiber levels**
- **Fuel/Energy efficiency**
- **Lining upgrades over existing hard refractory and RCF linings.**
- **Backup lining for gunnite and rammed plastics**
- **Lighter (8pcf – 25pcf) than dense refractories**
- **Monolithic ceramic fiber lining system**
- **Well suited for intricate geometries**



# Target Applications

- Ethylene Furnace Veneers
- Ammonia Reformer Veneers
- RTO Full Thickness
- Heater Full Thickness

# Product Forms

- **Foamfrax Grade I (2300° F)**
- **Foamfrax Grade II (2600° F)**
- **Foamfrax Grade III (3000° F)**
- **Foamfrax RG (1800° F)**
- **Foamfrax RG+ (2300° F)**
- **Foamfrax HD (2300°, 2600° & 3000°)**
- **Isofoam (2300° F) Low Bio-Persistent Fiber**
- **Isofoam RG (1800° F) Low Bio-Persistent Fiber**



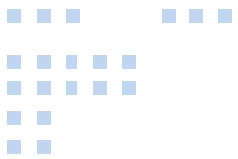
# Refinery Heater

- **Scope:** 50'x17'end wall section
- **Operating temperature** 1600° F
- **Material:** Foamfrax Grade I, 6" Thick
- **Anchors:** 310 Stainless V-Anchors on 10" centers. Dilute Fiberstick sprayed on casing
- **Old lining:** IFB & Mineral Wool Board









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# Results

- **Speed of installation. 1,000 Board Feet per hour rates were achieved. Faster furnace turnaround.**
- **Very easy to install around lining penetrations & obstructions. No problems with lintels or interior reinforcing members.**
- **Foamfrax was the fastest and least expensive option to complete the repair.**
- **Customer has since completed other installations and several more are planned.**



# Ethylene Cracking Furnace

- Scope: Radiant walls, roof and transition
- Operating temperature: 2250° F
- Material: Foamfrax Grade II, 2" Thick
- Anchors: Dilute Fiberstick sprayed on existing refractory lining
- Old lining: IFB walls, Module roof











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# Results

- **Reduced furnace shell temperature by an average of 50° F.**
- **Extended the useful life of the furnace lining.**
- **Saved the customer the cost of lining removal and replacement.**
- **Customer has since completed second installation and more installations are planned.**



# Summary

- **Foamfrax Product Benefits**
  - **Speed of Installation**
  - **Design/Installation Flexibility**
  - **Short Notice Repairs**
  - **Unique and Proven Technology**
  - **Low Airborne Fiber Levels**
  - **Improved Thermal Performance and Energy Savings**
  - **Cost Effective Alternative to Modules and Conventional Refractory Methods**





# Foamfrax University



You 



# QUESTIONS ?

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# Thank You For Considering Foamfrax & Foamfrax RG as a Heat Management Solution

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