



# Boiler Door Relines

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Bulletin 0521

All Industries

04/06

## Thermbond® A Patented Refractory System

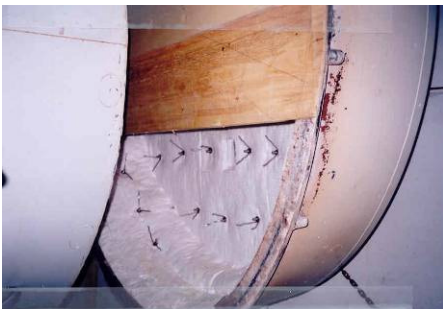
Thermbond refractory products are a complete line of engineered refractory materials. Each Thermbond product is a two-part system (dry formulation and liquid activator) added together to form a uniquely bonded refractory material. The features of this bonding system provide benefits that set Thermbond apart from conventional materials.

### Case History

**Bankers Hall 5<sup>th</sup> Floor  
Cleaver Brooks Boiler  
96" Diameter**

**Lower Door/Shelf - T/B 9B  
Upper Door - Fibre and M  
Board c/w ITC 100 HT Coating**

**Project carried out  
September 19-24, 2005**



Lower Door  
3" - 8" blanket backup - upper  
form in place to pour shelf.



Divided into two pours - lower  
form in place.



Thermbond Formula Nine is the  
hot face layer - lower door 8" -  
shelf is 21" overall depth.



Shelf portion of the lower door  
coated with lithium grease.



Shelf portion of the form in place  
after lower section has been cast.



Custom anchors to retain shelf  
pour - 21" overall thickness  
(eliminates several tile pieces -  
lengthily delivery)



Backup insulation 8# density  
ceramic fibre covering I beam in  
the centre of the door.



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Upper door using fibre lock anchors to retain 2" of 8# density blanket and 1/2" thickness of vacuum formed board.



Lower door poured - approx. 65 units of Thermbond Formula Nine (shelf area used stainless fibre addition).



Form removed - 1 hour after pour.



Wesmat uses vibrators mounted on the form and operates them throughout the pour.



Lining of the upper door section 2", 8# blanket, followed by 1/2" vacuum formed board.



Use of 1/2" board as bearing ring prior to fiberlock washer. Surface coated with ITC-100 Ceramic Spray. Everything looks great.

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We have included a step by step photo sequence of a Cleaver Brooks boiler door reline. The reline utilized Thermbond's fast setting high strength, and fast fire-in properties. The form was designed to cast the shelf, usually an assembly of expensive brick shapes in one monolithic shape. The form was removed in one hour. The unit was fired into service in less than 24 hours.

### The Thermbond Advantage

PROPERTY	BENEFIT
RAPID MIXING	Rapid mixing eliminates waiting time required for conventional materials to "wet out".
RAPID CURING	Rapid curing eliminates the lengthy cure time required of water-based castables.
RAPID HEAT UP	Rapid heat up increases unit productivity, reducing the time and cost required for thermal dry out.
THERMAL SHOCK RESISTANCE	Thermbond lining lasts longer in thermal cycling environments, and that means less maintenance and less downtime.
BONDING	The bonding capability allows for less tear out, faster repairs, and more time in production.