



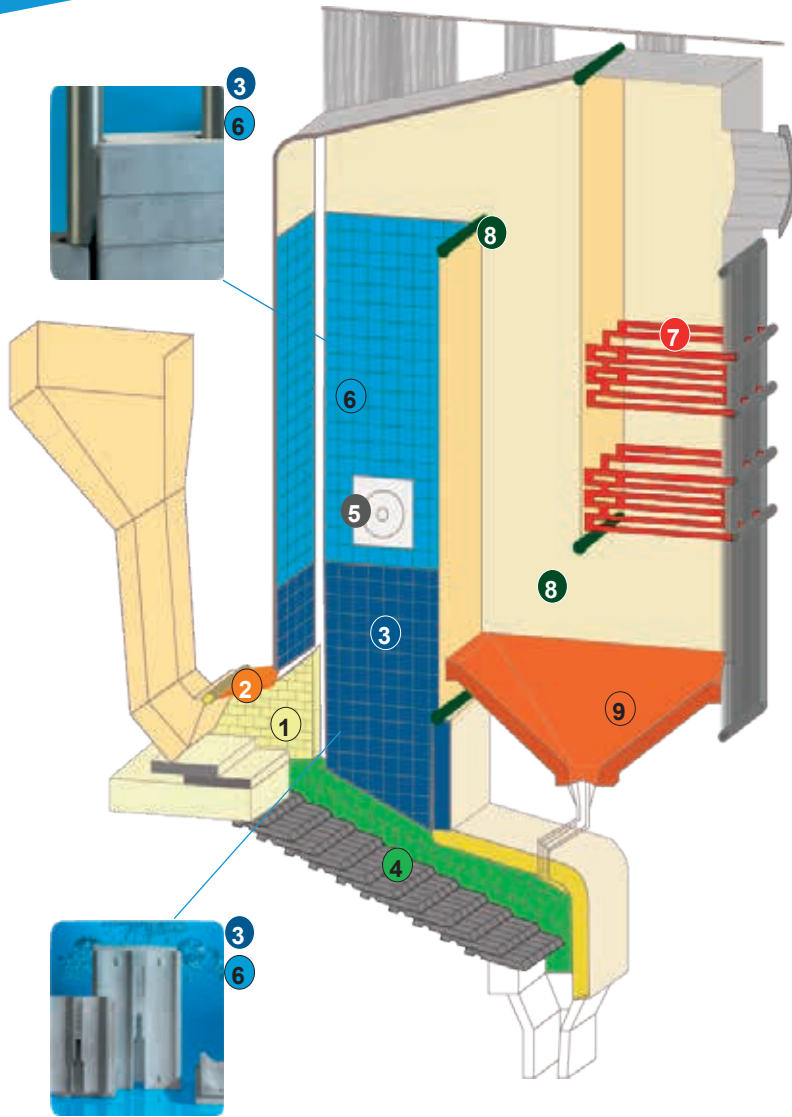
SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES

# ENERGY RECOVERY

EFFICIENT REFRACTORY SOLUTIONS FOR  
THE THERMAL TREATMENT OF WASTE



# APPLICATION & PRODUCTS

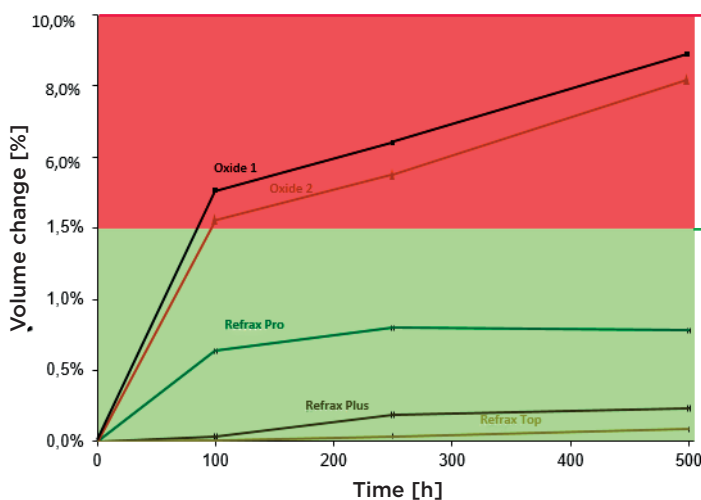


- 1 CHARGE ZONE**  
Alumina brick / Refrax® 20 Brick
- 2 INLET ROOF**  
Refrax® ProGun 80 / ProGun 70  
Refrax® ProPlast 80 / ProGun 70  
T-Clip PRO tile System
- 3 COMBUSTION AREA**  
T-Clip PRO tile system in  
Refrax® PLUS or Refrax® TOP
- 4 GRATE LINING**  
Special bricks in Refrax® PLUS or  
Refrax® TOP
- 5 BURNER OUTLET**  
Alumina ramming- Alfrax AFR 700  
SiC ramming - Refrax® ProRam 80 /  
ProRam 70
- 6 1ST PASS**  
T-Clip PRO tile system in  
Refrax® PLUS or Refrax® TOP
- 7 SUPERHEATER**  
Special tubes shields in super cast Refrax®  
and super Refrax® 20 using  
Carbofrax® 3445AT mortar
- 8 HEADER/COLLECTOR**  
Refrax® ProGun 80 or  
Refrax® ProPlast 60 / ProPlast 70
- 9 ASH HOPPER**  
Alfrax CK abrasion resistant trowel mix or  
Refrax® ProCast 70

Repairs / Patching in tube areas 3,4,6,8  
Refrax® ProGun 80 / ProGun 70 - suitable for troweling & casting  
as Refrax® ProPlast 60 / ProPlast 70 - Plastic / Ram mix

## CORROSION - OXIDATION OF MATERIALS

Test: ASTM C 683 - steam corrosion 1000°C for 500 h

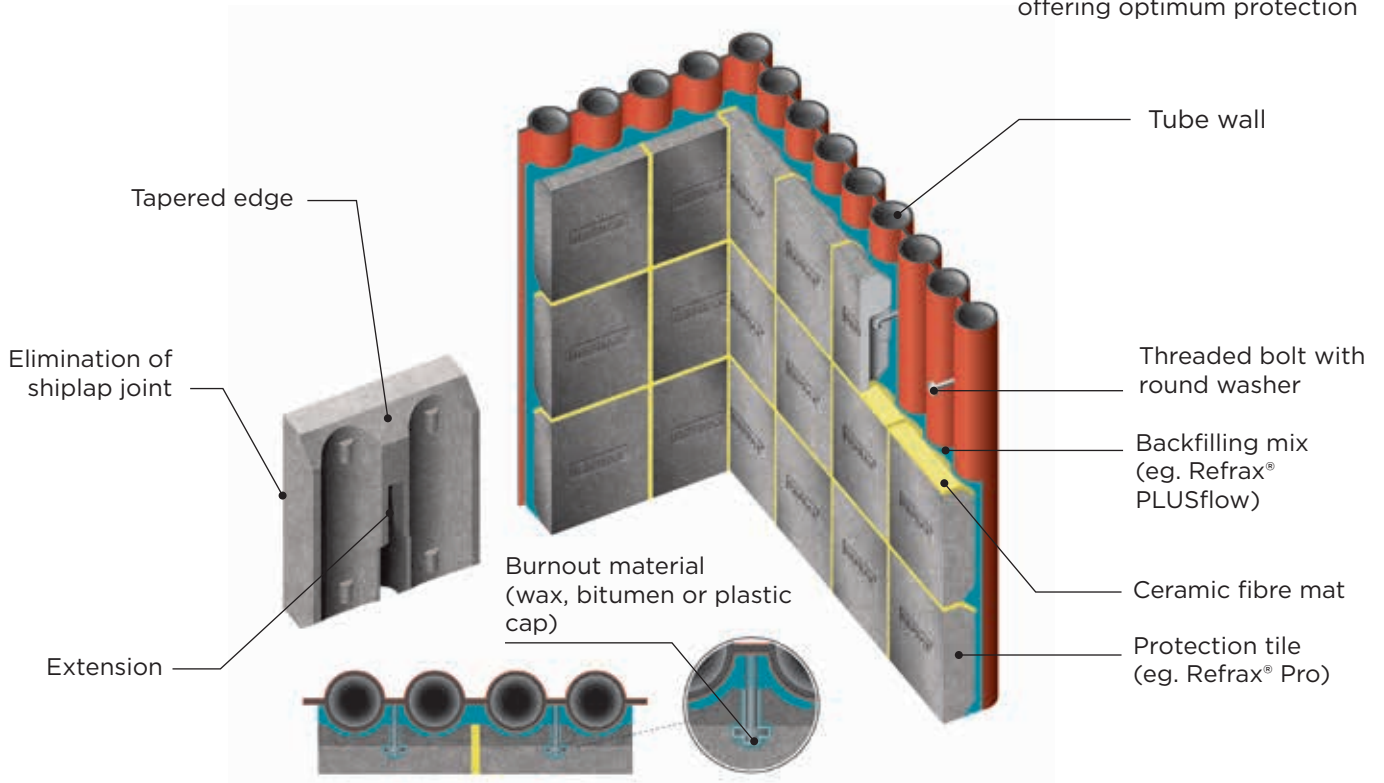


The oxidation of the tiles leads to an expansion and weakening of the structures



Refrax® solutions have a low oxidation level to ensure their longevity

An optimized backfilled tile design offering optimum protection



## APPLICATION

Can be used in all installation systems, for vertical boiler tube walls, e.g. the side walls, back and front walls, as well as the slanted tube walls on the ceiling, like inlet ceiling, burn out and boiler ceilings.

## SYSTEM FITTINGS

**Anchorage to the tube wall:** Threaded bolts with round washers made from heat-resistant steel.

**Backfilling mix:** Offers added protection against flue gases and reduces the anchor corrosion. Refrax® PLUSflow with higher thermal conductivity. The self-flowing and selfcompacting SiC concrete is formulated to fill a defined gap between the tile and the tube wall.

This ensures optimal contact to the wall and offers added protection against flue gases.

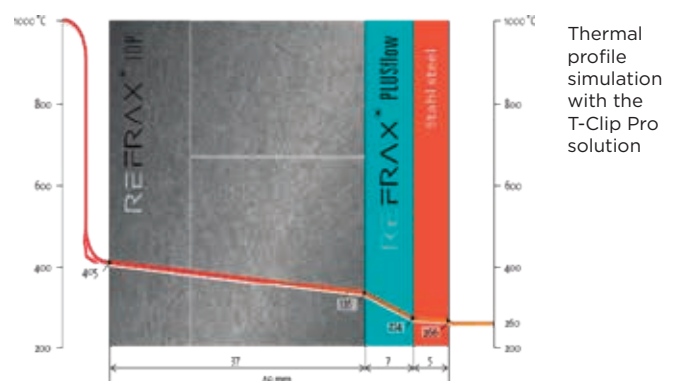
Note:

If the angle is smaller than 15°, the tiles have to be laid using SiC mortar, Refrax® PROMor.

Ceramic fibre mats or fibre paper to compensate for potential expansion.

### BENEFITS

- ✓ Quick and well-defined installation
- 📉 Reduced tension
- 🔥 Oxidation & corrosion & high mechanical load resistance
- ★ Best price - performance ratio on the market
- ✏️ Available for all tube diameters and spacings
- ↩️ Excellent thermal conductivity due to cement lining (reducing the temperature of the hot face)



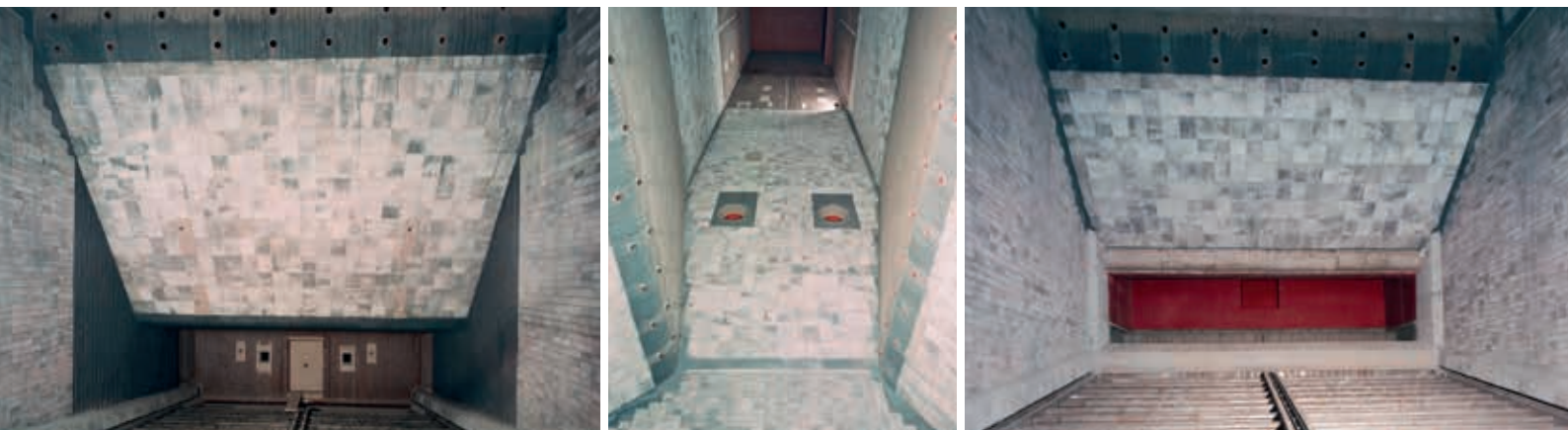
In order to meet technical and logistical requirements, Saint-Gobain Performance Ceramics & Refractories has recently consolidated its catalog of materials

## Shaped products

Material	Description
Refrax® PRO	Tried and tested material with narrow tolerances. <b>Application area:</b> Standard product for the first pass and the combustion area.
Refrax® PLUS	Improved patented premium product for the toughest requirements. <b>Application areas:</b> For all areas - particularly suited for areas exposed to high wear, high stresses and for repairs.
Refrax® TOP	Doped patented, doubled fired material with glazed surface. <b>Application area:</b> For all areas - particularly suited for areas exposed to aggressive ash and slag.

## Castable / Mortar

Material	Description
Refrax® Plusflow	Backfilling mix with maximised thermal conductivity for T-Clip systems.
Refrax® PROMor	Mortar for 45°, CFB systems and belly bricks.



### FRANCE

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PERFORMANCE CERAMICS & REFRACTORIES



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