STABLOX™ FLUE GAS REFORMER TUNNEL SYSTEM

Interlocking Patented Ceramic Blocks for Fast Installation and Superior Structural Stability

The Blasch StaBlox Tunnel System is a versatile, mechanically stable system consisting of a series of stackable, interlocking blocks. The StaBlox system allows for:

- Extremely fast and easy installation
- Higher level of reliability with customizable blocks
- Highly engineered, mortar-free expansion joints

With our StaBlox system, we have applied new patented technology to an age-old problem. Unlike traditional reformer flue gas tunnels which typically fail as a result of multiple thermal cycles and poorly performing expansion joints, the StaBlox system was designed to fit together in a mortar-free assembly that will easily and accurately accomodate for any thermal growth.

The unique geometry and advanced mating features of the blocks in the base, walls, tie-rods, and structural lid of the StaBlox Tunnel System allows for installation up to 15 times faster than traditional brick. The highly engineered design of the tunnel reduces the weight up to 60% while maintaining structural integrity. All StaBlox components are fully customizable allowing for any situation or unit.

The same base material and distributed expansion technology behind the StaBlox system has been saving Blasch customers money in various high temperature combustion applications for decades.

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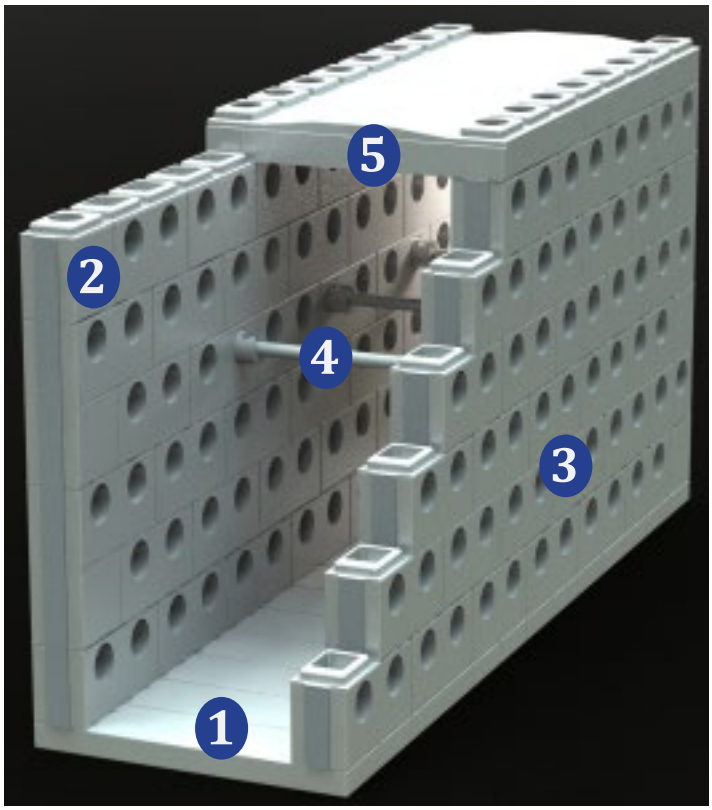
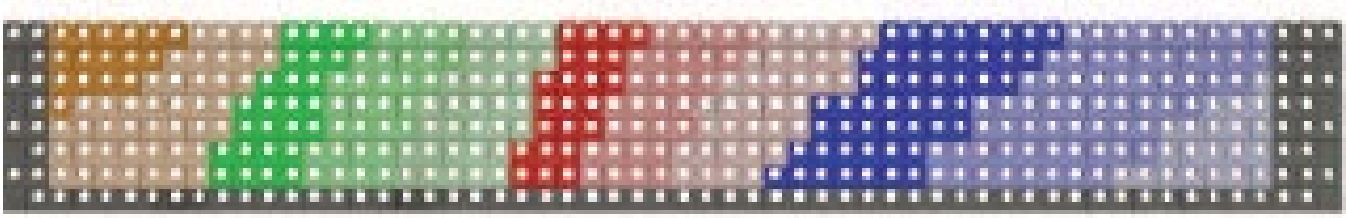
StaBlox Flue Gas Tunnel System

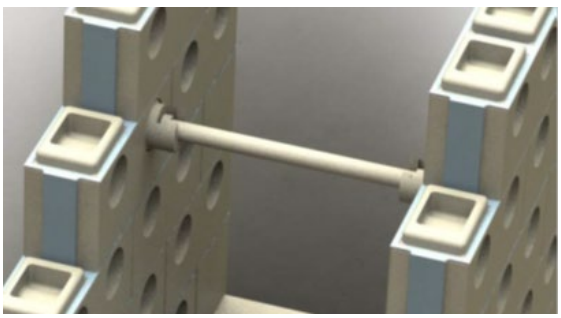
The StaBlox system utilizes five core tunnel construction components. The construction begins with a base component (**1**) that spans the bottom of the tunnel and mates to the side wall blocks (**2**). Each block contains two, 4.5" diameter openings. These openings can hold tie-rods (**3**) which connect two tunnel walls and replace buttresses as a support structure. The tie-rods can easily be removed and replaced during outages for easy access down the tunnel interior for inspection or repairs. At the top of the tunnel is a light weight lid (**4**) that mates to the side walls. With orifice inserts (**5**), BD Energy Systems' patent-pending TOP™ technology can be implemented to provide near-uniform flow along the length of each tunnel, promoting even heating and reducing tube hotspots leading to higher production yields.



BD Energy Systems' Patent-Pending TOP™ Flow Modeling

When combined with optional patent-pending Tunnel Optimization Program (TOP), operators can fine tune their furnace for optimal performance with near-uniform flow along each tunnel.





StaBlox System Advantages

- Greatly enhanced speed of tunnel construction substantially reduces downtime and overall installation cost
- Improved structural reliability results in less distortion and cracking, reducing the potential for catastrophic tunnel failure including significant loss in efficiency and yield
- Elmination of external buttressing enables a smooth exterior tunnel geometry, resulting in improved flow uniformity, reduced pressure drop and lower temperature gradients around the tubes
- Lower mass means less heat storage, less stress on structural floor, and more even cooling