

## UNIFRAX APPLICATION STORY



**Product Solutions:** Isofrax® Pumpable 120 & Fiberfrax® Pumpable 140  
**Industry:** Waste Incineration (Power Generation)  
**Applications:** Refurbishment of expansion joints on hot face  
**Location:** Spain

DECEMBER 2018

### Business Challenge

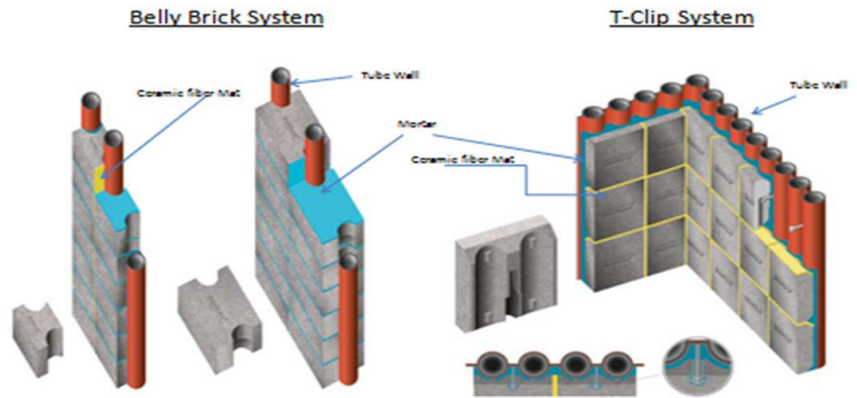
Incineration is a waste treatment process that involves the combustion of organic substances contained in waste materials. Incineration and other high-temperature waste treatment systems are described as “thermal treatment”. Incineration of waste materials converts the waste into ash, flue gas and heat. The ash is mostly formed by the inorganic constituents of the waste and may take the form of solid lumps or particulates carried by the flue gas. The flue gases must be cleaned of gaseous and particulate pollutants before they are dispersed into the atmosphere. In some cases, the heat generated by incineration can be used to generate electric power.

The plant used must withstand harsh operating conditions. A combination of high temperature and a highly corrosive atmosphere due to the various chemicals and other contaminants present. Any internal thermal lining must provide adequate performance and long service life.

### Application

Waste incineration plants have evolved from being purely standard incineration plants and it is often the case that the interest is no longer just the burning of waste, but also the recovery of energy available in the waste. This energy from waste incineration provides a substitute for fossil fuel combustion.

**“allows thermal movement and reduced brick cracking”**



### Solution

In this case, silicon carbide (SiC) bricks/tiles were used in the walls of the incinerator to conduct the heat generated through to water pipes. Such a process may be used to generate superheated steam.

The Ceramic Material division of Saint-Gobain proposed the use of ceramic paper, felt or mastics for the expansion joints between the SiC bricks used in the walls and the ceiling of the boiler. Paper and felt are used at the installation stage but pumpable mastics are more suitable for ongoing maintenance repairs.

### Customer Advantages

- Flexible, high temperature seal protects water pipes.
- Allows for movement of bricks during heating and reduces the incidence of brick cracking and breakage.

A typical boiler has a water tube lining of approximately 250-300 m<sup>2</sup>. SiC bricks are generally 200 x 200mm, therefore, 7500 bricks required.

### About Unifrax

Unifrax is a global leader in high-performance specialty products used by many industries in a diverse group of industrial applications. Our products provide substantial improvement in thermal performance, save thousands of dollars in energy costs and can help reduce your operations environmental footprint.

### Contact Us

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*Typical Incinerator Lining Repair & First Lining*

During annual maintenance of the incinerator linings, it is necessary to replace broken plates/bricks and the damaged paper and felt must be removed from the expansion joints with a metallic pin. This space must be refilled using Unifrax pumpable mastics. Both Fiberfrax Pumpable 140 (ex-Fraxfil H) and Isofrax Pumpable 120 (ex-Isofrax Pumpable) have been approved by Saint-Gobain, Spain.

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