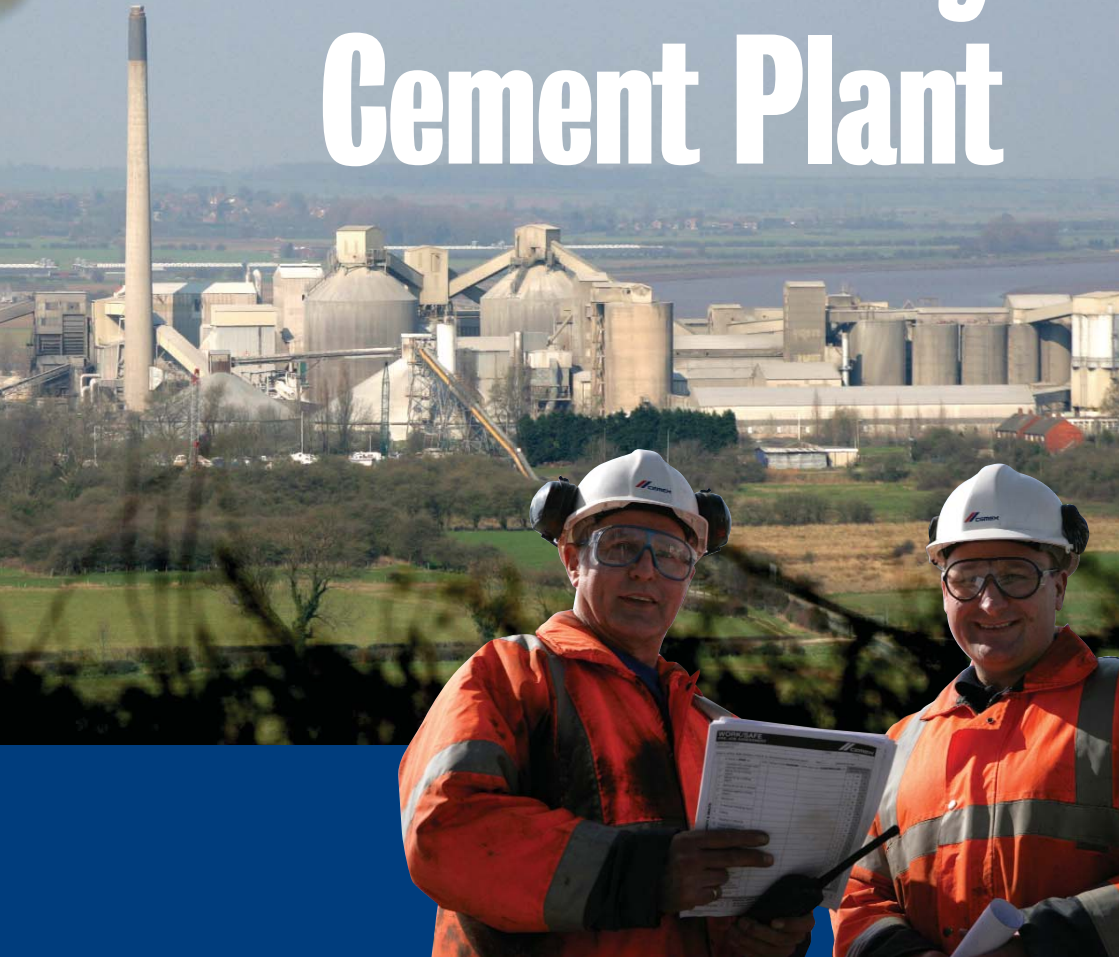




# Welcome to South Ferriby Cement Plant



# 1 A long tradition

The Humber estuary village of South Ferriby has been making cement for nearly 70 years. Over that period, the industry has provided much needed rural employment for several generations of mainly local people and supplied its essential building material not just locally but all over the country.

The original factory was built in 1938 by Eastwoods Humber Cement, having been designed by three German engineers who were called home on the outbreak of the last war. In the early days, chalk was dug by hand and transported to the works by bucket conveyor. Clay was transported on a narrow-gauge steam railway.



Rugby Cement took over Eastwoods in 1962 and began a major investment programme which included two new kilns. The latest chapter began in 2005 when CEMEX took over RMC, which had acquired Rugby Cement a few years previously.

## KEY FACTS

- Cement was invented in Britain
- The average family creates a need for a tonne of cement every year
- No house, school, bridge or road could be built without cement.

# Raw materials

2

CEMEX UK's South Ferriby plant makes its cement using local chalk and clay taken from different areas of the same quarry. Around 3,000 tonnes of chalk and 1,000 tonnes of clay are needed each day. Chalk is dug using a powerful £1million excavator which has overcome the need to blast the often hard material, with resulting environmental benefits.

Chalk and clay are crushed at the quarry and transported by conveyor to the plant one mile away to save traffic movements. There, two further raw materials are added to the mix – sand from a Humberside quarry and iron oxide. The mix is then dried and ground into a powder to create what is known as “raw meal”.



Raw meal is tested hourly using state-of-the-art x-ray techniques in order to ensure a finely balanced chemical mix. Batches then move on to one of four storage silos.

## KEY FACTS

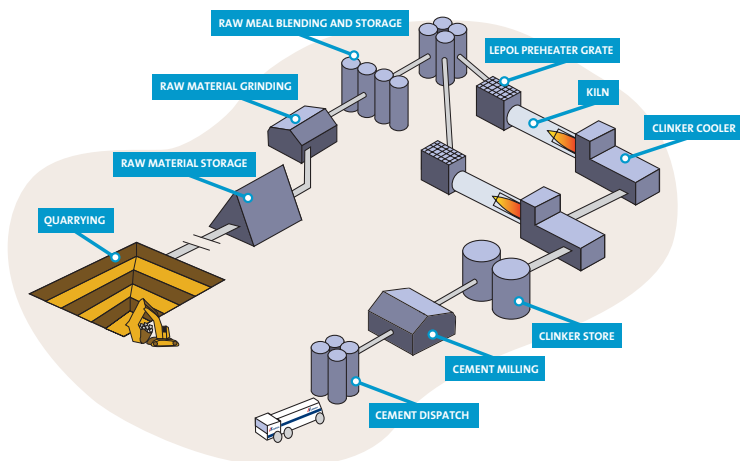
- The main raw materials were created around 160 million years ago
- Chalk contributes 80% of the raw material
- Clay makes up 14%, sand 4% and iron oxide 2%.

# 3

## Production

The kiln is the heart of the cement production process. South Ferriby has two kilns, each some 60 metres long and revolving slowly on massive steel bearings. Preparation for the kiln stage involves pouring the raw meal onto rotating tables and spraying it with water to create small balls.

From here, the raw meal is transferred to a grate, which uses hot gases from the kiln to build up the temperature to 900 degrees Celsius. It then enters the kiln where it moves slowly towards the burning zone and reaches a temperature of around 1400 degrees Celsius.



The intense heat brings about a chemical change which transforms the raw materials into cement “clinker” – hardened lumps. After cooling, the clinker is moved to a large mill where it is ground down to the powder we know as cement. Gypsum is added at this stage to control the setting time of the finished product.

### KEY FACTS

- The plant can produce 800,000 tonnes of cement a year
- South Ferriby’s kilns are half the length of a football pitch
- Cement kilns operate at temperatures at which steel would melt.



The gases and dust from the kiln are subjected to an intense filtering and scrubbing process before being safely emitted to the atmosphere.

The works uses electrostatic precipitators – large electrically-charged plates – to attract and remove the dust.

While traditional fossil fuels – coal and petcoke – still have an important role to play, South Ferriby is increasingly using more sustainable and cost-effective alternative fuels. Since 2002, it has been successfully using Secondary Liquid Fuel (SLF) made from industrial liquid wastes that can't be recycled, such as paint thinners, inks and varnishes.



SLF has reduced emissions of sulphur dioxide and oxides of nitrogen by 15% compared to using fossil fuels alone. The most recent alternative is *Climafuel*, a fuel made from household waste that is processed to a tight specification. It reduces landfill and saves fossil fuels for future generations.

## KEY FACTS

- By using less coal and petcoke, alternative fuels reduce CO<sub>2</sub> emissions
- SLF has reduced emissions of sulphur dioxide and oxides of nitrogen
- *Climafuel* currently replaces up to 30% of fossil fuels.

## 5

## Delivering the goods

South Ferriby cement plant produces ordinary Portland cement (OPC) for general construction uses. It also manufactures blended cement, which includes by products such as ash and slag. Based on the reduced clinker content blended cement is more sustainable.

From storage silos, the cement is loaded directly into bulk tankers. The plant delivers its vital end-product by road over a wide area of eastern, central and northern England. It also ships cement from Grimsby to Leith on the east coast of Scotland, where it has replaced previously imported Polish cement.



As a supplier of a vital construction material, the plant has played a largely unseen role in life over a wide area - from major motorways to local housing.

### KEY FACTS

- Every year the plant produces enough cement for 44,000 houses
- Cement from South Ferriby has been used in projects across the UK
- High profile projects include the new Wembley Stadium and the M25.

# Focused on people

6

The cement plant has been a part of the community for South Ferriby and surrounding villages for many years. In that time, it has provided direct employment for hundreds of local people and supported many more jobs through its links with other businesses in the area. In total, the company's annual contribution to the local economy through wages, rates and the buying of services adds up to some £10 million.

Even in an age when technology is increasingly sophisticated, cement-making remains a 'people industry' which is heavily dependent upon the skills and commitment of its employees. Their health and safety is the company's top priority, and career development is another major focus.



The company also has a strong commitment to its neighbours in terms of minimising its impact on them and ensuring that its environmental standards are high. The plant is equally community-minded in its support for local activities and initiatives – from sponsoring and hosting the South Ferriby boys' football team to membership of the Humber Industry Nature Conservation Trust (Humber INCA).

## KEY FACTS

- The plant currently employs 150 people directly
- It creates work for many more indirectly
- It contributes £10 million to the local economy every year.



CEMEX is a global building materials solutions company with leading positions in cement, ready-mixed concrete and aggregates. The company provides services and products in over 50 countries and has more than 50,000 employees around the world. In the UK, CEMEX generates in excess of £1 billion in annual sales and has a network of more than 500 locations.

The company is dedicated to building a better future and couples financial achievements with a firm commitment to sustainable development to ensure a better quality of life for everyone, now and in the future.



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