



**NUTEC  
BICKLEY**

ENGINEERED THERMAL SOLUTIONS

# PORCELAIN INSULATORS

Porcelain Insulators play a key role in power transmission and distribution. Many of these are complex, heavy, tall items and Nutec Bickley has the expertise to provide a closely controlled firing regime and top quality kilns.



# NUTEC BICKLEY TODAY

## A Tradition of Excellence Worldwide

Nutec Bickley has extensive experience designing and manufacturing both tunnel and shuttle kilns for firing porcelain insulators.

Our kilns use the latest volume flow combustion and control technology to fire many types of insulators under both oxidation and reduction atmosphere conditions.

## EXPERIENCE

With over 45 years' experience, Nutec Bickley has an extensive background in manufacturing systems for firing both high and low voltage electrical insulators. Certain of these products need to be fired in a reduction atmosphere to give the desired electrical properties. Nutec Bickley employs the latest volume flow (or mass flow) combustion systems for this sector, where kiln atmosphere monitoring and control are important in order to achieve the necessary fired properties. Nutec Bickley has supplied many kilns around the world for firing porcelain insulators, and has been particularly successful in the Indian insulator industry.

Size is an important feature when considering kilns for this sector of the ceramic industry, as they have to be able to accommodate some of the larger insulators. Nutec Bickley has supplied kilns with loading heights up to 5m (16.4ft).



## TUNNEL KILNS FOR PORCELAIN INSULATORS

Nutec Bickley has the ability to design and manufacture tunnel kilns specifically for porcelain insulator firing. With our equipment, process variables are held under tight control from the beginning through to the end of the cycle, assuring you of superior quality and electrical performance of your finished products.

Tunnel kilns are the best solution when large volumes of product need to be fired in extremely consistent conditions. They offer excellent temperature uniformity, while fuel consumption can be 50% lower than with shuttle kilns.



## SHUTTLE KILNS FOR PORCELAIN INSULATORS

Nutec Bickley's shuttle kilns for this sector are designed and built to meet your precise process needs. Multi-kiln arrangements with automatic car handling systems are also available.

Batch firing of products offers the manufacturer the greatest flexibility. With great temperature and pressure control, our porcelain insulator shuttle kilns are the most fuel efficient on the market. Our shuttle kilns employ state-of-the-art technology, come in a wide range of capacities, and with a choice of car handling, combustion and control system designs.



## 🔥 FEATURES

Nutec Bickley's flexibility in design offers the following features:

- 🔥 The best control system available on the market.

As well as uniform firing temperatures, many porcelain insulators require reduction atmosphere conditions. Nutec Bickley volume flow systems are the best available as they focus on very precise controls for your process.

The system allows the user to have a lower fuel consumption and superior quality in the final production.

- 🔥 Excellent Temperature Uniformity.

Our systems control the different variables of the heating curve inside the kiln, such as internal pressure, heating rates, air movement and air/gas ratio, with the help of our control software.

The control system allows the user to regulate the temperature in each of the kiln's zones in order to guarantee a uniform temperature, lower fuel consumption, and superior quality and consistency in the final product.

- 🔥 Power Failure Protection System (PFPS).

Nutec Bickley's PFPS prevents a lot of downtime; it protects the load from being damaged due to a failure in the power supply by keeping the burners alight for up to one minute in the case of a power outage and thereby maintaining kiln safety.

This system eliminates the need to manually relight the kiln once the power supply is restored or the emergency generator has started.

## 🔥 FEATURES

- 🔥 Nutec Bickley's kilns are lined with its patented Jointless® Fiber System.

The Jointless lining can be made with different densities and thicknesses to cope with higher temperatures and pressures than traditional linings.

Nutec Bickley also produces insulation brick linings for some higher temperature applications within the porcelain insulator sector.

- 🔥 Energy recovery systems to ensure the lowest fuel consumption.

The energy that is introduced into the kiln via the burners is typically used to heat the product, kiln walls, kiln furniture and cars. The remaining energy is usually lost in what we term 'loss to atmosphere'.

Nutec Bickley heat recuperation systems capture the waste energy carried up the chimney and use it to preheat combustion air. This reduces gas consumption in a typical industrial heating process by 30%.

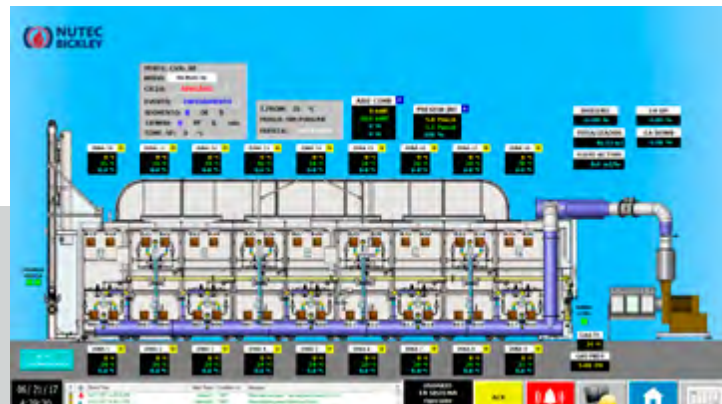


# FEATURES

## SCADA systems for ease of operation and product quality management.

With our SCADA systems, kiln operators are able to have complete but simple control of their firing process, thereby enhancing efficiency and productivity. Different access levels are password protected.

Our latest Industry 4.0 developments integrate the latest technology to monitor the process, and also to keep the kiln operating at peak performance with smart maintenance technology.



## Integrated Car Handling Systems.

We provide heavy duty automated systems for kiln car loading and ware transfer, to make product loading and unloading easier.

Equipment includes manipulators, transfer cars, turntables, elevators, pushers, plus combined equipment such as elevator/turntables, transfer cars with integrated roller conveyors and transfer cars with pusher systems, among others.



# GET IN TOUCH!

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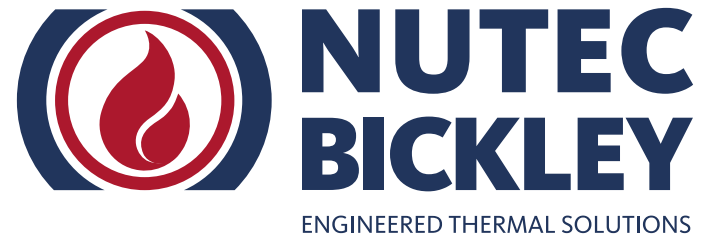
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