

Focus on Energy Recovery Technologies

Interview with Rodrigo González, Vice President Ceramics, Nutec Bickley, Santa Catarina (Mexico)

Interceram:

Nutec is a worldwide operating manufacturer of kilns, furnaces and high-temperature insulation for the ceramics and metal industry. Can you give our readers – from your point of view – a brief overview about the technological development of industrial heating processes and equipment in the last twenty years?

Rodrigo González:

The available technology we have today for industrial heating processes has had a great advance in the last twenty years. The hardware we use in our kilns today has most certainly developed over the past years and we now have technology available to re-use energy which in the past was wasted.

However, to the same extent, it is software the one that have developed to a level where it is now possible to have a smart control system, to make the best use of energy on a firing cycle.

Today with hardware and software linked together, we can use pre-heated air to higher temperatures, have a very tight control of the kiln atmosphere at different segments of the firing curve, it is possible to know on-line what is happening in the process, therefore the end user is capable of having a direct control on the operating cost of the kiln which ultimately affects the overall cost of their product.

Which are currently the main purchasing criteria of the customers in the high-temperature industries?

Lately we've seen that one of the most important decision related criteria is equipment overall operating cost. There is always a constant debate on what is more important – capital cost or operating costs. But the latest trends show us that a key decision factor is directly related to the performance of our kilns. This is why we concentrate our efforts on making our kilns more efficient every day.

How do you see the role of your customers? For instance, are your customers involved in shaping the technology and products Nutec provides?

Our customers are definitely involved in shaping our technology and products. In January 2012, we decided to re-organize the company having our customers and their needs in mind.

Starting this year, our company was organized in four different strategic business units: Ceramics, Metals, Combustion & Controls and Fabrication Services.

With this new structure, our people can focus solely on the customers which are related to the business unit in which they work.

With this in mind, the engineers in the Ceramics Business Unit are only thinking how to improve the processes of our customers manufacturing ceramics.

So to answer your question, every innovation we come up with, has in mind our customer and a very deep knowledge on what is best for them.

Which are the traditional technological areas of Nutec and where do you see promising growth rates potentials?

Talking about the Ceramics Business Unit, we attend the refractories, technical ceramics, sanitary ware, abrasives, electro-porcelain and heavy clay markets.

For the markets where our high temperature kilns are used we see more potential. The refractories and technical ceramics markets are very good for us, plus there are very few companies who can design a high temperature kiln with low energy usage and a long service life.

On the other side, we are also growing a lot in the sanitary ware market, where we have the kilns with the lowest energy consumption in the world always maintaining a very tight temperature uniformity.

In terms of regional growth – in which countries and regions have you focused your business activities and investments in the recent years?

In the last 4 years we invested in Asia, India and Europe with great results. In the past two years we've done a lot of projects in Europe, South East Asia and India.

America has always been a good market for us, but with the latest investments we have done by forming Nutec Bickley Asia, Nutec Bickley Wesman (India) and our sales and services office in Europe, Nutec Bickley EMEA, we have been able to reach and help more customers.

Can you tell our readers something about the most important technological innovations you are currently working on?

As I said before, overall operating cost of our equipment is the current most important topic for our customers. In the past years we have greatly developed our energy recovery technologies, where in our kilns, we now can use pre-heated combustion air at 500 °C. We have also worked with our customers to recover the energy and use it not only on the kilns, but also in other energy consumers in their factories.

The use of high temperature ceramic fiber linings on kilns up to 1,600 °C is something our customers are looking for more closely. Reducing the mass of the deck on our kiln cars is giving our customer's the possibility to decrease their energy usage drastically.

Earlier this year we started working at our R&D lab, where with our lab kilns, we give our customers the opportunity to replicate real life firing cycles without exposing themselves to damage a whole batch of product.

Apart from this, we also have very powerful simulation tools which can give us a very close to reality idea on how a particular kiln will work in a certain application.

CERAMICS FORUM
May we ask you to explain your strategic global manufacturing policy and your visions?

Our manufacturing process is something we're looking into improving every day and on every different project we do. Once we get an order, we assign a project manager to it and he is directly responsible to coordinate engineering, purchasing, manufacturing, assembly, testing and the relationship with the customer. We surely take care of informing our customers about the progress of their order on every stage of the project.

During every stage of the manufacturing process from steel fabrication to piping, insulation, electrical installation and assembly we have a very detailed process to check the kiln for quality and aesthetics. The project can't advance further, until the scores on the quality and aesthetics assessments are all within the required levels.

One of the most important parts of our manufacturing strategy is that no matter the size of the kiln, we always pre-assemble and test every piece of equipment very thoroughly.

We have very sophisticated equipment to simulate all of the process variables of a firing cycle, so our testing process covers from individual components, control loops, software and complete process simulation.

With this, we have been able to reduce the amount of time we spend at our customer's facility installing and commissioning our kilns, as a result we have customers with more enjoyable project experiences.



Nutec Bickley has manufacturing capabilities in Mexico, Brazil, Spain, China, India and employs about 490 people. The company is one of the leaders in a very wide range of ceramic fiber and ceramic fiber products. Sales and service offices are located in USA, United Kingdom and Australia.

Product range:

- high temperature kiln for refractories and technical ceramics,
- shuttle and tunnel kilns for sanitary ware, clay pipe, electro porcelain insulators,
- forging, stress relief, heat treat of special alloys and aluminium.

For more information:

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