

Francophile baking behavior

REPLACING AN OVEN IN A BAKERY WITHOUT THE CUSTOMERS NOTICING A CHANGE IN PRODUCT QUALITY IS TRICKY. HOWEVER, AT THE LANDBÄCKEREI IHLE GMBH IN AUGSBURG, GERMANY, SUCH AN EXCHANGE HAS BEEN SUCCESSFUL



++ figure 1



++ figure 2



++ figure 3

+ The Ihle Group from Augsburg, Germany, is one of the fastest growing bakeries in Germany that has been able to maintain the balance between their own network of sales outlets and the delivery business. The fast moving items include the traditional Kaiser roll and another specialty where the roll is formed like a button (see figure 5). These products are not only delivered to the retail trade but also sold in the group's own sales outlets. 20,000 pieces per hour was the requirement for the new oven when the exchange of the old tunnel oven was planned last year; the old oven had been in operation for rolls production for about two decades. Plant Manager Josef Baumüller explains, "The oven was capable of processing a very specific wheat quality that makes products with a juicy crumb and a tender-flaky crust. This is how the rolls, from France, are known. The baking chamber had a low height, the entrance section of the oven was cold and the oven was able to keep a lot of vapor inside for a long time. Added to that, the tight net belt did not leave the typical imprint at the bottom of the rolls characteristic of industrial production."

However, the oven had only one serious fault – it was no longer being built. Therefore, Baumüller and his staff looked for alternative ovens, visited oven suppliers and bakeries, compared, tested, balanced reasons and finally found what

they were looking for in Barembach near Strasbourg. Here, Mecatherm was producing the FTM oven, a multi-deck tunnel oven with a special type of hot air channeling which stabilizes the bottom and the sides of the baked goods while radiation from the top simulates the baking in a stone oven.

Tests with this oven and their own raw materials yielded positive results. Baumüller was especially pleased with the BBB principle. BBB stands for "bottom baking booster". This outstanding feature is the routing of the hot air flow which is fed through a duct underneath the belt and which can then flush air through the very finely-meshed, braided belt around the bottom and lower sides of the products. In this way even par-baked rolls are stabilized and do not develop any creases. The height to which the heat is circulated can be precisely controlled. Radiant heat from the top is simultaneously applied to the baked goods. The defined combination of both heating processes provides for the possibility of pre-setting the thickness of the crust. The unique belt which is driven over the entire belt width of 2.4 m is guided and automatically tensed. It has no chains inside the oven thus preventing hygiene risks. Frequency converters make sure that the belt starts and stops as gently as is possible. The length of the steps can be adjusted according to requirements. The

++ figures 1-3

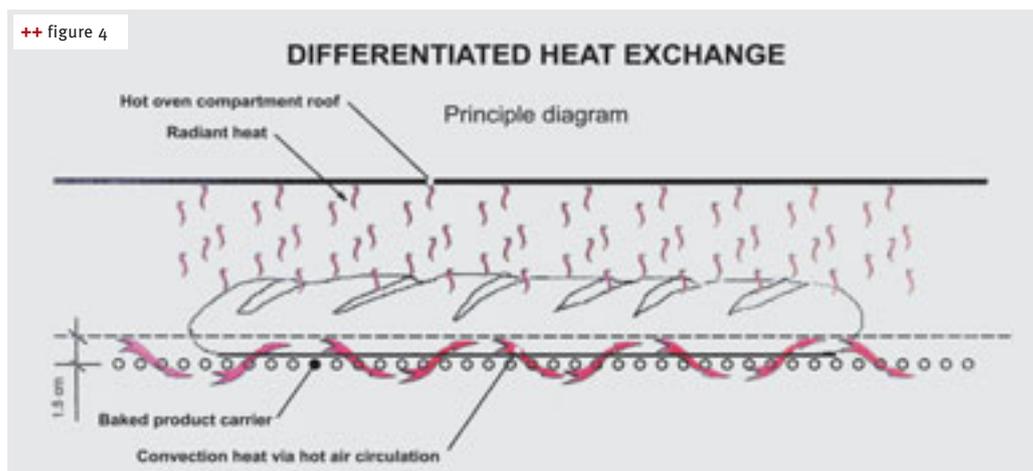
The three deck FTM oven, 2.4 m wide, with a baking area of 100 m². The loading belt is of special construction with a tilt mechanism

++ figure 4

Heating principle of the FTM

++ figure 5

The 'Knopfbrötchen' is a specialty where the roll is formed like a button



oven at the Ihle bakery is divided into five sections with a baking area of 20 m² each. The first two zones are equipped with steam pipes.

The FTM oven, with a baking area of 100 m², has been operating at Ihle in Friedberg since October 2009, where it is used for the production of the entire assortment of different rolls. Baumüller reports, "The assembly work was excellent and completed within the scheduled two weeks. Three days were then needed for the final adjustment. Since then we have had marketable products. Not one single customer has complained about the rolls! We need the additional steam because we sell our Kaiser rolls in batches of 10 in a bag in the supermarket. This means they have to have a crunchy crust and a juicy crumb. This is why we keep the steam flaps closed all the time. We have also achieved excellent results with our rustic Mediterranean style products that are subjected to a long floor time during which they develop their flavor. Currently we are running tests on traditional, manually formed wheat bread." Baumüller also bakes other roll products in the FTM that have typically been made in rack ovens without any objections from the customers. Color, volume and bloom are perfect and 17,600 rolls per hour – a capacity that up until then had to be handled manually on tray and rack ovens – are now running fully automatically from the roll making plant into the oven.

The oven is loaded via a tilting double belt. The upper belt picks up 396 rolls at the outlet of the roll plant, tilts then like a seesaw and transports the dough pieces into the oven on the other side. During the tilting, the lower belt is brought into position so that it can now accept the dough pieces from the roll plant.

Currently, Baumüller only bakes fresh products in the FTM although shortly, a second shift shall produce par-baked goods in this oven. The respective tests have already been concluded successfully. In compliance with the hygiene concept of the bakery, the burners are mounted above the gas heated oven for easier cleaning of the floor underneath. +++

++ figure 5



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