

Badische Backstub', Ettlingen

Home-style baking on a grand scale. At first glance, this seems an impossible task. But it's simply business as usual for Wilfried Weber. At the Badische Backstub', a hands-on approach is an important quality criterion. "We use technology where it's appropriate and where it's not going to adversely affect the end product," says Weber. The best example of this is their oven technology. All their baking ovens – and all their refrigeration units – come from the Arnstein-based baking experts, MIWE.

With regard to technology, Wilfried Weber had some clear objectives in mind. In 2004, the bakery purchased a new facility with a production area of 3,400 square metres. Prior to this, the Badische Backstub' was operating out of eight small locations, due to a combination of acquisitions and bottlenecks in capacity. The new facility takes advantage of many synergy effects. "But we've stayed true to our principles and continue to produce hand-made baked goods," says Wilfried Weber, surveying the production hall.

At the Badische Backstub', there are no production lines for bread, rolls, pastries – or similar mechanical processes – to be seen. Instead of a bread roll production system, there are several dough forming machines on the workbenches. Here, the dough pieces are formed into bread rolls by hand. "A large traditional style business doesn't have to offer the same product range as the industrial bakers – in fact, it's quite the opposite. We distinguish ourselves through our hand-made products," explains Weber.

And this approach is working out a treat. The baked rolls leave the production hall with production line efficiency. They're even carried out by a conveyor belt. Because after all, Wilfried Weber isn't one to lament the loss of manual workflows. "Technology should help make our work easier." And if the quality of the products can also be increased, then everyone wins – the customers, the employees and the business as a whole.

Baking with quality

To achieve all of this, the bakery uses a variety of oven systems. "We have the ideal oven for every one of our →



Proprietor Wilfried Weber.



Factory Manager Thorsten Kassel.



View of the ovens: wagon oven (centre) and deck baking ovens (left and right).

products,” says Weber. The largest baking area is provided by the deck baking ovens. Four MIWE ideal deck baking ovens are used for baking bread, baguettes, bread rolls and even little party rolls. Weber is convinced that „the baking chambers themselves play an important role in the quality of the end result.“

Oven technology

- 4 MIWE thermo-static wagon ovens
- 4 MIWE ideal deck ovens, each with 6 oven decks (180 x 200 cm) featuring the following equipment:
 - 1 MIWE ideal deck baking oven, 3 compartments (18 m²) with steel plates
 - 2 MIWE ideal double-width deck baking ovens, for use as stone baking ovens
 - 1 MIWE ideal deck baking oven in the pastry shop

The MIWE ideal features heating gas circulation and has been on the market for many years. Each of the four ovens features its own burner. From here, the heated air is conducted through the baking chambers by means of air ducts. This powerful radiant heat ensures even baking throughout the entire oven.

Dual circuit

Each deck baking oven is subdivided into two oven groups. MIWE calls this dual circuit technology. The thick layer of insulation between the oven groups reduces indirect heat loss, which makes it possible for each oven group to bake at a different temperature. In total, as many as eight different baking programs can be run simultaneously.



View of the bakery's climate and proofing chambers.

To reduce the standing area, each system features two MIWE ideal ovens built on top of each other. This type of construction used to be unusual, but today it's a standard oven thanks to the MIWE ideal M. Up to four ideal M ovens can be easily stacked on top of each other. This setup, with a total of twelve ovens, provides an impressive baking area of 58 square metres. What's more, every oven features its own burner and circulation fan and the ovens can be accessed from behind at any time – even during baking.

This system of ovens stacked on top of each other then requires an automated loading process, particularly in order to take advantage of the benefits of rationalised production. “The loading unit is great, it makes life a lot easier for our employees working on the ovens,” Weber says in praise of the system. The strenuous task of manually loading and unloading hot ovens is a thing of the past.

Champion loading system

At the Badische Backstub', the most strenuous work is completed by a real athlete. MIWE even calls its loading system ‚athlete‘. Various configuration levels allow the system to be adjusted to suit the oven's automation requirements. “This allows us to automate our production without compromising the hand-made quality of our products,” says factory manager Thorsten Kassel about the loading system. “The system ensures consistently high quality and makes work easier for our employees.”

The view from the factory manager's office illustrates how the oven system operates with production line efficiency. The

baked products – from small party bread rolls through to large loaves – are carried towards the picking area on conveyer belts. There, they are sorted into baskets, some by hand and some automatically, for transport to the branch outlets.

This kind of seamless automated transport is made possible by the loading system. Once the baking is completed, the loader automatically removes the goods from the ovens. The MIWE athlet can move both horizontally and vertically in front of the rows of ovens and is entirely automatic. For safety reasons, the entire area in front of the ovens is protected by a metal fence.

Straightforward transfer

While one lot of bread is baking, two employees are busy filling the loading system with the next batch of proofed bread. They tip the loaves out of the baskets and onto a transfer table. “The benefit here is that in the meantime, the loader can continue working,” explains Thorsten Kassel. This means the transfer can be completed from oven to oven without long waiting periods.

The transfer table is used primarily for processing loaves of bread. Baguettes, their renowned bread rolls and other small wheat products pass directly from their proofing trolley onto the loading system. The transfer station developed by MIWE to handle this process is called the butler.

And not without reason – it completely takes over the operator’s work. “All we have to do is slide in the proofing trolleys. Everything else is taken care of automatically,” says one of the oven operators, demonstrating the technology. According to Wilfried Weber, the straightforward dough transfer is a real benefit of the automated loading and significantly reduces his employees’ workload. One after the other, the baking trays are automatically pulled onto the transfer table. If the table is full, the goods are transferred to the loader and slid in.

The operator selects the oven in advance and the system indicates whether the oven is free and has reached the correct temperature. Everything is displayed and controlled via a large touch screen. The two oven employees in charge of the control system describe it as “very intuitive”, adding that they were able to come to grips with it straight away.

Thanks to this technology, they don’t have to worry about unloading the goods at all. The baked items literally unload

themselves. The MIWE butler is positioned under the table and is equipped with a distribution mechanism, which it uses to transfer the baked goods from the loader to the table and onto the outfeed conveyer.

The MIWE athlet had already demonstrated its strengths. “The biggest challenge facing a loader is the unloading,” Thorsten Kassel says from experience. The goods have to be gathered up from the baking plate with the loader. Luckily, MIWE has just the right technology for the job.

Even more baking area

In addition to the deck baking ovens with automatic loading, the Badische Backstub’ uses four other deck baking ovens from MIWE. One of the ovens is fitted with steel plates and is used specifically to bake pretzels, tin loaves and cakes.

Two other MIWE ideal models are used as stone baking ovens. They feature a baking chamber made from stone plates which retain heat and slowly release it for gentle baking. “We refer to this oven in our advertising,” says Thorsten Kassel. Why? Because in accordance with baking principles, the items produced by this oven can officially be referred to as stone oven bread. Just like “Räuber” bread, it features a very thick and aromatic crust.

Wagon oven

However, the deck baking oven does have some limitations. Danish-style pastry and puff pastry, braided buns and raisin bread, various types of cake (sponge cake) and patisserie →



Working with the MIWE thermo-static.

baked goods need more gentle radiant heat and charging a deck baking oven is very labour intensive. The solution is to use a wagon oven.

Enter the MIWE thermo-static: it features both a rolling loading system and gentle radiant heat. Four of these ovens are in use at the bakery. Each oven features two trolleys with ten decks. In appearance, they are very similar to rack ovens, but from a technological point of view, they are actually very different. “A totally conscious decision,” declares Wilfried Weber.

The MIWE thermo-static ovens provide radiant heat – whereas rack ovens rely on the principle of convection (hot air). The result is a kind of baking that’s totally different to that of the other two oven systems. The heat transfer takes place using thermal oil.

This heat-transfer medium is heated in a central heating boiler – similar to that of a central heating system. The advantage here is that the heating can take place in a separate location to the oven. Plus one central heating boiler

can be used to heat several wagon ovens, and logically, the system only requires one chimney. Inside the oven, the pipes containing the thermo oil run between the baking trays to ensure even top and bottom heat.

There are two levels of air circulation (turbulence) that can be switched on as required. The air is circulated from the front to the back of the oven. Level one is perfect for gentle browning, whereas level two provides more powerful circulation and is great for forced de-steaming and baking tin bread.

The Badische Backstub’ uses a variety of different baking techniques for its various products. So it’s only right that the branch outlets also use baking plates. They don’t use typical in-store baking ovens, but rather the MIWE condo, a deck baking oven with electric heating that features top and bottom heat regulation and a powerful steam function. This oven is used to bake pretzels and pretzel sticks, Schlemmerzopf and Knusperl rolls, puff pastry products, butter cake and semi-baked baguettes. It’s yet another example of how the Badische Backstub’ is big on home-style baking.

A brief overview of Badische Backstub’ F. & E. Weber GmbH

Proprietor: Wilfried Weber
Rudolf-Plank-Straße 29
76275 Ettlingen

Branch outlets: 26, in the greater Karlsruhe area – Ettlingen

Employees

Production: 91, of which 10 are apprentices

Sales: 215, of which 22 are trainees

Distribution/logistics: 8

Management: 12, including 1 trainee

Price examples:

Hard rolls 0.55 EUR

Mixed grain rye bread, 1,000 g 3.80 EUR

Special bread, 750 g 2.85 EUR

Danish-style pastry 1.10 – 1.30 EUR

Apple strudel pastry 1.40 EUR

Jam doughnut 0.95 EUR