

Teamwork

THE COMBINATION OF TECHNOLOGY AND ENGINEERING AT KEMPER RESULTS IN A DONUT OR BAGEL PLANT THAT IS CLOSE TO PERFECT



++ figure 1
A classical dough divider is responsible for dough portioning



++ figure 2
The rounded dough piece is allowed to relax twice, and then twice it is pressed down

++ figure 3
A rounded spike is pre-forming the hole

++ figure 4
A cutter removed the residual dough

+ Ulrich is the first name shared by both men but at first sight this seems to be the only thing they have in common. Ulrich Gerhard, a compact man with the pure dialect spoken in the German Odenwald, is an independent technology consultant: a bakery practitioner who comes into play when industrial companies need to optimize their recipes or processes. Ulrich Peitzmeier on the other hand is a tall blond man from Westfalia. He is mechanical engineer, who has worked in the bakery equipment industry for six years and is now managing director of Kemper GmbH, Rietberg, Germany. Together both men with the same first name have developed something that might turn out to be a success.

The plant they designed and realized together – the first one is already operating in France – is used for the production of yeast-raised donuts or bagels. At first sight it looks like a plant for making rolls, and it could be used for

this purpose as well, because it is equipped with everything required for the production of rolls. However, its uniqueness is based on the tools and stations used to produce donuts and bagels without seam from rounded dough pieces. By the way, mechanical engineers like Ulrich Peitzmeier call these “seamless ring-shaped baked goods”. According to the view by bakery technologist Ulrich Gerhard, the equipment solutions display astonishing advantages: “First of all, the dough is rounded thus the gluten strands in the dough align themselves accordingly. The dough develops a uniform tension and the specific surface of a rounded dough. The finished baked goods remains uniformly round, do not misshape into an oval and there is no separation of crumb and crust. Secondly, because the proportion of rework dough is between 4 and 10%, no increased salt addition for gluten strengthening is required. The amount of



Technological strategist

“Baking is like playing chess”, says Ulrich Gerhard and he likes both. This unusual comparison is a practical insight because Gerhardt spends half of his time bringing companies in a “checkmate” situation back onto the road to success. According to Gerhardt, “the problem is not the simple mistake made but the chain reaction it triggers because the mistake becomes a habit.” Ulrich is one of the most respected consultants in the baking industry. Companies in Western and Eastern Europe as well as in the Far East appreciate his special knowledge when it comes to optimizing process engineering tasks. He always starts his work with a chemical/physical and technological analysis and then considers real and possible relationships.

“Mistakes can only be found if one frees himself of traditional thinking and if one is also willing to accept a change of plan even if it risks embarrassment. One must be willing to see the signs and to learn,” says Gerhardt. The willingness to think about a question from a completely different point of view is the basis of the second pillar of Gerhardt’s work: new product development. His customers read like the “Who’s Who” of the international bakery industry. He has developed bagel chip plants in Greece and Austria, lines for donuts in Poland and



France, production plants for toast bread and fine bakery wares in Germany and Switzerland, and of course, again and again lines for the production of frozen baked goods.

The unusual combination of comprehensive technological experience, precise knowledge of raw materials and ingredients, including their action and interaction, and Gerhardt’s distinct sense for technical implementations make the 39 year old self-made man very unique. Over and over again manufacturers of bakery machinery have benefited from him and his expertise. Many processes and technical aspects that have been patented were developed at his desk. Another result of this combination is the distribution of a very specific sunflower fat which was developed initially as frying fat but is now used by many companies in the dough make-up. However this is a completely different story!



++ Ulrich Gerhardt



++ Ulrich Peitzmeier

enzymes can be kept at a normal level similar to the one used for German donuts (Berliner). Furthermore, the production of very small yeast-raised donuts is possible without the need to discard the dough or use it otherwise and there is no need for respective labelling. Thirdly, the final proofing time is short. If we

extend this time at relatively low temperatures to about 30 minutes, flavor development and fresh keeping properties improve. We can increase the water content and reduce the amount of yeast and egg added.” The plant installed in France starts with a common six-row SoftStar dough divider with an hourly ▶

++ figure 5
Because the dough piece is rounded at the beginning of the process and then no longer put under stress, it keeps the tension and shape resulting in a uniform and tender pore pattern and no separation of crust and crumb



++ figure 5

Key features of the new donut plant

- + the baked item has no seam
- + proportion of rework between 4 and 10%
- + mini yeast-raised donuts possible
- + no L-cysteine required in the dough
- + higher water absorption and less egg content in donuts compared to laminated doughs
- + precise weight
- + stable shape
- + can also be used for the production of bagels, “Berliner” (German donuts), or rolls

capacity of 9,000 pieces or even more if needed. After dough portioning and rounding, the dough can relax for 10 minutes in the suspension gear. After discharge from the suspension gear, the dough piece is aligned again and subjected to a soft top pressure applied by a belt running above the dough. After that the dough piece is allowed to relax a second time before it is aligned again and then pressed flat to the final diameter with a traveling top belt. Now perfectly in shape and with a dough thickness of about 12 mm, the donut hole has to be created. This is done in two steps.

A rounded spike is lowered into the center of the dough piece and displaces the dough except for a small portion which perfects the surface shape. The spike is followed by a cutting tool which separates the dough "membrane" with a short turn from the "seamless ring-shaped baked good". This dough is sucked off and used as rework dough. Then the donut or bagel is transported to the final proofing where time can be kept to a minimum due to the two relax steps earlier. However, the length of this final dough makeup step is last but not least a matter of taste and/or an economical decision. +++

Calendar of events



The calendar of events lists the dates of food industry conventions, meetings, conferences, short courses and workshops. To have your event listed in *baking+biscuit international*, send all information to **baking+biscuit international, food multimedia gmbh, Behnstrasse 61, 22767 Hamburg, Germany, email: keil@foodmultimedia.de** at least three months prior to the desired publication date. You must include the exact date of the event, the name of the event, where it is to be held, web address for further information and name of the organization.

++ OCTOBER 3-6

Modern Bakery, Moscow, Russia,
www.owp-tradefairs.com

++ OCTOBER 3-10

Agroprodmasch Moscow, Russia,
www.expoentr.ru

++ OCTOBER 4-7

Enzyme usage for bakers, American Institute of Baking, Manhattan, KS, www.aibonline.org

++ OCTOBER 5-7

Health Ingredients Japan 2005 Tokyo, Japan,
www.hijapan.info

++ OCTOBER 6-7

Functional Food Ingredients – Tools for improving health, CCFRA, Campden, UK,
www.campden.co.uk

++ OCTOBER 8-12

Anuga 2005, KölnMesse Fairgrounds, Cologne, Germany, www.koelnmesse.de

++ OCTOBER 9-11

All Asia Food Expo Los Angeles, CA,
www.allasiafoodexpo.com

++ OCTOBER 10-14

Practical pizza production technology, American Institute of Baking, Manhattan, KS,
www.aibonline.org

++ OCTOBER 10-14

Classic American Pastry, San Francisco Baking Institute, South San Francisco, CA, www.sfbf.com

++ OCTOBER 11-13

Powtech 2005, Nuremberg, Germany,
www.powtech.de

++ OCTOBER 17-21

Breakfast pastries, San Francisco Baking Institute, South San Francisco, CA,
www.sfbf.com

++ OCTOBER 18

Traceability and identity preservation of food raw materials. CCFRA, Campden, UK,
www.campden.co.uk

++ OCTOBER 18-20

Retort Pouch 2005 courses, East Brunswick, NJ,
www.packaginggroup.com

++ OCTOBER 20

BakeWATCH™ Group Process Controls and Enzyme Technology Seminar, Dallas, TX,
www.bakingconferences.com

++ OCTOBER 22-25

Food and Nutrition Conference and Expo, American Dietetic Association, St. Louis, MO,
www.eatright.org

++ OCTOBER 28-29

Baking industry, American Institute of Baking, Atlanta, GA, www.aibonline.org

++ OCTOBER 28-NOVEMBER 1

German Bread, San Francisco Baking Institute, South San Francisco, CA, www.sfbf.com

++ NOVEMBER 1-2

Meeting Food Security Challenges, American Institute of Baking, Chicago, IL,
www.aibonline.org

++ NOVEMBER 2-4

Chemical Leavening Course, AACC International, Phoenix, AZ,
www.aaccnet.org

++ NOVEMBER 3-4

Labeling Foods Marketed in the United States, San Diego, CA, www.ift.org

++ NOVEMBER 7-11

Advanced Cakes and Pastries, San Francisco Baking Institute, South San Francisco, CA,
www.sfbf.com

++ NOVEMBER 9-11

Confectionery Technology and Processes, Ithaca, NY, www.ift.org

++ NOVEMBER 10-13

Annual Meeting, Tortilla Industry Association, Gaylord Texan Resort & Convention Center, Grapevine, TX, www.tortilla-info.com

++ NOVEMBER 11-13

West Coast Membership Meeting, in conjunction with TIA Trade Expo, Independent Bakers Association, Gaylord Texan Resort, Grapevine, TX, www.independentbakers.com

++ NOVEMBER 15-17

Batter and Breeding Technology, American Institute of Baking, Sandusky, OH,
www.aibonline.org

++ NOVEMBER 29-DECEMBER 1

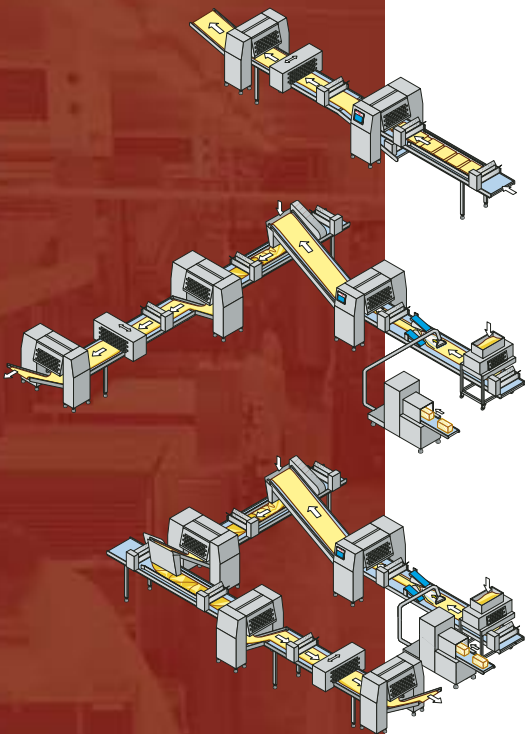
Food Ingredients Europe 2005. Paris, France,
www.fi-events.com

The step to automation



atelierhaegeli.ch

RONDO MLC



The Rondo Modular Laminating Concept (MLC) has been designed to close the gap between artisanal and highly automated pastry production. Being truly modular the Rondo MLC can be easily expanded to match the demand of a progressive business. Therefore Rondo MLC keeps all options open for further growth.

The rondo MLC incorporates automated solutions for laminated dough blocks as well as continuous dough bands. Both provide:

- increased productivity
- lower production costs
- improved quality

Rondo MLC can be integrated into existing 600 mm wide lines. The six different configurations offer possibilities to manufacture laminated products at both economical and professional levels.

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