

# Taking shape

Evert van de Weg discusses the latest developments in shaping with the team at Klinghammer, a canning company from Braunschweig, Germany



Shaped olive oil cans made on Klinghammer and Bertil Ohlsson machines

For centuries irregular shaped cans were made by bending tinsplate sheets and finishing the cans with primitive tools - often these cans were painted by hand. At the end of the 19th century, offset printing machines were able to print metal sheets, and decorations could be designed in such a way that they would match the various can shapes and strengthen the visual impact of the package. Embossing certain parts of the can with some special design adds another important and visually striking effect, in particular when there is a perfect match of the embossed part with the print design.

In the last 50 years, more than ever, the awareness of how distinctive packages can benefit their sales figures has led to countless, almost iconic, striking can shapes. We all know the samples from companies like Nestlé, Teisseire, Heinz, Reckitt, Hormel, Max Factor, Livio, Heineken, Jumex and numerous other brand owners.

In order to make tinsplate more suitable for shaping, the tinsplate producers are working hard to make tinsplate more flexible. This is very useful for the position of steel packaging versus other types of packaging including plastic packaging. By nature, plastic packaging allows more design freedom to make quite striking and even extravagant shapes. Thyssen-Krupp Rasselstein is taking the lead in extending tinsplate shaping potential with its High-Formable HF steel. Of course, the other important players in realising new shapes

are the suppliers of can making machines. Several producers of machinery for the can making industry do their utmost to extend the possibilities of their machinery to make nice shapes with increasing efficiency.

## KLINGHAMMER – A FAMILY COMPANY

In 1894 Julius Klinghammer founded the company Klinghammer Maschinenfabrik in Braunschweig to make machinery for the upcoming canning and can making industry. Braunschweig was at that time a nucleus of can making companies, mainly because a lot of canning took place in that region as the fruit and vegetable industry was quite strong there. At the same time, there were dozens of canning factories in the region of Braunschweig. No wonder then that Braunschweig was often called the birthplace of the tin can in Germany.

“You are talking to three people who have 75 years of can making experience alone,” said Christof Bürig, managing director of Klinghammer. “Coming from the founding family, I started as a trainee in 1980 at the huge can maker Schmalbach in Braunschweig. In 1989 I then became managing director. In the following years we changed our focus as a company. We now aim to exclusively make machines used in the back end of can making lines for which a high level of knowledge is required.

“We are active in the market for the so-called ▷

'General Line', mostly more complicated cans, so not just the ordinary three-piece food cans. To be able to offer a complete portfolio we acquired the Swedish company Bertil Ohlsson and the Danish company Larsen, both specialists in their field."

Similarly, other managers at Klinghammer have had long careers behind them in the can making industry. "We have a very experienced crew," said Ralf Beddies, manager of the engineering department. "Some of them have more than 40 years of working experience in our company. At the same time, our own engineering department working on new products and fully automatic machines is another strength. In this way we are able to meet individual customer requirements."

Sales manager Hans-Henning Kösel explains how the Klinghammer team operates: "We have four main product lines today. In the first place we have the Klinghammer machines for flanging, seaming and beading, then the Bertil Ohlsson machines for shaping and expanding operations and the Larsen machines for ear welding, lacquering and bailing and for attaching handles to pail or canister lids. The fourth main product line is transport technology for aluminium easy open ends for beverage cans."

Klinghammer has become a very internationally oriented company according to Bürig. "Exports to other European countries, and also to countries outside Europe, account for a considerable share of the turnover. Just to illustrate how international we have become, I can tell you that at the moment we are creating a finishing line for the production of canisters, destined for Iran. In recent months we have also supplied machines for the production of pails to customers in Germany and in South Korea, a machine for the production of a coffee can with a twist-off lid and also a shaped vegetable can for Austria, and a line for the production of milk powder cans to a customer in Bangladesh."

### MECHANICAL SHAPING FOR MANY SHAPES

Together with its customers, Klinghammer has already mastered many challenges to produce attractive and sometimes extraordinary shapes. "Not long ago we supplied a Bertil Ohlsson shaping machine to the Austrian can maker Pirlo," commented Christof Bürig. "They produce a special coffee can with a screw thread on top which accommodates a twist-off cap designed by Pirlo in order to guarantee reclosability.

"Another example is the Consafe can, developed by the Danish company Baltic Packaging and produced on Klinghammer, Bertil Ohlsson and Larsen machines. This can is conical to



*An old and new shaped cheese can for a typical Dutch cheese*

enable stacking during empty transport and it is provided with a patented sealing design so that it becomes UN-approved transport packaging. The very special shape of the cans for the Livio edible oil brand is one more example of an eye-catching can, produced on Klinghammer and Bertil Ohlsson machines.

"For the rest, I have to stress that it is an advantage for a can maker if he uses machines for the back end of the production line which all come from the Klinghammer group as one supplier."

The Klinghammer managers are fully convinced that the shaping technology that Klinghammer applies, namely mechanical shaping by means of expanding mandrels, is the best way to go. Asked about their opinion on the pneumatic shaping technology developed by TECSOR (now Bosch Packaging) and used amongst others by Ardagh for the production of Karvan Cevitam syrup cans, their opinion is quite clear.

"We see a number of disadvantages for pneumatic shaping," notes Hans-Henning Kösel. "In the first place, the production technology is slow and therefore you need a lot of cavities to reach an acceptable speed. These cavities are big and expensive. Another disadvantage is that, to be able to put the air pressure on the can cylinders, you have to seam on a bottom which often has to be seamed again properly after the shaping operation, as the operation loosens the bottom.

"If you want to shape quite small details in the can wall, you still need higher air pressure and the air compressor, plus the unavoidable cooling units, become even bigger and more expensive."

The Klinghammer managers are convinced that the shaping potential of mechanical shaping is considerably better. "The best argument in favour of mechanical shaping is the world record we earned for the expansion rate of no less than 27 per cent used in the production of the famous 10 litre party beer keg can," said Bürig.

"In comparison with this, blowforming is limited in its shaping potential. The output of our shaping machines is also a positive. Mostly we supply a machine with two stations, which can process up to 200 cans per minute. For producers of beverage cans, we have even designed shaping machines which have six stations and an output of up to 600 shaped cans per minute." 