

### **Stack mould IML redesigned**

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**Author:** Laura Morelli  
**Email:** [lmorelli@waldorf-technik.de](mailto:lmorelli@waldorf-technik.de)  
**Phone:** +49 (7733) 94 64-38

The restrictions in the design of stack moulds for IML decoration belong to the past. Waldorf Technik has developed a new process for inserting IML labels quickly and safely in the middle plates of stack moulds. And this has seriously positive benefits for injection moulders and their customers.

**WALDORF TECHNIK GmbH & Co. KG**  
Richard-Stocker-Str. 12  
D-78234 Engen  
Tel.: +49 (0) 7733 / 94 64-0  
Fax: +49 (0) 7733 / 94 64-39  
[info@waldorf-technik.de](mailto:info@waldorf-technik.de)

The modern world of packaging is now inconceivable without in mold labelling, as the brilliant printing and cost-efficient flexibility of this decoration method is quite simply too attractive for a variety of print images. Instead of decorating the cup and lid in downstream printing processes, this method involves the insertion of printed foils into the injection molding tool to create an integrated process in just one operating step and to deliver an attractively decorated cup or lid. Unlike in alternative methods such as offset or silkscreen, post-printing and sleeving, the print image can be switched with practically no setup times, which makes it a particularly inexpensive procedure.

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For single face moulds, this procedure has for many years offered a wide range of options for inside and outside gated packaging geometries; for stack moulds, on the other hand, insertion of IML labels was restricted to the outer platen of the tool. The result was that containers, for example, always had to be injected from the inside; inside gating for containers always brings a danger of plastic threads in the material due to unavoidable wear on the tools, and often a reduction in productivity due to lower cooling of tool cores. Alternatively, complicated sprue bar systems were used by some mould makers in an attempt to distribute the hot plastic to the outer plates in order to avoid these problems. However, this technique is expensive and susceptible to wear.

With the new development by Waldorf Technik to simplify the stack IML processes, these restrictions belong now to the past. Building on IML technologies already tried and tested in the company for many years, it has now succeeded in bringing a further standard automation for IML stack moulds on stream which allows up to 8+8 labels to be inserted into the inner plates of stack moulds as efficiently, precisely and safely as for single face tools.

This development could be especially important for toolmakers as well as injection moulders and food manufacturers, as: stack moulds are normally used when large quantities are needed, in other words for products which are already well established in the consumer market. Criteria such as customer satisfaction and low manufacturing costs are particularly crucial for such successful products.

The new technique of Waldorf Technik permits both criteria to be more effectively combined than was previously the case. "The

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danger of threads forming when using efficient stack moulds is lessened by injecting containers from the outside. Manufacturers who have hitherto been producing on single face tools for reasons of quality, can in future achieve almost double the output in the same space and with the same injection moulding machine. By comparison with IML containers already made with stack moulds, the outside gating to be used in future can be expected to result in shorter cooling times for many products and therefore to higher output", explains Holger Kast, Sales Manager at Waldorf Technik.

Injection moulders who are already using a normal stack mould to produce outside gated containers and who wish to convert from offset printing or labelling to IML decoration, will experience a further side effect. With the new automated option to insert the labels in the middle plates, the existing tools can normally be used for the IML process after a simple adjustment at no great cost, whereas up until now it was usually necessary to buy a new stack mould. This makes the conversion to the IML technique even more attractive for injection moulders.

There was an opportunity to experience live the worldwide triumphal march of the IML decoration process at the recent NPE Show in Orlando. With this new development for stack moulds, Waldorf Technik is adding another page to this success story.

### **The company**

For nearly 30 years now, Waldorf Technik has been synonymous with innovation, reliability and the highest standards of precision in the automation of injection molding systems. The areas of application range from medical engineering and packaging to various barrier solutions.