SPiES
The Art of Packaging

CASE STUDY 2

Process Optimisation through Filling Simulation

TASK SETTING

Develop unique, eye-catching and functional packaging for dressings and sauces for catering businesses and restaurants.

For better handling the packaging had to be provided with a handle. This would allow safe handling and controlled dosing.

The injection moulding requirement in connection with the required IML decoration posed a special challenge. The design of the injection points and the hotrunner had to enable the uniform filling of the complex part without creating any air pockets. At the same time, the mass flow had to be steered so as to avoid back moulding of the IML labels.

REALISATION

The geometry and design of the packaging was created with the help of state-of-the-art CAD systems. Handling properties were then determined and optimised by means of tests with prototypes.

INDUSTRY

Restaurants/catering businesses

STRATEGY/REASON

Development of unique, well-designed and functional packaging for dressings

REALISATION

With the help of sophisticated CAE software (Computer Aided Engineering), various options for the number and position of the injection points were simulated. In particular, the combination with the IML decoration set high requirements on the chronological course of the melt flow. A combination of the position and design of the injection points in combination with the details on flow aids as well as suitable hotrunner balancing led to the required result.

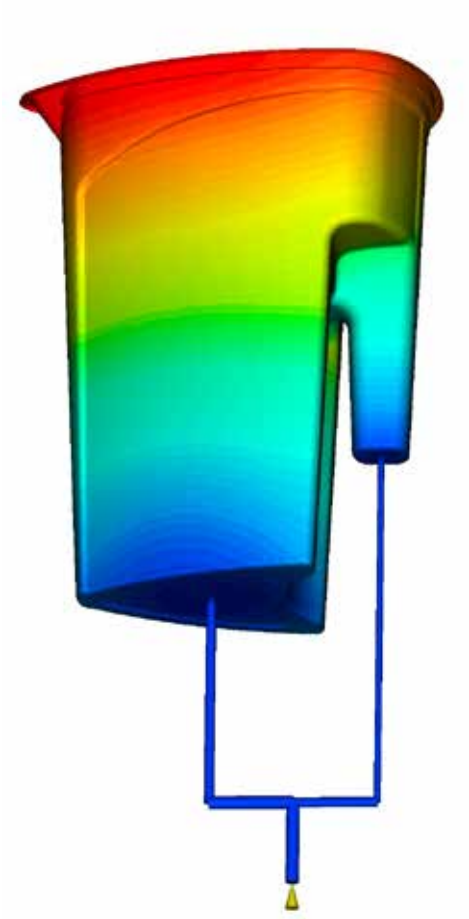
The findings of the filling simulation were then implemented in the injection moulding tools.

RESULT

The samples of the injection moulding tools matched precisely those of the simulation results. From the outset reliable and efficient series production was achieved.

CUSTOMER BENEFIT

The simulation enabled a significant reduction in development time and related efforts. Comparison of a number of options produced the optimal solution. A consistent, high-level series quality was achieved by steering the melt flow.



RESULT

- **Reliable and economical production thanks to simulation**
- **Reduced development times**
- **Consistently high-quality series production**