

CASE STUDY **7**

Increased Production Efficiency

INITIAL SITUATION

Our customer has so far used a deep-drawn polystyrene cup.

INDUSTRY

Dairy products

TASK SETTING

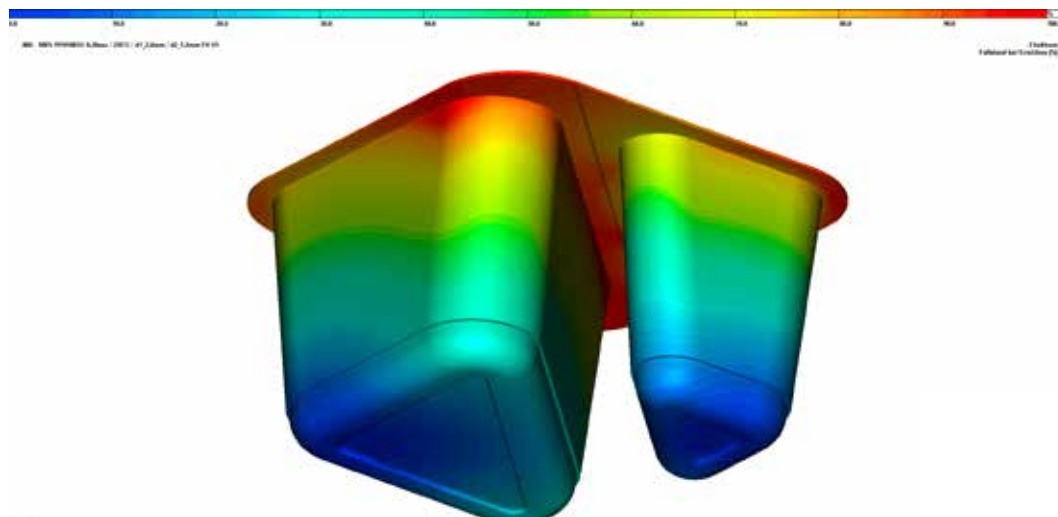
The current cup had to be replaced by an injection-moulded PP cup. The appearance and feel had to be of high quality. One requirement was that the filling plants should not be changed.

STRATEGY/REASON

Increased production efficiency, more attractive appearance/feel

REALISATION

A major challenge was posed by the requirement that both the IML side label as well as the bottom label were to be used. Since core-side injection was not possible due to lack of space, it became necessary to design both the base and the injection geometry specifically. Targeted flow enhancers were fitted with the help of a computer-aided filling simulation and the hotrunner system was balanced in such a way that uniform filling was achieved without the danger of any back-injection of the IML label. The simulation results were first confirmed by a sample tool, before they were optimised and integrated into the series tool .



RESULT

Due to the even wall thickness distribution in the injection mould, a very strong, cup with a high-end appearance was developed. Through the use of PP, it was even possible to reduce the weight of the item. The IML decoration enhances the cup's overall high-end appeal.

The high repetition precision and narrow tolerances of the injection mould has led to a significantly higher number of cycle times of the cup in the filling system.

CUSTOMER BENEFIT






The cup's high-end appearance and feel meant that it stands out significantly from its competition at the POS. The use of PP instead of PS provides a considerable cost benefit.

There was a significant increase in performance and productivity. The consistent high quality ensures high availability levels and steady production.



RESULT

Improvements in

-  **appearance/feel**
-  **efficiency**
-  **differentiation potential**
-  **quality**
-  **availability**