BestCase Weight Reduction

Weight reduction, material savings & optimisation of logistics/storage

WHY?

For over 10 years, our customer has been using a round cup with a stacking base and a dome lid for filling swirled ice cream. Due to necessary replacement investments in the injection moulding tools in conjunction with an optimisation of the article geometry and taking into account sustainability aspects such as article weight and transport and warehouse capacity utilisation, the following business case was developed.

The basic visual character was to be retained, as well as the previous filling volume, in order to be able to fill a consistent quantity of swirled ice cream. Processing on the customer's filling line was not to be negatively affected and additional investment in the filling line for new cell boards etc. was not acceptable. A new round cup with dome lid was not allowed to weigh more than 10g for the set, with at least the same filling line performance and, if possible, optimisation of transport and storage capacity utilisation.

INDUSTRY

Ice cream, optimisation universally applicable

DESIGN

Your desired article geometry can be customised

STRATEGY/ REASON

- ✓ Weight optimisation
- ✓ Material reduction
- ✓ Optimisation of logistics & storage

INNOVATIVE!

A detailed inventory was carried out using a 3D scanner to analyse the existing item geometry and check for possible optimisations. An optimised article geometry was designed using state-of-the-art CAD systems and various packing schemes were simulated. Using realistic 3D samples (STL samples), initial tests were carried out on the filling line and possible stacking was tested in practice. Based on this knowledge, further development optimisation was carried out and larger sample quantities (50,000 units) could be produced and filled in the small series test by building single-cavity sample tools. After successful approval of the samples from the small series test, the final article geometry for the serial production moulds was submitted.

RESULT

Thanks to the optimised article geometry, the cup weight was reduced by approx. 13.9% and the lid weight by approx. 6.7%. The target weight of 10g per set was undercut by 2%. The adjustment of the article geometry also means that approx. 16.7% more cups and approx. 24.1% more lids per Euro pallet can be transported and stored.

CUSTOMER BENEFITS

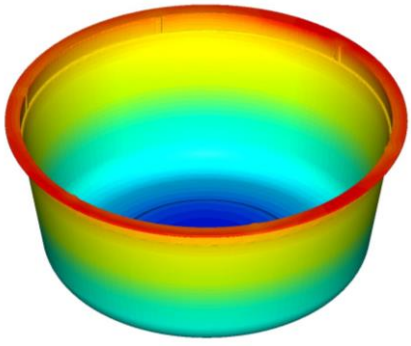
The new packaging drastically reduces transport and storage costs and at the same time leads to higher productivity. The number of lorries is reduced by 13 per year and, assuming a transport distance of 400 km (one way), by 5200 km per year.

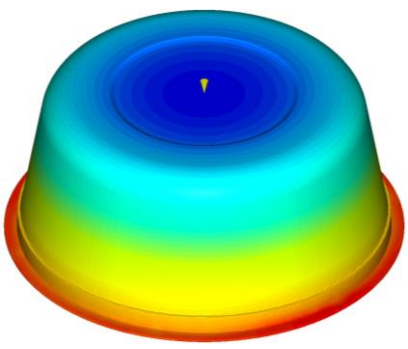
Due to the reduction in article weight, 38,000kg (38 tonnes) of plastic are saved per year. Both the saved transport kilometres of the articles to the customer and the elimination of 38 tonnes (t) of plastic lead to a reduction in the amount of CO^2 released.

REUSABLE WITH METHOD

In addition to the proven and superior quality of our injection-moulded packaging, you benefit from further advantages:

- Item weight reduction & material savings
- Environmentally friendly and sustainable
- Transport and storage efficiency
- CO^2 reduction
- Recyclable thanks to monomaterial





Contact

Are you interested in our sustainable packaging solution? Contact us by mail at **sales@spies-packaging.com** or directly by phone: **+49 5422 9411-0**