

New generation Bread crate

BPO has developed for LINPAC Materials Handling at Bad Salzufflen (Germany) a bread crate, in which all aspects of product development are integrated:

Design

The new bread crate must have a contemporary look. With the vision of the client as a starting point, BPO has visualized the ideas with sketches and CAD models. In addition, the new crate had to be compatible with existing crates of the competitors. The inter stacking and dimensions had to be guarded closely.

Injection moulding

It was always known that injection moulding would be used to make the crate. Therefore during the design stage, the crate is constructed to assure a short cycle time. The characteristics of injection moulding, such as warpage and non-uniform shrinkage have been addressed using subtle changes in wall thickness and curved surfaces. During the design, mould construction was always on the constructor's minds.

Strength and stiffness versus material usage

Due its usage the bread crate must comply with rigorous strength and stiffness demands regarding deformation and stack loading. The starting point of the project was a minimum of material usage and production costs. Via the use of columns in the corner, the bread crate performs as well as heavier crates made by competitors. The use of columns is unique in this section of the market, but is widely used in beer crates.

Result

The Panetto bread crate is a distinctive product in its market. The inner volume has been increased with 5% compared to its predecessor and uses 20% less material. On top of that, the crate has been given ergonomic and comfortable grips. The bottom construction provides the necessary stability, without sacrificing aesthetics. All four sides have been provided with printable areas on which it is also possible to use in mould labelling (IML).

The Panetto is an example of a product on which BPO was asked to use all its available knowledge. Shape and function were developed in CAD, using FEM analyses on strength stiffness and mould flow simultaneously.

For more information:

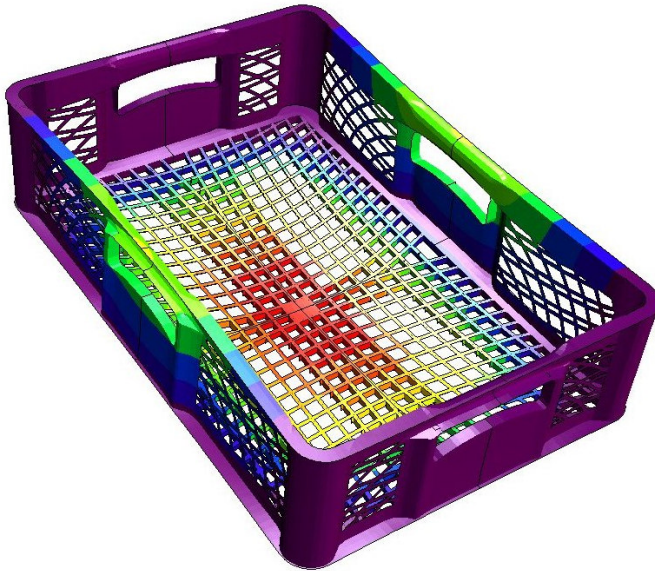
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