



## PHILIPS Lighting Lamp Trays

*Philips Lighting, located in the town of Turnhout in the Netherlands, is one of the most important global actors in the field of lighting. For many years the steady stream of innovations has contributed towards Philips' position as a leader in this market. To maintain this position we were asked in mid 2006 to develop a new line of transporters for our customers, to be used as a link their production chain.*

### Situation

The trays Philips was using when this request was made, no longer met the current and modern-day production requirements. The design was not sufficiently robust for the increasingly stricter production standards, which regularly resulted in production down-time.

Philips applied great ingenuity in making a tray that would meet all the technical demands, but due to the various assembly activities that were required, it came with a considerable price tag.

### The request

Philips asked us to come with an alternative, whereby we needed to take into consideration all the preconditions of an operational production environment.

One very important factor that needed to be included in all this, was the fact that the adverse assembly work to the existing trays has to be eliminated.

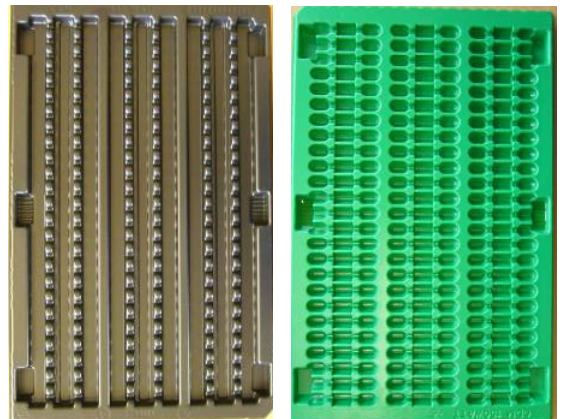
Finally the new trays had to be 100% compatible with the existing, reinforced version.



### Our proposal

By using the preconditions as our starting point, we developed a new tray, taking into account all existing production facilities. The greatest challenge was to try and eliminate any assembly work needed to the new tray, which ultimately would prove to be very beneficial to the cost price.

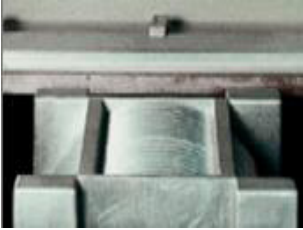
### Old and new trays



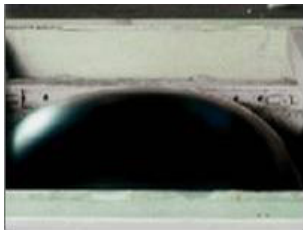
## Production technique:

Vacuum moulding is a method whereby a product is manufactured from a sheet of plastic.

The sheets of plastic are placed in a special device.



The sheets are then heated to the right temperature to make them malleable.



Then a vacuum is created in the area between the mould and the sheet of plastic, to give the product the desired shape.



After it has cooled down the product is finished off by either punching or milling it into its final definite shape.



## Why Vacuum Moulding?

When we vacuum mould products, we generally use an aluminium mould. Vacuum moulds are not subject to the same forces that are used with injection moulding.

These devices can be developed quickly and consequently are much more cost effective than the same devices for injection moulding.

Because it is relatively easy to build these moulds into the production machines, it has the advantage that production runs can be done in low serial quantities.

Summary: ENGELS!!

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