

Stûv achieves **economic** and **environmental** gains thanks to the optimization of its cardboard packaging

Damage rate of stove ducts cut to less than 1 %

Packaging optimization does not always equal packaging reduction. The addition of protective material can sometimes substantially reduce the risk of damage and prevent materials from being wasted. This can have profound economic and environmental benefits, especially when the logistical cost of replacing damaged parts is considered. This is the conclusion arrived at by Stûv, a Belgian manufacturer of wood - burning stoves. The company was already considering reinforcing the cardboard boxes used to package its stove ducts. This view was confirmed by a packaging diagnosis conducted by the Packaging Centre at XIOS Hogeschool Limburg, Fost Plus and VAL-I-PAC. "The experts delivered a proof of concept for the optimization that we had in mind. Their visit came at just the right time", says Youness Issaf, who is responsible for packaging projects at Stûv.

..... prevent pack



Stûv is an innovative Belgian company that specializes in individual wood heating solutions. The company has two production facilities in the Province of Namur (Bois-de-Villers and Floreffe), which together produce approximately 12,000 stoves per year, 75 % of which are destined for export. "We have evolved from a stove manufacturer into a supplier of integrated heating solutions that are both aesthetically and environmentally sound, in part thanks to their energy efficiency. The responsibility we take for the environment is reflected not only in the inherent quality of our products, but also in the way they are packaged. We apply our commitment to the environment in as many aspects of our business as possible", says Thomas Duquesne, Science and Technology Manager at Stûv.

Stûv first learned about the packaging diagnosis through an article published in Dynamisme, a publication of the Walloon

Union of Companies (UWE). The article immediately attracted the interest of the company, which was looking for a second opinion regarding a number of ideas it had for packaging optimization. "An outside perspective is always interesting. The technological expertise of suppliers is usually limited to one specific type of packaging material, and because of this, they seldom see the bigger picture. These experts have vast knowledge of different materials and take a much broader view", notes Youness Issaf.

The visit from the experts turned into an interesting exchange of ideas and a perfect opportunity to assess a number of packaging options that at first glance may seem odd. Just one example: the empty spaces of roughly 20 cm inside the wooden crates in which the stoves are packed proved to be perfectly justified. They guarantee the stability of the product and prevent superfluous packaging.

good to remember

The diagnosis **confirmed** the optimization plans Stûv had in mind.

The decision to go with a simple cardboard reinforcement is both **cost-effective** and **environmentally** friendly.

Besides being a **financial win**, it also increases the **satisfaction** of both customers and employees.

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Cardboard reinforcement **better than foam**

But the first goal of the packaging diagnosis is naturally to identify a number of quick wins.

The greatest potential - which Stûv had already identified and which was ultimately confirmed by the diagnosis - lay in the packaging of the stove ducts. Because Stûv does mostly custom work, their ducts are available in various sizes and finishes. The high damage rate for these ducts - in excess of 5 % - was striking when compared to the average rate for all Stûv products, which amounts to less than 1 %. Both Stûv and the external experts quickly realized that this high damage rate was due to the cardboard packaging.

"We studied several techniques, including polyurethane foam packaging. However, we were not convinced of the quality of these materials, not to mention the fact that they scored poorly in terms of the environment. In the end we opted to add cardboard reinforcements, which provide better protection and are made from a material that is easy to recycle." Based on analyses made by Stûv and suggestions from the experts, the cardboard boxes were enlarged and fitted with internal cardboard reinforcements in the shape of two half Vs. The use of just one type of reinforcement makes stock management easier and maximizes storage space.

A **positive balance** - and not just financially

Thanks to the new packaging design, the damage rate of the ducts dropped below the 1 % threshold. The cost of ducts damaged during transport was estimated at EUR 5,000 per year. The cost of the additional cardboard amounts to only EUR 3,000 per year. From a financial perspective, the operation turned

out to be positive. In addition to the pure financial gain, it also benefitted the environment due to the use of a recyclable mono-material. The new packaging is also boosting customer and employee satisfaction: less damage to products means that more installations can be completed with fewer complications.

Lessons learned

For Stûv, the diagnosis came at precisely the right moment. The company was faced with a decision concerning the optimization of the packaging for its stove ducts. The experts closely examined

the choice of cardboard reinforcements and delivered a proof of concept. Once the choice was confirmed, attention turned to other issues which should not be underestimated:

Communicate. The modifications to the stove duct packaging made the company's internal logistics more complex. That is why Stûv made an extra effort to convince employees of the benefits the new solution will provide and to show them how

convincing the results really are. Even though the changes were not likely to meet with resistance, it still proved beneficial to explain why they were necessary.

Remain in control. Stûv believes it is important to solicit the opinion of an outside specialist who can take an impartial look at internal processes. However, the company did not adopt a wait-and-see attitude, hoping that those outside experts come up

with a miracle solution. At the end of the day, no one understands the company better than those who work there day in and day out. When it comes to packaging optimization, the company itself should always remain in control.

Keep it simple. The most effective solutions are often the simplest ones. This is why Stûv chose a single cardboard reinforcement instead of foam or plastic, both of which score

much worse in terms of the environment. By opting for a single type of packaging, Stûv simultaneously optimized its stock management and the storage of its packaging.