

# A PALLET-LESS FUTURE?

## Introduction

In many countries, bagged cement still represents a significant portion of the market. Getting those bags to customers in pristine condition is the primary concern for suppliers, but there are other issues – such as cost and resource efficiency, as well as health and safety – that must also be considered if a company is to gain ground in the market.

As technology develops, fewer companies still rely on manual operations, wherein cement bags are loaded or unloaded by hand. Loading from the packing line directly to the truck is likely to cause bottlenecks, either when plant personnel are waiting for trucks to arrive, or when all the trucks arrive at once and the loading area turns to mayhem.



**Enrico Lanzini, FLSmidth**, makes the case for adopting a pallet-less cement transport solution.



Figure 1. Ventomatic POLIMAT® palletiser.



Figure 2. Ventomatic pallet-less system.



Figure 3. Typical Ventomatic installation in Russia.

In such situations, a busted bag or two is the least of the plant's problems: staff safety is at risk.

Palletised bags offer a more efficient solution. Cement plants can prepare stacks of bags on wooden pallet bases regardless of whether a truck is waiting to be loaded. Such simple storage enables the creation of a buffer warehouse that will help to handle sales peaks or cover breaks in production. Ventomatic® palletisers offer the following:

- Smooth bag handling for optimal stacking quality.
- Flexibility to handle multiple bag sizes and various stack heights.
- Ability to operate with slip-sheets and connect to stretch-hood units or pallet-less systems.

Automatic palletising solutions answer concerns about efficiency and safety. However, there are instances when other factors come into play and an alternative is required. For example, in markets where bagged cement is predominant, where wooden pallets are impractical, and where weatherproofing is essential, pallet-less technology is the logical logistics solution. Turkey and Russia are two markets where pallet-less technology has been adopted as the most convenient way to dispatch bagged cement.

### How does pallet-less export work?

A pallet-less solution is exactly what it sounds like: a compact, contained stack of bags that does not require a wooden pallet base. The stack is formed automatically, in much the same way as a conventional palletising system, with the exception that the base of the stack is shaped to leave recesses for forklift or crane transport. Increasingly, customers are choosing stretch-hood technology that uses an elastic plastic film to contain the bags, which is a more cost-efficient option, as it does not require the traditional shrinking process. For this method, the stack is formed upside down so that the recessed layer appears on top. It is wrapped in plastic, all while being clamped firmly in place, then rotated 180°, straightened, and wrapped in a second layer of plastic. After each wrap the recesses are profiled to ensure easy loading and unloading. The end result is a secure, freestanding, compact stack capable of withstanding long journeys and poor weather conditions.

### When less is more

Ubiquitous though they may appear to be, wooden pallets are not convenient in every market or indeed for every plant. Pallet-less solutions address those circumstances where wooden pallets fall short.

In a traditional stack on a wooden pallet, the bottom layer of cement bags has limited protection. Exposed to the elements, cement bags can easily be



Figure 4. Storage of stacks of bags on wooden pallets.



Figure 5. Storage of pallet-less stacks of bags.

damaged and product lost. To guarantee bag stack integrity, pallets have to be stored undercover, which requires a plant to have vast storage enclosures.

Pallet-less stacks, however, are thoroughly protected and can be stored outside, whatever the weather. Keeping the bag secure ensures the supplier's first priority is met: the product will arrive with the customer in the intended condition.

Wooden pallets are a cost burden and they offer zero added value to the cement they support. It makes no economic sense to send wooden pallets off, laden with bags of cement, never to be seen again. A recirculation system is therefore a necessity, albeit a problematic one. Establishing such a system can be difficult or even impossible, depending on the kind of market in which a cement producer operates. Then there is the fact that pallets cannot be used *ad infinitum* without repairs – eventually they will break down. Buying pallets, recirculating them, and repairing them all adds up in both cost and hours that cannot be reclaimed.

Pallet-less technology avoids all of this. The cost of the plastic is far lower than the cost of a one-way wooden pallet and the impact on transportation costs is negligible.

The Russian market has grown wise to this. Cement is dispatched far and wide across this expansive country in weather conditions that vary dramatically from season to season. The availability of wooden pallets is limited, as is the existence of a pallet management system to ensure efficient recirculation. As a consequence, Russian cement producers are increasingly opting for pallet-less solutions, to be supplied together with packing and palletising lines for 25 kg or 50 kg bags.

This technology enables Russian producers to choose bagged cement dispatch, a choice that has previously been unworkable given the poor availability of wooden pallets.

### Overseas export

Historically, overseas export of bagged cement was complicated. Wooden pallets are not welcome aboard water transport due to limited space. In addition, adverse weather conditions have the same implications at port or aboard a ship as they do in the stockyard. Pallets must be stored undercover to protect the bagged product; pallets continually exposed to harsh conditions will not last very long.

For markets such as Turkey, therefore, which is the largest cement exporter in Europe, pallet-less technology has become an important part of the supply mix. A significant portion of Turkey's cement export is bagged product, thanks in part to the availability of a pallet-less solution. Ventomatic solutions include the following:

- Lines for handling solo pallet-less stacks.
- Hybrid systems capable of handling stacks with and without pallets.
- Systems that use sling bags, as well as stacks.

### Conclusion

Wooden pallets still have their place. After all, they are the most conventional way to move goods, including bagged cement. However, in situations where wooden pallets are not easily available, where the recirculation system is lacking, or where wooden pallets are not accepted, the pallet-less solution offers a strong alternative solution. Stretch-hood technology makes the use of plastic film even more efficient than the previously dominant shrinking systems. In the future, the introduction of recycled materials will ultimately make pallet-less technology the more environmentally friendly option. 🌍

### About the author

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