

Case Study Petrochemicals

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Significant cost reduction through palletless technology.



Task

Customer Ibn Zahr/ SABIC Group, manufacturer of polypropylene, was seeking an alternative to the immense cost of pallets and pallet logistics – perfectly stackable even outdoors and predestined for frequent transfer and transport in worldwide freight traffic.

Solution

The palletless shipping unit optimizes the transport of sea-, rail- or truck freight in worldwide freight transport.

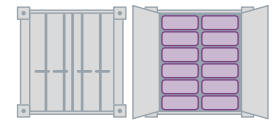
Pallet costs no longer apply, the film loading unit is completely recyclable and thanks to its reduced CO₂ emissions, a positive "carbon footprint" results.

The PSH-Vario lines are flexibly set up for different products and the respective challenges of transport – secured on a pallet, stored on a slip sheet or as a space-saving, palletless pack whereby the film itself carries the load.

Considering our Environment in Logistics

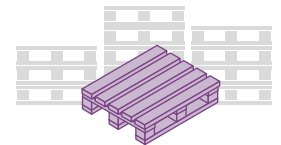
Production

1,000,000 tons
of goods



Consumables

720,000
empty pallets



Sourcing

55,000
cut down trees



25,000 tons
of sawn wood



1,000
40 ft container
shipments



1,750
truck deliveries
of empty pallets

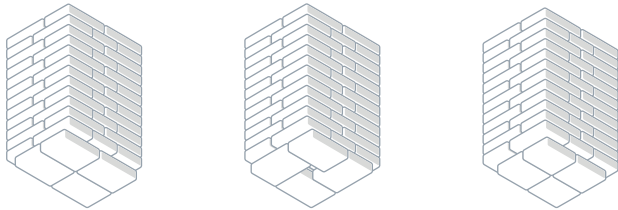


Test series

The outstanding results from the system installed at Ibn Zahr for palletless shipping units led to further test series on behalf of parent company, SABIC Group. As part of the development, a test series was set up at the Möllers Group Academy where different types of palletless packs were palletized and wrapped.

Initial experiments were carried out with 25 kg bags in which different products of polymere granulates– were filled.

In an extended series of tests dispatch methods were simulated and the 2 way packs were palletized in block- and chimney layers, the newly-conceived 4-way unit in block layers.



All parameters were set identically apart from the special layer, including number of layers, cover film types and film variations. A forklift with all packages completed a defined test track. The condition of the packs was compared and documented. Finally, the packs were stored for several days and it was recorded how stability changed in 12 hour intervals.

Convinced by the 4-way pack technology we conducted our first field trials in practice with the SABIC Group. The specialists of the customer accompanied the test series with their own products.



A team from customer SABIC Group accompanied the test series at the Möllers Group Academy.



Storage of the palletless shipping unit outdoors.

Various films for respective packs were tested employing the counter hood stretch principle. Our goal: using the optimal film for the respective product – at the best price–performance ratio.

With minimal film consumption, packs of different configurations with up to 12 layers and more can be formed.

The Möllers Group gives responses to climatic conditions, thus always guaranteeing constant stack quality.

Test series for transfer with the forklift testify to the high flexibility and security of the palletless pack in the warehouse and in the worldwide freight traffic.

For weeks, the stability of stacked packs was also documented.



Day 5
120 hours

Possible savings



Load Unit	Palletless	On Pallet
Possible handling	4-Way	4-Way
Number of layers	11 + 1 layer	11 layers
Package weight	1450 kg (55+4 bags)	1375 kg (55 bags)
Number stretch hoods	2 stretch hoods (120 µm)	1 stretch hood (120 µm)
Bottom protection	Bottom sheets	Pallet
Packaging costs*	~7,4 USD (1,4 + 6 USD)	~17 USD (14 + 3 USD)
Packaging costs* / ton	~5,1 USD	~12,3 USD

Possible savings

Wrapping costs	7,2 USD
Increased payload	1,9 USD
Total saving	9,1 USD

* depending on local market price