MOVE IT SAFELY

CASE STUDIES

Introduction

Why Does Load Stability Matter?

Transportation of goods has significantly escalated due to current societal changes and a more globalized economy. With the increase in freight transportation distances, difficult road conditions, and the new EU transportation norms and legislation, load security has become a challenge for the supply chain and the freight industry, as cargo failures represent a major economic, safety, legal and waste issue.

Retailers, brand owners, logistic and shipping companies are today looking for solutions to help reduce this impact. The use of packaging solutions delivering high load stability, package integrity and durability helps to improve pallet load stability and reduce cargo failures, improves safety for both people and goods, helps reduce waste, and ensures that food and other merchandise are protected and transported safely from the manufacturer to the end consumer.

Load Stability Benefits

Pallet load security increase
and reduction in the number of accidents.

Replacement of damaged products can outweigh the cost of shipping, while negative consumer experiences with those has a direct impact on brand reputation and future purchasing.

By increasing pallet load stability, product spillage and wastage during transportation is avoided, thereby reducing the environmental impact of cargo failures.




What Is Dow Doing to Improve Load Stability?

Dow's portfolio of packaging resins and adhesives has been developed to meet the needs of an evolving society and food supply chain, where goods need to travel longer distances and where globalization is increasingly requiring safer, cheaper and more sustainable transport solutions.

Collaboration across the value chain is critical to enable the successful evaluation and improvement of packaging technologies and for the development of load stability solutions that meet industry requirements and regulatory standards.

At Dow, we are embracing the perspective of brand owners, looking at the challenges they face when packing their goods and their need of combining multiple packaging components.

We are playing a leading role in the industry by delivering the required technology for each of these components, while taking a holistic approach towards the load stability challenge.

Dow considers the interaction between all different packaging components to ensure the best overall performance of the packaging system while addressing cost efficiency and sustainability needs.

The Case Studies

We have been looking at the perspective of the two main industries that represent the largest consumers of industrial flexible packaging. The first one being a typical example of an industrial application, like the one of a chemical producer that can also be leveraged to the cement, fertilizer and seeds industries. The other one refers to the fast-moving consumer goods market, where we are using a case from the beverage industry, which can be easily exploited to food, home and personal care products.

Chemical Industry: Stretching the Robustness of the Industry

The Challenge

Finding a more efficient way of palletizing industrial goods (cement, chemicals, fertilizers, seeds) to improve sustainability footprint, overall cost and material consumption.

The Solution

Moving from EVA-based stretch hood to all PE one, allowing for more robust, lighter and flexible packaging.

Moving from 120 micron to state-of-the-art, 100 micron HDSS, resulting in significant packaging material savings and reduction in CO_2 emissions.

EQUIVALENT

load stability performance compared to incumbent packaging

14%

reduction of flexible packaging consumption

210 MT

of CO_2 for one packaging line per year*

* 15 pallets/hour on average

STRETCH HOOD	**INCUMBENT** EVA-based 100 mic thick 987 grams/pallet	**DOW XZ89507.00** PE based 100 mic thick 961 grams/pallet
HDSS	**INCUMBENT** 120 mic thick 5,291 grams/pallet	**DOW INNATE™** 100 mic thick 4,422 grams/pallet
	6,278 grams of flexible packaging per pallet	**5,383 grams** of flexible packaging per pallet

11 layers of 5 sacks.
Each sack contains 25 kg of PE resin.

The load is attached to the pallet with a stretch hood.

Total dimensions:
1230 × 1100 × 1900 mm

Beverage Industry: Lighter and Brighter Consumer Goods

The Challenge

Optimizing the packaging system of a well-known beverage producer in order to improve the sustainability footprint and optimize costs while enhancing the stability of the goods during transportation.

The Solution

Moving from a 23 to 14 micron high-performance machine stretch wrap with improved puncture, tear and elongation, optimizing material consumption, cost and improving sustainability footprint. Downgauging from 60 to 50 micron collation shrink film, with improved optics, enhanced tear and puncture resistance.

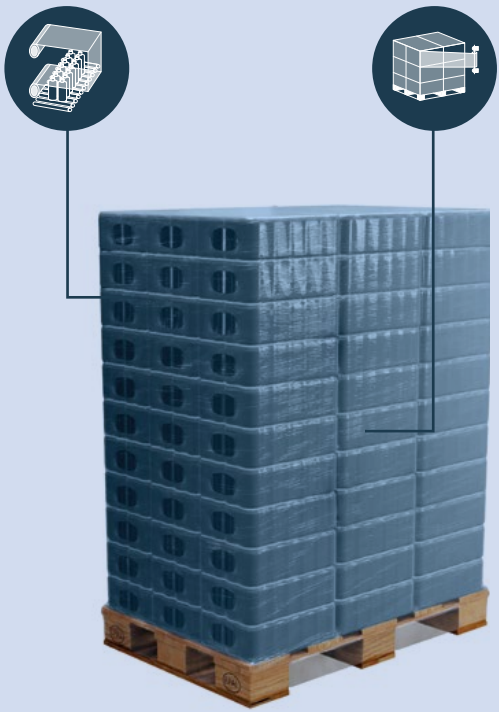
25%
reduction of flexible packaging consumption

IMPROVED
load stability performance compared to incumbent packaging

219 MT
of CO_2 for one packaging line per year

* 21 pallets/hour on average

STRETCH WRAP	**INCUMBENT** 23 mic thick 300% elongation 260 grams/pallet	**DOW ELITE™ AT** 14 mic thick 300% elongation 138 grams/pallet
COLLATION SHRINK	**INCUMBENT** 60 mic thick 24 grams/pack 2,346 grams/pallet	**DOW INNATE™** 50 mic thick 18 grams/pack 1,804 grams/pallet
	2,606 grams of flexible packaging per pallet	**1,942 grams** of flexible packaging per pallet



11 layers of 9 packs. Each pack contains 24 metal cans of 0.33 l. The load is attached to the pallet with a stretch wrap

Total dimensions:
1200 × 800 × 1405 mm

Contact a Dow representative today to learn more.
For more information please visit www.dowplastics.com.

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