DOSSIER: STRETCH FILM

The importance of the use of stretch film regarding cargo securing (pallet load securing) should not be underestimated.

Regularly, news flashes about load loss, crashes - often with overturned trucks – are reaching us. These are often the result of unsecure freight. The economic harm of these accidents is major whereby the costs of salvage, emergency services but also the possible damage of the environment cannot be underestimated.

These accidents on the road are not the only typical example for unsecure loading, as accidents on the working floor also regularly happen: think about the opening of the doors of a truck whereby the load is falling out.

Due to the fact that loads are sliding, the uselessness of the goods is resulting in extra costs of restacking and returning the goods.

In other words, it is in everyone’s interests that the goods are not only well packed, but that they are secured in an appropriate way in order to avoid product damage, (partly) loss of content and to avoid accidents.

The Royal Decree of April 27, 2007 stipulates that the load must be secured according certain load restraining systems. In the meantime, the Royal Decree of September 10, 2009 defines rules in the field of load securing, namely: a load must be able to resist to the following forces that can arise during road transport:

- forward direction: deceleration of 0,8g
- backward direction: deceleration of 0,5g
- lateral direction (both sides): acceleration of 0,5g

A freight that isn’t blocked, lashed or pulled down on the truck, must be well secured on the pallet. Hereby the wrapping of the goods with stretch film or stretch hood is very important.

To make a choice between the different types of stretch film, we can rely on the technical specifications of the film itself. The most important parameters are thickness, dart impact resistance, puncture resistance and the mechanical tensile properties. All these properties can be defined and compared at the laboratory of IBE-BVI.
The importance of testing the use of stretch film on palletized load, in practice is very useful and can give more complete information. (see photo 2 & 3)

Photo 2: High frequency vibration test on a palletized load

Photo 3: Impact test on a palletized load using the inclined platform

The stretch of the film itself (stretch-ability) is a very important parameter. If this isn’t properly done the consequence is very often a damaged load (for example deformation), but there is also the risk that the load begins to slide on the pallet.

The number of windings itself and the corresponding stretch-ability is of great importance and the principle 'the more, the better' is certainly not right! We can talk of an optimal wrapping pattern when we can place just that amount of film where necessary in order to really secure the load. This will always be function of the load composition, as well as of the total weight of the pallet. By optimizing your wrapping program you can often save several meters stretch film per pallet!

The connection of the load with the pallet is best made with a rope system (roping of the stretch foil) and will assure that the load cannot come off the pallet.

To take into account all these parameters and its understanding is not always easy. IBE-BVI can assist you with this. In addition to assessing the technical characteristics of the film itself, you can ask IBE-BVI also to determine an optimal wrapping schedule for you and to test your palletized loads. IBE-BVI is specialized in this matter and can always provide solutions to your problems, as well as for an optimization of your current systems!
Important to that matter is the investment in **a new wrapping machine** with motorized driven pre-stretch system that can handle the newest generation of stretch films. On this wrapping machine pre-stretch and feed speed can be adapted separately, both always depending of the pallet and load contour. On different heights the requested amount of film can be placed in order to secure the load according to the guidelines.

Sometimes minor adjustments are already sufficient. They may be shown during an audit at your company. Also for this you can appeal to IBE-BVI.

To optimize your proper knowledge of stretch film and stretch hood, IBE-BVI can organize a seminar/workshop on this theme. Interested? Please contact [Marleen Calcoen](mailto:marleen.calcoen@ibe-bvi.be).

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**Info and test requests:** visit our [website](http://IBE-BVI.be).

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