

# Recommendation for hand stretching

## Background

This recommendation for working with hand stretch films is based on a series of scientific tests carried out by the IK Initiative ProStretch. It involved several people manually stretching various film qualities available on the market, applying various wrapping methods to load units in a practical manner.

The aim was for these hand-stretched load units to pass horizontal deceleration tests in which they are accelerated on a carriage and then decelerated at 0.5 g.

This resulted in the following recommendations for action.

## The following instructions must be observed when stretch film is stretched manually:

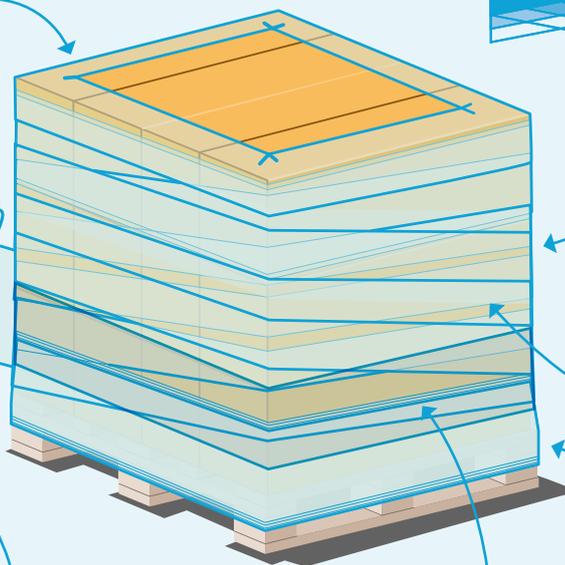
At least **2-3 top windings** are necessary at the upper end of the load unit.



The entire load unit must be **cross-wrapped**.



At least **4-6 bottom windings** are required.



**Support windings** should be supplemented for layer transitions in the lower area of the load unit.

In general, the films must be used with a **50% overlap**.



At least **50% of the pallet base** needs to be covered with film.

## Please note in addition:

The quality and thickness of the film should always be selected specifically for the load unit, depending on the products, pallet appearance, pallet height and pallet weight. Using a thicker film does not automatically mean that fewer windings are needed. Additional packaging materials (e.g. edge protectors, anti-slip

materials etc.) can be used to help secure the load unit (especially for picked goods with low static friction, e.g. plastic canisters etc.). In this context, we refer to the European guidelines on securing load units (VDI 2700ff and 3968 Sheet 5, EUMOS 40509, CTU Code, Best Practice Guidelines etc.).

The experts at ProStretch will gladly work with you to optimise your packaging process. For further information please visit [www.prostretch.de](http://www.prostretch.de).

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