

RoRo StretchPack®:

# 6-sided packaging 100% waterproof







RoRo StretchPack®:

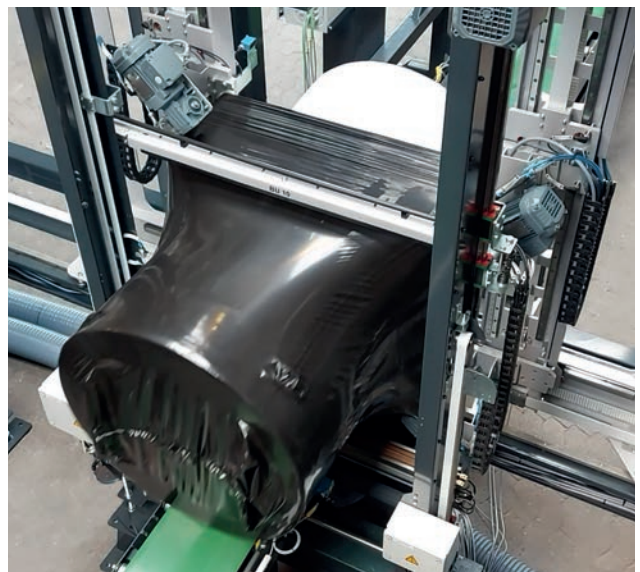
# 100% sealed packaging protecting your products

RoRo StretchPack® uses a tubular stretch hood film for packaging. During the packaging process, the film ends are sealed with a strong temperature-controlled sealing. This ensures 100% sealed packaging, protecting against the penetration of dirt and water.

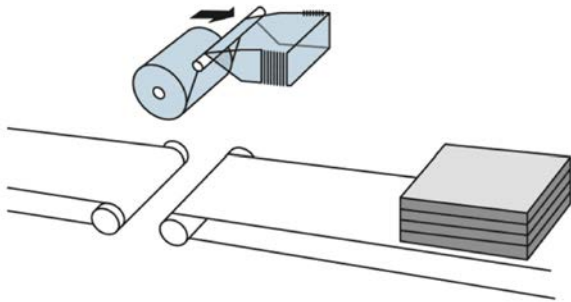
The stretch hood film used for RoRo StretchPack® has high tear and puncture resistant. This reduces damage to the packaging during handling and transport.

## RoRo StretchPack® key benefits

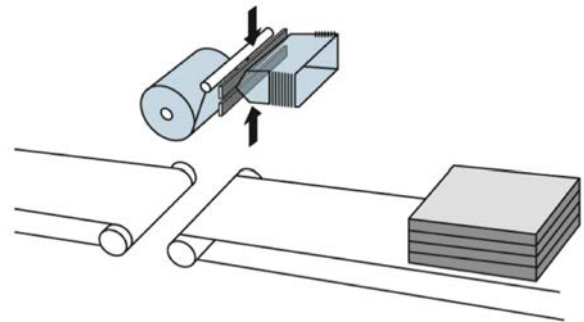
- 100% sealed and waterproof
- Uniformity with high repeatability
- Smooth surface (non-sticky film)
- Short, strong seals in the ends
- Optimal for print and branding on the film



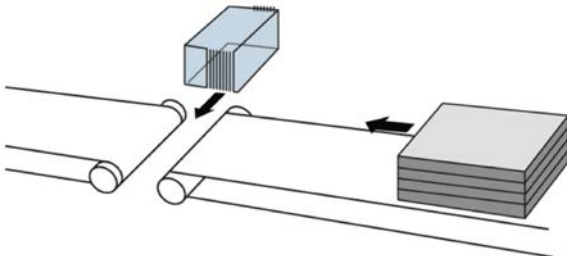
# Horizontal packaging step-by-step



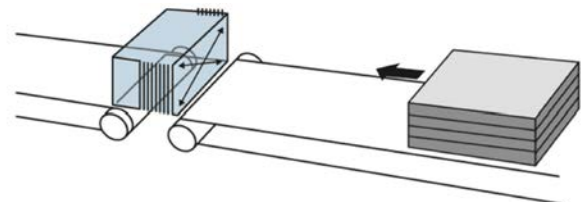
**1** The tubular stretch hood film is rolled onto four gripper arms.



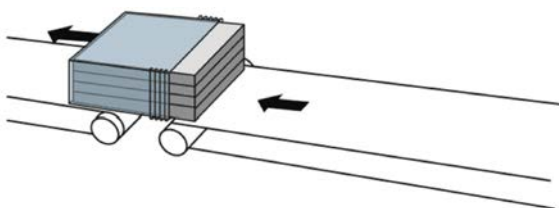
**2** The tubular stretch hood film is cut, and a front seal is being welded.



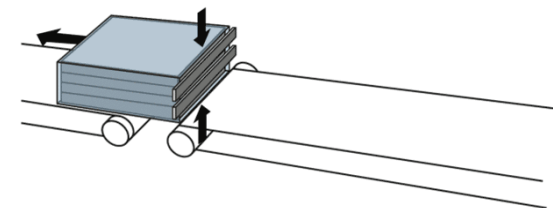
**3** The front-sealed film tube moves to the product lane.



**4** The film tube is stretched until it is slightly larger than the product.



**5** The film is rolled off the gripper arms while the product is being packed.



**6** A back seal is welded to complete the packaging. The packaging cycle can now start again.



RoRo StretchPack®:

# Perfect for automating your packaging line

The RoRo StretchPack® is installed in many industries to improve packaging quality and increase capacity. It enables automated packaging of products that traditionally were manually packed due to the lack of appropriate packaging solutions on the market.

Those industries that benefit from RoRo StretchPack® typically produce large or long products. These products are often valuable, which means they require completely sealed packaging for protection.

## RoRo StretchPack® provides benefits for these industries

- Nonwoven rolls
- Insulation material (rigid foam/wool)
- Gypsum plasterboards
- Engineered board and panels (OSB/CLT/SIP etc.)
- Wood (component/timber)
- Building materials (AAC/pipes/doors etc.)
- Other (furniture/boxes/palets etc.)



*Nonwovens rolls need to be protected against dirt and moisture to remain 100% clean for further processing. RoRo StretchPack® is therefore a suitable solution for packaging these often long and heavy rolls.*



*With a high repeatability, RoRo StretchPack® provides a uniform packaging. This results in a clean visual appearance when packaging stacks of fiberboards and similar panels like OSB, CLT, SIP etc.*



*This is an example of the versatility of RoRo StretchPack® benefits. Each transport frame is packed with items according to an individual customer order. The frame is then packed using RoRo StretchPack® packaging to keep the items together while protecting them from external contamination.*



*The ability to achieve a tight and waterproof packaging is a key requirement in the insulation industry. Therefore, more and more RoRo StretchPack® solutions are being installed for package both mineral wool and rigid foam insulation panels.*



*RoRo StretchPack® can be used for packaging single products like plates, tabletops, doors, or similar items.*

*With 6-sided packaging wood and other building materials can be protected against various weather conditions when stored outdoors. Wood containing moisture can be packed in perforated film.*



RoRo StretchPack® :

# Designed to increase your packaging capacity

Measuring bridge for  
packaging in random order

Unit customized to hold  
products during packaging

Welding bar for 100% sealing

Customized outfeed conveyor

The gripper unit stretches the film  
before the packaging process

Active film stand  
controls film flow

Up to 10+ km tubular  
stretch hood film on a roll

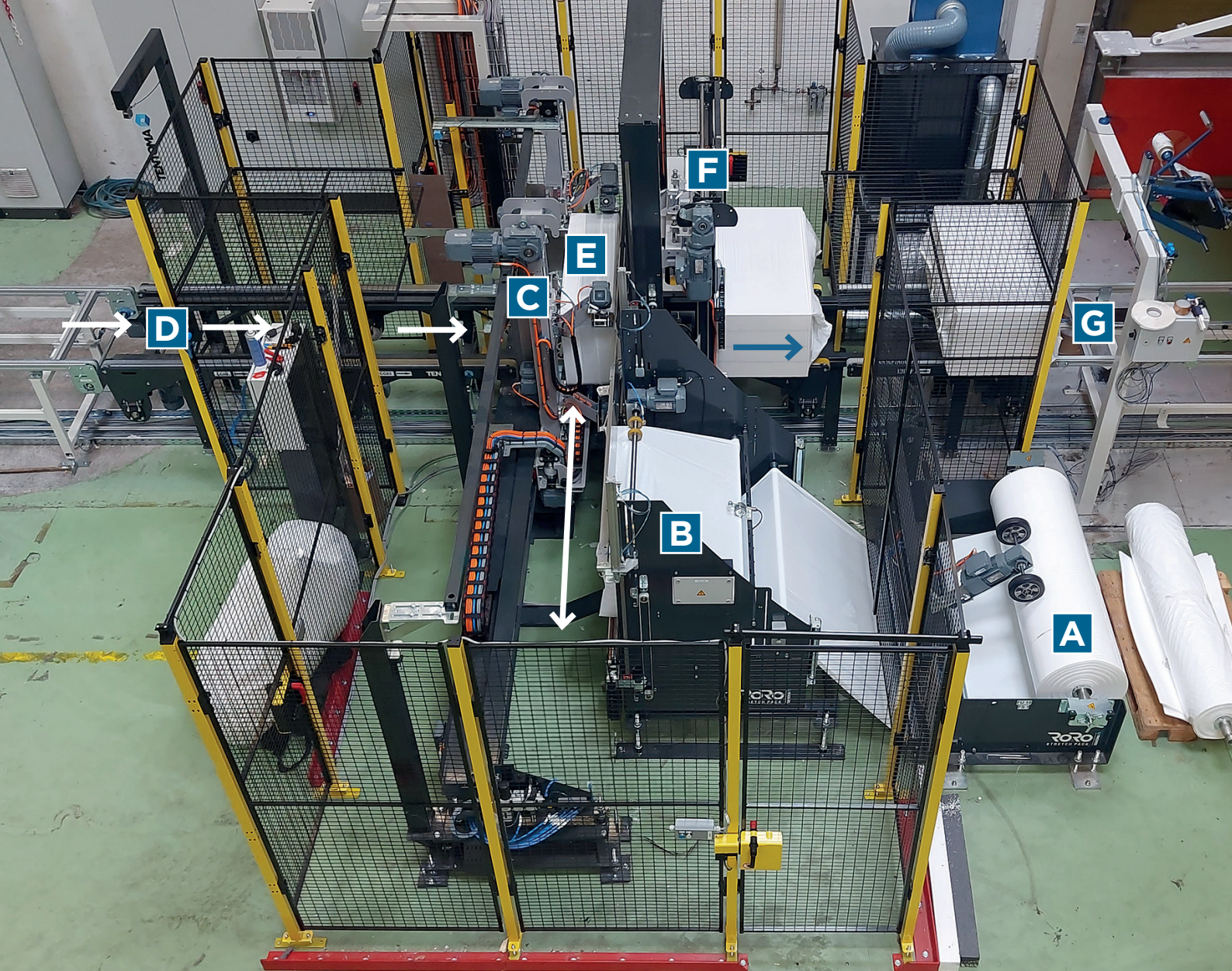
## RoRo StretchPack® designed for high uptime

- Large film capacity on a roll  
- up to 10+ km depending on film thickness
- Fast change of film roll (about 5 min)
- Automatic shift between different film sizes
- Minimal cleaning and maintenance
- Capable of packaging both batch and random orders

The RoRo StretchPack® packaging machines are designed leveraging the expertise we've acquired through our collaboration with some of the leading manufacturers in the building material industry.

To meet the stringent requirements of industrial production, which often operates 24/7, it is essential to ensure high capacity and high uptime. This is achieved through features such as a large film capacity, quick film roll changes, the absence of chains requiring lubrication to name a few. Additionally, all machine parts are standard components from high-quality brands, ensuring they are easily accessible. Altogether, this provides high uptime and minimal maintenance.





A RoRo StretchPack® packaging line completed with a safety fence.

**A The film stand (FS)**

Hold up to 10+ km of film, depending on film thickness.

**B The film unit (FU)**

Welds the front end of the tubular film to create a hood.

**C The gripper unit (GU)**

Stretches the film and moves it to the packaging lane.

**D The in-feed conveyor**

Receives the panels from the production line.

**E Internal conveyor unit (ICU)**

Holds and moves the products into the stretch hood film.

**F The back sealing unit (BU)**

Seals the backend to complete the 6-sided packaging.

**G The output conveyor**

Transports the packed products for palletizing.



**Film stand for multiple film rolls**

By adding more film stands to the RoRo StretchPack® packaging solution, it becomes possible to switch film roll between each packaging. This could be due to the product range not being covered by one film size, or because the products need to be packed with different brands printed on the film.





RoRo StretchPack®:

## Reduce film consumption with up to 60%

Due to the properties of the tubular stretch hood film, RoRo StretchPack® uses less film for packaging compared to conventional packaging. This reduction is without compromising on the packaging quality; on the contrary, it is often improved. From our customer cases, we typically see film savings of 25-60% when switching to RoRo StretchPack® from packaging methods like orbital wrapping and heat shrink packaging.

By reducing film consumption, you also reduce the environmental impact of your packaging line. Moreover, when your product is unpacked by the end-user, there is less film to handle for waste and recycling.



### Why RoRo StretchPack® reduces film consumption

- Single layer packaging
- Full use of the film - due to stretching
- Thinner film - due to stronger film type
- Tight packaging (customizable)
- Minimum waste during packaging

There are several reasons why RoRo StretchPack® enables the reduction of film consumption. Most significantly, RoRo StretchPack® uses a film smaller than the product to be packed. The film is stretched by up to 75% before packaging and subsequently adapts to the product's size during the packaging process. In contrast, using heat shrink packaging uses a film larger than the product to be packed, and the excess film is shrunk by heat during the packing process. Additionally, the shrink film is typically thicker than the stretch hood film used for RoRo StretchPack®.

When using orbital wrapping, multiple film layers are applied onto the product. This also increases film consumption in contrast to single layer packaging by RoRo StretchPack®.

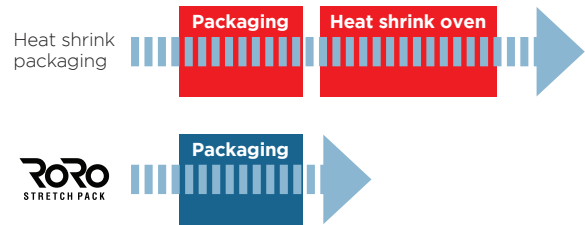


# Support your sustainability goals



Correct packaging protects your products and prevents resource waste due to product damage during storage and transport. At the same time, the environmental impact from the packaging line must be reduced to a minimum.

RoRo StretchPack® protects your products optimally with a minimum of film and energy consumption. It also reduces your environmental impact.



## Supports the UN SDG

Using RoRo StretchPack® you will also support several targets within these UN's Sustainable Development Goals:

- **UN SDG 7 Affordable and clean energy**
- **UN SDG 8 Decent work and economic growth**
- **UN SDG 9 Industry, innovation and infrastructure**
- **UN SDG 12 Responsible consumption and production**

Supporting the UN's Sustainable Development Goals will help you develop a more attractive business for customers, employees and other stakeholders.

When installing RoRo StretchPack® you can remove the heat shrink oven from your packaging line.

## Remove heat shrink and reduce energy consumption

RoRo StretchPack® operates without any use of heat shrink. This means that you can remove the heat shrink oven from your packaging line and thereby achieve a significant reduction of your energy consumption.



Improving energy efficiency



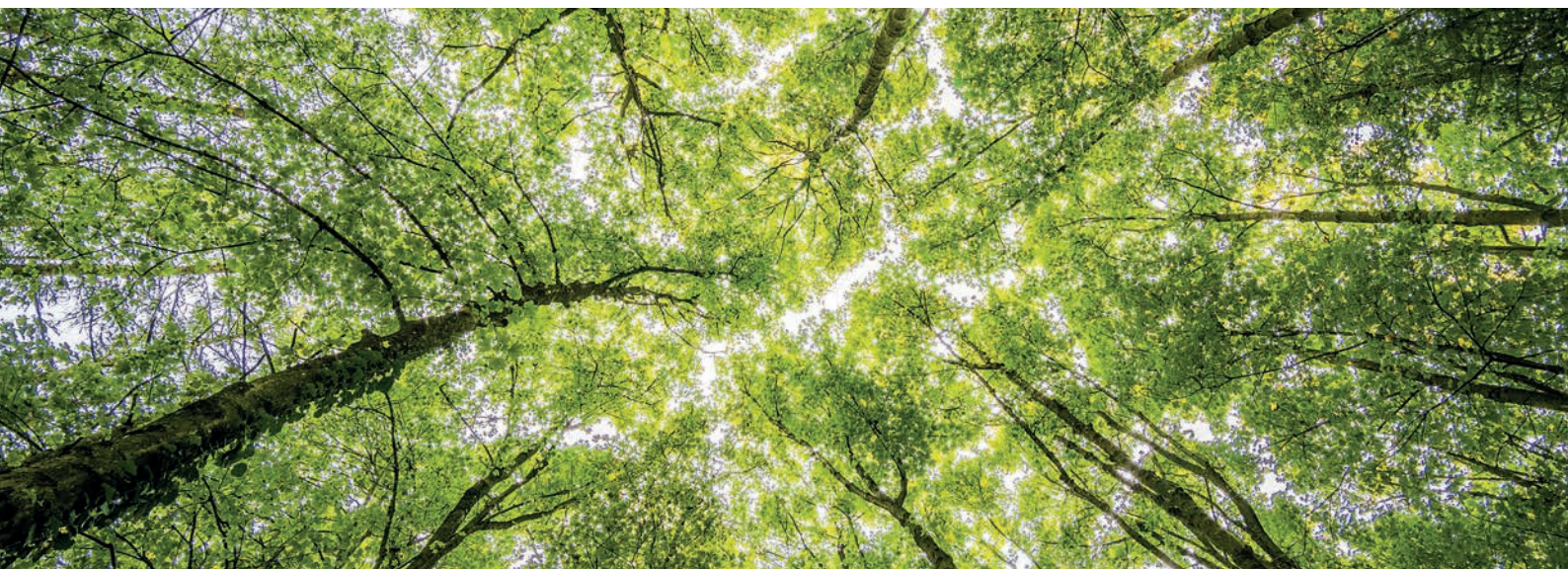
Improving production and growth



Reducing carbon footprint



Recycling and reducing resource consumption







RoRo StretchPack®:

# Printing on packaging promotes your products



Packaging serves more functions than just protecting your products. For instance, the appearance of the packaging affects how customers perceive the product quality and brand.

RoRo StretchPack® uses a tubular stretch hood film suitable for printing. It enables clean and uniform packaging printed with the company brand or similar.

The film has a smooth surface with low friction, which means no sticking between the packed products. If high friction is required, this can be added after packaging.



## RoRo StretchPack® improves branding

- Uniform, smooth and tight packaging
- Sealings are only at the roll ends
- Film is suitable for a printing logo etc.
- Film can be transparent or coloured
- Film with UV filter is an option



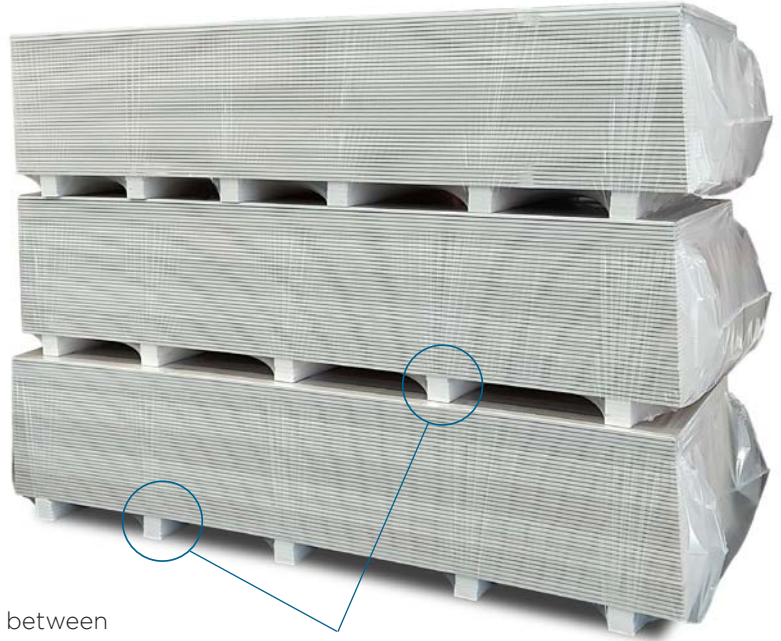


RoRo StretchPack®:

# No more need for strapping

If you have bearers, spacers, or similar components below your products, these can be included inside the packaging film. The tension forces of the stretch hood film will keep the spacers in place without the need for glue or strapping.

This allows for the eliminating of the strapping process, thereby reducing the number of operations on your packaging line. Removing the strapping process is feasible when strapping is only used to hold spacers or bearers in place. This solution is suitable for products with friction between the surfaces, preventing slipping, such as plasterboards, rigid foam panels, mineral wool, and similar materials.



No strapping required to hold spacers



StretchPack® is suitable for holding spacers below mineral wool.

## RoRo StretchPack® film holds the spacers/bearers

- Reduces operations on your packaging line
- No maintenance required for strapping
- No consumable required for strapping
- No investment in strapping equipment

## Packaging line for bundles of building boards

This is an example of a packaging line where spacers are automatically inserted beneath the bundles, and held by the packaging film, eliminating the need for any further strapping.



### 1 Destacker on infeed conveyor

A destacker allows a forklift to load up to three bundles in one go. The destacker then lifts the upper bundle(s), while the lower bundle is packed.



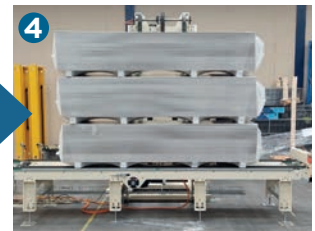
### 2 Automated insertion of spacers

Spacers are inserted beneath the bundles. They can be loaded from a magazine or be moved from the top of the bundle to the bottom.



### 3 6-sided packaging secures the spacers

The bundle is packed and sealed using a tubular stretch hood film. This packaging film keeps the spacers in place without the need for glue or strapping.



### 4 Stacking bundles for pickup

At the end of the packaging line, the stacker automatically arranges the bundles, making them ready for pickup by a forklift.



RoRo StretchPack®:

# Packaging line tailored to your products

The RoRo StretchPack® solution is installed for a wide variety of products across various industries. We understand the importance of a packaging solution customized to your product and production line. Therefore, a broad range of conveyor types and devices with different functionalities are available as options.

## RoRo StretchPack® options to improve throughput

- Various conveyor types (rollers, flat belts, V-shaped belts, strings, chains, slats etc.)
- Pusher devices
- Internal conveyor unit (ICU)
- Tilt and swing conveyors
- Sensors for measuring product dimensions
- Movable conveyor bridge

*The integrated conveyor unit (ICU) supports products during packaging.*



*A broad range of options is available to meet requirements for handling different types of products*

## Integrated conveyor unit (ICU)

The integrated conveyor unit (ICU) supports and transports the product(s) into the stretch hood film during packaging. It ensures safe transport of short and light products and eliminates the risk of slippage between products at high packing speed.





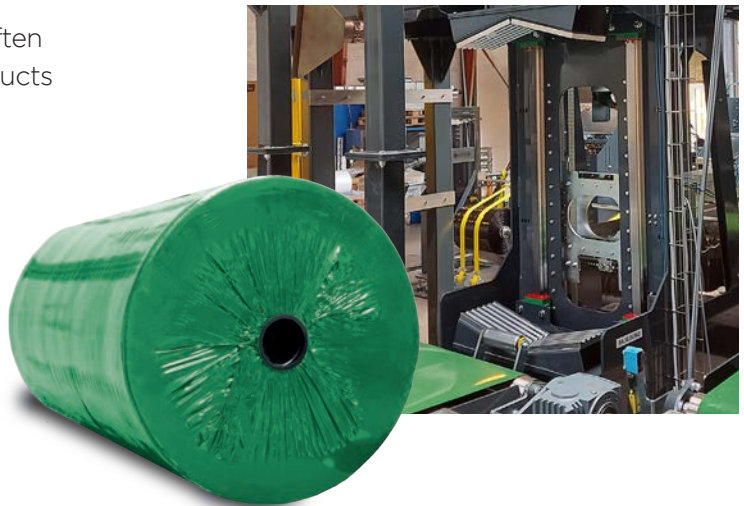


### Pusher to guide products

For short and lightweight products, it is often suitable to use a pusher to guide the products through the packaging process.

### Automatic core plugging

When core plugging is required, a core plug application is available. This automatically inserts plugs into core pipes for roll goods. It is installed in connection with a RoRo StretchPack® packaging solution and removes manual core plugging from the production line.



### Three film layers on sharp corners

When packaging products with very sharp corners, it is an option to apply three film layers on the front end and the back end of the product.

It improves the film's puncture resistance on sharp corners to retain a sealed packaging. At the same time, it will still provide the advantage of film-saving single-layer packaging for the rest of the product.



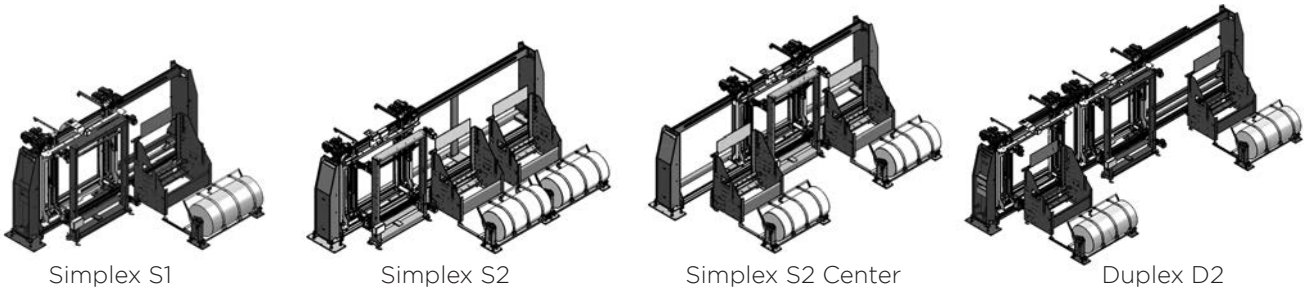


# Comparison of packaging techniques

	<b>Rotating wrapping</b>	<b>Sleeve wrapping</b>	<b>Heat shrink packaging</b>	<b>RoRo</b> STRETCH PACK
Film type	Stretch wrap film	Shrink film	Shrink film	Tubular stretch hood film
Six-sided packaging	✗	✓	✓	✓
Single layer packaging	✗	✓	✓	✓
100% waterproof and dustproof	✗	✗	✗	✓
Sealing during the packaging process	✗	✗	✗	✓
Uniform packaging	✓	✗	✗	✓
High repeatability	✓	✗	✗	✓
Smooth film surface - non sticky	✗	✓	✓	✓
Printable film for logo and graphic	✗	✓	✓	✓
High tear and puncture resistant	✓	✗	✗	✓
Large film rolls available (more than 6 km film depending on thickness)	✗	✗	✗	✓
Low maintenance (film change, production stop, cleaning etc.)	✗	✗	✗	✓
Film consumption	–	–	–	↓
Energy consumption	–	↑	↑	↓



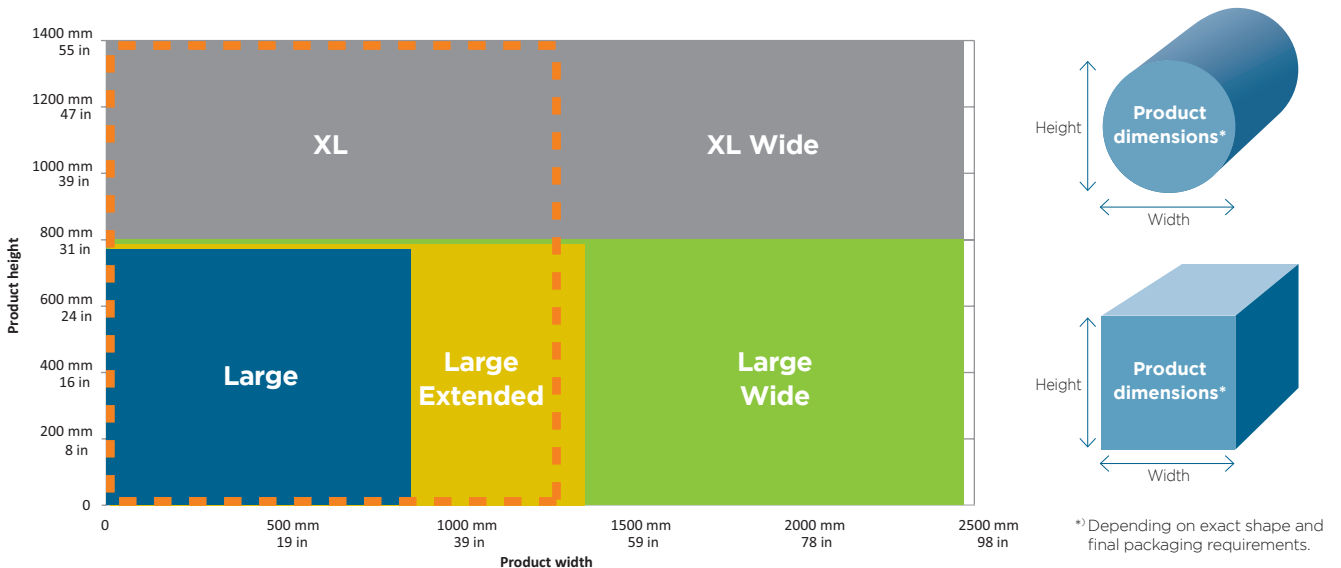
# RoRo StretchPack® standard machine range



Series	Version	Film unit left (L)	Film unit right (R)	Standard configuration
Small Large Large Extended Large Wide XL XL Power	Simplex S1			<ul style="list-style-type: none"> <li>1 main frame (MF)</li> <li>1 film unit with front sealing (FU)</li> <li>1 gripper unit (GU)</li> <li>1 back sealing unit (BU)</li> </ul>
	Simplex S2			<ul style="list-style-type: none"> <li>1 main frame (MF)</li> <li>2 film units with front sealing (FU)</li> <li>1 gripper unit (GU)</li> <li>1 back sealing unit (BU)</li> </ul>
	Simplex S2 Center			<ul style="list-style-type: none"> <li>1 main frame (MF)</li> <li>2 film units with front sealing (FU)</li> <li>1 gripper unit (GU)</li> <li>1 back sealing unit (BU)</li> </ul>
	Simplex S3			<ul style="list-style-type: none"> <li>1 main frame (MF)</li> <li>3 film units with front sealing (FU)</li> <li>1 gripper unit (GU)</li> <li>1 back sealing unit (BU)</li> </ul>
Large Large Extended XL	Duplex D2			<ul style="list-style-type: none"> <li>1 main frame (MF)</li> <li>2 film units with front sealing (FU)</li> <li>2 gripper units (GU)</li> <li>1 back sealing unit (BU)</li> </ul>
	Duplex D4			<ul style="list-style-type: none"> <li>1 main frame (MF)</li> <li>4 film units with front sealing (FU)</li> <li>2 gripper units (GU)</li> <li>1 back sealing unit (BU)</li> </ul>

The machines will meet the locally required power requirements.  
For other machine types contact Tentoma.

## Product dimensions vs machine type



This is an initial guide to specifying which machine type fits your product dimensions.  
For final determination of machine type contact Tentoma.



# About Tentoma



Tentoma was founded in 2011 with a focus on servicing the vertical stretch hood industry. Based on these experiences, Tentoma developed the RoRo StretchPack® technology for horizontal stretch hood packaging, which enables 100% waterproof packaging.

Today, Tentoma specialises in developing and producing RoRo StretchPack® packaging solutions, targeting packaging of large products, nonwoven rolls, building materials and similar products.

Operating from Denmark, Tentoma offers global installation and facilitates comprehensive support (on-site or online) for RoRo StretchPack® packaging solutions.



Selected references within roll packaging:



Watch RoRo StretchPack® in operation:  
[www.tentoma.com/videos](http://www.tentoma.com/videos)

