

Always around

FIBROUS

PRODUCT GUIDE | 2016

FIBROUS

WORLD LEADING PRODUCER OF FIBROUS CASING

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VISKOTEPAK – MORE THAN CASING

ViskoTeepak is a world-leading manufacturer of fibrous, cellulose and plastic casings for the food industry. We have the largest selection of fibrous casings in the world. We can produce the widest diameter range of products from both the smallest to the largest casing diameter, all with excellent calibre consistency and curing properties. Our fibrous production is located in Lommel, Belgium, and Hanko, Finland. With the biggest partner network in the casing world combined with our wide product offering, we can tailor-make our fibrous casing and services to perfectly fit just about any brand and application. And that is our aim, to provide you with the most productive casing solutions on the market. We reach our success in partnership with you, we are in it for the long run and we are always around to support you.



WHAT IS FIBROUS CASING?

Fibrous casing is a cellulose-based casing strengthened with natural long-fibered abaca paper, sometimes called manila hemp fiber, which combines exceptionally high tensile strength with consistent extrusion properties in a form that renders it ideally suited for sausage casings. Due to its strength and dimensional stability, fibrous casing is traditionally seen as one of the most versatile and comprehensive packaging materials.

The ViskoTeepak fibrous casing can be tailor-made to fit any application and production process. First of all, the right paper needs to be selected in terms of size, strength and extension properties. Secondly, the cellulose, or "viscose", which is the technical name given to the soluble derivative of naturally occurring cellulose, is coated in a single or double layer and to the extent that is required by the application and sausage process.

In the case of ViskoTeepak, this latter form of cellulose is derived from the highest grades of purpose-grown pine trees. Once regenerated upon its abaca fibrous matrix, a variety of subsequent special treatments creates a casing to suit the most complex demands of the meat user.

ViskoTeepak fibrous casing offer the world's widest choice of properties to tailor-make casing to the specific needs of the meat producer or food packager. From this experience, we have developed a range of fibrous casings in over 80 different calibers and some 20 standard and variable non-standard colors to suit all applications, for both automatic and manual operations.

Adhesion levels

The basic fibrous casing as previously described is treated in a plasticisation stage involving multiple passes prior to drying, depending on the intended end use. This ensures that the adhesion

level of the casing is perfect for each application and production process. The casing can be sold as regular or treated with a meat cling and easy peel coating and impregnation. Also, the adhesion levels and characteristics can be tailored to any application and its process conditions. Improved meat cling is obtained by applying a substance that acts as a bonding agent between the fibrous material of the casing and the proteins in the meat. Whenever easy peel properties are required, the inside surface of the casing is treated with a release agent.

Chemical composition of Fibrous casing

The average composition of the different types and sizes of fibrous casing is, as follows:

Component	Colored or clear	Heavy pigmented
Regenerated cellulose	50%	40%
Long-fibered paper	25%	20%
Plasticizer	20%	20%
Water	5%	5%
Casing color pigment	<1%	15%
Meat cling/easy peel	<1%	

Strength and stretch

As previously indicated, many of the properties of fibrous casing derive from the use of long-fibered paper in its construction. In order to mobilize these excellent properties, the casing has to be moisturized. A dry casing has strength but no elasticity. By effective moisturizing methods – pre-soaking in connection with customizing or soaking immediately before use in the sausage factory – the casing is given the right combination of strength and stretch to guarantee trouble-free sausage processing operations. ViskoTeepak can also offer the Ready to Use (RTU) pre-moisturized service that enables the operators to use shirred strands straight out of the box as well as eliminating the risk of contamination from soaking water.

The right permeability

Fibrous casing is permeable to gases. This property plays a crucial role in the process where smoking, maturing and drying are required. By controlling the permeability levels of both water and gases, the casing will dry and shrink in a uniform way and allow the appropriate smoke transfer as well as maintain the caliber stability, in the end producing very high yields.

How to tailor-make the right solution

A wide variety of fibrous casings is available to meet the most demanding needs of the sausage maker. The mechanical strength, dimensional stability and uniformity, treatment applied in terms of permeability and surface properties, printability and other customizing options are among the properties that make fibrous casings the most versatile type of casing product.

Testing

Before deciding what fibrous casing is most suitable for a particular sausage-making process in which the type and calibre have not recently been established through experience, a test run should be conducted under the prevailing production conditions. Have a look through this product brochure and let us know what product you are interested in. By working with you,

we can then help you on the way to a perfectly tailored casing that fits your needs, based on the information we receive from you. The trial process needs to follow certain rules! Before starting the testing process, it is vitally important that we obtain information on at least the following:

To make testing and matching more easy

1. The application (cooked, dry, semi-dry etc. sausage)
2. What is the desired size of the sausage after stuffing?
3. What is the weight of the product?
4. Is the product sliced in-house and how is the end-product packed?
5. The form of converting; especially of the diameter and length of the stuffing horn!
6. The useable horn length and/or maximum strand length as well as the maximum stuffing diameter
7. If possible please provide us with the current casing being used
8. What is the yearly usage or the volume potential of the product?



SVC & DVC

Fibrous is a modified form of cellulosic casing where the hemp fiber (special paper that is highly resistant to wet tearing) is coated with cellulose. There are two manufacturing methods for making fibrous casings, as it can be coated with viscose on either one or both sides. ViskoTeepak fibrous casing utilizes the advantages of the special features of both methods to achieve the best end-customer benefit. The former means coating the outside of the paper while the latter option includes coating on both sides.



With different advantages and possibilities

Both technologies can provide a superior product but for different applications. They are both used where high mechanical strength, size control, uniform smoke transfer and controlled peel ability are required, such as with pepperoni, salami, luncheon meats, boneless hams and other deli-style processed meats.

Fibrous casing is the preferred choice for slicing products that require precise diameter control. We have listed some typical features of both fibrous casing types (SVC/DVC), as, ultimately, it comes to what is the difference between the construction types and how to utilize these features to achieve the highest productivity out of any operation. Also, it is vital to marry the right casing with the right application.

The look of the sausage

DVC has a less glossy appearance due to less viscose on the outer side compared to SVC. This feature gives a DVC-made sausage a more satin-matt like finish. The DVC construction is also less prone to wrinkles (unpacked during the storage time) due to its unique shrinkability and construction. SVC casing gives a more glossy, shiny look to the sausage due to the thicker viscose layer on the outside of the paper. ViskoTeepak has the most comprehensive selection of fibrous casings as it comes down to the look of the sausage and not only sizes. ViskoTeepak has lately developed two extremes in terms of appearance. The development of Satin represents one of the most matt-like casings in the fibrous world, while Brilliant has already become a big success among customers who like the extreme glossy look and the enhanced presentation that Brilliant provides.

The look of the peeled sausage

A sausage produced in DVC casing has an attractive glossy look when the sausage is peeled. A sausage produced in SVC casing has more of a matt-like look. The latter feature can be a benefit for applications such as spice-coated because the coating adheres to the surface during the slicing and packaging process.

Perfect adhesion

SVC casing is normally the preferred choice when very high meat adhesion is required. Meat cling is required for applications where the casing remains on the sausage through the whole slicing operation, for which the maturing and drying process is often very long. Fibrous DVC is mainly sold as high precision casing due to the patent technology from ViskoTeepak. By controlling the inner adhesion levels, we can accomplish absolute consistency along the entire surface of the sausage. An indisputable value for all applications where adhesion control is required.

Machinability & size control

When producing in high stuffing speed, DVC casing has shown a high resistance to breakage. This is due to its thinner and more flexible nature. In whole meat products such as pork loin and turkey ham, the smooth inner surface of the DVC construction has become a benefit resulting in easier filling and fewer breakages.

SVC can offer very good size stability due to its thicker construction and is perfect for slicing applications that require consistent size control.

Converting

Less prone to shrinkage, SVC can be produced with maximum dry flat width and optimized to convert more meters in a strand and facilitate a bigger sized stuffing horn. This results in a fast operation for customers that will increase yields. The DVC construction benefits from other features and can also allow the convertor to shirr more meters in a strand for other applications.

Typical features of SVC/DVC casing

SVC fibrous features	DVC fibrous features
Glossy look to the ready sausage	Matt-like look to ready sausage
Matt-like sausage look after peeling	Glossy look to peeled sausage
Rough surface of the sausage helps spices adhere better	Collagen look with fibrous prestanda
More secure meat cling	Very high adhesion control ability
Less sensitive for grease out	More flexible to allow overstuffing
Thicker construction, consistent size stability	Better machinability due to thinner construction
High caliber stability gives high slicing yields	Easier gliding for whole meat stuffing
Low shrinkage	High shrinkability
Less sensitive to milky look	Possibility to shirr more meters on a stick

SVC = single viscose coating
DVC = double viscose coating

FIBROUS – ST

ViskoTeepak ST casing, with its superior size stability and permeability, is the perfect choice for many applications. Fibrous ST casings are typically used in products that consumers associate with the reliable quality of household brand names, such as smoked or cooked sausage and ham products.

Productive solutions with high quality

Thanks to its high calibre consistency and mechanical strength, ViskoTeepak ST casing performs reliably in all stages of processing. Excellent handling features ensure easy stuffing, both manual and mechanical, while meeting the strictest food safety and hygiene requirements.

Fibrous casing is also a biodegradable product based on natural, renewable raw materials. It is light but strong, with excellent stretchability for improved yields. Thanks to its high permeability, you can also reach superior quality in the smoking and cooking cycles, speeding up your whole business in the process.

From standard solutions to tailor-made products

Fibrous casings can be delivered in flat or pre-tied pieces, bundles or reels. It can be delivered in shirred strands to suit your high-speed stuffing requirements, both dry and pre-moisturized. A large range of colors is available to give your products a pleasant and sales-boosting appearance. In addition, the good printability of ViskoTeepak fibrous casings allows for effective brand differentiation on retail store shelves.

The basics of Fibrous

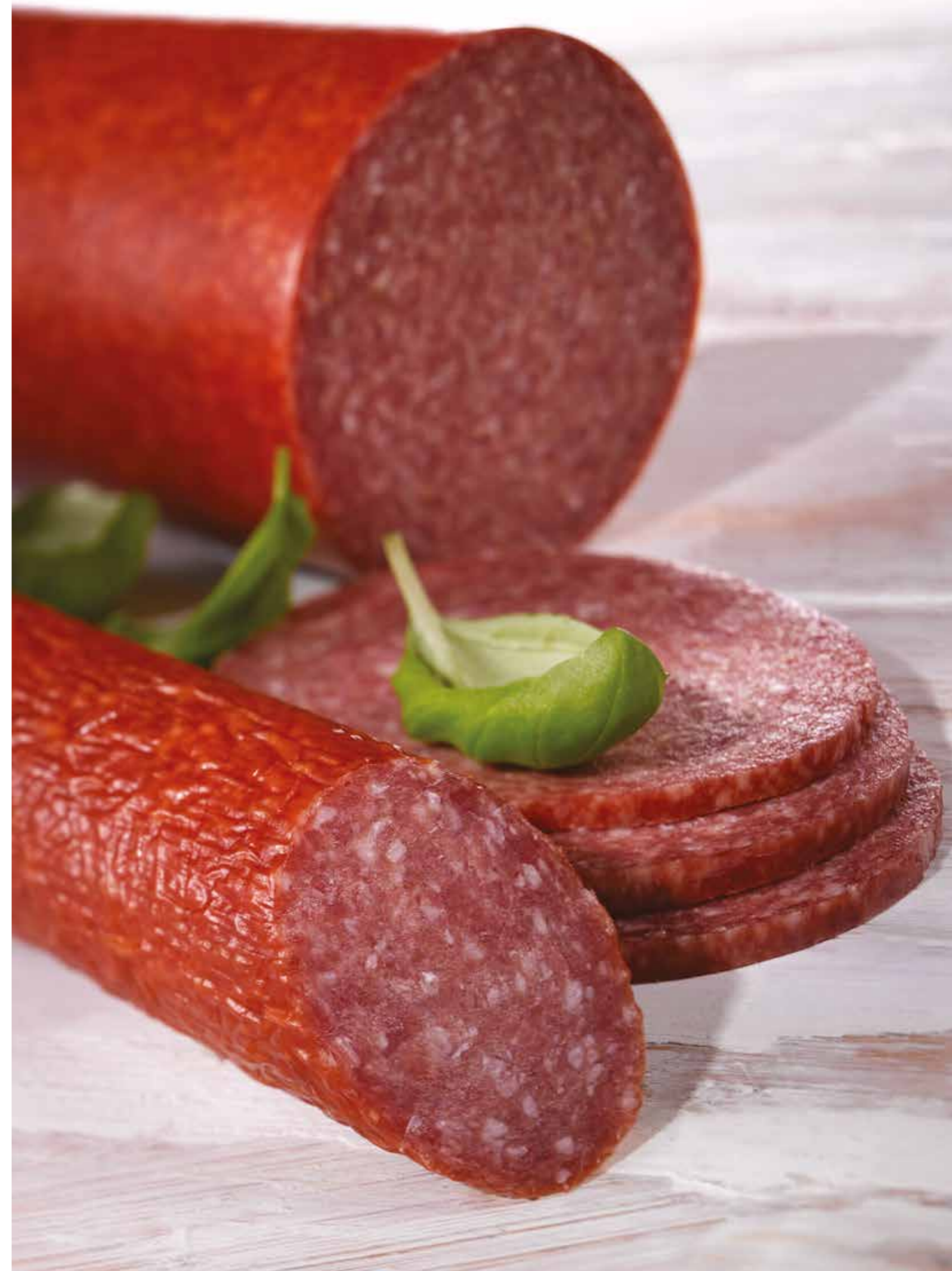
ViskoTeepak fibrous casings receive their unique properties from a combination of a specially-made paper base and a natural cellulosic covering. The paper base imparts strength and dimensional

stability making it the best choice for high-speed sausage production plants. The cellulose impregnation provides permeability to water and smoke, and allows the casing stretch and shrink in accordance with the specific processing requirements of small or large scale producers.

Fibrous ST is the preferred choice for in-house slicing applications where the size control/stability of the sausage is critical or when the maximum casing strength is needed.

Typical applications where ST fibrous is used:

- cooked sausages
- smoked sausages
- semi-dry sausages
- dry sausages
- various types of ham products
- smoked cheese
- sliced applications



Features	Benefits
Excellent size control and stability	More stable production process and higher yields
Most comprehensive selection of sizes in the world	Option to tailor-make to suit your brand
High strength and clippability	Highest efficiency in sausage production
Large range of adhesion levels	Wide range of applications possible
Finished as reels, shirred, cut pieces	No changes in actual sausage production necessary
Printing	Up to 6-color printing possible
Netting	Net creates a truly unique product

FIBROUS – XL

The light yet exceptionally strong ViskoTeepak Fibrous XL allows for higher yields in sausage processing, which in turn translates into better overall profitability for your manufacturing operations. Improved yields are naturally the main goal of every big meat producer today, and Fibrous XL is all about delivering bigger yields.

Stretching the limits – boosting the profits

The XL is a thinner casing due to the process of regeneration of cellulose viscose on a long fiber paper web. Thanks to its excellent stretchability, Fibrous XL is flexible but still utterly reliable and easy to handle. This strong casing allows for safer stuffing of cold salami emulsion and there is also less reject due to the cas-

ing's high mechanical strength. Good permeability and wrinkle-resistance make Fibrous XL the perfect choice for semi-dry smoked/cooked sausages, portion sausages and a truckload of other high-quality end-products. At the end of the day, higher yields mean higher output thereby improving your profitability.



Case study:

XL fibrous e.g. 6% overstuffing (above RSD 48) results in well-shouldered product (à stuffing dia. 51 mm)

Overstuffing results in 12.8% savings in casing consumption when comparing e.g. against collagen casings (RSD 45/48)

1808 gram (caliber 48mm) / 1 meter
2041 gram (caliber 51mm) / 1 meter

If customer X produces 1,000 ton semi-dry smoked sausage » with collagen, they need 553,000 meters casing » with Fibrous XL, they need 490,000 meters casing = 63,000 meters less casing required.

*12.8% savings in casing consumption!
63,000 meters less casing needed!*

Features	Benefits
High strength and clippability	Highest efficiency in sausage production
Large range of adhesion levels	No fat pockets or casing separation
Finished as reels, shirred, cut pieces	No changes in actual sausage production necessary
Printing	Up to 6-color printing possible
Excellent permability	Drying and smoking result
Netting	Net creates a truly unique product
High resistance to microorganisms	High protection means extended shelf-life and product exposure

FIBROUS – MAX

Improve your productivity and maximize your output with ViskoTeepak Max fibrous casing. A specially designed extrusion process allows an extra high flat width that in turn creates a number of benefits. With an extra large inner bore of the shirred tube, it allows for an increased diameter of the stuffing horn that will speed up your process.

Production process improvements

- Max allows a wider stuffing horn diameter that brings faster stuffing speeds, reduces stuffing pressure and reduces the wear on machinery – meaning less downtime on the stuffing machines as well as lower costs in spare parts.
- With less fat formation on the sausage surface you get reduced drying times that maximize the utilization of dry room capacity.
- Increased appeal of the final sausage thanks to improved particle definition. Larger cuts of meat can be stuffed through a larger horn with higher quality and an improved appearance of the final product.
- More consistent sausage diameter helps to improve slicing yields
- Provides new possibilities and increases efficiency with shirred casing for ham producers

Max with Spiral shirring

The spiral shirring supplied by ViskoTeepak is state of the art shirring technology that is optimized for the ViskoTeepak Max

casing. The greater yield on shorter sticks combined with the soakability of RTU (Ready to use) levels already give an edge. With S-Max you will be able to get more meters in a stick when still using your current stuffing horn and not compromising anything on caliber stability. Spiral shirring together with Max casing also allows a larger stuffing horn diameter if desired. This leads to improved stuffing output, less breakages, less stuffing pressure, easier reaching RSD's and better size control as well as slice yields.

Benefits for all processed meat producers

For dry and semi-dry sausages, the diameter of the filling horn plays a crucial role in various process stages, as lower pump pressure has a direct impact on quality. In other words, by increasing horn size, you not only accelerate the ripening process but also enhance quality. The reverse is also true: if the existing quality is satisfactory, you can use the larger horn size to increase production speed. A larger filling horn requires more from shirring and casing.



Examples of Max casing HF possibilities				
HF	Trade Size	US size	RSD mm	RSD inch
24	33	V 1/4	34	1,339
26	35	V 1/3	38	1,496
28	38	V 1/2 SP	40.5	1,594
36	45	V 1 S	50	1,969
48	60	V 2 L	66.5	2,618
52	65	V 2 1/2 S	72	2,835
60	70	V 3 S	77.5	3,051
68	80	V 5	90	3,543
76	88	V 5 N	100	3,937
80	90	V 6 M	103	4,055
85	95	V 6 S	105.5	4,154
95	115	V 8 L	129	5,079
100	120	V 9	135	5,315

Other sizes/horn fits upon request.

Tested Product:

Code: ST EPL 095 D 00 SW Max (caliber 095 EP low) / RSD 105
Strand Length & Mtrs: 450 mm / 20m
Presticking: DCP-DCPS

Machinery at customer:

Stuffing machine: Schröder ham pusher
Filling Horn Ø / l (mm): 85 mm/800 mm
Clipping Machine: ICA 8700 / Clip Size: S-8744

Process & product:

Type of product: cooked Nötrulle or smoked Saltrulle (whole meat, 2 pieces in one)
Product Weight: ~7,7 kg ~(950 mm) Target size (mm): 105 mm
Tested quantity: 19+19+19 (450 kg) Number of breaks: 1

Customer comments on results: Stuffed to desired diameter 105–106 mm. This was the first time anybody was able to deliver a shirred casing for the application demanding a caliber 95 mm stuffed on a 85 mm horn. Until now, we always had to use reel stock and shirr on site. This will significantly speed up the stuffing.

FIBROUS – BRILLIANT

If you think that the look and appearance of the sausage is just as important as the casing performance, then the new Brilliant fibrous product from ViskoTeepak is the only choice for you. The excellence of Brilliant lies in its look; the attractive glossy appearance will catch any customer's attention.

Seeking customer attention?

ViskoTeepak Brilliant combines the excellent technical characteristics of fibrous casing with a high gloss look. The addition of this special feature attracts the attention of consumers to products presented in casings thanks to the glossy, yet natural look. Any dry or semi-dry product supplied as a portion sausage will benefit from this innovation.

Coating innovation

The high gloss appearance of ViskoTeepak Brilliant casings has been achieved through a newly developed coating technology, which results in a casing that facilitates the combination of visual characteristics with excellent machinability, clippability, size control and strength that are typical of ViskoTeepak fibrous casings.



Features	Benefits
Attractive glossy look	Enhanced presentation of portion sausage
High strength and clippability	Highest efficiency in sausage production
Large range of adhesion levels	Wide range of applications possible
Finished as reels, shirred, cut pieces	No changes in actual sausage production necessary
Printing	Up to 6-color printing possible
Netting	The combination of Brilliant and Net creates a truly unique product



FIBROUS – FLX

FLX is the thinnest fibrous casing ever produced by ViskoTeepak. It provides increased meters per reel and strand compared to traditional fibrous casing. Despite the increased meters in a strand you will experience faster soaking times and with its thin construction you get improved transparency.

We all know fibrous casing as one of the most versatile casing for various types of applications due to its high mechanical strength, excellent shrink/stretch properties and smoking capabilities. What is additionally new with FLX casing is the improved transparency. The feature has an appearance pleasing to the eye and reveals more visible sausage structure. This is an important feature for many sausage applications and manufacturers. The product is designed to be used mainly in all kinds of dry, semi-dry, cooked and smoked chunk sausages.

The thinnest fibrous casing in the world

The feature of the construction is based on a new production concept which utilises the united casing manufacturing technology knowhow of our company. The outcome is the thinnest fibrous casing ever produced creating significant potentials for time and cost savings in production processes.

More meters on a shirred strand

All ViskoTeepak casings are nowadays tailor-made to fit the end producer requirements and one of the benefits of FLX is the significant improvement in shirred meters per strand. Our tests have shown that we can shirr up to 15- 20% more meters per strand versus other fibrous casing types.

This does not only provide cost reduction opportunities for convertor partners but also the possibility of higher efficiency for end customers. ViskoTeepak will deliver the FLX casing in 1000m reels instead of 800/600m which will give cost savings for logistic operations. Together with more meters per shirred strands and/or box/pallet this will provide significant storage and transport cost saving opportunities for all parties.

Strong

Despite thinner construction, the new FLX is strong enough to meet the efficient stuffing requirements of today's standards. During the development process of FLX casing we were testing the stuffing performance with the most recent designed and fastest clipping machine on the market. With speeds of 120 sausages / minute (250 g portion/ calibre 45), FLX coped with the tough testing conditions without any problems.

Improved stuffing output

With capabilities like this together with increased shirred meters per strand one can foresee good opportunities to improve the stuffing outputs as well. Of course due to FLX casing construction we do not recommend to use FLX in sliced applications where sausage length and weight have an impact on size stability as FLX is not designed for slicing applications. FLX is a good option for sausages sold as chunks.

Fast soaking

Due to the construction and design the new FLX soaks very fast and easy. The appearance of the final sausage is closer to a collagen outlook than the outlook XL fibrous can offer, which makes FLX an interesting option for traditional collagen applications where fibrous casing has so far not been able to compete due to outlook differences.

Overstuffing

With excellent overstuffing capabilities the FLX casing has proved savings in casing usage, provides nice round shoulders on the sausages and due to its thin construction a smaller clip size is needed, also resulting in long term cost savings for clips.

15–20% more meters per strand versus other fibrous casing types.





FIBROUS – XTREME

The patented Xtreme casing solution is an extremely high efficient casing that is perfect for the tough large producer conditions where the casing needs to cope with hard stuffing and high speed peeling. Xtreme is the ideal casing in semidry and dry sausage production for in-house peeling where performance and peeling control are crucial.

Xtreme conditions

ViskoTeepak has developed a truly unique casing for the most extreme conditions and production processes. Xtreme makes it possible to push the limits for production, and with perfectly modified adhesion and release properties it is possible to reach the highest yields in all steps of the sausage production process. The strength of the casing not only makes it possible to stuff at the highest speeds; it also allows for perfect caliber stability and maximized sausage length.

A true innovation

The secret of the Xtreme innovation is in the structure and makeup combination of the multilayer fibrous casing. The casing construction and performance are made unique by using a DVC method and injecting the inside layer with adhesion promoter combined with the injection of peel aid into the outer layer. The

outer layer peel aid injection also has a moisture retention function, which in our own test kitchen has given sausage makers the option to dry out their sausages faster without the case hardening.

Controlling both cling and peel

What you end up with is a product that has all the advantages of good meat adhesion, but with adhesion control modified and tailor-made according to your process it is still possible to reach perfect peeling conditions. We can offer two standard adhesion levels (XM HPU & XM HPM) with the possibility to tailor-make according to your specific process requirements.

Essentially, this casing allows for controlled meat cling levels in the initial steps of the sausage production process. But when also adding a fixed rate peel injection, you will achieve assist peeling and moisture retention by the time the sausages leave the rack.





The preserve properties can be combined with all of ViskoTeepak's basic casings, meaning you can combine with some of the most effective and productive casing solutions in the world

FIBROUS – PRESERVE

ViskoTeepak is continuing on the path of product development and is now ready to introduce its new Preserve casing, a fibrous casing with antimycotic properties. The preserve properties can be combined with all of ViskoTeepak's basic casings, meaning you can combine some of the most effective and productive casings in the world with a functionality that inhibits and reduces fungal growth.

The Preserve concept includes a coating with anti-fungal properties that degrades the outgrowth of fungal in dairy and meat products. It is developed to work in even the toughest production conditions where fungal is a problem. The casing has a coating that protects the sausage from mould infestation, a common problem among dry sausage production facilities. Even though it cannot be guaranteed to prevent all mould growth, due to the large variety of existing moulds, all tests have shown that the Preserve casing exhibits less mould growth than all similar untreated casing products tested.

Possibilities to tailor-make a solution
The Preserve concept can be combined with all our adhesion levels and colour alternatives as well as with all ViskoTeepak Fibrous casing types. This means that we can combine characteristics and tailor-make the perfect solution for each customer. Also, the level of antifungal strength can be adjusted. As a standard, we offer two different levels, one to fit the most basic needs (Preserve 3) where casing needs to withstand challenging conditions, and a second higher level (Preserve 1) that maximises protection in order to suit the most demanding applications. This level reaches the highest level of protection within legal context.

Approved by safety authorities
The active component that is applied through a coating procedure to the surface of the casings is Natamycin. Natamycin is also known as Pimaricin and is sometimes sold as Natacyn. It is a naturally occurring antifungal agent produced during fermentation by the bacterium *Streptomyces natalensis*, which is commonly found in soil. Natamycin has been used for decades in the food industry as a means to combat fungal outgrowth in meat and dairy products and is approved by the safety authorities.



FIBROUS – CRF

COLLAGEN REPLACEMENT FIBROUS

We all know fibrous brings superior handling qualities and outperforms collagen in most aspects. ViskoTeepak is now releasing the new CRF innovation and, as the name suggests, the target is to outperform and replace collagen.

How would it sound if we told you we can now offer all the advantages of our strong, consistent and high speed fibrous packed in the mat outlook of collagen? That would sound pretty good, wouldn't it? Well, we are happy to release the new ViskoTeepak Collagen Replacement Fibrous (CRF) innovation.

Without compromising on look, CRF provides you with multiple advantages compared to collagen, including high mechanical strength, excellent shrink and stretch properties and smoking capabilities. CRF is perfect for applications within dry and semi-dry segments, smoked/cooked and smoked/dried applications. It provides good stuffing performance with a beautiful mat look.

Productivity and handling

In general, fibrous provides for more flexible production planning compared to collagen casing; thanks to its easy handling, CRF is no exception. Customers can count on shorter notice when changing recipes, handling with shorter soaking times and a product that evolves with new applications and developments in the market.

CRF also brings exceptional performance in comparison with many traditional fibrous products. We can significantly improve the shirred meters per stand. This opens the opportunity for partners to achieve cost reductions and also benefits customers through higher efficiency.

Fast soaking and low wear on machinery

Another detail not always taken into consideration is the lower machinery wear in no corrosion, since CRF is soaked in pure water, and not salt like collagen. Due to its slick construction, it also soaks very fast and provides that mat and semi-transparent traditional collagen look.

Overstuffing and less casing use

CRF will provide you with excellent overstuffing properties in line with and even outperforming our famous success FLX. These properties will allow for a nice look and round shoulders, but ensure that you need less casing to produce an equal sausage-weight as compared to collagen. In essence, with CRF you will attain higher production output combined with effective casing usage and due to its thin construction require a smaller clip size, that long term allows for cost savings for clips.

Consistent need for speed

CRF, like ViskoTeepak fibrous in general, meets all of today's high stuffing requirements. It has been developed to offer good calibre stability and tear resistance achieved through excessive and comprehensive testing. It is primarily designed and meant for sausages sold as chunks, and not for slicing operations. Compared to collagen, customers will also be able to stuff colder salami mass without compromising quality and, since fibrous is not an animal based product, it ensures consistent colour quality and high quality printing.

FIBROUS – LCXL

LARGE CODE XL

The high yield casing line XL has now been further developed and improved in larger calibers and in an even greater range to create the perfect fit for every application. If you are looking for a highly productive and cost-effective casing option for hams and luncheon meat products, then look no further ...

The XL family just got bigger in two ways. The new LCXL casing targets hams, luncheon meats and more. It comes in calibers 80-165 and brings all the regular benefits of the XL casing.

More options

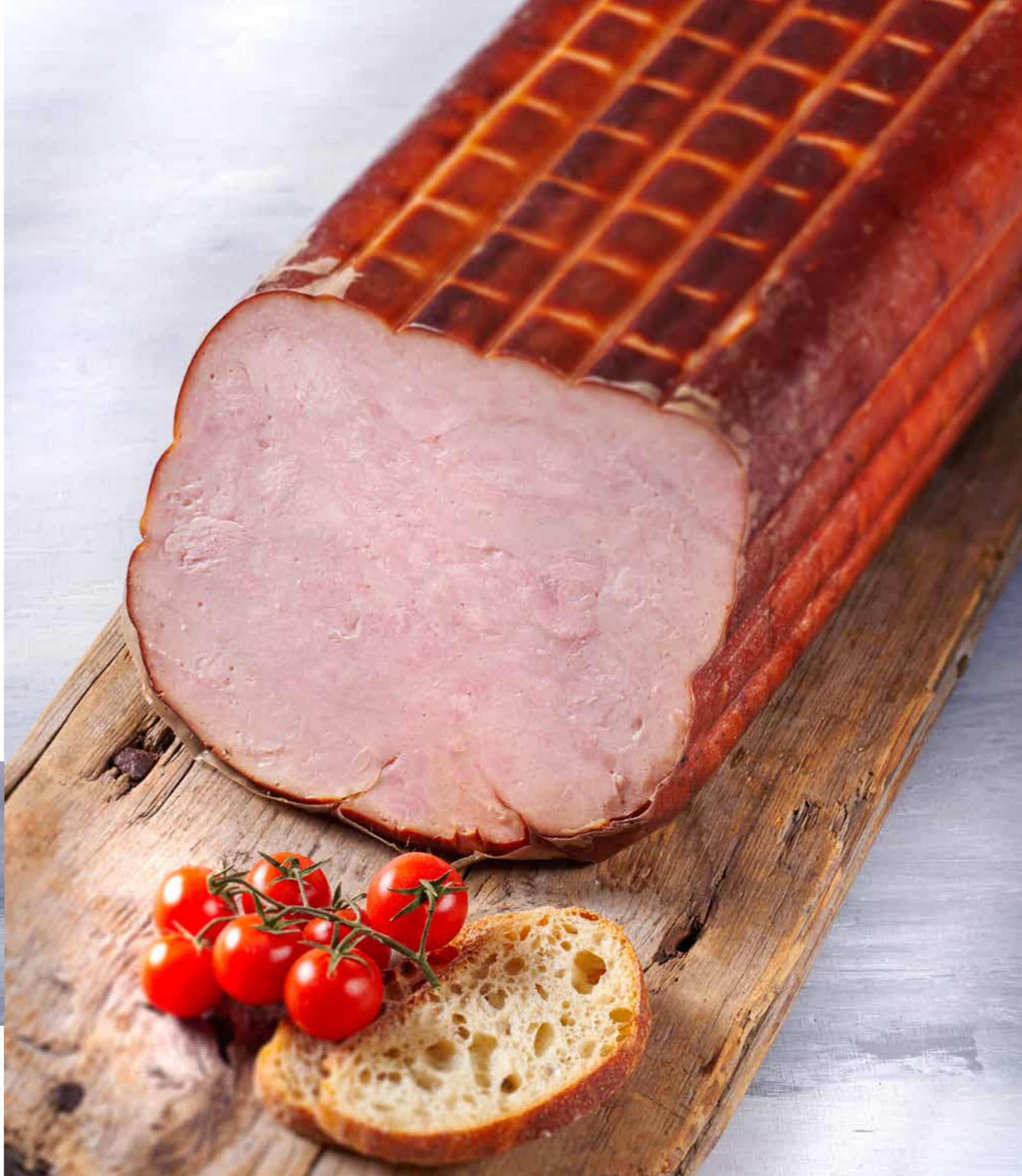
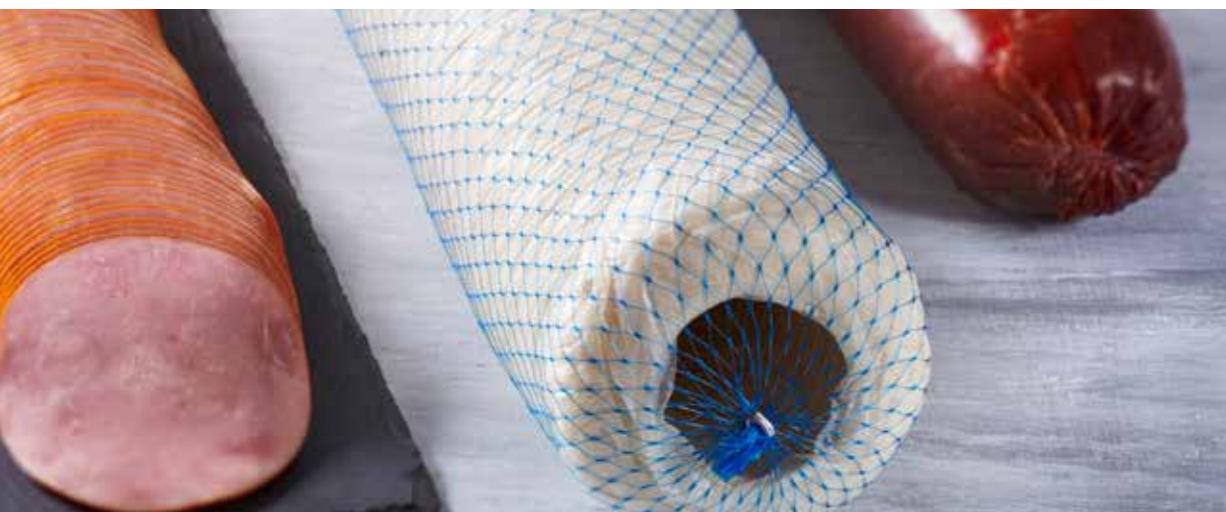
LCXL will be available in adhesion levels that cater for the regular and Easy Peel segments on top of the standard Meat Cling option. This creates a great basic casing that is suitable for a wider range of applications.

Premium stuffing performance

LCXL is a strong and reliable casing that allows for easy stuffing. The light characteristics also benefit permeability and smoking absorbency as well as fast soaking procedures.

Naturally nice outlook

By modifying the adhesion, colors and construction thickness, the LCXL offers a very nice mat outlook. In combination with exceptional shirring standards and shirring benefits that provides a direct added value in more meters per strand combined with good stuffing performance, LCXL offers a dynamic casing option from which most food producers can benefit. All XL casings are available in a variety of colors, both standard and by request. They are offered in various easy peel levels and characteristics. The new LCXL group is offered for applications that are often racked.



FIBROUS – GLIDE

The Easy Glide Fibrous casing is a special development for stuffing of whole muscle and pieces of meat in artificial casings. Shirred Fibrous casings allow for easy, fast and efficient operating procedures with less time consumption and labor.

When filling or stuffing pork loins, hams, turkey hams, roast beef or other whole meat products in casings, the casing is exposed to very high pressure and strains. The casing therefore needs to be of a very high quality construction combined with premium easy gliding features.

Exact operations

ViskoTeepak Glide is the optimal casing solution for this segment, providing prime performance through its strong casing with a smooth inside. When using the Glide casing in pre-shirred strands combined with a double clip system, any food producer

with the right setup can achieve an efficient operation procedure that reaches excellent length and weight requirements.

Customizable with options

The Glide casing can be customized to any customer's wish to fit the specific needs of the desired process. It is well suited for use with fresh meat, cured or chopped pieces and for challenging spice coat applications. It can also be combined with multiple ViskoTeepak options like cut, tied and is available as RTU and with pre-smoke alternatives.

High efficiency

The high productivity of the Glide casing results in direct value for the food processor. The construction and the premium EPG easy slide element results in fewer breakages and less waste. As always, ViskoTeepak casings allow for usage of supreme stuffing horn size and horn fit, in combination with best casing length and strand length ratio. In all, the Glide casing will result in a high efficient and reliable process for any food processor.

Frozen applications

Another well known challenging segment is that of frozen products and handling the peeling in frozen applications. The Glide casing has also shown great results in this segment and has provided a much-needed, long-awaited solution for many customers.

The Glide casing will result in a high efficient and reliable process for any food processor





STANDARD COLOR OFFERING

Standard Colors	ST, XL, LCXL, BRILLIANT		FLX & CRF		Notes
	H	L	H	L	
○ Clear 00	✓	✓		✓	
● Blue 05	✓	✓		✓	
● B 07	✓	✓		✓	
● Nat 08		✓		✓	
● Mahogany light 10	✓	✓		✓	
● Amber 13	✓	✓		✓	
● Brown N 16	✓				
● Mahogany 17	✓	✓		✓	Hanko, available up to size 75
● Red S 18	✓	✓		✓	
● Cherry Red 20		✓		✓	
● Sienna 23		✓		✓	
● Nat 30	✓	✓		✓	
● Nat 34		✓		✓	
● Nat 35	✓	✓		✓	
● Orange Brown 36	✓	✓		✓	
● Meranti 37		✓		✓	
● Nat 40	✓	✓		✓	
● Black 41	✓	✓		✓	
● Red 42		✓		✓	
● Red Brown 43		✓		✓	
○ White 49	✓	✓			
● Nat 55	✓	✓		✓	
● Onion 56	✓	✓		✓	
● Gold 58		✓			
● Dark Cherry red 79	✓				Hanko, available up to size 75
● Orange light 82	✓				
● Amber 83	✓	✓		✓	
● Brown mahogany 84	✓				Hanko, available up to size 75
● Brown 85	✓				
● Brown 86	✓				Hanko, available up to size 75
● Beige 87	✓				
● Hazelnut 88	✓				
● Brown 89	✓				
● Nat 90	✓				
● Brown vat dye 91	✓				Hanko, available up to size 75
● Dark brown 92		✓		✓	
● Brown 93		✓		✓	
● Brown 94	✓				
● Brown mahogany 96	✓				
● Red 97	✓				Hanko, available up to size 75
● Red brown 98	✓				
● Red 99	✓				
● Medium brown				✓	

H=Hanko, L=Lommel. Other colors are available on request. Please look at our color books for most accurate color sample.
 Xtreme casing is offered in Clear 00, Glide is offered in Clear 00 and Blue 05

Fibrous size offering

Size availability & RSD, when fully soaked.

Trade size	ST		XL		LCXL	Brilliant	FLX & CRF	Max		Xtreme
	DVC Rsd mm	SVC Rsd mm	DVC Rsd mm	SVC Rsd mm	DVC Rsd mm	SVC Rsd mm	DVC Rsd mm	DVC Rsd mm	SVC Rsd mm	DVC Rsd mm
28		28								
32	32									
33		33		33		33			35	
34	34			34		34				
35		35		37		37			38	
36	37		37				39			
37	38	38							40	
38		39		39		39				
39	40	40	40				42			
40	42	42	42	42		42	43		43	
41	43	43	43				44		44	
42	44	44	44	44		44			45	
43	45		45	45		45				
44		46		46		46	48			
45	48	48	48	48		48	50	48	50	
46		50	50	50		50			51	
47	51	51	51	51		51	53	51,5	51,5	
47,8		52,5							53	
48	53	53	53	53		53	54	54	54	53
49		53,5							53,5	
50	54	54	54	54		54	55		55	54
52		55								
53	56	56	56	56		56	58		58	
54	57									
55	58		58				61			58
56	59	59		59		59			61	
57	61	61	61				63		62	
58	63	63	63	63		63			64	
60	65	65	65	65		65	66		66	65
63	69		69				71	70		
65		70		70		70			72	
68	73	73							73,5	
69		74							75	
70	76	76		76		76	78	78	77,5	76
71	78		78							78
73		81								
75		82		82	83	82	83		83	
77	84	84	84	84		84				
79		86								86
80	88	88	88	88	89	88		90	89,5	88
82	90	90						91	91	
83	91	91							92,5	
84		93								

Preserve casing is available in sizes 32–100 and bigger sizes upon request. Glide & LCXL casing is available in size 75–165.

Size availability & RSD, when fully soaked.

Trade size	ST		XL		LCXL	Brilliant	FLX & CRF	Max		Xtreme	
	DVC Rsd mm	SVC Rsd mm	DVC Rsd mm	SVC Rsd mm	DVC Rsd mm	DVC Rsd mm	DVC Rsd mm	DVC Rsd mm	SVC Rsd mm	DVC Rsd mm	
85	94	94	95	95	96	95			95	95	94
88	97	97									
89	99		101								
90	101	101	102	102	102	101			102	102	101
91	102										
92	103	103	103		104				104		
95	105	105				105			106	106	
96	106		106		107				107		
100	109	109	109		110	109			110	110	
102	111	111							112	113	
104		114									
105	115										
106	116	116			117				117		
107		117									
108		118									
109	119								120		
110		122									
111	123				124				124		
112		124								125	
113	125				126				126		
115		127									
118	131				132				132		
120		133								134	
127		136									
130	139	139			140				140		
133	143				144				145		
135	144	144								145	
140	147				148				148		
145		150									
150	156	156			157				157	157	
153		158									
160	167	167									
165	172	172			173				173	173	
169		176									
175		180									
185		190									
195		203									
210		216									
230	236										
245		252									

Preserve casing is available in sizes 32–100 and bigger sizes upon request. Glide & LCXL casing is available in size 75–165.

Fibrous size US offering

Size availability, RSD and circumference

US size	ST			XL			LCXL			Brilliant		
	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.				Rsd mm	Rsd in	Circ.
V 1/6	28	1,10	3 15/32									
V ISV	32	1,26	3 31/32									
V 1/4	33	1,30	4 3/32	33	1,30	4 3/32				33	1,30	4 3/32
V ISU	34	1,34	4 7/32	34						34	1,34	4 7/32
V 1/3	35	1,38	4 11/32	37	1,46	4 19/32				37	1,46	4 19/32
V IST	37	1,46	4 19/32	37	1,46	4 19/32						
V 1/3L	38	1,50	4 23/32									
V 1/2SP	39	1,54	4 27/32	39	1,54	4 27/32				39	1,54	4 27/32
V ISP	40	1,57	4 30/32	40	1,57	4 30/32						
V 1/2P	42	1,65	5 6/32	42	1,65	5 6/32				42	1,65	5 6/32
V 1/2PL	43	1,69	5 10/32	43	1,69	5 10/32						
V ISL	44	1,73	5 14/32	44	1,73	5 14/32				44	1,73	5 14/32
V ISD	45	1,77	5 18/32	45	1,77	5 18/32				45	1,77	5 18/32
V IK	46	1,81	5 22/32	46	1,81	5 22/32				46	1,81	5 22/32
V IS	48	1,89	5 30/32	48	1,89	5 30/32				48	1,89	5 30/32
V ISM	50	1,97	6 6/32	50	1,97	6 6/32				50		
V I	51	2,01	6 10/32	51	2,01	6 10/32				51	2,01	6 10/32
V IL	52,5	2,07	6 16/32									
V IW	53	2,09	6 18/32	53	2,09	6 18/32				53	2,09	6 18/32
V IWM	53,5	2,11	6 20/32									
V IM	54	2,13	6 22/32	54	2,13	6 22/32				54	2,13	6 22/32
V I 1/2	55	2,17	6 26/32									
V I 1/2K	56	2,20	6 29/32	56	2,20	6 29/32				56	2,20	6 29/32
V I 1/2S	57	2,24	7 1/32									
V 2G	58	2,28	7 5/32	58	2,28	7 5/32						
V 2M	59	2,32	7 9/32	59	2,32	7 9/32				59	2,32	7 9/32
V 2	61	2,40	7 17/32	61	2,40	7 17/32						
V 2SL	63	2,48	7 25/32	63	2,48	7 25/32				63	2,48	7 25/32
V 2L	65	2,56	8 1/32	65	2,56	8 1/32				65	2,56	8 1/32
V 2 1/2K	69	2,72	8 17/32	69	2,72	8 17/32						
V 2 1/2S	70	2,76	8 21/32	70	2,76	8 21/32				70	2,76	8 21/32
V 2 1/2	73	2,87	9									
V 2 1/2R	74	2,91	9 4/32									
V 3S	76	2,99	9 12/32	76	2,99	9 12/32				76	2,99	9 12/32
V 3 1/2	78	3,07	9 20/32	78	3,07	9 20/32						
V 3 1/2L	81	3,19	10 1/32									
V 4S	82	3,23	10 5/32				83	3,27	10 9/32	82	3,23	10 5/32
V 4	84	3,31	10 13/32	84	3,31	10 13/32				84	3,31	10 13/32
V 4L	86	3,39	10 21/32									
V 5	88	3,46	10 28/32	88	3,46	10 28/32	89	3,50	11	88	3,46	10 28/32
V 5K	90	3,54	11 4/32									
V 5L	91	3,58	11 8/32									
V 5 1/4	93	3,66	11 16/32									

US size	FLX & CRF			Max			Xtreme		
	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.
V 1/6									
V ISV									
V 1/4				35	1,38	4 11/32			
V ISU									
V 1/3				38	1,50	4 23/32			
V IST	39	1,54	4 27/32						
V 1/3L				40	1,57	4 30/32			
V 1/2SP									
V ISP	42								
V 1/2P	43	1,69	5 10/32	43	1,69	5 10/32			
V 1/2PL	44	1,73	5 14/32	44	1,73	5 14/32			
V ISL				45	1,77	5 18/32			
V ISD									
V IK	48	1,89	5 30/32						
V IS	50	1,97	6 6/32	50	1,97	6 6/32			
V ISM				51	2,01	6 10/32			
V I	53	2,09	6 18/32	51,5	2,03	6 12/32			
V IL				53	2,09	6 18/32			
V IW	54	2,13	6 22/32	54	2,13	6 22/32	53	2,09	6 18/32
V IWM				53,5					
V IM	55	2,17	6 26/32	55	2,17	6 26/32	54	2,13	6 22/32
V I 1/2									
V I 1/2K	58	2,28	7 6/32	58	2,28	7 5/32			
V I 1/2S									
V 2G	61	2,40	7 17/32				58	2,28	7 5/32
V 2M				61	2,40	7 17/32			
V 2	63	2,48	7 25/32	62	2,44	7 21/32			
V 2SL				64	2,52	7 29/32			
V 2L	66	2,60	8 5/32	66	2,60	8 5/32	65	2,56	8 1/32
V 2 1/2K	71			70					
V 2 1/2S				72	2,83	8 28/32			
V 2 1/2				73,5	2,89	9 2/32			
V 2 1/2R				75	2,95	9 8/32			
V 3S	78	3,07	9 20/32	78	3,07	9 20/32	76	2,99	9 12/32
V 3 1/2							78	3,07	9 20/32
V 3 1/2L									
V 4S	83	3,27	10 9/32	83	3,27	10 9/32			
V 4									
V 4L							86	3,38	10 20/32
V 5				90	3,54	11 4/32	88	3,46	10 28/32
V 5K				91	3,58	11 8/32			
V 5L				92,5	3,64	11 14/32			

Glide & LCXL casing is available in size 4S–12.

Other sizes are available on request. | Recommended stuffing diameters are intended as a guide for test purposes (no warranty), as information provided herein represents our best knowledge.

Fibrous size US offering

Size availability, RSD and circumference

US size	ST			XL			LCXL			Brilliant		
	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.
V 5 1/2	94	3,70	11 20/32	95	3,74	11 24/32	96	3,78	11 28/32	95	3,74	11 24/32
V 5N	97	3,82	12									
V 6G	99	3,90	12 8/32	101	3,98	12 16/32						
V 6M	101	3,98	12 16/32	102	4,02	12 20/32	102	4,02	12 20/32	101	3,98	12 16/32
V 6K	102	4,02	12 20/32									
V 6N	103	4,06	12 24/32	103	4,06	12 24/32	104	4,09	12 28/32			
V 6S	105	4,13	12 31/32							105	4,13	12 31/32
V 6	106	4,17	13 3/32	106	4,17	13 3/32	107	4,21	13 7/32			
V 6 1/2	109	4,29	13 15/32	109	4,29	13 15/32	110	4,33	13 19/32	109	4,29	13 15/32
V 6 1/2M	111	4,37	13 23/32									
V 7	114	4,49	14 3/32									
V 7 T	115	4,53	14 7/32									
V 7 L	116	4,57	14 11/32				117	4,61	14 15/32			
V 7 1/2	117	4,61	14 15/32									
V 7 1/2K	118	4,65	14 19/32									
V 7 1/2L	119	4,69	14 23/32									
V 8S	122	4,80	15 2/32									
V 8T	123	4,84	15 6/32				124	4,88	15 11/32			
V 8	124	4,88	15 10/32									
V 8 1/2	125	4,92	15 14/32				126	4,96	15 19/32			
V 8L	127	5,00	15 22/32									
V 9M	131	5,16	16 6/32				132	5,20	16 10/32			
V 9	133	5,24	16 15/32									
V 9L	136	5,35	16 26/32									
V 9 1/2	139	5,47	17 6/32				140	5,51	17 10/32			
V 9 1/2K	143	5,63	17 22/32				144	5,67	17 26/32			
V 10	144	5,67	17 26/32									
V 10L	147	5,79	18 6/32				148	5,83	18 10/32			
V 10 1/2	150	5,91	18 18/32									
V 11	156	6,14	19 9/32				157	6,18	19 13/32			
V 11L	158	6,22	19 17/32									
V 11 1/2	167	6,57	20 20/32									
V 12	172	6,77	21 8/32				173	6,81	21 13/32			
V 12 1/2	176	6,93	21 24/32									
V 12L	180	7,09	22 8/32									
V 13	190	7,48	23 16/32									
V 14	203	7,99	25 3/32									
V 18	216	8,50	26 22/32									
V 20	236	9,29	29 5/32									
V 24	252	9,92	31 5/32									

US size	FLX & CRF			Max			Xtreme		
	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.	Rsd mm	Rsd in	Circ.
V 5 1/2				95	3,74	11 24/32	94	3,70	11 20/32
V 5N									
V 6G									
V 6M				102	4,02	12 20/32	101	3,98	12 16/32
V 6K									
V 6N				104	4,09	12 27/32			
V 6S				106	4,17	13 3/32			
V 6				107		13 7/32			
V 6 1/2				110	4,33	13 19/32			
V 6 1/2M				113	4,45	14			
V 7									
V 7 T									
V 7 L				117	4,61	14 15/32			
V 7 1/2									
V 7 1/2K									
V 7 1/2L				120	4,72	14 27/32			
V 8S									
V 8T				124	4,88	15 10/32			
V 8				125	4,92	15 14/32			
V 8 1/2				126	4,96	15 19/32			
V 8L									
V 9M				132	5,20	16 10/32			
V 9				134	5,28	16 18/32			
V 9L									
V 9 1/2				140	5,51	17 10/32			
V 9 1/2K				145	5,71	17 30/32			
V 10				145	5,71	17 30/32			
V 10L				148	5,83	18 10/32			
V 10 1/2									
V 11				157	6,18	19 13/32			
V 11L									
V 11 1/2									
V 12				173	6,81	21 13/32			

Glide & LCXL casing is available in size 4S-12.
 Other sizes are available on request. | Recommended stuffing diameters are intended as a guide for test purposes (no warranty), as information provided herein represents our best knowledge.

TOTAL ADHESION CONTROL

Adhesion control is one of the key elements in tailor-making fibrous casing. It is also one of the keys elements when taking full control of the sausage-making process and in peeling operations. ViskoTeepak masters both injection and bubble techniques and can offer both increased release and adhesion solutions. With multiple meat cling and easy peel levels combined with numerous converting services and techniques, we have a solution ready to fit any customer's process.

Regular

Regular is the standard for fibrous and has no interior impregnation in the casing. This is typically used for applications where no special treatment such as meat cling or easy peel is required.

Meat Cling



Meat Cling is used for the production of cooked, smoked and dried sausages, where controlled meat adhesion is required to ensure that the casing adheres to the sausage surface in a predictable and controlled manner during the ripening and curing cycles.

Meat Cling fibrous casing offers excellent adhesion, permeability and peelability. It is especially suitable for dry and semi-dry products such as salami-type sausages. You can choose a meat cling level that best serves the production demands. For example, the lower level is used for dipped and coated salamis where casing is peeled off before further processing. A stronger meat cling solution is needed for dry sausages with long ripening times. Meat Cling guarantees the consistency of adhesion along the entire surface of the sausage. Since the casing faithfully adheres to the sausage, high-end product quality and an attractive appearance are also ensured.

A product with high Meat Cling needs to be able to peel properly; therefore, ViskoTeepak Meat Cling also offers the best peelability, which ensures easy handling for the manufacturers of meat products, retailers and consumers alike. ViskoTeepak can offer a range of meat cling levels ranging from Meat cling Ultra (MCU), Low (MCL), high (MCH) to Extra (MCE).

Meat Cling is available in all standard shapes and sizes as well as in a range of attractive colors. The casings can also be supplied with up to six-color prints.

Easy Peel



Easy Peel is a special treatment on the inner surface that helps the peeling process. It is ideal for cooked and smoked meat products, hams and emulsion type sausages where easy peeling properties are needed. Easy Peel is also very useful if the product is tempered and the casing is peeled off before slicing.

Easy Peel casing offers excellent stretchability and permeability for high and predictable end-product quality. No matter whether you're processing dry hams, smoked meats, cured meats or other similar products, you can always rely on Easy Peel's first-class peeling and handling properties. By finding the optimal balance between peelability and adhesion, it is possible to speed up the sausage production process and improve the efficiency of the operations. Less manual labour is needed for peeling, and if the end user performs the peeling, the easy and effortless release of casing also contributes to consumer preference and satisfaction.

Easy Peel is available in all standard shapes and sizes as well as in a range of attractive colors. It can be tailored from low to extra high Easy peel (EP-Zip>EPL>EPH>EPE>EP-IT). It can be delivered shirred, clipped or tied to length, reel-stock and supplied with up to six-color prints.

Fibrous adhesion table

Typical application	
MCE	MeatCling Extra Slicing casing on application & long maturing dry sausage
MCH HP-MCH	Std MeatCling High High Precision Dry / semi-dry sausage with firm meat cling
MCL HP-MCL	Reduced MeatCling Low High Precision dry / semi-dry sausages where reduced MeatCling is preferred. Usable also in application with high tendency for gel formation
MCU HP-MCU	High reduced MeatCling Ultra High Precision Mainly for dry / semidry slicing applications
REG	Regular Std casing for application where no special coating is needed
EP-Zip EPL	Easy Peel EP Injection Reduced Easy Peel Low Reduced EP for slicing applications or dry applications where EP is needed
EPH	std EasyPeel high std EP casing for in-house peel applications.
EPE	Easy Peel extra Special applications like cured processed whole meat (with mold)
EP-IT	EasyPeel IT (RTU) Special EP casing for very demanding applications like products peeled frozen
EP extra	EP low
EP high	EP high
no impregnation	Xtreme MC Ultra MC low MC high MC extra


↓ Release increases
↑ Adhesion increases
Regular

For more adhesion solutions and case studies, please visit our partner network, www.viskoteepak.com.

TAILOR-MAKE BY CONVERTING

ViskoTeepak can offer you numerous converting services and techniques to complete our fibrous solutions. We can offer the most comprehensive selection of casings and fibrous solutions in the world. With a wide variety of possible combinations, ViskoTeepak feel comfortable in saying that we have something to offer all different types of customers. Our solutions are simply some of the most productive solutions around. We will always stand by our word so give us the chance to develop and test our tailor-made solutions for your operations, and we will prove our words in numbers and facts.

Product options

	ST	XL	Max	Brilliant	FLX & CRF	Xtreme	Preserve	LCXL	Glide
Calibers	28–245	33–100	35–165*	33-100	39–75	48-90	32–100	75–165	75–165
Shirring	✓	✓	✓	✓	✓	✓	✓	✓	✓
Easy Peel IT	✓	✓	✓	✓	✓	✓	✓	✓	✓
RTU	✓	✓	✓	✓	✓	✓	✓	✓	✓
Printing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Net	✓	✓	✓	✓	✓	✓	✓	✓	✓
Smoke	✓		✓						✓
Cutting	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rewinding	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clipping	✓ (<195)	✓ (<90)	✓ (<90)	✓ (<90)	✓	✓	✓	✓	✓ (<195)
Pre-Sticking	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drilling	**	✓	✓	✓	✓	✓	✓	✓	**
Sewing	✓			✓					
Tying	✓ (<195)	✓ (<90)	✓ (<90)	✓ (<90)	✓	✓	✓	✓	✓ (<195)
Bundling	✓	✓	✓	✓	✓	✓	✓	✓	✓
Smoke Barrier	✓								

* Other sizes upon request

** Only in combination with tying or clipping

Converting and services

Shirring

ViskoTeepak shirred fibrous casings feature a highly consistent shirring pattern enabling failure-free stuffing. Thanks to the patented ViskoTeepak shirring technology, high casing density and a large inner bore are obtained without an effect on soaking and stuffing. What's more – the large inner bore and extended length per strand result in a fluent and highly efficient workflow.

We can shirr RTU up to caliber 245 with up to 60 meters per strand.

A shirred casing is always in a premium condition and less prone to smearing, helping to maintain an attractive end-product appearance. Shirred casings speed up your production by simplifying planning and making the handling of casings fast and easy. In short, time and cost savings come standard with a strand of shirred casings.

Spiral shirring

Spiral shirring is a state of the art technology that is taking shirring to the next level. By using a special technique, we are able to achieve more meters in a stick compared to normal shirring. Spiral shirring is therefore all about creating fast operations and high yields. By compressing as much casing as possible through the revolutionizing technique, spiral shirring makes the work easier and faster for the sausage producer. More meters in a stick, obtained through spiral shirring, combined with a larger stuffing horn with Max casing, is an example of one of the most productive casing solutions and combinations in the market today.

Easy Peel IT



Easy Peel IT is a RTU casing with special inner surface making it easy to peel from the sausage. It is ideal for the production of cooked, smoked meats and bologna type sausages, where easy release is required for in-house peeling operations.

No matter whether you're processing hams, smoked meats, cured meats or other similar products, you can always rely on Easy Peel IT's first-class peeling and handling properties. The optimal balance between peelability and adhesion is attained through reduced yet precisely controlled casing adhesion. Easy Peel IT speeds up the meat producer's process, thereby improving the efficiency of their operations. Less manual labour is needed for peeling, and where the end user performs the peeling, the easy and effortless release of the casing also contributes to consumer preference and satisfaction.

Easy Peel IT ensures superior peelability without compromising on the excellent calibre consistency, permeability and high temperature resistance of the ViskoTeepak fibrous. It is ideal for the processing of fresh and salted meat products, as well as products that are smoked or cooked. The easy-peeling coating effectively

prevents excessive casing adhesion to the meat surface. Easy Peel IT converting can be applied to most fibrous products and is available as reel-stock or shirred, and clipped or tied to length. It can be combined with all available product colors and can be printed with up to six-colors.

Ready To Use (RTU)



Ready to Use is a special application for high-speed stuffing that requires no soaking before stuffing. Casing is pre-moisturized and shirred so the operator can use the strands directly from the box, which reduces processing time and eliminates the risk of contamination from soaking water. Ready to Use

casing is shirred with the latest technology, which gives the customer multiple benefits, including less product smearing, better handling and less space taken up in warehouses for the casing as well as no leftovers from production. If RTU casing is used in in-house peeled slicing or hanging application, a proper scale up program is recommended to secure size stability.

Printing



ViskoTeepak can offer double side, six-color printing, which will accommodate all your requirements. With top of the line printing, it is possible to create that outstanding visual appearance and eye-catcher to promote any fibrous product, allowing you to market your product so that it stands out among the competition. With printing, you can tailor make your products to make them unique and impressive as well as to display nutrition and ingredient sections.

Net



The perfect combination of fibrous casings and nonelastic or semi-elastic net. The Net family will give you that perfectly appealing appearance combined with high mechanical strength and caliber stability. The level of adhesion and peelability can be precisely modified to suit your requirements.

The appearance of a specialty product is easy to achieve with ViskoTeepak net casings.

The eye-catching net shapes give your sausages a pleasant and genuine handmade look and feel. To the discerning consumer, this traditional look implies premium quality and delicious taste. We have a wide assortment of non-elastic or semi-elastic nets, with shapes varying from popular honeycomb to geometric patterns such as rectangular or square shapes, some of which are registered.

The net forms an integral part of the casing and adds value to your product through its unique visual appearance. The casing is easy to handle and stuff as long you follow the guide in the chapter "Net"

Smoke

ViskoTeepak Smoke is a RTU fibrous casing with a smoke color and flavour. It features a liquid smoke coating that eliminates the need to use smoke generators or liquid smoke. The coating imparts a natural smoke aroma and color, giving your meat or poultry product a smoky flavour and appearance. By reducing or eliminating the time required for smoking your food products, you can improve yield, productivity and profitability.

The even diffusion of flavour and color is a further benefit of fibrous casings with built-in smoke – there are no fluctuations in smoke aroma or intensity. And, unlike a traditional smoking process, no rack marks are left on the surface of the product. This results in an end-product that is not only delicious in terms of taste but also exquisite in appearance. Liquid smoke also has the benefit of reducing environmental loads, with zero smoke gas emissions into the atmosphere.

The smoke concentration can also be adjusted to fit applications that require only a light color and smoke aroma to heavier applications that require an intensive smoke aroma and color.

Smoke Barrier



ViskoTeepak Smoke Barrier is a RTU fibrous casing constructed to maximize efficiency in smoking and cooking cycles complemented with zero weight loss during production and storage. While acting as a barrier, the casing also imparts a natural smoke aroma and color, giving your meat or poultry product a smoky flavour and appearance. By reducing or eliminating the time required for smoking your food products, you can improve yield, productivity and profitability.

The barrier coating prevents weight loss and oxygen transmission, ensuring a long shelf life and consumer appeal for your smoked product. Increased yields through weight retention also boost the overall profitability of your operations.

The even diffusion of flavour and color is a further benefit of Smoke Barrier – there are no fluctuations in smoke aroma or intensity. Nor are there any rack marks left on the surface of the smoked product. By using this unique casing solution, smoked products can also be manufactured with a remarkably reduced environmental load. Smoke Barrier casings are recommended for boneless hams, round bacon, sliced meats, deli meats, turkey hams, turkey breasts, semi-dry and dry sausages; the perfect choice for molded products that need smoke flavour.

Cutting

Cutting is possible with or without printing, pre-sticking or a combination. We can place sheets on one side or two sides in most sizes up to 140 centimeters.

Type Cutting

Normal all sizes length to 140 cm
 Sheets one side all sizes length to 140 cm

Rewinding & bundling

We can offer rewinding and bundling in various lengths and for different roll sizes. This can be done in combination with printing, pre-sticking, coating or a combination of multiple. Bundling is the same as Rewinding with the difference being that there is no core inside.

Rewinding table

Length	Including give away	Core Types/material
500 m	503 m	78 mm Carton/PVC
600 m	603 m	152 mm Carton/PVC
700 m	703 m	192 mm Carton/PVC
800 m	803 m	250 mm Carton
1000 m	1003 m	300 mm Carton

Clipping



Our casing is compatible with all standard clips offered by the bigger clip producers. We can help you with clip recommendations to find the perfect combination for your in-house production with or without loop. We also offer clipping as a service for those applications that allow clipping done beforehand.

Pre Sticking

To increase the permeability of the casing used in special processes, we can offer pre-sticking. By puncturing small holes throughout the whole casing in geometric patterns, it is possible to reduce excessive moisture, air and rendered fat, thereby making the thermal process more effective. We can offer pre-sticking in a number of hole sizes and with different patterns, to fit all range of heavy or light products and for fine or coarse emulsions.

Drilling

Drilling is an option for pre-tied and clipped casing pieces. By puncturing small holes at the tied end of the casing, it is possible to avoid trapped air and moisture at the top of the final product. This guarantees a high quality end-product.

Sewing



With the eye-appealing shapes of our sewed fibrous casings, it's easy to give your brand the appearance of a specialty product that it deserves.

Our sewn bag-type casings have a "handmade" look for an appetizing touch and feel. To consumers, this traditional look implies premium quality and the atmosphere of a classic small town meat market. Typical fibrous Sewing casing applications include salami, pepperoni, cooked and semi-dry sausages as well as spreading.

As is the case with all ViskoTeepak products, the sewed casings feature high mechanical strength and an optimal balance between adhesion and peelability. The casings are remarkably easy to handle and fast to stuff. Dense stuffing for better yields and an even curing process are also made possible by the industry-leading properties of the ViskoTeepak sewed fibrous casings.

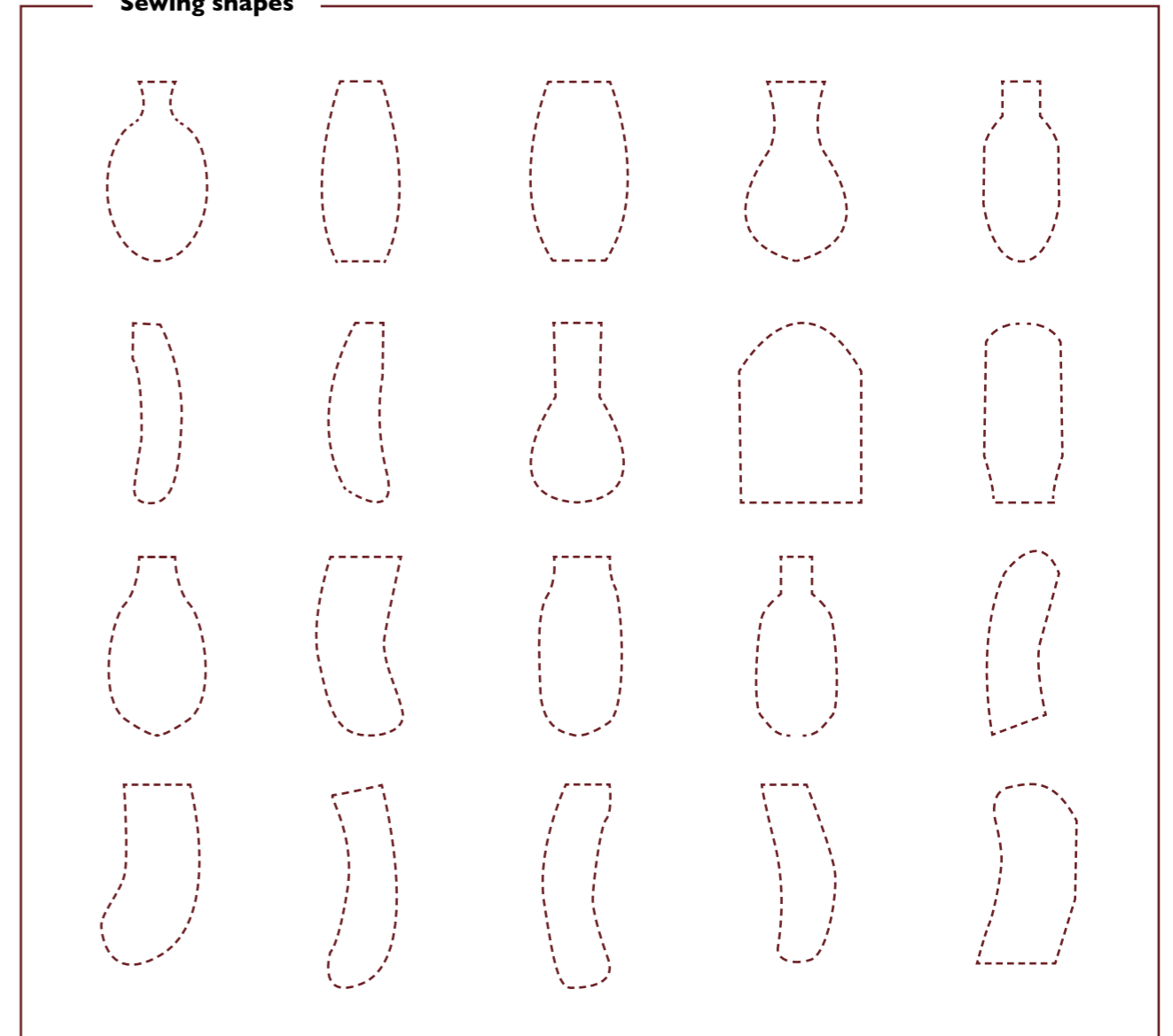
Tying



For manual processes we can supply pre-tied pieces. We have special capability for long lengths and large codes. We have 2 types of string for tying; 3 threads polyester and 5 threads polypropylene each in several colours.

The sewing shapes shown are examples; customizing is possible.

Sewing shapes



International Shirring, stuffing and hornfit standards

Size	US code	Stuff diameter (mm)	Strand length	Hornfit	Strands in carton	Meters in carton
028	V 1/6	28	17	18	50	850
032	V 1 SV	32	20	20	50	1000
033	V 1/4	33	20	20	50	1000
034	V 1 SU	34	20	20	50	1000
036	V 1 ST	36	20	20	50	1000
035	V 1/3	37	20	20	50	1000
037	V 1/3 L	38	20	24	50	1000
038	V 1/2 SP	39	20	24	50	1000
039	V 1 SP	40	25	24	70	1750
040	V 1/2 P	42	25	24	50	1250
041	V 1/2 PL	43	25	24	50	1250
042	V 1 SL	44	25	24	50	1250
043	V 1 SD	45	30	24	50	1500
044	V 1 K	46	30	24	50	1500
045	V 1 S	48	30	24	50	1500
046	V 1 SM	50	25	28	50	1250
047	V 1 S1	51	25	28	50	1250
47,8	V 1 L	52.5	25	28	50	1250
048	V 1 W	53	25	28	50	1250
049	V 1 WM	53.5	25	28	50	1250
050	V 1 M	54	40	28	30	1200
052	V 1 1/2	55	40	28	30	1200
053	V 1 1/2 K	56	30	36	50	1500
054	V 1 1/2 S	57	30	36	50	1500
055	V 2 G	58	30	36	36	1080
056	V 2 M	59	30	36	36	1080
057	V 2	61	30	36	26	780
058	V 2 SL	63	30	36	26	780
060	V 2 L	65	35	36	36	1260
063	V 2 1/2 K	69	40	36	30	1200
065	V 2 1/2 S	70	40	36	30	1200
068	V 2 1/2	73	40	36	30	1200
069	V 2 1/2 R	74	40	36	30	1200
070	V 3 S	76	40	36	30	1200
071	V 3 1/2	78	25	48	24	600
073	V 3 1/2 L	81	25	48	24	600
075	V 4 S	82	25	48	24	600
077	V 4	84	40	48	26	1040
079	V 4 L	86	40	48	26	1040
080	V 5	88	40	48	16	640
082	V 5 K	90	40	48	16	640
083	V 5 L	91	40	48	16	640
084	V 5 1/4	93	40	48	16	640

Size	US code	Stuff diameter (mm)	Strand length	Hornfit	Strands in carton	Meters in carton
085	V 5 1/2	94	40	48	16	640
088	V 5 N	97	40	48	16	640
089	V 6 G	99	40	48	16	640
090	V 6 M	101	40	48	16	640
091	V 6 K	102	40	48	16	640
092	V 6 N	103	40	48	16	640
095	V 6 S	105	40	48	16	640
096	V 6	106	40	48	16	640
100	V 6 1/2	109	40	48	16	640
102	V 6 1/2 M	111	40	48	16	640
104	V 7	114	40	48	16	640
105	V 7 T	115	40	48	16	640
106	V 7 L	116	40	48	16	640
107	V 7 1/2	117	40	48	16	640
108	V 7 1/2 2K	118	40	48	16	640
109	V 7 1/2 2L	119	40	60	16	640
110	V 8 S	122	40	60	16	640
111	V 8 T	123	40	60	16	640
112	V 8	124	40	60	16	640
113	V 8 1/2	125	40	60	16	640
114	V 8 1/2 M	126	40	60	16	640
115	V 8 L	127	40	60	16	640
118	V 9 M	131	40	60	16	640
120	V 9	133	40	60	16	640
127	V 9 L	136	40	60	16	640
130	V 9 1/2	139	40	60	16	640
133	V 9 1/2 K	140	40	60	16	640
135	V 10	147	40	60	16	640
140	V 10 L	147	40	76	16	640
145	V 10 1/2	150	40	76	16	640
150	V 11	156	40	76	10	400
153	V 11 L	158	40	100	10	400
160	V 11 1/2	167	40	100	10	400
165	V 12	172	40	100	8	320
169	V 12 1/2	176	40	100	8	320
175	V 12 L	180	40	100	6	240
185	V 13	190	40	100	6	240
195	V 14	203	40	100	6	240
210	V 18	216	40	100	30	1200
230	V 20	236	40	100	30	1200
245	V 24	252	40	100	26	1040

Smoke

ViskoTeepak smoke fibrous casing has an internal liquid smoke layer. The liquid smoke will transfer to the meat during processing. We can offer both E and S smoke liquids, both offering the same high coloration levels but with different taste profiles. Adhesion levels can be adjusted and both smoke types can be combined with a caramel color for a Black Forrest type finish. All smoke products are available both shirred and on reel.

E-level	S-level	Color
Low	S-1	lightest color
Medium	S-3	medium color
High	S-5	darkest color

Features	Benefits
Increased productivity	Reduced process time /less weight loss
Increase capacity (smoke house)	Even color; no rack marks
Reduce cleaning in smoke houses	No cost for smoke generation
No smoke emission	Extra advantages with CMVP
Smoke in a non-permeable casing	Weight loss almost zero

Net

ViskoTeepak can offer honeycomb, diamond and square net types for all dry and semidry, cooked and smoked sausages. As standard, these are offered in white, but other colors can be offered on request. Netted products can be produced with different adhesion and release levels and are available as shirred and pre-clipped strands.

Using netted products

ViskoTeepak Net is an eye-catching product that provides a pleasant and genuinely handmade look and feel. As always with ViskoTeepak fibrous, you will get a casing with high mechanical strength properties, excellent caliber stability, even curing properties and less reject. The level of adhesion as well as the smoking properties can be tailored to perfectly fit any production process and application.

Using netted products

Netted casing should be soaked as standard fibrous. Strands are pre-clipped and clips should not be removed when stuffing starts. Always stuff very tight to secure a perfect look and make sure that the break is loosened enough for the casing to slide through. As a rule of thumb, use a clip at least twice as big as standard, since it may be required for the clip to close correctly.

Net offering				
Type	RSD	Elastic	Non Elastic	Eyes
W 784	47		Honeycomb	6
W 811	57	Honeycomb		6
W 201	58	Diamond		6
W 744	58		Honeycomb	6
W 803	62	Honeycomb		6
W 725	80		Honeycomb	8
W 731	83		Honeycomb	6
W 806	90	Honeycomb		8
W 724	95		Honeycomb	8
W 737	100		Honeycomb	9
W 758	100		Honeycomb	9
W 625	102	Square		16
W 748	112		Honeycomb	6
W 125	128	Square		24
W 818	145	Honeycomb		12

Clips

Poly-clip recommendations

Casing diameter	Filling horn	I2 R Clip	XS R - ID Clip	S R - ID Clip	I5 R Clip	I8 R Clip	M R - ID Clip	L R ID Clip	XL R ID-Clip	S Clip
28	18	12-06/4x1,25	XS06-150	S05-125	15-06/4x1,50	18-07/5x1,75	M06-125			S128
32	20		XS06-100	S05-150	15-06/5x1,50		M06-150			S628
				S06-150	15-07/5x1,50		M06-175			
35	20		XS06-100	S06-150	15-06/5x1,50	18-07/5x1,75	M06-125			S128
				S07-150	15-07/5x1,50	18-07/5x1,50	M07-150			S628
40	24			S07-150	15-07/5x1,50	18-07/5x1,50	M07-150	L07-175		S128
						18-08/5x1,75	M07-135	L08-200		S628
45	24			S07-150	15-07/5x1,50	18-07/5x1,50	M07-150	L07-175		S632
					15-08/5x1,75	18-08/5x1,75	M07-135	L08-200		S735
						18-08/5x2,00				S8740
50	24				15-08/5x1,75	18-07/5x1,50	M07-135	L07-150		S632
					15-08/5x1,50	18-08/5x1,75	M07-125	L07-175		S735
					15-09/5x2,00	18-08/5x2,00	M08-175	L08-200		S8740
55	28				15-10/5x2,20	18-08/5x1,75	M07-125	L07-150		S632
					15-09/5x2,00	18-08/5x2,00	M08-175	L07-200		S735
					15-08/5x2,00		M08-150			S8740
60	36				15-09/5x1,75	18-08/5x1,75	M08-175	L07-135		S632
					15-09/5x2,00	18-09/5x1,75	M08-150	L08-175		S735
					15-10/5x2,00	18-09/5x2,00		L08-200		S8740
65	36				15-09/5x1,75	18-09/5x1,75	M09-175	L08-175		S632
					15-09/5x2,00	18-09/5x2,00		L08-200		S735
					15-10/5x2,20	18-10/5x2,50		L09-200		S8740
70	36				15-09/5x1,75	18-09/5x1,75	M09-175	L08-175		S632
					15-09/5x2,00	18-09/5x2,00		L08-200		S735
					15-10/5x2,20	18-10/5x2,50		L09-200		S8740
75	48				15-10/5x1,75	18-10/5x2,00	M09-150	L10-200		S744
					15-11/5x2,00	18-11/5x2,20	M09-175	L10-225		S8744
						18-11/5x2,50				S844
80	48				15-10/5x1,75	18-10/5x2,00	M09-150	L10-200		S744
					15-11/5x2,00	18-11/5x2,20	M09-175	L10-225		S8744
						18-11/5x2,50				S844
85	48				15-11/5x1,50	18-10/5x2,00	M09-150	L10-225		S744
					15-11/5x2,00	18-11/5x2,20	M09-175	L10-200		S8744
						18-11/5x2,50		L11-250		S844
90	48				15-11/5x1,50	18-11/5x2,00	M09-150	L10-175		S744
						18-12/5x2,20	M09-175	L11-200		S8744
						18-12/5x2,50		L11-225		S844
100	48				15-11/5x1,50	18-11/5x2,20	M10-200	L11-200		S744
105	60					18-12/5x2,20	M10-175	L11-225		S8744
						18-13/5x2,50		L13-250		S844
110	60					18-12/5x2,20	M10-175	L12-200	XL12-250	S747
						18-13/5x2,50	M11-175	L12-225		S8748
								L13-225		S848
120	60					18-12/5x2,20	M11-175	L12-200	XL12-250	S747
	75					18-13/5x2,50		L13-225		S8748
	80					18-13/5x2,20				S848
130	60					18-13/5x2,20		L12-200	XL13-250	S854
	75					18-14/5x2,50		L13-225		
140	75					18-14/5x2,50			XL13-250	S854
	80									S860
150	75									S860
	80									
160	75									S860
	80									
170	75									S860
	80									

Clips

Technopack/Tipper tie recommendations

Casing diameter	Filling horn	Clip
28	18	E 200, E 210
32	20	E 200, E 210
35	20	E 200, E 210
37	24	E 200, E 210
39	24	E 210, E 220
40	24	E 210, E 220
43	24	E 210, E 220
45	24	E 220, G 175, 370
48	32	E 220, G 175, 370
50	32	E 220, G 175, 370, E 410, E 510, Z 400
53	36	E 220, E230, G175, 370, E 410, E 510, Z 400
55	36	E 230, G 175, G 200, 370, E 410, E 510, Z 400
58	36	E 230, G 200, 390, 410, E 510, Z 400
60	36	E 230, E 240, G 200, 390, E 410, E 510, Z 400
65	36	E 240, G 200, 390, E 410, E 420, E 510, Z 400
68	42	E 240, G 200, 390, E 420, E 520, Z 400
70	42	E 240, G 200, 390, E 420, E 520, Z 400
75	48	E 240, G 200, 390, E 420, E 520, Z 400
77	48	E 240, G 200, 390, E 420, E 520, Z 400
80	48	E 240, G 200, 390, E 420, E 520, Z 400
83	48	E 240, G 200, 390, E 420, E 520, Z 400
85	48	E 240, G 200, 390, E 420, E 520, Z 400
88	48	G 225, 400, E 420, 520, Z 400
90	48	G 225, 400, E 420, E 520, Z 400
92	54	G 225, 400, E430, E 530, Z 400
95	54	G 225, 400, E 430, E 530, Z 400
100	54	G 225, 400, E 430, E 530, Z 400
106	48	G 225, 400, E 430, E 530, Z 400
110	60	G 225, 400, E 430, E 530, Z 400
114	60	G 250,400, E 430, E530, Z 400
120	60	G 250, 400, E 430, E530, Z 400
130	60	G 250, E 430, E 530, Z 400
140	100	Z 410
150	100	Z 410
160	100	Z 410
165	100	ZR 42
175	100	ZR 42
185	100	ZR 42
195	100	ZR 42
210	100	ZR 42
230	100	ZR 42
245	100	ZR 42

Clips

Alpina recommendations

Casing diameter	Filling horn	12 Flatclip	15 Flatclip	18 Flatclip
28	18	12/06-4x1.	15/06-4x1,5	18/07-5x1,75
32	20	12/06-4x1.25	15/06-5x1,5	
		12/06-4x1.5	15/07-5x1,5	
35	20		15/06-5x1,5	18/07-5x1,75
			15/07-5x1,5	18/07-5x1,5
40	24		15/07-5x1,5	18/07-5x1,5
				18/08-5x1,75
45	24		15/07-5x1,5	18/07-5x1,5
			15/08-5x1,75	18/08-5x1,75
				18/08-5x2,00
50	24		15/08-5x1,75	18/07-5x1,5
			15/08-5x1,5	18/08-5x1,75
				18/08-5x2
55	28		15/10-5x2	18/08-5x1,75
			15/09-5x2	18/08-5x2
60	36		15/09-5x1,75	18/08-5x1,75
			15/09-5x2	18/09-5x1,75
			15/10-5x2	18/09-5x2
65	36		15/09-5x1,75	18/09-5x1,75
			15/09-5x2	18/09-5x2
			15-10/5x2,25	18/10-5x2,25
70	42		15/09-5x1,75	18/09-5x1,75
			15/09-5x2	18/09-5x2
			15/10/5-2,25	18/10-5x2,25
75	48		15/10-5x1,75	18/10-5x2
			15/11-5x2	18/11-5x2,25
			15/11-5x2,25	18/11-5x2,5
80	48		15-10/5x1,75	18/10-5x2
			15-11/5x2	18/11-5x2,25
			15/11-5x2,25	18/11-5x2,5
85	48		15/11-5x1,5	18/10-5x2
			15/11-5-2	18/-11-5x2,25
			15/11-5x2,25	18/11-5x2,5
90	48		15/11-5X2	18/11-5x2
			15/11-5x2,25	18/12-5x2,25
				18/12-5x2,5
100	48		15/11-5X2,25	18/11-5x2,25
105	60			18/12-5x2,25
				18/13-5x2,5
110	60			18/12-5x2,25
				18/13-5x2,5
120	60			18/12-5x2,25
				18/13-5x2,5
130	60			18/13-5x2,5
				18/14-5x2,5
140	60			18/14-5x2,5

TECHNICAL SUPPORT

Many options to choose from? Let us help you find the perfect combination for your business! ViskoTeepak has always been known as a customer-oriented company and we have made our customer service and technical sales support group (TSS) a top priority. Below you can receive some general tips and recommendations when it comes to fibrous properties and usage. But first let us tell you how you can initiate your own testing and verification of ViskoTeepak fibrous casing.

Technical sales support

The Technical Sales Support team will be responsible for creating new business solutions for a value-driven environment and to support the customer in improving his business and provide solutions to problems. This is done by tailoring a solution that improves the customer's operations and fine-tunes production processes to bring added value and increase yields. The members of the team have many years of experience, both theoretical and practical, from casing manufacturing and customizing to the development and processing of sausages and meat products. The TSS team can support in areas such as maximizing the benefits of fibrous casing usage, optimizing process parameters, trouble shooting in casing operations and production, developing and tailor-making new products and informing and educating about the casing industry and meat technology related topics.

How to initiate a TSS project

Technical sales support projects will first be discussed together with the ViskoTeepak partner, your distributor, and the Sales Manager in order to determine where our TSS service is required.

Giving our best and always confidential

We work in a confidential, proprietary relationship with every customer. The information provided by TSS is based on our own research and development work and is, to the best of our knowledge, reliable. Users should, however, conduct their own tests to determine the suitability of our products and solutions. All information is given in good faith but should not be considered as a warranty of any kind, expressed or implied.

Testing

Before deciding which fibrous casing is most suitable for a particular application, a test run should be conducted under the prevailing production conditions. We can in partnership with you help you on the way to a perfectly tailored casing that fits your needs, based on the information we receive from you. The trial process needs to follow certain rules! Before starting the testing process, it is vitally important that we obtain the information specified *What is fibrous casing section*.

Soaking

As mentioned at the beginning of the brochure, many of the properties of fibrous casing derive from the use of long-fibered paper in its construction. In order to mobilize these excellent properties, the casing has to be moisturized. A dry casing has strengths but no elasticity. By effective moisturizing methods – pre-soaking in connection with customizing or soaking immediately before use in the sausage factory – the casing is given the right combination of strength and stretch to guarantee trouble-free sausage processing operations that reach the desired stuffing diameter. We recommend soaking in luke warm drinking quality water for between 30 to 60 minutes. Note that shirred EasyPeel strands require the longest soak. Ready to Use (RTU) casings eliminate the need for soaking.

Water vapour, oxygen and smoke permeability

Fibrous casing is permeable to gases. This property plays a crucial role in meat product processing where smoking, maturing and drying is required. To render it permeable, the fibrous casing has to be humidified. Care should therefore be taken to ensure that adequate humidity is maintained during smoking. During the maturing and drying stages, water migrates through the casing wall, thereby keeping it humid and facilitating gas transfer. Large printed areas or labels on the casing are less permeable than the casing itself and may give rise to uneven vapour penetration and drying. Raster printing should be considered if large printed areas are desired.

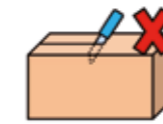
Changes in production processes

For certain applications, it is necessary to improve either the meat cling or peeling characteristics of a fibrous casing by treating its inner surface. If the production process changes or is not corresponding to what ViskoTeepak has been informed, the casing may not perform as desired. For example, peeling problems may arise as a result of over-drying or over-stuffing the casing. In some cases, wetting the casing improves peeling. Too early undesired casing separation may result from curing conditions being too moist or when under-stuffing.

How to use shirred Fibrous casings correctly

Step 1

Make sure that storage of the casing follows recommendations. Temperature 0–35 celsius, relative humidity 50–70, stored in original packaging. Recommended shelf life for all fibrous casings is 24 months after production date, except Net (12 months), RTU, pre-smoke, Smoke barrier (6 months).

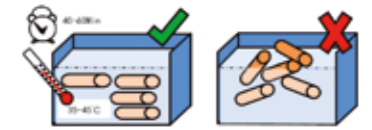


Step 2

Start by verifying from the label that you have the right product (Casing caliber, impregnation, color, etc.). Open the carton with care. Cutting may cause damage to the casing.

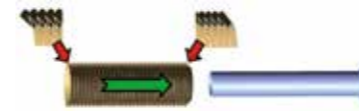
Step 3

The casing must be soaked in luke-warm water for 30–60 minutes. Make sure you use clean drinking-quality water.



Step 4

Remove the packing net without scratching the casing. Note the direction of the shirred casing when loading on the filling tube.



Step 5

Check the hornfit diameter and usable strand length. Stuffing horn (filling tube) recommendations can be found in this brochure.



Step 6

Make sure the strand is completely unfolded before it enters the brake ring. First put the strand on the stuffing tube and then place the blocking plate.



Step 7

An easy way to adjust the brake-ring correctly is by pulling the casing with your thumb and forefinger. The casing should be able to slide with a little friction, but not too much.



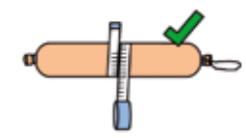
Step 8

To prevent any casing breakage, make sure that your equipment is properly set and the brake ring is not too tight. Turn the screw flange clockwise for tighter setting, counterclockwise for looser setting.



Step 9

Measure that the final sausage diameter corresponds to the stuffing diameter recommendations, and always note the seam code during tests.



Step 10

Verify stuffing to RSD and when required overstuff. Correct stuffing will guarantee caliber stability and prevents fat separation and jelly formations. Do not overstuff in cooked applications where sausage is expected to swell much during cooking (containing swelling ingredients/starch).



Step 11

Make sure there is enough free space between the hanging sausages and that the surface of the sausage is "sticky" prior to smoking (note drying time/rh percentage).

Step 12

The cooking and cooling recommendations depend on the weight and length of the product. Cook in a horizontal or vertical position into the desired core temperature. Cooling with cold shower and avoid fast cooling in high airflow.

To ensure the best results, please follow the ViskoTeepak recommendations for horn fit and sausage stuffing diameter. More accurate clip machine adjustment instructions can be downloaded from our website, where you can also find our recommendations on casing stretch properties under different moisture content as well as sausage weight versus trade size.



1952
Today

60 YEARS OF CASING

The ViskoTeepak story begins some 60 years ago with Gunnar Eriksson enjoying the buffet on the ferry between Åland and Stockholm. During the 1950s, and still today, one Nordic tradition is to always enjoy the delicacies of the smorgasbord when taking the ferry between Finland and Sweden.

On this very trip, Mr. Eriksson noticed that on his plate was a piece of sausage made in artificial casing. Einar Söderman, Mr. Eriksson's friend who was also on this trip, had been working with a casing producer in Sweden and knew that what they were looking at was cellophane casing made from cellulose.

Gunnar Eriksson became so interested that he took a piece of the casing with him to a laboratory in Helsinki. Olov Barck, who was working at the university in Helsinki, was asked by Gunnar Eriksson to do some analysis of the casing.

To make a long story short, Gunnar Eriksson was able to raise money to start the Visko Company and Olov Barck was successful in his analysis of the casing. The Visko casing company was founded in 1952 and production was planned to begin in an old butter-factory in Hanko, which had been empty since the war. The Teepak Europe adventure starts with Teepak looking for a way to meet the increasing casing demand and a way to enable shorter delivery times. They decide to open a new production facility in Europe in 1975, the location of which was in Lommel, Belgium. Already at this point Teepak has a fibrous converting facility in Delfzijl, The Netherlands and later expand even further when in 1994 opening the Wienie-Pak shirring centre in Slavkov. This same operation and production was moved to Brno in 2012. Nova plastic casing production was established in Godby, Finland, in 1995. All production was later moved to Nuevo Laredo, Mexico, in 2004, where it is fully operational today.

ViskoTeepak today

ViskoTeepak took its current form in the beginning of 2007 after the big merger of Visko and Teepak. We are a world leading international manufacturer of cellulose, fibrous and plastic casings for the food industry.

With our 6 production and converting plants together with 7 sales office around the world we employ over 1000 people. We have the biggest partner network in the world and customers in over 80 countries. We strive for perfection in everything we do and we are always around to support you.

We are working according to three guiding values; **Partnership, Productive Solutions and Tailor-Making.**



The Visko casing company was founded in 1952 by Gunnar Eriksson

Partnership

We strive to be a strong partner and provide you with the best possible support. With the biggest partner network in the casing world combined with our wide product offering, we can tailor-make our fibrous to fit just about any brand and application perfectly. And that is our aim, to provide you with the most productive casing solutions in the market. We achieve success in partnership with you, we are in it for the long run and we are always around to support you.



Productive Solutions

We offer some of the most productive sausage casings in the world. Our products are used daily for the effective processing and packaging of frankfurters, hot dogs, dry and semi-dry sausages, smoked meats, hams, deli meats, poultry, dairy products and similar products.

Tailor-made

We are not just selling sausage casing; we are also offering some of the best technical knowledge and expertise in the business, through our partners and through our own technical sales department. Our goal is to tailor make all our innovations to the best fit for each process and business.



PRINCIPLES & GUIDING VALUES

Being a good employer

We take responsibility for workplace safety and the health of our employees. ViskoTeepak has a social obligation to our employees. We feel our future lies in conducting business with good ethics and in a responsible way.

Sustainable development for the environment

All over the world, we see the effects of a global industrial evolution and growing concern over the greenhouse effect and climate change. We feel it is every company's and every individual's responsibility to play their part in order to protect our planet's future. At ViskoTeepak, we have implemented systems and procedures for waste management and energy control.

Global Reporting Initiative

To be transparent, we have chosen to use the GRI reporting framework designed by the United Nations. It allows us to report on what we do in a systematic way and to choose the items we want to prioritise. By reporting the annual ViskoTeepak Sustainability report, we can track progress and also explain what is behind the figures.

Health & Safety

The health and safety of our employees and the community around us will always come first in ViskoTeepak. The viscose process and casing production has certain associated risks and our success depends entirely upon ensuring safety in all parts of our operations. We follow the guidelines and audit ourselves through the established routines of the BRC-Packaging standard.

On top of this, we try to anticipate and recognise health hazards in the working environment and work with effective risk management, by monitoring all parts of our operations and working for a safety first culture. We drive and support each other by using common courtesy in everything we do; for us, it is showing respect to our employees and the first step in working in an ethical sustainable way. We also always take responsibility for our actions and stand accountable if something goes wrong.

The highest level of certification

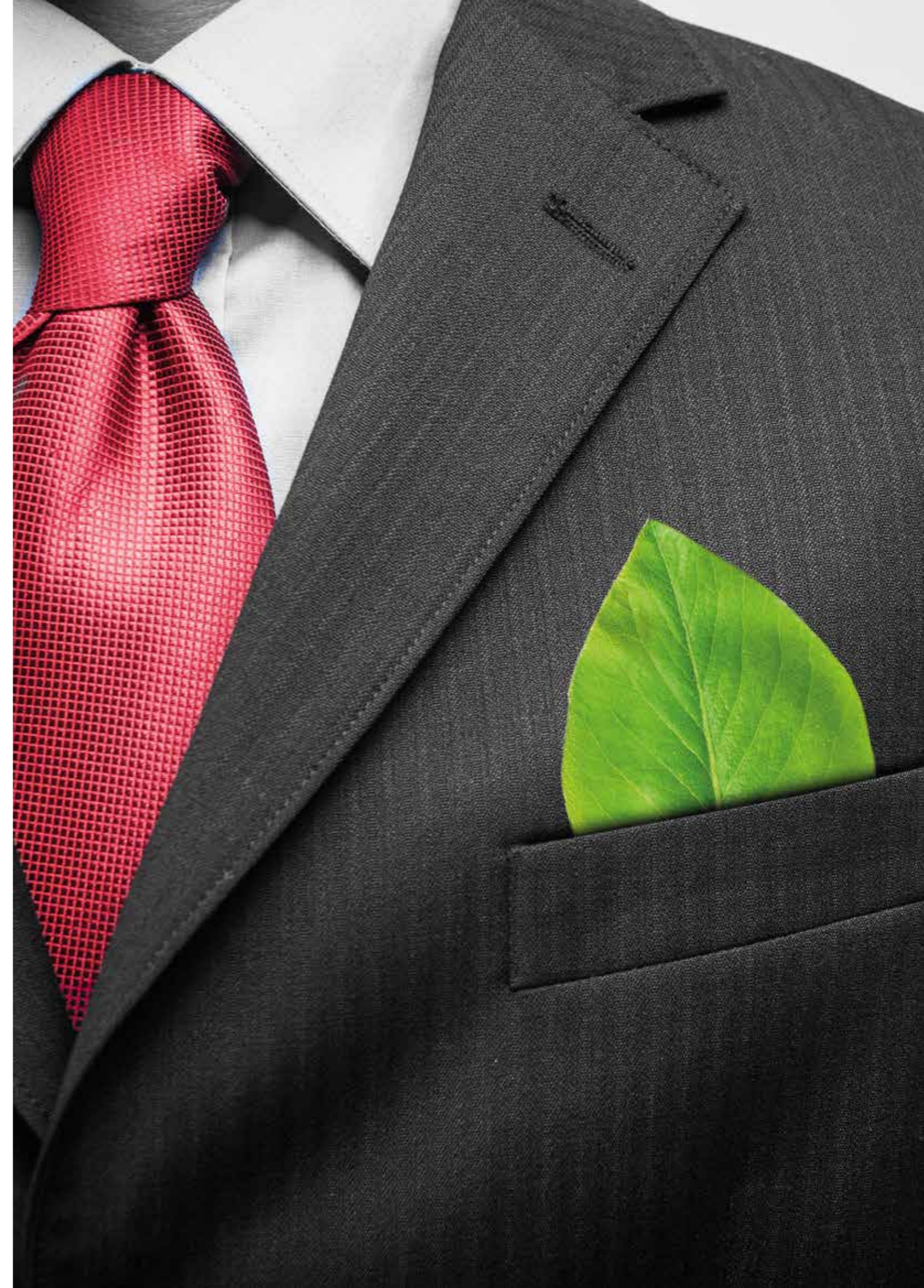
ViskoTeepak has the highest level of certification in the casing industry. We accept our responsibility when it comes to quality, health & safety and the environment.

For example, did you know that ViskoTeepak Lommel was the first plant in the casing business to achieve the ISO 9001 quality certification in the early 1990s and has never failed an audit since. ViskoTeepak is also the first company to have BRC-IOP certification for all the product lines for cellulose, fibrous and plastic. Today, all our production and converting operations are certified with the BRC-IOP as well as being in accordance with the ISO standards

All of our certificates are available to download on our website www.viskoteepak.com.

Certificates	Lommel	Hanko	Nuevo Laredo	Delfzijl	Brno
BRC Packaging	✓	✓	✓	✓	✓
Quality: ISO 9001	✓	✓	✓	✓	✓
Environment: ISO 14001	✓	✓	✓		
Safety: OHSAS 18001	✓				
Kosher standard	✓	✓	✓	✓	✓
Halal standard	✓			✓	✓
EU food contact Regulation (EC) No 1935/2004	✓	✓		✓	✓
FDA food contact regulations	✓	✓	✓	✓	✓

Periodical audits by the Lloyd's Register, Inspecta certification and DNV.
All of our certificates are available to download on our website www.viskoteepak.com





Always around

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Iceland, Ireland, Norway, South
Africa, Sweden, Switzerland, UK

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Cyprus, Czech Republic, Estonia,
Greece, Hungary, Israel, Kaliningrad,
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