

Solidus



Your circular packaging partner

Product portfolio for fish & seafood



Fish & Seafood



Trusted partner in circular paper-based packaging and solid board

Our purpose is to transform recycled natural resources into circular value propositions which contribute to a cleaner world with less waste. With smart product design, we fulfil our customers' needs. We produce standard and customisable packaging, solid board, cores & tubes, edge protectors and partitions. As a leading producer, we cover the full production process from recovered paper to a wide range of paper-based products.

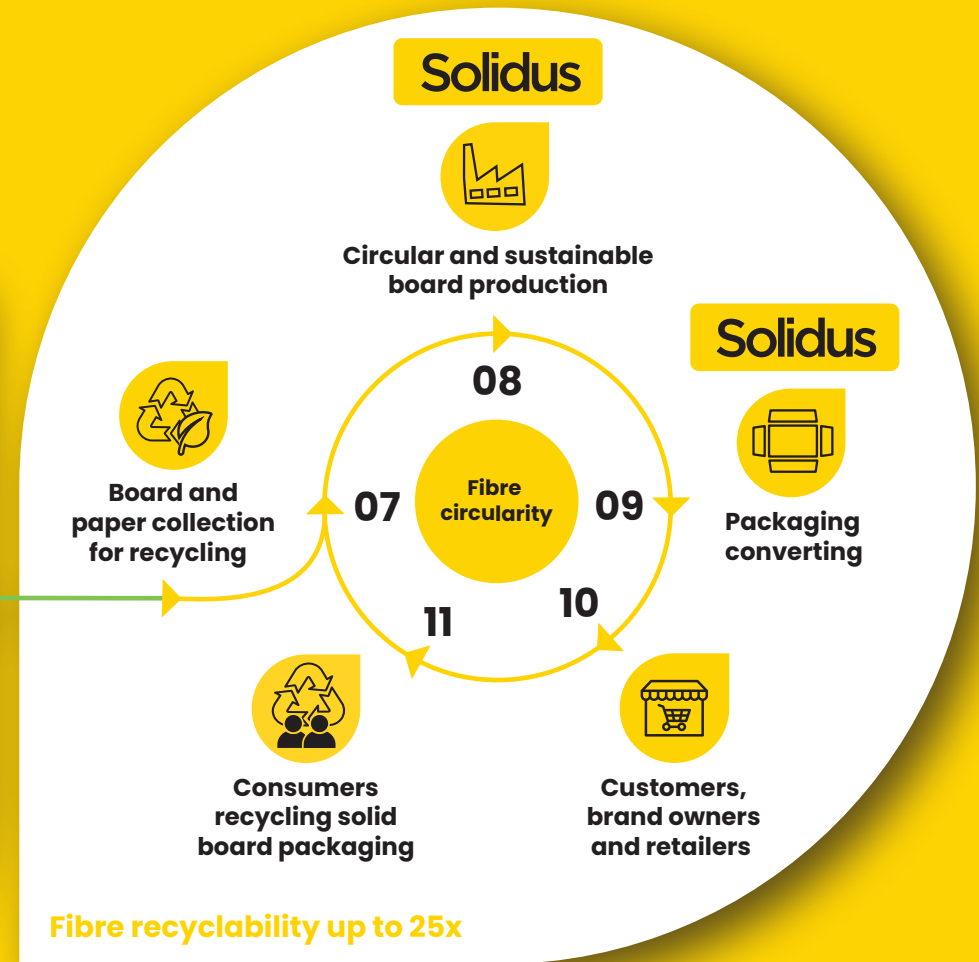
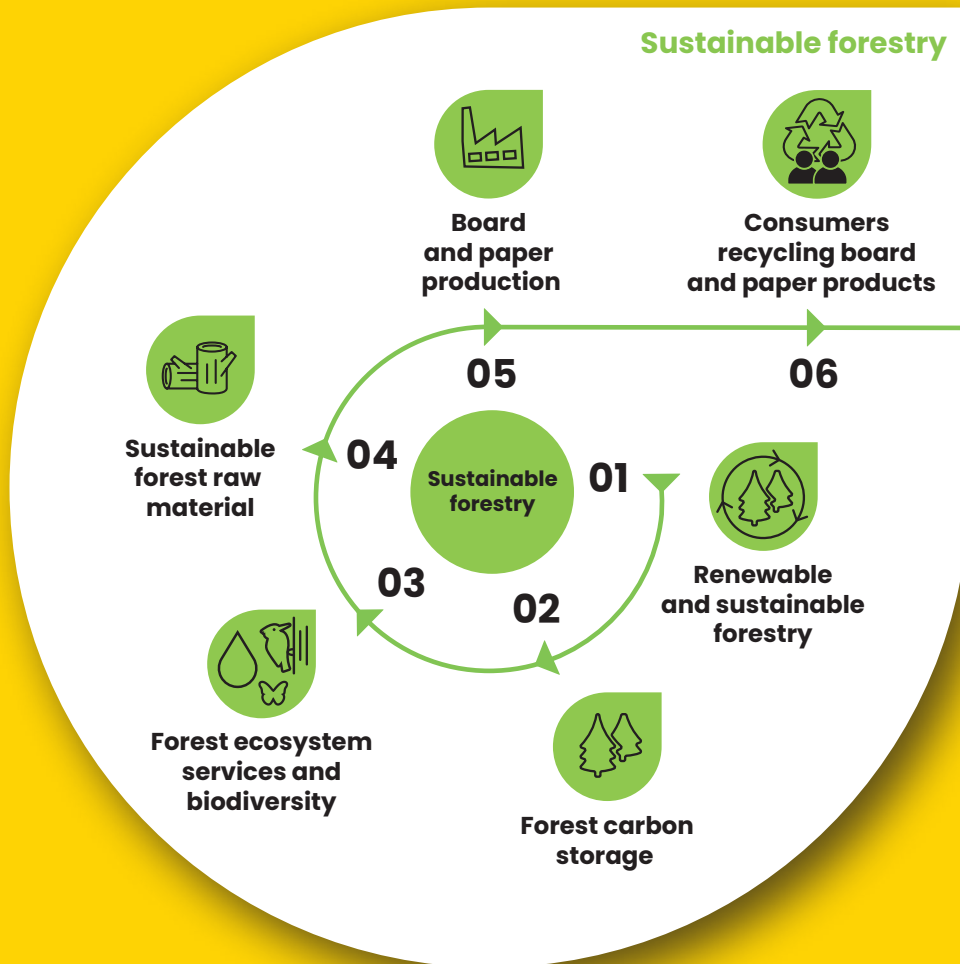
Over 1,400 highly specialised people operate in our board mills, product converters and sales offices across Europe. We continuously invest in further growth with future-oriented production methods, innovative machinery and sustainable processes. Every day, we provide our expertise, products and services to major brands and companies in all industries. Our loyal customers count on our reliable high-quality, excellent service and innovative mindset.

Your circular packaging partner



Our circular value proposition

We use our solid board expertise to support our customers' need for sustainable and circular packaging products and services.



Most of our paper-based packaging products are made from PEFC and FSC® certified fibres. By using PEFC and FSC® certified products we offer packaging that is made of renewable wood fibres from sustainable and certified sources. Ask for our PEFC and FSC® certified products.



Solidus offers unique qualities

Your premium products deserve our premium packaging

In the food industry freshness is everything. That's why our solid board products and services are a trusted choice for packaging high-quality perishable products such as fresh fish, salmon, pelagic fish and codfish. Every product is designed with sustainability and ease of use in mind.



Logistical performance

Our solid board packaging takes up less space than wooden, plastic and corrugated boxes, minimising shipping costs and logistic movements and reducing use of your storage space. We opt for the best palletising solution possible, preferably with inter-stackable formats.



Moisture resistant

Our packaging retains its strength, shape and volume in humid and wet conditions. In extremely wet conditions, our Sapino-treated solid board with PE (optional) coating offers the required water resistance for packaging your ice chilled products.





Fast freezing

Our solid board packaging is suitable for frozen products. The minimal thickness of the board results in shorter freezing times, also providing more efficient use of energy consumption. Solid board is well suited to storage and transport in cold stores and freezers.



Food safe

At Solidus, food safety is always a top priority. We ensure our operation is in full compliance with the continuously evolving industry standards.



High quality printing

Our boxes are beautiful the way they are, but we also offer the highest quality offset printing. We can print with your unique colour code, and we will advise you on the optimal production, lamination and finishing possibilities for your requirements.



Recyclability

Raw material recycling has a long tradition in the manufacturing of solid board. Today, solid board packaging is produced to nearly 100% by recovered waste paper which is collected in commerce, industry, administration and private households. Used packaging and other paper and board products are collected after use and the fibres are recovered as part of the standard paper recycling process. Fibre-based packaging material can be recycled at least 25 times without losing its mechanical or structural integrity.



Your best packaging choice

A solid alternative for plastic and polystyrene packaging

Our solid board packaging takes up to seven times less space than polystyrene boxes, minimising shipping costs and reducing use of your storage space. We opt for the best palletizing solution possible, preferably with inter-stackable formats.

Most of our transport packaging is delivered flat folded and glued to you, which takes up less space in transport, storage and handling. The bases and lids can be unfolded manually at the moment you need them, without the use of a machine.

**7–10 times less
space in transport
and storage**

More goods per pallet

**Reduction in fork
truck movements**

Fully recyclable



Polystyrene 2 kg

- Exterior 398 x 264 x 97 mm
- Interior 363 x 228 x 60 mm
- Volume 5.0 L



Solid board box 2 kg

- Lid 395 x 235 x 64 mm
- Base 387 x 220 x 65 mm
- Volume 5.9 L



Flat solid board box

- Height shrinks to 20 mm



Advantages wholesaler

- Reduce transport volume
- Reduce storage volume



Advantages customer

- Reduce waste in stores or restaurants
- Easy waste disposal (standard waste paper basket) that creates fully recyclability
- Be in line with all the standards of food safety



Advantages public image

- Be a trendsetter in the market to provide a sustainable alternative to polystyrene and plastic crates
- Adopt a sustainable packaging approach with the customer



Polystyrene box

- Expanded on industry pallet 1,000 x 1,200 mm
- Circa 36 pieces on a pallet



Corrugated box

- Flat on industry pallet
- Circa 500 pieces on a pallet



Solid board box

- Flat in bundles on industry pallet
- Circa 1,000 pieces on a pallet

Our wealth of expertise started in 1870

01

Forward-thinking development

We go to great lengths to understand the daily needs of our customers and to develop solutions. If our standard portfolio of products doesn't meet your requirements, we have the right team of experts, engineers and product designers to create a perfect proposition for you.



- Standard portfolio with lead time and cost optimised products
- Customise your packaging with the help of our experts

02

Circular production of solid board

Our mills produce environmentally friendly solid board and graphic board, using recovered paper. These paper fibres can be reused up to 25 times in the production of board. All our board is manufactured with precision in grammage and thickness.



- Sustainable pulping
- Customised production of greyboard
- Laminating

Benefit from our 100% integrated process

03

High-quality conversion to a full range of products

Pre-cut board sheets are converted into packaging and other industrial paper-based products on our specified production lines. Various cutting machines per location prepare the board for construction. Our converters print, cut, fold and glue the board and stack it for shipping.



- Printing
- Die-cutting
- Folding
- Glueing

04

Recyclable end products

Brand owners and their packers use our packaging and other end products to pack their products, which will then reach the consumers via retail and other distributions channels. Used packaging and other paper and board products are collected after use and the fibres are recovered as part of the standard paper recycling process. Where needed, we assist our customers with the recycling of products to support a higher degree of end-of-life collection rate.



- End products for brand owners, packers, retailers and consumers
- Fibre circularity
- Support in recycling and collection



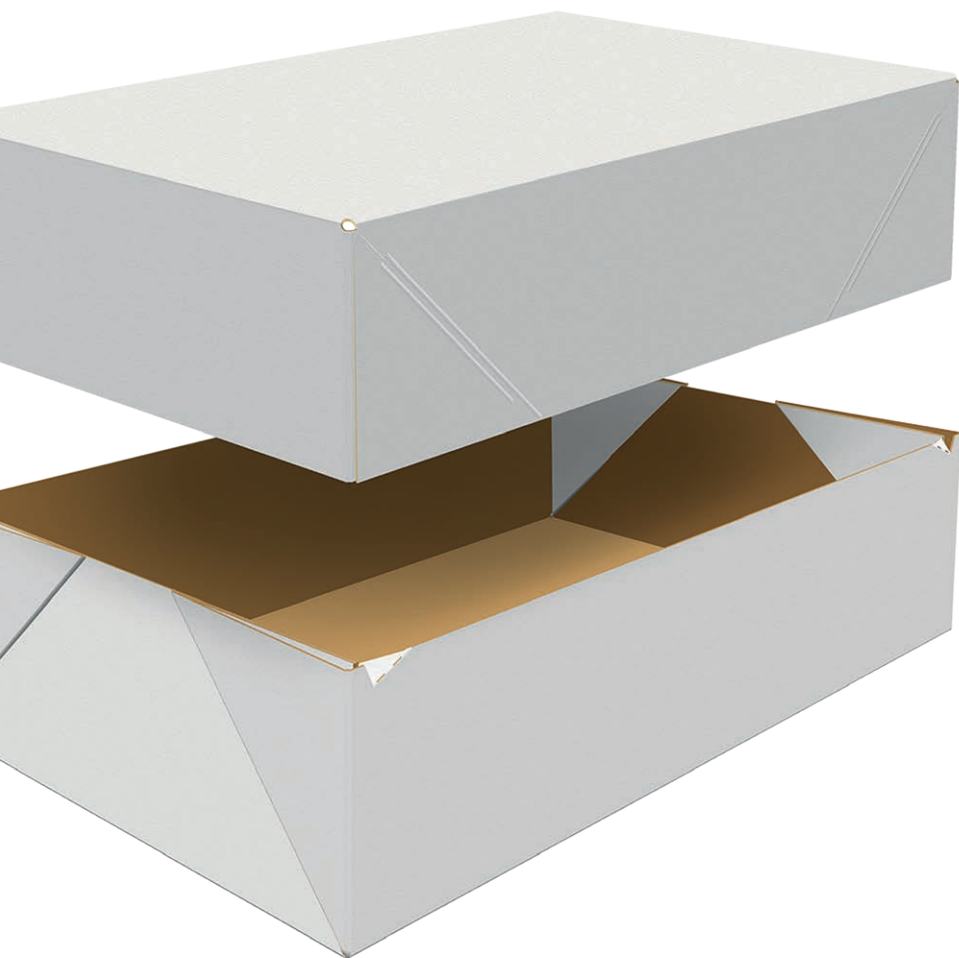
We offer a wide variety of specific packaging to suit your needs

Our longstanding experience within the fish and seafood market makes us experts in the daily needs and requirements to package fresh fish, round fish and salmon. We know exactly which box type is best to keep your products safe on their way from your plant to your customer.

Standard portfolio

Top products for all your requirements

Our standard portfolio of products is available in dimensions that fit all common pallets and as these boxes are unprinted, they are available with minimal lead times. Find out more about our standard products on the next pages of this brochure.



Always in stock

We make sure our most on-demand products are always available.



Small order quantities

Flexibility - order a small quantity and convince yourself of the quality.



Best lead time

With products in stock, we can minimise delivery times.



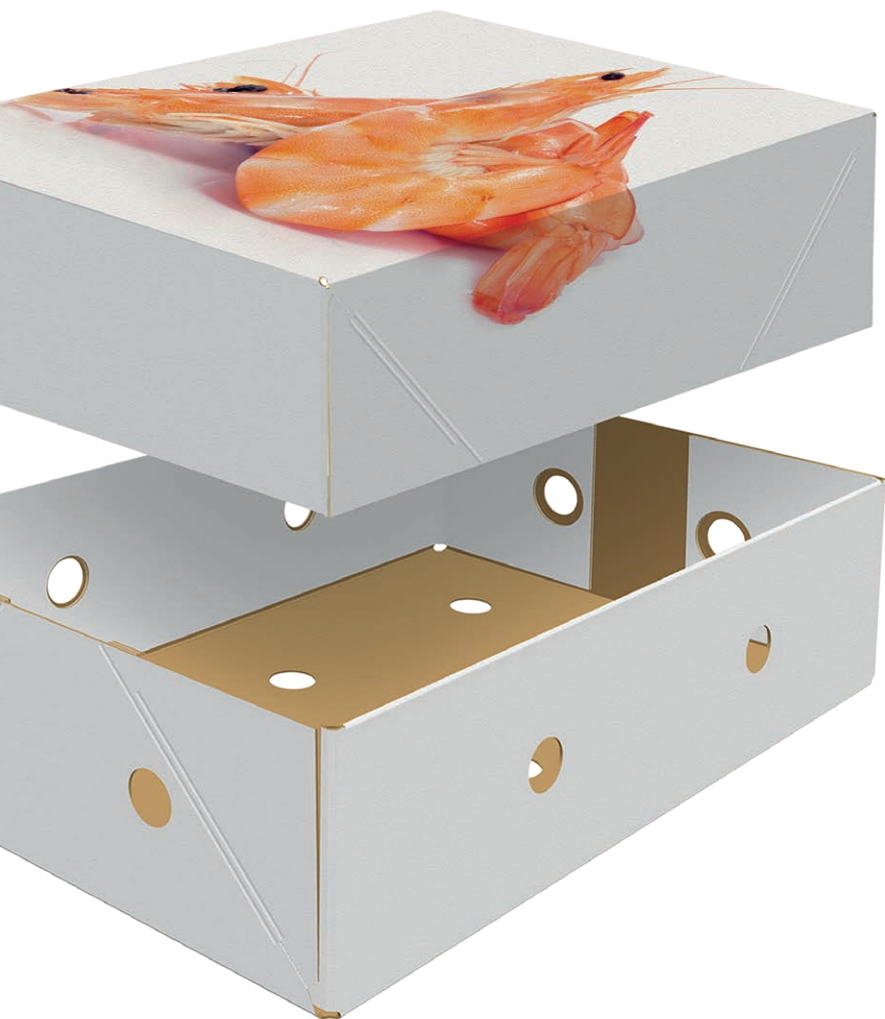
Price-conscious

No extra features - no extra price.

Customised portfolio

Individualise your packaging

For a little extra to our top products, we offer various printing techniques like offset, flexo and pre-print. Upon request, hand holes and ventilation holes can be added to certain product types. Your packaging becomes much more customized at a good price.



Wide range of print quality

Select offset, flexo or pre-print to get the best printing results.



Options available

We add hand holes or ventilation holes on demand.



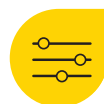
Short lead time

Custom-made boxes are also delivered quickly and reliably.

Special solution

A special solution just for you

If you are looking for individual product types or you want your own customized packaging, we will create your box tailored to your request. That means individual shape, dimensions, features and even board grades.



Individual product types

We design your box together with you to suit your product.



Individual dimensions

Get the professional portfolio box in your individual size and dimension.



Tailored boards & liners

Pick an individual paper combination from our portfolio or have your own.



Wide range of print quality

Select offset, flexo or pre-print to get the best printing results.



Our standard packaging portfolio

Our solid board is the ideal material to package and transport fresh fish, round fish and salmon. It is a sustainable alternative to the usual polystyrene and plastic crates. After all, solid board is fully recyclable and made from renewable resources. Most of our fish packaging is made from our packline board line, a paper-based board which is moisture-resistant, compact and can be supplied with individual and high quality printing.

On the next page, you find the different standard packaging types for your requests. The 4-point box is the all-time favorite as it fits most requirements in dimension and stability. The 4-point DLS box comes with double material on the long side. The conical base box for smaller amounts of fish is ideal for quick packing processes. For fresh fish, we provide our leakproof box with a food safe PE coating.

If you can't find the right solution in the standard portfolio, you can customise it to create your ideal box.



Our bestseller, the 4-point box

This paper-based board box is very suitable for packing in moist and chilled situations. It is easily opened and filled by hand or filled on an automatic filling line. In addition, the box type is extremely cost-efficient throughout the entire logistics chain.

Custom alternatives for special requirements

4-point DLS box

The extra strong paper-based board box comes with double material enforcement on the long sides. It enables longer transport and keeps your goods safe. It is suitable for most fish types.



Conical base box

The conical base box is designed for extra lean production. Due to the angled corners, it is very easy to close the lid. You find this innovation for fresh fish in weights from 2 kg up to 12 kg.



Leakproof box

The leakproof box comes in our food safe PE coated board which is perfect for direct food contact. Fish can be filled in humid conditions (up to 95%) and still stays solid. Due to the approved corner construction, all liquids stay inside.



Codfish

We have many solid board packaging solutions for packing codfish. Under this term, we combine different smaller types of fish like white fish, trout or backelau and of course cod. All of our standard products are suitable for direct food contact due to the PE coating on the inside. The fish can be packed fresh or frozen.



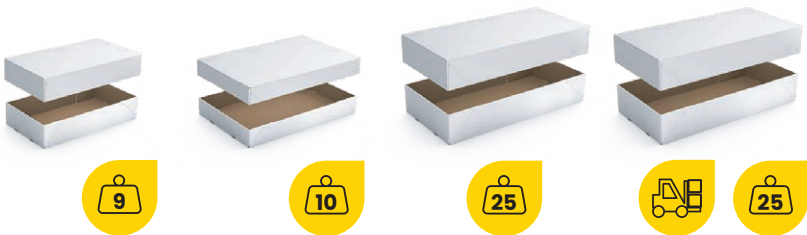
Short lead time



Small order quantities



Easy erection



Packweight	Up to 9 kg	Up to 10 kg	Up to 25 kg	Up to 25 kg
Dimension	55 x 31 cm	60 x 40 cm	80 x 40 cm	80 x 40 cm
Condition	Fresh or frozen	Fresh or frozen	Fresh or frozen	Fresh or frozen
Box type	4-point box	4-point box	4-point box	4-point DLS box
Direct food contact	✓	✓	✓	✓

Fresh fish

We have many solid board packaging solutions for packing fresh fish. Our boxes offer a great, fully recyclable alternative to polystyrene or plastic crates. The packaging takes up to seven times less space than polystyrene boxes, minimising shipping costs and reducing your storage space, also using the most optimal palletizing. Our Sapino-treated solid board with PE coating offers the required insulation for packaging your fish, making sure the fish stays fresh during transport and storage.



Recyclable



Offers required insulation



Individual product type

01 Want more friction?

Fish is often packed in wet conditions. When stacked on a pallet, you can add extra stability to all fresh fish boxes with our corner tab construction.

02 Individualize your packaging

Hand holes and drainage holes will be added to your box upon request.

03 Individual packweight

Solidus knows case weight requirements are reducing and therefore offers a range of smaller pack weight boxes, e.g. 2 kg, 3 kg, 4 kg and 6 kg.

04 Smart in all details

We offer conical bases for fresh fish as they speed up the packing process.

Pelagic fish

We offer a full range of solid board packaging for packing different types of round fish. Our 590 x 390 x 115/105 mm box is ideal to use for packing 20 kg of mackerel, herring and similar fishes. These 20 kg boxes offer a great, 100% recyclable packaging solution. Fish packed in our packaging can be frozen immediately. Your product also freezes much faster when packed in solid board, which is compact and offers attractive logistical advantages, maximising storage whilst minimising transport costs.



Individualize your packaging

Solidus offers standard and high quality print for each product. The 4-point box looks best in your design. Choose one size that fits your needs and upgrade it with flexo or offset print.



Short lead time



Small order quantities



Easy erection



Packweight	Up to 20 kg	Up to 20 kg
Dimension	60 x 40 cm	60 x 40 cm
Condition	Frozen	Frozen
Box type	4-point box	4-point die-cut
Direct food contact		

Prawns

Prawns must be packed with special care as they are one of the most fragile products of the sea. Solidus offers small pack weight boxes to keep each prawn safe during the logistic process. We produce hand erected, leakproof and folded models for all types of freezing: Brine, IQF head on, blast and frozen on board. Our products go to Europe, Africa, Middle-East, Australia and Asia. If our standard products do not fit your requirements, our experts will design a special solution for you.



Advantages

- Water resistant
- Quick direct freezing in the box thanks to fast cold transmission
- Logistics and storage savings
- Recycled material and fully recyclable



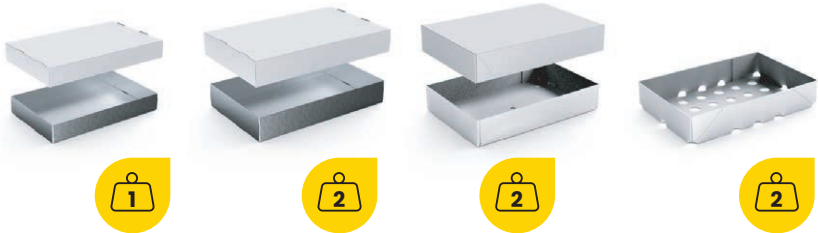
Short lead time



Small order quantities



Easy erection



Packweight	Up to 1 kg	Up to 2 kg	Up to 2 kg	Up to 2 kg
Dimension	27 x 17 cm	31 x 20 cm	31 x 21 cm	30 x 20 cm
Condition	Frozen	Frozen	Frozen	Frozen
Box type	Manual box	Manual box	4-point box	4-point box
Direct food contact	✓	✓	✓	✓

Salmon

We supply different sizes and formats of 4-point glued solutions for packing 10, 25 and 40 kg salmon. Our smart salmon designs offer attractive printing in ecological material which is perfect for humid and freezing conditions. In this way your product will receive the attention it deserves.



Don't panic - it's just blast freezing

Due to moisture proof paper-based packaging, you can fill in the salmon fresh and freeze it either per pallet or per box. Your products stay safe and keep their quality - just like our stable 4-point boxes.



Short lead time



Small order quantities



Easy erection



Packweight	Up to 10 kg	Up to 10 kg	Up to 25 kg	Up to 40 kg
Dimension	60 x 40 cm	60 x 40 cm	77 x 37 cm	114 x 37 cm
Condition	Frozen	Frozen in box	Frozen	Frozen
Box type	4-point box	4-point box	4-point box	4-point box
Direct food contact	✓			




Salmón
verde



Our retail ready packaging portfolio

More and more consumers are choosing products made from sustainable, renewable resources that will protect our planet and its precious eco-systems. That's why we created Futurline®, a range of circular packaging products for retail and foodservice.

Solidus' Futurline® products are fully recyclable and reduce plastic content by at least 80% and have a significantly lower CO₂ footprint. Made from solid board, the packaging is circular by design, as recovered fibres can be reused up to 25x producing solid board, resulting in a significant reduction of packaging waste. These products therefore provide circular alternatives to existing retail packaging of which today only a very small part allows for reuse of materials.

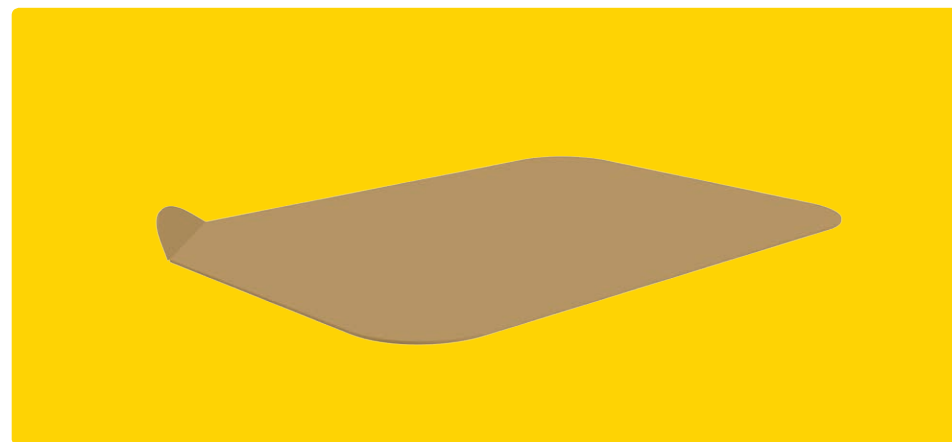
With Futurline®, consumers can now enjoy both convenience and sustainable packaging, while at the same time brand owners can exploit the excellent solid board printing features to customise and differentiate their products based on seasonality or consumer preference.

Futurline®



Modified Atmosphere Packaging (MAP)

MAP is a long established method to extend the shelf life of fresh food like fresh or processed fish, meat, fruit or salads. Solidus' Modified Atmosphere Packaging (MAP) solution offers a solid board alternative to wholesalers and retailers to replace plastic trays. The technology substitutes the air inside a package with a protective gas mix.



Skin packaging

Whether fish, meat, or other fresh foods - this skin packaging solution will emphasize each of your products at retail. Our skin packaging is suitable for a wide range of product segments. With skin packaging a product is placed on a substrate material which in our case is solid board. Heated plastic film is draped over the product and the substrate, and a vacuum draws the film down tightly to the board and around the product to make a safe package.

Traycompact®

We offer a wide range of Traycompact® food plates that can be cut in your desired shape. Our Traycompact® plates have a liner suitable for direct food contact, preventing migration between packaging and food. The board is ideal for greasy products like smoked fish and bakery products, and presents your product in the best way.



Modified Atmosphere Packaging (MAP)

Our Modified Atmosphere Packaging (MAP), one of our Futurline® products, offers a sustainable alternative to wholesalers and retailers to replace plastic trays. Solidus MAP uses an FSC® and PEFC certified barrier-lined solid board made from sustainable fibres. The board is fully recyclable and reduces at least 80% of the plastic content vs other packaging products. We offer higher cardboard grammage possibilities in regards to other fibre-based MAP producers. By performing this, we offer solutions for an extensive range of (heavier) products including fresh or processed fish, meat, ready-made products, cheese, fruit and frozen foods. Due to our higher board grammages, our MAP solutions also match the shelf life afforded by traditional plastic MAP trays.



Extended shelf life

MAP is a long established method to extend the shelf life of fresh food like fresh or processed fish and seafood. The technology substitutes the air inside a package with a protective gas mix.



Circular and sustainable

MAP uses an FSC® and PEFC certified solid board made from renewable fibres. It reduces at least 80% of the plastic content vs existing plastic solutions.



Separate disposal possibilities

The solid board MAP trays feature a transparent barrier film to seal the tray. After taking out the product, the layer is easily removed from the solid board to allow for separate disposal.



High quality print options

High quality offset print options available to give your product the perfect in-store presentation.



Identical operational requirements

Solidus MAP can be produced on the same packaging machines that today produce the existing packaging products. And thus, lowering the hurdle for packers and brand owners to transfer to our paper-based packaging solution.

Skin packaging

Our skin packaging, another Futurline® product, has benefits for you as a brand owner, retailer or consumer and is suitable for a wide range of product segments. It improves the presentation of the product by using sustainable and recycled materials. Made with recycled solid board, this packaging solution uses up to 80% less plastic in regards to the existing non-recycled plastic solutions and thus contributing to the demand for circular packaging solutions. This vacuum packaging solution uses an FSC® and PEFC certified solid board carrier made from renewable fibres. After taking out the product, the thin transparent vacuum layer is easily removed from the solid board to allow for separate disposal and recycling. The development of this food tray solution supports our company sustainability commitment to expand and improve recyclable packaging solutions for our customers while reducing the impact on the environment.



Vertical presentation

A transparent barrier skin film fixates the product directly onto the solid board carrier, which allows for perfect vertical presentation.



Circular and sustainable

Skin packaging uses an FSC® and PEFC certified solid board made from renewable fibres. It reduces at least 80% of the plastic content vs existing plastic solutions.



Separate disposal possibilities

The solid board trays features a transparent barrier film to seal the tray. After taking out the product, the layer is easily removed from the solid board to allow for separate disposal.



High quality print options

Our skin packaging offers the opportunity to print your branding on the in- and outside of solid board carrier. High quality offset print options available to give your product the perfect in-store presentation.



Simplified opening

Specific peel tab options simplify the opening of the skin packaging for the consumer.

Traycompact

In addition to our converted packaging, we offer a wide range of food plates that can be cut in your desired shape. Our Traycompact® plates have a liner suitable for direct food contact. It prevents migration between packaging and food. The board is ideal for greasy products like smoked fish and bakery products, presenting your product in the best way.

Our Traycompact® is completely customizable. We have 5 different types of cardboard thickness, according to the weight of the food, and we produce different sizes of board, depending on your operational process. We also provide a choice in different film colours and we have various printing options available.



Customisable

- All shapes possible
- Pre-print or offset print

Metalised colors

- Gold/Silver
- Silver/Silver
- Gold/Gold
- White/White

Metal free colors

- Gold/Silver
- Black/Black
- White/White

Choose your grammage

- Grammage range 500 - 2,000

Many options available

- Cutting middle layer to size possible
- Corner options
- All shapes are possible in offset print

Regulations

- Our Traycompact respects all European regulations about food contact



Direct food contact



**Perfect barrier
for greasy products**



**Available in all
shapes and sizes**



Sea Bass Fillets
Skin on Boneless

Net weight: 0.240g





A snapshot of our business

Approximately 90% of the fibres we procure are recovered paper from mainly municipalities, retail customers and recovered paper plants, whilst the other 10% procured is certified virgin fibre from sustainable managed forests. We strive to source most of our fibre near our mills, to ensure local production and minimise our logistic carbon footprint.

The manufacturing and operations part of our business consists of: solid board sheets and reels which are produced in our mills and packaging, cores, tubes, edge protectors and partitions which are produced in our converting plants.

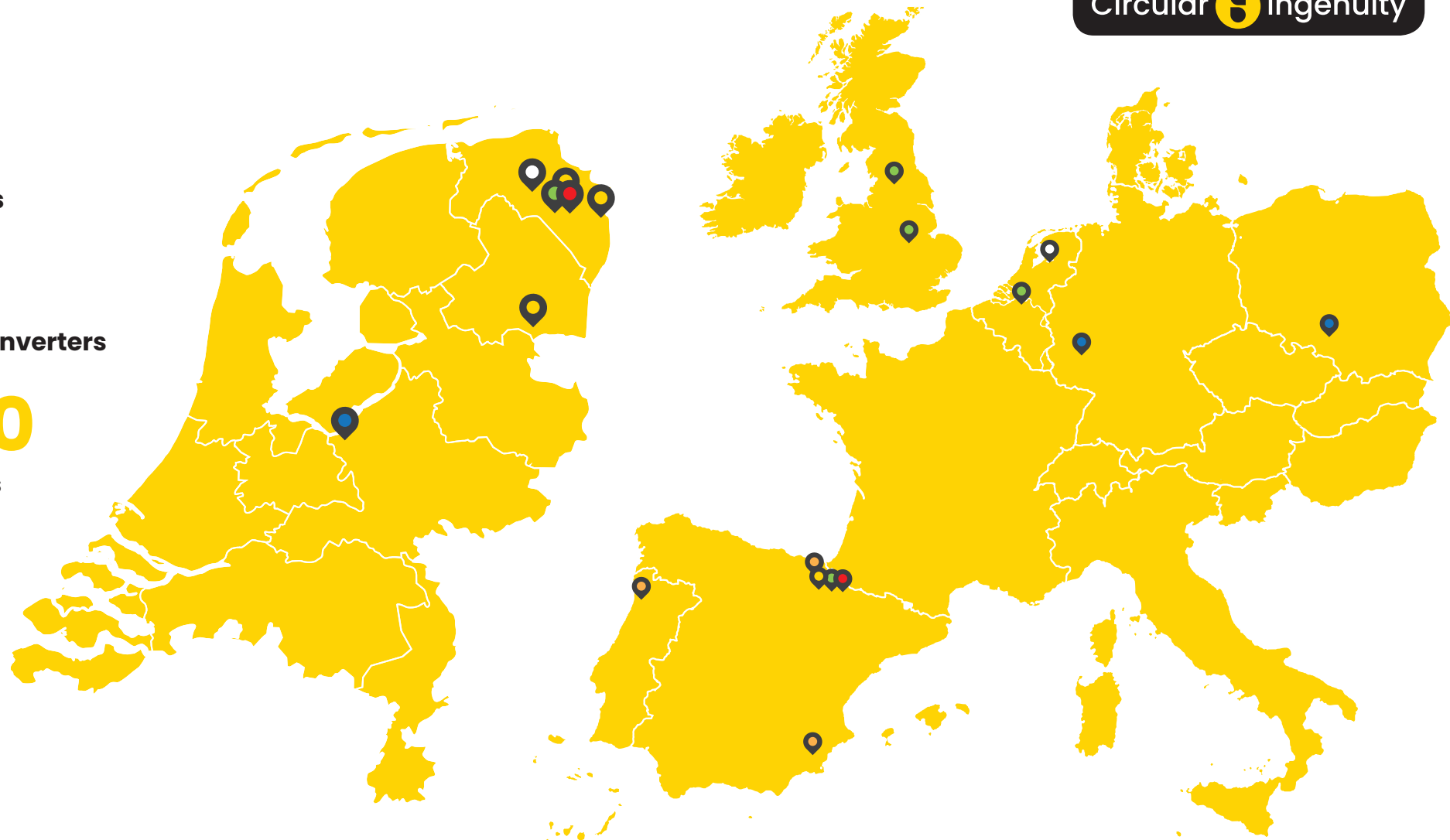
Our mills and converters are located in the Netherlands, Spain, Belgium, UK, Germany, Poland and Portugal. With four mills, eleven converters and sales offices across Europe, we are an integrated provider of a full range of fibre-based packaging products and services.

Our headquarters is located in Groningen, the Netherlands. We also have two Customer Experience Centres, located in Spain and Belgium, where Solidus engages directly with customers and partners to accelerate innovation projects.

4
board mills

11
product converters

1400
employees




 **Head office**
Groningen NL

 **Techno Centres**
Oude Pekela NL, Ibiricu-Egüés ES

 **Board mills**
Oude Pekela NL, Bad Nieuweschans NL, Coevorden NL, San Andrés Villava ES

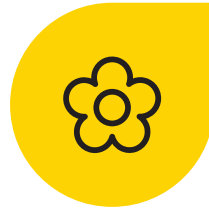
 **Product converters • packaging**
Oude Pekela NL, Hoogstraten BE, Corby UK, Skipton UK, Ibiricu-Egüés ES

 **Product converters • cores and tubes**
Berrobi-Guipúzcoa ES, Cox-Alicante ES, Trofa PT

 **Product converters • partitions**
Nijkerk NL, Kastellaun DE, Gliwice PL



Food



Flowers & Plants



Construction



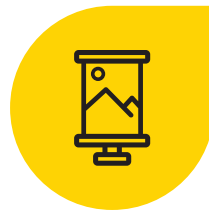
Chemical



Health & Beauty



**Multimedia &
Entertainment**



**Advertisement &
Promotion**



Books



Beverage



**Textile, Paper
& Plastic**



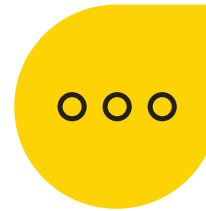
**Appliances &
Furniture**



Stationery



**Puzzles &
Board Games**



Others

Your circular packaging partner

We have support available for all industries we serve.

Contact us on +31503033000 or info@solidus.com to connect with your Solidus expert.



Solidus

Your circular packaging partner

Solidus