

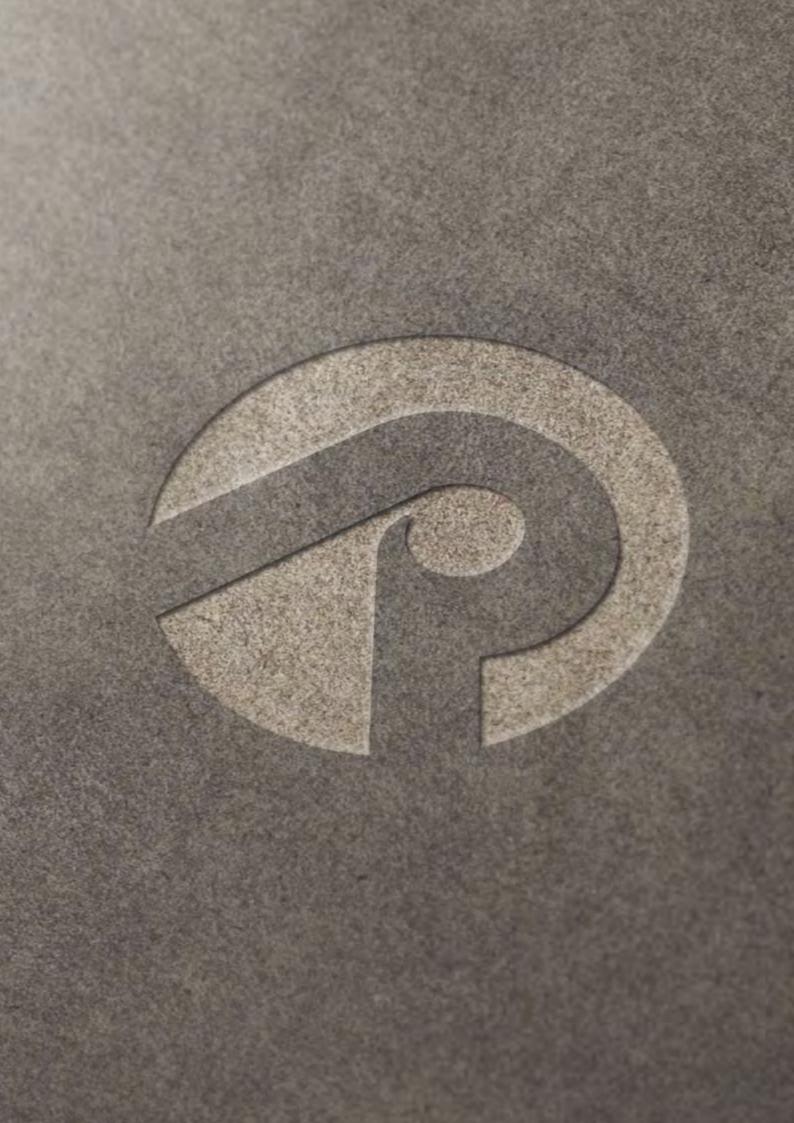
# **PLASTICULTURE**

**TWINES** 

**DRUMS** 

**PACKAGING** 











ABOUT THE COMPANY
ARMANDO ÁLVAREZ GROUP
INTEGRAL SOLUTIONS
PLASTICULTURE
<ul><li>PRE-HARVEST</li><li>HARVEST</li><li>POST-HARVEST</li></ul>
TWINES
DRUMS
PACKAGING



## **ABOUT THE COMPANY**

Since we began our journey back in 1971, at REYENVAS we have been guided by two fundamental principles: a clear vocation for service and a firm commitment to quality. On these simple but solid premises and endorsed by a proven track record, a highly qualified team and sustained investment in R&D, we have become a leading company in the transformation of plastics, with a special focus on the agricultural and packaging sectors.

Our integration in the ARMANDO ÁLVAREZ GROUP since 1977 (the largest group of companies in the sector at national level and one of the largest in Europe) has led to the exponential development of our business, making us a leading global producer and consolidating our presence in countries with a predominance of the primary sector all over the five continents.

# WE ARE VERY CLOSE TO WHERE YOU ARE

The privileged location of our main plant in one of the most industrialised areas of Seville, together with our auxiliary centre in the town of El Ejido (Almería) and the availability of a wide commercial and distribution network, means we can work on site next to our customer where and when we are needed. Indeed, our customers' satisfaction is our main motivation.

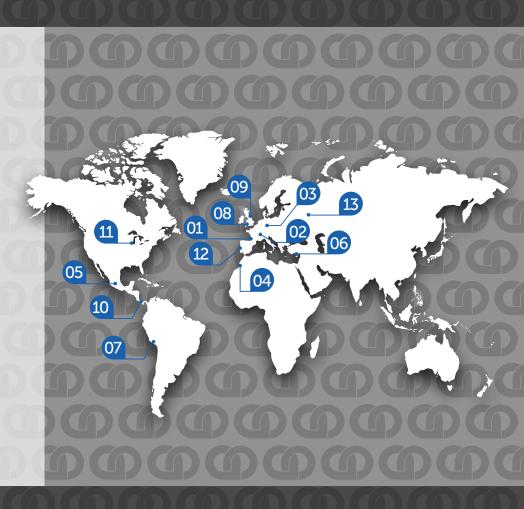
That's why, at REYENVAS, we have always focused on a one-to-one relationship with those who decide to place their trust in us, offering them experience and advice, together with an array of flexible solutions, personalised and specially adapted to each phase of the agricultural or industrial process. Accordingly, we have a quality department made up of technicians with the highest qualifications, which guarantees compliance with the specifications and uniformity of our products (certified ISO9001-compliant since 1996), and an active R&D department focused on the development and optimisation of our products to respond satisfactorily to the standards of an increasingly technified and globalised market.



# **OUR GROUP IN THE WORLD**

# Commercial presence in the World

- 01 ALVAPLAST FRANCE Anglet
- 02 ALVAPLAST FRANCE Saint Etienne
- 03 ALVAPLAST GMBH Mainz
- 04 ALVAPLAST MAROC Casablanca
- 05 ALVAPLAST MEXICO Aguascalientes
- 06 ALVAPLAST TURKEY Antalya
- 07 ALVAPLAST PERÚ Lima
- 08 ALVAPLAST UK Gloucestershire
- 09 ALVAPLAST UK
  Newcastle Upon Tyne
- 10 CENTRAL AMERICA & CARIBBEAN San José
- 11 USA & CANADA Chicago
- 12 PORTUGAL Setúbal
- 13 CIS Moscow



# 10 plastic factories in Spain

# 01 TORRELAVEGA (CANTABRIA) Armando Alvarez Group

Aspla, Plásticos Españoles

- 02 ALCALÁ DE GUADAÍRA (SEVILLA) Reyenvas
- 02 SANTA MARÍA DEL ÁGUILA (ALMERIA) Reyenvas
- 03 VINALESA (VALENCIA) Rafia Industrial
- 04 LORCA (MURCIA) Solplast
- 05 SANTA MARÍA DEL ÁGUILA (ALMERIA) Sotrafa
- 06 AZUQUECA DE HENARES (GUADALAJARA)
  Plasticos Vanguardia
- 07 EL PRAT DEL LLOBREGAT (BARCELONA)
  Reyde
- 08 MONJOS DEL PENEDÉS (BARCELONA) Silvalac
- 09 LA SELVA DEL CAMP (TARRAGONA) Macresac
- 10 UTEBO (ZARAGOZA) Envaflex.

# 1 plastic factory in the USA

11 ROCKWALL (TEXAS) USA SPR Packaging







# A GREAT GROUP

Composed of a number of companies with a high capacity for synergy, the ARMANDO ÁLVAREZ GROUP is today part of a small number of companies that lead the sector in Europe. The spirit of work, tenacity and conviction, but above all rigour in each and every one of our actions, values instilled by the Group's founder, Armando Álvarez Villanueva, and reinforced by its current CEO, José Ramón Álvarez, are undoubtedly the key factors behind this evolution.

To find the Group's origins, we have to go back to the Cantabria of the early 1960s, when a small joinery workshop started manufacturing variety of wooden packaging.

After 1977, the Group began to expand beyond the region's borders with the purchase of several companies, including Reyenvas. This growth has continued to this day and has crossed national borders with the opening of more than a dozen of local offices in different countries and the acquisition of its first plant abroad in Rockwall, Texas (USA).







# **COMPREHENSIVE SOLUTIONS**

We are a reference company for the transformation of plastics and we introduce ourselves to our customers as allies in the search for and contribution of comprehensive solutions that respond to the different needs their business may have at any given at anytime. Accordingly, we have a wide range of products developed and manufactured by the company's different production divisions:

- **PLASTICULTURE.** Films for the agricultural sector.
- TWINES. Twines for agricultural use.
- **DRUMS.** Storage and transport solutions.
- PACKAGING. Industrial packaging products.





## PRE-HARVEST APPLICATIONS

#### FILMS FOR DISINFECTION.

Adapted to the technique used in the process, with the sole aim of making it stronger and more effective, helping prepare the soil before planting. All our products are made in multilayer co-extrusion using latest-generation materials and additives.

- **REYSOIL.** Specially designed for efficient disinfection.
- REYSOIL DS. Manufactured with agents that increase impermeability.
- **REYSOIL ES.** Indicated for disinfection by solarisation.
- REYSOIL VIF. The application of polyamide-based barrier materials achieves high impermeability.
- REYSOIL TIF. Absolute impermeability is achieved by applying EVOH copolymers to one of the layers.

#### TREE AND SHRUB PROTECTORS.

Our REYPROTECTOR product is available for all types of trees and plantations: almonds, olives, vines, pistachios and walnuts, etc. **REYPROTECTOR** is manufactured as seal-free single-piece tubes. The product is environment-friendly, reusable, resistant and flexible and is available in black and black/white. Perforations can be included if required.

**FILMS AND BAGS FOR HYDROPONIC CROP-GROWING REYHIDRO** is our full range of films and bags for the different techniques used in hydroponic cropgrowing.

- It is a new agricultural technique that consists of growing the crop on an inert substrate to avoid contact between plant and soil.
- This substrate is permanently irrigated with the exact nutrients the plant needs exactly when it needs them.
- The substrate (pearlite, coconut fibre or rock wool, etc.) is placed in a black (or black/white) plastic bag (PE) that supports the plant/substrate and water is poured in with the necessary nutrients.
- There is also a system for collecting excess water, which can then be recirculated, analysed, elements added and returned to the crop.





## **MULCH REYFILM.**

To protect crops and soil from the action of atmospheric agents, avoid drying, the deterioration of fruit quality, the dragging of fertilisers and cooling of the soil, etc., at REYENVAS we transfer our hi-tech multilayer co-extrusion to the countryside, offering a wide range of mulch products depending on sunlight management and the specific effects required for each crop and climate zone:

- **NATURAL REYFILM.** By allowing light radiation through, it ensures greater heating of the soil to improve early plant growth. Widely used in crops such as melon, cotton and corn, etc.
- **BLACK REYFILM.** Opaque to solar radiation. Its main feature is its powerful herbicidal effect. Specially indicated for growing strawberries, tomatoes, peppers, broccoli and lettuce, etc.
- **TWO-COLOUR REYFILM.** Manufactured to take advantage of the effects provided by its colour (opacity, light reflection and temperature reduction, etc.). The most common: black/white and black/silver.
- **PHOTO SELECTIVE REYFILM.** Semi-transparent, they include pigments that let part of the light radiation through, but filter out photosynthetically active radiations (PAR). The two most commonly used versions: green and brown.
- **BIO REYFILM.** Manufactured with 100% biodegradable polymers. They are biodegraded directly on the land and assimilated by the micro-organisms in the soil, avoiding removal costs.
- REY PRO •. Removable mulch with pockets for anchoring the film to the ground without having to bury the sides, which helps with field processes in which the sheet has to be moved without altering the growth of the plant.

  Besides other applications, its use is specially indicated for asparagus crops and long-term crops such as fruit trees.
  - **REY THERMAL:** Transparent, with thermic effect.
  - REY PRO BLACK: Black and completely opaque.
  - REY PRO EKO: Black/white.
  - REY PRO M+: Black/white with improved properties and longer lasting.
- **TREE REY PRO.** Mulch with pockets, long-lasting. Its special resistance and the option for moving it around as required mean that our customers can work at the foot of the tree and benefit from the advantages provided by the use of mulch.





# **GREENHOUSE COVERS.**

At REYENVAS, films are manufactured from a mixture of different plastic polymers in multi-layer structures using the most advanced production equipment. Its advantages range from early harvests to obtaining higher-quality fruit by increasing yields, saving water and controlling diseases and pests more closely.

Thanks to our wide experience in manufacturing and marketing, we have a full range that covers all our customers' requirements. The range includes thermic and non-thermic covers and a specific range for berries.





# THERMIC COVERS.

General-purpose covers that provide correct light management and have a thermic effect on the crop. This type of cover includes three different ranges that respond to the needs demanded by our customers and the different markets.

#### REYTEC

Very high performance thermic films that incorporate EVA/EBA copolymers and are manufactured in multilayer co-extrusion in various thicknesses to take advantage of the different materials applied in each layer.

Their composition includes a set of latest-generation additives for high durations and high resistance to chemical treatments.

The range includes diffused (D), transparent (T), white (N) and yellow (A) versions. Its main features are:

- Optimal mechanical properties by combining EVA/EBA copolymers with latest-generation polyethylenes, including metallocenes.
- Excellent resistance to ageing caused by solar degradation and chemical treatments, which guarantees high durability.
- A high-level global transmission of visible light, which ensures high luminosity inside the greenhouse.
- Its high thermicity provides a high heat-insulation effect to help with early crops and prevent possible thermic inversions. It is also specially indicated for climates with sharp temperature differences between day and night.
- The minimum guaranteed duration will depend on the climatology and light radiation of the country or zone in which it is to be used, as well as the thickness of the product. In climate zones such as the south of Spain, thicknesses of 200  $\mu$  can last up to four campaigns.



#### REYTHERMIC.

This is a range of thermic films manufactured with multilayer technology with a mixture of different types of polyethylene (LDPE).

- These materials offer a good balance between mechanical properties and resistance to ageing and degradation, which affords them long service lives.
- Their design determines a good balance in terms of optical properties.
   High transmission of visible light, which means great luminosity, together with a high level of light diffusion while avoiding shadows inside the greenhouse.
- High thermic insulation effect, which reduces night-time cooling and the risk of frost.
- The minimum guaranteed service life will depend on the climate and light radiation of the country or area in which it is used, as well as the thickness of the film. In climate zones such as the south of Spain, with thicknesses of 200  $\mu$ , the service life can reach up to 2 years.

# **REYTHERMIC PLUS**

This is an evolution of the REYTERMIC range designed to increase the mechanical properties of the product by incorporating EVA/EBA copolymers into its composition. This improves mechanical resistance in folds, especially at low temperatures and makes it ideal in areas with extreme minimum night-time temperatures.

The service life and optical properties are very similar to those of the REYTHERMIC range.





#### **NON-THERMIC COVERS.**

Also called long-duration films (LD), these covers provide all the benefits of a greenhouse cover, but without the thermic effect. They are suitable in areas where, due to climate or crop type, an additional thermic insulation effect is not required. We have two ranges for this type of cover.

#### **REYSUN**

These are non-thermic sheets manufactured with mixtures of different types of PE using multilayer coextrusion equipment. They are made in different thicknesses depending on the application, the area of use and the required service life.

Our products range from high diffusion films (D) to high transparency films (T). We also have an option for use with a yellowish tone besides standard translucent white.

- Excellent mechanical resistance, which enables optimal performance under adverse weather conditions and with external agents.
- Its composition makes it highly resistant to solar degradation and high temperatures.
- As they are not thermic, these films are not recommended for areas and crops with large daytime and night-time temperature variations. The minimum guaranteed service life will depend on the climate and light radiation of the country or area in which it is used, as well as the thickness of the film. In climate zones such as the south of Spain, with thicknesses of 200  $\mu$ , the service life can reach up to 3 years.

#### **REYSUN PLUS**

This is an evolution of the REYSUN range designed to increase the mechanical properties of the product by incorporating EVA/EBA copolymers into its composition. This substantially improves mechanical resistance in folds.

The service life and optical properties are very similar to those of the REYSUN range.



## **SPECIAL COVERS FOR BERRIES.**

From the beginning with strawberry crops and now with raspberries, blueberries and blackberries, REYENVAS is marketed as a reference for this type of application.

That's why, in constant contact with the market, we have developed a full range of covers for macro-tunnels in response to our customers' requirements. There are generic products that perform well in different berry crops; however, with this complete range, we have developed specific films for each one.

- **STRAWBERRIES.** For strawberry crops, we have developed the **REYBERRY SB** range. These covers have been developed and adapted to strawberry crops, for which we have several options ranging in terms of service life from 2-campaign to 1-campaign films and, in terms of thickness, from 90 to 150 microns.
- **BLUEBERRIES.** Given the importance this berry has acquired in recent years, we have developed the **REYBERRY BB** range, whose thermic properties and transparency have been adapted to the needs of this delicate fruit. In terms of service life, options range from 1 to 3 years and, in terms of thickness, from 100 to 180 microns. These films do not have to be removed between campaigns.
- **RASPBERRIES**. Given the special characteristics of this fruit in terms of light radiation for its cultivation under macro-tunnels, we have developed a specific range called **REYBERRY RB**, with specific light diffusion. There are options for service lives of 2 and 3 years and thicknesses of between 150 and 180 microns.





# **SPECIAL COVERS.**

# SPECIAL RED FRUITS (REYFILM-REDFRUIT-PRO).

Developed at REYENVAS for use with fruit trees bearing red fruit (peaches, nectarines or plums, etc.). It helps activate anthocyanins, essential for the fruit to acquire its characteristic reddish hue.

## OTHER SPECIAL COVERS.

In addition to the above families of greenhouse covers, we have a full range of special properties that can be incorporated into our greenhouse films to meet our customers' requirements:

- Covers with anti-fog effect.
- High transparency covers Glass.
- Extra-diffusion covers.
- Anti-pest covers.
- Anti-thermic covers.
- Covers with shading.







# **DOUBLE CHAMBERS.**

The ideal sheet for greenhouse interiors as an over-chamber or intra-cover during the months of lower exterior temperatures to further optimum development of crops.

- **REYCAM.** Transparent sheet that combines effectiveness with cost-efficiency.
- REYCAM TERMIC. Transparent film with a high thermic effect thanks to the use of EVA/EBA copolymers and a special set of thermic additives.
- **REYCAM T+**. The highest in the range, made with latestgeneration materials to provide maximum transparency.



They supply irrigation water to all types of crops (cotton, tomato, corn, etc.).

• **REYWAT.** Manufactured to the highest quality requirements to ensure high durability and resistance, they are supplied in 100-m long rolls. We have a wide range of diameters and thicknesses.







# CONSERVATION APPLICATIONS AND MATURATION RETARDANTS.

#### REYFRESH.

Our customers export fruit and vegetables over increasingly longer distances and require conservation methods for perishable products to ensure they reach markets under optimal consumption conditions. Accordingly, at REYENVAS we have developed an active packaging range called Reyfresh\*, designed to extend the shelf life of fruit and vegetables for the following:

- So that our customers can transport their fruit and vegetables over greater distances.
- To achieve longer shelf lives and ensure that the product reaches the end consumer in better condition.

As a result, we have implemented a full range of products to adapt to the various sector requirements (uses).

- Tub or box liner films
- · Box cover films
- Bags
- Pallet covers

The action mechanism of Reyfresh® consists of absorbing part of the ethylene from the fruit (vegetable) during the maturation process. This reduces the amount of said gas in the environment around the fruit, delaying its maturation and increasing its life expectancy.

# FILMS FOR AGRICULTURAL SILAGE.

They are designed to protect the product from the action of light, air and water and prevent it from drying, thus maintaining its characteristics in optimal conditions for longer. We manufacture three types of films for silage.

- BLACK REYSILO.
- BLACK/WHITE REYSILO.
- GREEN/BLACK REYSILO.





# **BALER- AND HORTICULTURAL TWINE**

REYENVAS has a specific division for the manufacture of twine, mainly for the agricultural sector. The division has the most modern technology for manufacturing high-performance twines of consistent quality.

There are three different product lines:

#### HORTICULTURAL TWINES.

This product is designed for use as a guide in the correct growth of certain crops, such as tomatoes, peppers and courgettes, etc.

Material made in different colours (following a study by the Technical Department), with a polypropylene base it undergoes a process of fibrillation that provides high flexibility and a smooth touch. In order to achieve the desired duration, a set of latest-generation stabilisers is incorporated to guarantee effectiveness in the greenhouse or outdoors.

Manufactured in all the most common and marketed formats in the world (from 700 to 1200 m/kg). We have two main types of twines: flat and twisted tying twines.

The thread guide is very important for good greenhouse management because it guides the plant during growth, ensuring correct agricultural development.

The reliability of the product is paramount to guaranteeing crop safety and, thanks to decades of experience in this sector, Reyenvas twines comply with all application requirements.

#### **BIO-GUIDE.**

We have a range of biodegradable horticultural twines for composting with agricultural waste at the end of the crop, helping improve waste management.







#### **BALER TWINE.**

The application in agricultural baling arises as a solution to farmers' need for collecting and storing part of the cereal crops to feed and properly accommodate their livestock. The use of plastic polymer twine for this application, replacing metallic wire, involves economic savings and greater safety in its use and for animals.

With the acquisition of Ejidofil in 2004 and the brands associated with said company, Reyenvas became the leading national producer of polypropylene twisted twines.

Our products are specially designed for use in baling machines and are approved by leading world manufacturers of this type of machine. We have followed the evolution of the baling sector to offer increasingly demanding products that combine high press density and suitable lengths for optimal per-bale costs.

We ensure the fundamental features of quality baler twine:

- UV protection, adapted to the geographical area.
- Selected raw materials of high quality.
- Resistance to knotting, a determining factor in thicker formats, which guarantees high press density.
- Constant and consistent quality.
- Perfect winding, which optimises the space inside the machine cassette.
- Smoothness, which makes knotting tighter and reduces the wear of the machinery thanks to less friction. It also increases work speed.

It is supplied in different colours and lengths, depending on the type of baling machine on which it is to be used.







# **DRUMS**

In this line of products, we produce and market containers for various sectors, for the packaging of both food and chemical products and the transport of hazardous goods.

Accordingly, we have a range of products in different formats and volumes, manufactured using the blow-molding process:

## ECO 220-LITRE and 230-LITRE OPEN-MOUTH DRUM.

These drums are designed for food use, mainly for the table olives, fruit pulp and general pickles sectors. They are specially designed to optimise container loading. We also market a variety of lids and covers depending on each customer's requirements (grids, lids with central plug and solid lids, etc.). There are two models of this type of drum with different volumes: 220 litres and 230 litres.

## **450-LITRE OPEN-MOUTH DRUM.**

This drum is specially designed for food use as a fermenter in the table olive industry.

# TWO-MOUTH L-RING DRUM (225-LITRE RING).

This drum has two mouths specially manufactured for the packaging of liquids. Its design makes it ideal for correct filling and handling and for exports, adapting perfectly to optimise loading in containers. This drum is certified for food use and for the transport of hazardous goods.













## **PACKAGING DIVISION**

This division of the company focuses specifically on the production of all kinds of films and plastics for the packaging sector. This business area is present in the agri-food, beverages, soft drinks, construction, raw materials, fertilisers and furniture sectors, etc.

Accordingly, we have the most advanced multilayer production means and use latest-generation raw materials.

Our product range focuses on three different types of applications:

#### **PACKAGING IN BAGS**

- FFS tubes
- BA bag
- Dispensing film
- Bags and tubes for bags

Latest-generation solutions for packaging your products. New raw materials, the most modern machines and our customers' requirements make us work on a daily basis to offer the best packaging solutions.

We have solutions for all kinds of bagging: manually or semiautomatically using ready-made bags; or automatically starting from either tubes or dispensing films. Our products also offer various options (slip, anti-slip and anti-static, etc.) and printing so that your product reaches the market as safely, economically and aesthetically pleasing as possible.





## **GROUPING FILM.**

- Blank shrink film
- Printed shrink film

With multilayer machines, we manufacture the most technological grouping film with a constant focus on finding an optimal balance between cost, format and safety in storage and transport.

Full range of widths, thicknesses, colours, additives and printing in up to 6 colours.

All this, together with the best raw materials and additives, give our grouping films the best optical properties, strength and elasticity to guarantee successful use in any application or machine.

#### PALLETING.

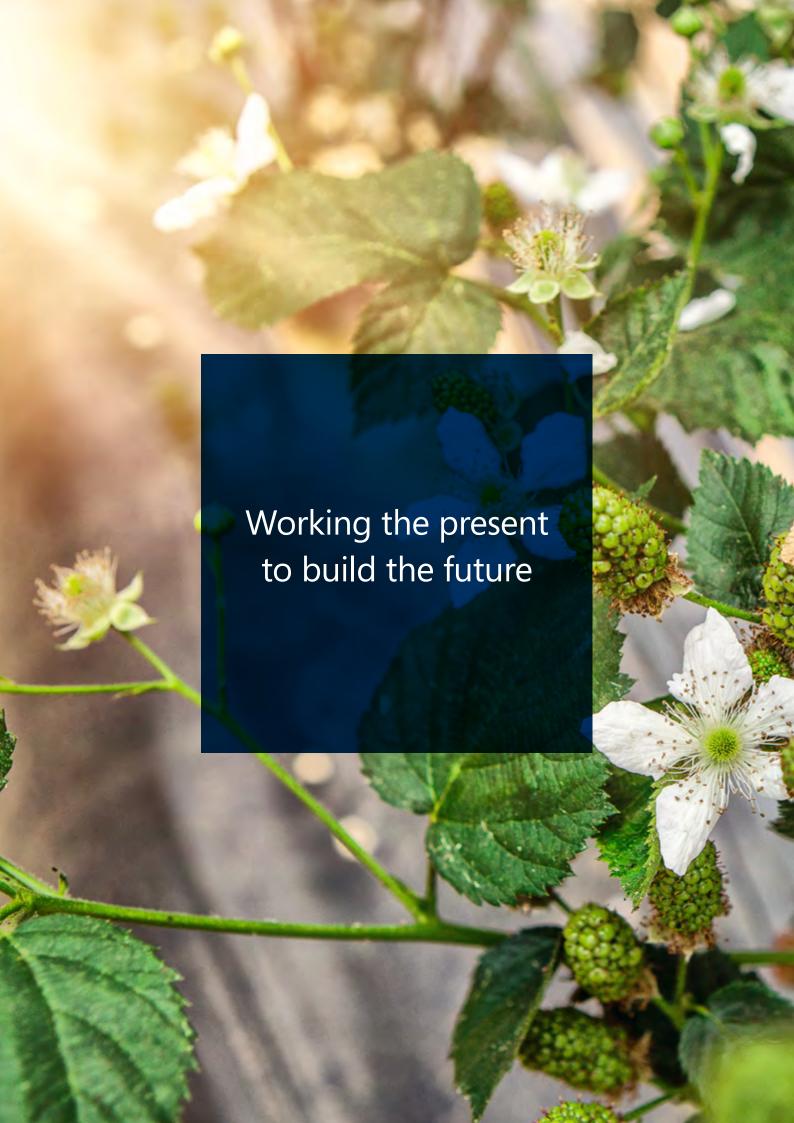
- Shrink hubes
- Shrinkable tubes
- Films
- Stretchable film
- Extendible tubes

Reyenvas supplies a wide range of solutions that adapt perfectly to the packaging and covering of all types of pallets and to each customer's specific requirements. We have specially designed alternatives both for manual packaging processes and for the most modern automatic pallet packaging systems on the market.

Both our manual covers and tubes for automatic processes can be printed in 3 colours on each side.









# WE BELIEVE IN A SUSTAINABLE FUTURE.

At REYENVAS, we view the future with hope and determination, as a common task and a unique and unavoidable opportunity to build a better world. Fully aware that we belong to a particularly sensitive sector, but free from complexes or limitations, we are committed to optimising resources to save energy and eliminate emissions. Our commitment and contribution to a more sustainable world can be seen in our investment in technical and human resources to develop biodegradable and compostable products and applications.









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