

End-products Catalogue

Transforming polymer and aluminium from used carton packages into new products.



Cover picture credits (clockwise from top left):
Stella Green, Singing Friend, Axjo Group, GER,
Ecoplasteam, Q-Pall, Aectual, Govaplast,
Newpall, Ecuaplastic.

Picture credit: Govaplast

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*The non-fibre component of carton packages is known as polyAl, which designates the layers of polyolefins and aluminium being used as barrier against oxygen and humidity to protect the food content in aseptic carton packages, caps and closures.

**1. Tetra Pak's
role in
collection
& recycling.**



Since 2015, the global economy has consumed 70% more new materials than the Earth can naturally renew¹ with over 90% of the materials ending up as waste.

At Tetra Pak, our focus is on practical solutions. Our ambition is to drive circular solutions by designing recyclable carton packages², using recycled and renewable materials, and expanding collection and recycling to keep materials in use and out of landfills.

Our efforts include promoting renewable materials, maximising the value of recycled materials, and minimising waste. In 2022, we invested nearly €30 million³ in collection and recycling worldwide. Looking ahead, we plan to increase our contribution to the global collection and recycling of food and beverage paper-based carton packages, with an annual investment of approximately €40 million.

In 2022, we estimated that the global effective recycling rate for paper-based food and beverage cartons was 20%, equivalent to 1 million tonnes of materials effectively recycled from post-consumer carton packages. This is in comparison to a 25% global carton package collection rate⁴.

To improve recycling rates, we are working on establishing polyAl (polymers and aluminium mix) recycling capabilities and developing markets for recycled polyAl. In 2022, 1.2 million tonnes of carton packages were collected for recycling, including over 100 kilo tonnes of polyAl⁵.

Our dedicated team of recycling experts, located worldwide, collaborates with recyclers, local authorities, and customers to create efficient collection and sorting methods. We also engage in co-investments with industrial partners in the recycling value chain.

In 2022, there were around 200 recycling facilities for carton packages, including 103 dedicated to fibre, 61 dedicated to polyAl, and 36 integrated facilities.

READ MORE

[Sustainability Report FY22](#)

[Tetra Pak Recycling Initiatives FY22](#)

[Circularity & Recycling](#)

¹Circularity Gap Report: FIVE YEARS of the Circularity Gap Report (2022).

²The term 'carton package' refers to food and beverage carton composite packaging.

³Both operational and capital expenditures. Capital expenditures are a company's major, long-term expenditures while operating expenditures are a company's day-to-day expenditures.

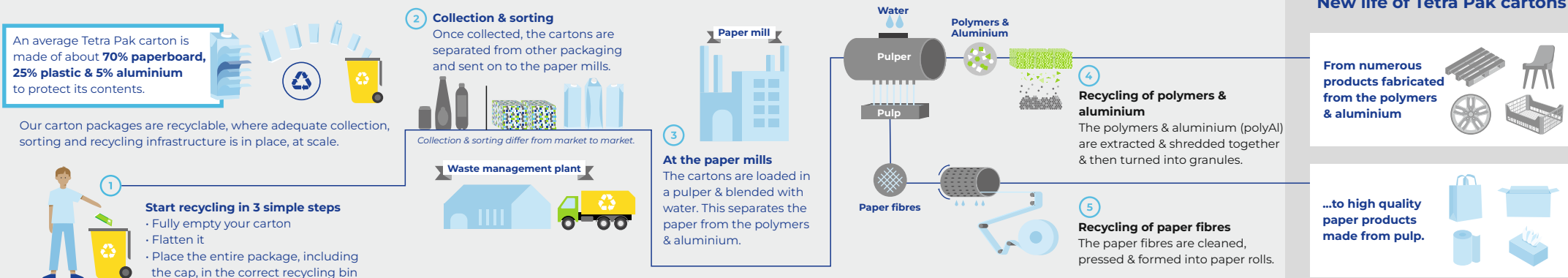
⁴For the reported carton packages collected for recycling we use, where available, official publicly available data from renowned sources such as governmental agency, registered recovery organisation, nationwide industry association, NGO etc. reported on a regular basis using a consistent approach.

⁵Based on a global carton recycling rate of 25% and Tetra Pak sales of 193 billion packages, we estimate the 1.2 million tonnes of carton packages collected for recycling includes approximately 48 billion Tetra Pak carton packages.



2. Carton package recycling of fibres & polyAl.

The recycling journey of paper-based Tetra Pak cartons



An average Tetra Pak carton package is made of about 70% paperboard, 25% plastic and 5% aluminum to protect its contents – and is recyclable where adequate collection, sorting and recycling systems are in place, at scale. This means you may see a carton package again as a paper towel, pallet, cardboard packaging, crate, and more.

[READ MORE](#)

2.1 Collection & sorting

Tetra Pak promotes the collection and sorting of carton packages by working closely together and supporting a wide range of stakeholders across the recycling value chain: from consumers, retailers and food and beverage manufacturers to recyclers, waste pickers, aggregators and brokers, as well as municipalities and governments.

Carton packages can be collected and sorted in multiple ways depending on the local regulations and systems in place.

In legislated markets: When separation takes place at the source (by consumers), they can be included in the following streams - paperboard packaging, lightweight packaging or in all dry recyclables. They will then be collected through curbside collection, collection bins, or deposit refund systems (DRS).

In non-legislated markets: Carton packages will likely be placed in single bins and later collected by the informal sector through street and landfill picking. In these markets, it is also possible that collection of small quantities of only carton packages is happening through dedicated bins by voluntary separation at the source.

If further sorting is needed, depending on the collection method and stream, it will happen at material recovery facilities (MRFs) in developed markets and by cooperatives or sorting centers in developing markets.

2.2 Fibre recycling

The fibres from carton packages are recyclable. The fiber recycling happens at paper mills, where carton packages are loaded in a pulper and blended with water, which separates the fibres from the polyAl. The paper pulp is then turned into new products like paper sheets, kraft packaging, tissues, cereal boxes, moving boxes, etc.

Tetra Pak uses virgin wood fibres from FSC®-certified forests (Forest Stewardship Council™) and other controlled sources¹. The resulting pulp from recycling is of good quality and lead to high pulp strength. This is due to the fact the fibers are generally long and strong, and can be well-processed by the paper recycling equipment currently available.

2.3 PolyAl recycling

After the fibres are removed, a mix of polymers and aluminium, known as polyAl, is left. It consists mainly of thin films made of polyethylene (LDPE) or PE-Aluminium and polyethylene (HDPE) or polypropylene (PP), which comes from the caps and closures. This mix is then pressed and transported in bales to a selected polyAl recycler where the following steps typically happen:

- Shredding (cutting the material into smaller pieces)
- Washing and/ or dry cleaning (also cleaning but without water, with centrifuge)
- Drying
- Air separation (separating LDPE and aluminum films from caps and closures)
- Agglomeration (densifying the material) and/ or
- Extrusion with melt filtration where the LDPE films are turned into granules

2.4 Full carton package recycling

The full carton package recycling process uses the entire carton package to create construction materials like panels, roof tiles, or under-tile flooring via a low-energy input process which uses thermoforming. Most often the carton packages are shredded (cut into smaller pieces) and dried, before being pressed into panels or roof tiles.

¹Tetra Pak's FSC license code is FSC™ C014047.



Picture credit: Lepleco

A close-up photograph of an industrial recycling process. A large, dark, cylindrical roller is positioned above a perforated metal grate. A person's hand is visible, holding a pile of dark green plastic granules that are falling from the roller onto the grate. The granules are small, dark green, and have a slightly irregular, rounded shape. The background is a blurred industrial setting.

3. Recycled materials from carton packages.

3.1 Recycled fibres

The fibres from carton packages are recyclable and are already being recycled at scale by many paper mills around the world. The qualities and purity of the recycled fibres depend on the paper mill and region in which they are operating. The fibres from carton packages can be recycled repeatedly.

Some examples of products made with the fibers from carton package are:

- Tissues and hygiene products from [Lucart](#) in Italy
- Craft board from [Saica](#) in Spain
- Recycled duplex board for wall panels, paper packaging, folded carton from [OPI](#) in Saudi Arabia
- Paper packaging from [Sustana Fox River](#) in the United States of America and Canada
- Paper for use in paper packaging products from [Cartiere Saci](#) in Italy



Picture credit: Lucart



3.2 Recycled polyAl

Please see below an overview of the polyAl recycling processes and their related polyAl material qualities.

Recycled products processing methods

Recycling process for different polyAl output qualities: Simplified overview

Recycling process	General recycling process steps	Pelletising process / manufacturing process	Potential end-product
Dry-cleaning & chemical separation	Reducing fibre & aluminium. Removal of contaminants (glass, stone etc.). Sorting out caps & closures. Separation of polymer & aluminium.	Extrusion pelletising with melt-filtration	LDPE granules (aluminium free, <1%) (Figure 1)
Cold wash (& friction wash)	Reducing fibre & aluminium content. Removal of contaminants (glass, stone etc.). Sorting out caps & closures.	Extrusion pelletising with melt-filtration	Melt-filtrated polyAl granules (Figure 2)
Dry cleaning	Reducing fibre (& aluminium content). Removal of contaminants (glass, stone etc.). Sorting out caps & closures.	Agglomeration or hotmelt pressing	Agglomerated polyAl or panels/ roof sheets (Figure 3)
Full carton	Shredding. Drying. Pressing beverages cartons.	Hotmelt pressing	Panels/ roof sheets (Figure 4)



Figure 1 LDPE granules



Figure 2 PolyAl granules



Figure 3 Agglomerated polyAl

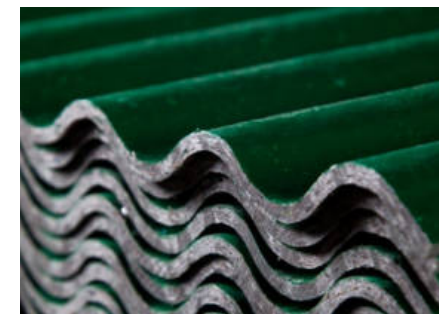



Figure 4 Roof sheets of polyal

Additionally, in below table an overview can be found of examples of materials recycled from polyAl.

Overview of recycled products

Recycler	Location	Grade	Capacity (MT/yr)	Melt Flow Index (MFI) (190°C, 2.16 kg)	End use examples
Gayatri	South Africa	rLDPE (granules)	2000	3	Outdoor Furniture, Retail Displays, Transport Pallets.
Recon	Netherlands	rLDPE (granules)	4800	3	Injection moulding applications (e.g. Bird Feeders, Chairs, Sanitary Products, 3D printing).
Recon	Netherlands	rHDPE (regrind)	150	N/A	Injection moulding applications (e.g. Chairs, Sanitary Products, 3D printing).
Palurec	Germany	rLDPE (granules)	5000	3,1-3,7	Injection moulding applications (e.g. Transport Pallets).
Plastigram	Czech Republic	rLDPE (granules)	5000	5,5	Compounding, replacing existing (r)LDPE, injection moulding applications.
Plastigram	Czech Republic	rHDPE, rPP (regrind)	1500	5-7	Injection moulding applications.
Ecorevive	Italy	rLDPE, rLLDPE (agglo)	6000	5,5	Urban furniture, poles and panels, pallets.
Ecorevive	Italy	LDPE, rLLDPE (granules)	6000	5,5	Urban furniture, poles and panels, pallets.
Lucart	Italy	rLDPE, rHDPE, rPP (granules)	8000	14,1 (190°C, 5 kg)	Transport pallets.
Ecoplasteam	Italy	rLDPE	6000	2,9	Injection moulding, extrusion, rotomoulding.
Fulun	China	rHDPE, rLDPE, rPP	30000	3,7	Injection moulding applications (e.g. furniture, pallets, waste bins, etc.).
Bioplast	Brazil	rLDPE	500	0,5-3,5	Injection moulding applications.
Palurec	Germany	rHDPE	1500	N/A	Injection moulding applications.



**4. Products
made of
recycled
polyAl from
carton
packages.**

4.1 Transport pallets

DESCRIPTION: Plastic pallets play a crucial role in the transportation of packaging and finished goods. Plastic pallets, akin to their wooden counterparts, offer several advantages, including improved hygiene, uniform construction, enhanced resistance to damage, and can be made from recycled materials. Moreover, they can be reused multiple times, contributing to a lower carbon footprint. PolyAL is being utilised in the manufacturing of plastic pallets, often blended with other recycled polymers. The production of plastic pallets typically involves either injection moulding or compression moulding, depending on the practices of the manufacturing company.

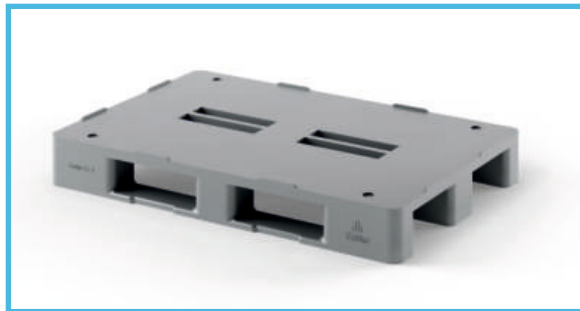
POLYAL BASE MATERIAL(S): rLDPE+Alu granules or agglomerate, dry blended or compounded with other (recycled) polymers and/or additives to secure the required properties.

EXAMPLES: Cabka, Q-Pall/ AVK, Valsir, Newpal, Benoplast, Re>Pal.

Cabka

PRODUCT: Plastic pallets and large containers made from recycled plastics for different industries and applications. Cabka's Endur E7.1 is made with 30% recycled polyAL materials.

COMPANY: Cabka is in the business of recycling plastics from post-consumer and post-



industrial waste into innovative reusable pallets and large container solutions, enhancing logistics chain sustainability. Cabka is leading the industry in its integrated approach closing the loop from waste to recycling to manufacturing.

LOCATION: Germany, Spain, Belgium, USA.

WEBSITE

Q-Pall (part of AVK Group)

PRODUCT: Q-Pall is producing their bestseller pallets from their lightweight programme, the 1200 x 800 and 1000 x 1200, both in open and closed deck, with recycled polyAL materials.

COMPANY: Q-Pall is a manufacturer and supplier of plastic pallets made from recycled materials. Since their foundation, they have been working to make their standard products and customised solutions more **sustainable** and efficient. Q-Pall manufactures near its clients, with facilities in The Netherlands, Denmark, Germany, France, and Spain. This proximity cuts down transportation costs and curtails CO₂ emissions. Q-Pall is part of the AVK Group.

LOCATION: The Netherlands.

WEBSITE



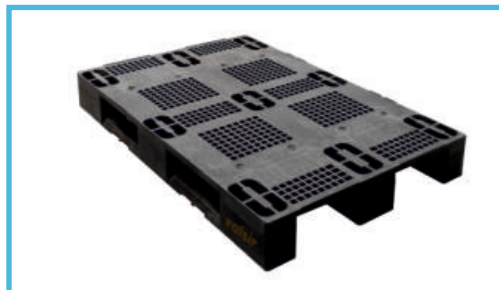
Valsir

PRODUCT: Valsir Recycling's plant makes strong plastic pallets from 100% recycled material, including polyAL. These pallets are low maintenance, resistant to mold and bacteria, and have high load capacity. Customisable options include laser-engraved logos and built-in microchips for logistics tracking.

COMPANY: Valsir Recycling is a division of Valsir Spa and is at the forefront of eco-friendly solutions, producing strong plastic pallets from 100% recycled materials while offering customisable features for logistics tracking and sustainability.

LOCATION: Italy.

[WEBSITE](#)

**Newpal**

PRODUCT: Newpal transforms the polyAL granules produced at Lucart Diecimo plant into recycled plastic pallets. The pallets are then used by CPR System for handling goods in the agri-food sectors. As further confirmation of the sustainability of the project and its business model, CPR System will recover and reuse the pallets, so that even at the end of their life and after multiple uses, they will



be introduced back into the industrial process instead of ending up in a landfill.

COMPANY: In 2019, Lucart and CPR System have established Newpal S.p.A., a subsidiary for manufacturing high-quality pallets moulded mainly from recycled polyAL-based granules using innovative machinery.

LOCATION: Italy.

[WEBSITE](#)

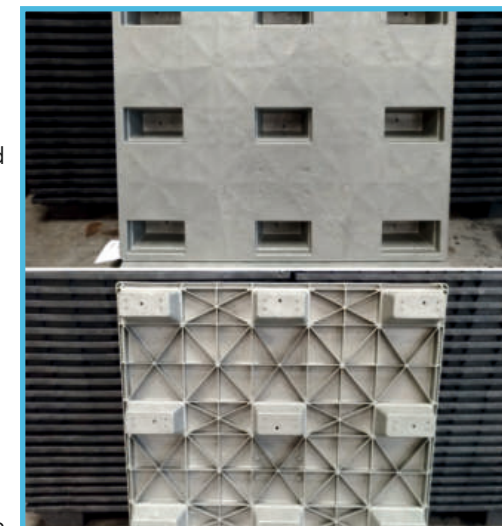
Re>Pal

PRODUCT: Re>Pal's patented and advanced process of ThermoFusion™ creates a malleable dough out of salvaged mixed waste plastic. The compressed, moulded pallets are ISO8611 tested.

COMPANY: Through Re>Pal's ThermoFusion™ process, Re>Pal has a unique approach to managing plastic waste. They can generate a structurally strong product from a variety of mixed waste inputs. Their process minimises energy consumption when compared to the manufacture of pallets made from virgin plastic. Using a Re>Pal pallet creates four or more carbon credits for each tonne of plastic used in the production process.

LOCATION: Indonesia.

[WEBSITE](#)



4.2 Industrial packaging solutions

DESCRIPTION: In this category, various packaging applications are listed, extending beyond the pallets. Examples include crates, cable drums, etc. which find utility in both logistics and retail environments. These items are typically manufactured through processes such as injection moulding or extrusion.

MATERIALS: rLDPE+Alu granules

EXAMPLES: Axjo (packaging solutions for cables and wires), Apex Polymer Solutions (packaging sheets).

Axjo

PRODUCT: Axjo uses recycled polyAl components from used carton packages to create new packaging solutions for the wire and cable industry. With the addition of polyAl in Axjo's recycled material mix, you get a high-quality recycled product with the same or better properties than virgin polymer.

COMPANY: Axjo Group is a Swedish polymer company, founded in 1945. At an early stage, Axjo identified the potential to use plastic for packaging purposes and is today



the leader in producing spools, reels and drums in [environment-friendly](#) plastics. Axjo has established a long-term collaboration with a number of global companies that use their solutions in their production, solutions that not only improve cost efficiency but also a secure transition to a new era and new technology, known as the Greenology® Concept.

LOCATION: Sweden.

[WEBSITE](#)

Apex Polymer Solutions (Pty) Ltd

PRODUCT: Extruded polyAl layer boards suitable for all industries in need of sustainable packaging solutions. **COMPANY:** Apex Polymer Solutions are leading manufacturers and distributors of sheet material and complimentary LED lighting solutions. Location: South Africa.

[WEBSITE](#)

4.3 Consumer goods & appliances

DESCRIPTION: This group comprises products designed for consumers and made available through retail channels. Examples include Lucart's sanitary products (EcoNatural), Fauna's Singing Friend bird feeders, Carioca's Eco Family pens, Mater's Conscious Chair, Estra's Eco Bins, Krill Design's lamps, and Plastic Forte's Flexitubs. The majority of these plastic retail products are manufactured using injection moulding techniques, employing compounds made from recycled polyAL.

Lucart

PRODUCT: EcoNatural is the product range made from recycled carton packages. Thanks to the innovative technology, Lucart separates the components of the packages: from cellulose fibres, it creates Fiberpack®, with which it produces paper, and from Al.Pe.® (or polyAL), it makes dispensers.

COMPANY: Lucart is a leading company in the paper industry, known for its sustainable tissue and hygiene product manufacturing.

They are recognised for producing high-quality tissue and paper towels with sustainable packaging, using [environmentally responsible](#) practices. Lucart emphasises innovation and [eco-consciousness](#), making them a preferred choice for businesses seeking sustainable paper-based products.

LOCATION: Italy.

[WEBSITE](#)



Singing Friend (part of Fauna B.V.)

PRODUCT: Singing Friend (Fauna BV) developed a range of wildbird feeders with good design and attractive pricing, made from recycled plastic.

COMPANY: Since 1951, the family-owned business has been driven by a deep-rooted passion for birds. Singing Friend embodies a blend of functionality, user-friendliness, and quality, all while promoting sustainability and a strong connection between humans, nature, and our feathered friends.

LOCATION: The Netherlands.

[WEBSITE](#)



Mater

PRODUCT: The Conscious Chair is a Danish modern reimagined in the waste material Matek®. The seat and backrest are made with a combination of used carton packages and coffee shell waste.

COMPANY: Founded in Copenhagen in 2006, Mater is a pioneering green-tech design brand with [sustainability](#) and circularity at its core. From the



outset, Mater's ambition was to inspire a global design audience and engage people in sustainable thinking. Mater uses cutting-edge technology in production allowing the brand to transform waste materials into furniture. Through collaboration with well-established and new design talents, Mater creates timeless designs in a sustainable and responsible way.

LOCATION: Denmark.

[WEBSITE](#)

Carioca

PRODUCT: Carioca® has a product line with items made with at least 70% post-consumer recycled plastic: Carioca® Eco Family. The product line is made with EcoAllene®, a polyAL-based material was obtained from recycled carton packages.



COMPANY: Carioca Spa was born from the legacy of Universal Spa, one of the leading Italian companies in the production of colouring, writing and drawing articles. Carioca® is an international love-brand born in 1965, specialising in the production of tools to develop children's creativity.

The product range consists of markers, colored pencils, tempera, pastels, educational games, and many other drawing items.

LOCATION: Italy.

[WEBSITE](#)

ESTRA

PRODUCT: Ecobins, polyAL-injected bins, are available in two lines: Home with capacities of 10 L or 26 L, offered in white and grey, and Industry with capacities of 10 L, 26 L, and 53 L, available in four colors - white, green, black, and red - aligned with the segregation color code in Colombia.

COMPANY: Established over 70 years ago, ESTRA is a leading Colombian company specialising in the production

and marketing of plastic products for both industry and home. Its enduring success is a testament to the trust bestowed upon it by Colombian families and businesses. Its enduring success is a testament to the trust bestowed upon it by Colombian families and businesses. ESTRA has successfully expanded beyond national borders and successfully enter the international market. The company offers practical solutions in storage, organisation and furnishing, backed by the knowledge acquired over years and supported by the recognition of the high level of quality and excellent service.

LOCATION: Colombia.

[WEBSITE](#)

[LANDING PAGE FOR ECOBINS](#)



Plastic Forte

PRODUCT: Baskets or flexitubs crafted from 98% recycled material and 2% dye. A portion of the raw material consists of post-consumer recycled material, specifically recycled polyAl, while the remainder is sourced from leftovers generated during the manufacturing of other products. This production process is waste-free. Waste is shredded on-site, contributing to a reduction in transportation costs.



COMPANY: Plastic Forte is a family business based in Alicante, Spain, is one of the leading manufacturers of plastic household products made in Spain. Our facilities use the state-of-art technology, based on quality controls and monitoring the whole production process.

LOCATION: Spain.

[WEBSITE](#)

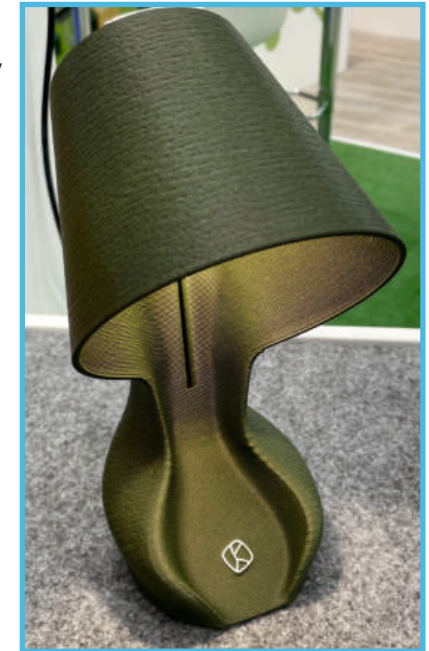
Krill Design

PRODUCT: Recycled polyAl and other raw materials such as food scraps are transformed into on-demand design objects with 3D printers for both home and office.

COMPANY: Krill Design is an Italian design studio specialised in the development of new design products within a [100% circular and sustainable](#) process. The multidisciplinary team, comprising individuals with diverse personalities and professional skills, energises the work environment, fostering a spirit of experimentation and creativity.

LOCATION: Italy.

[WEBSITE](#)



4.4 Indoor and outdoor furniture & flooring solutions

DESCRIPTION: This section features examples from the Outdoor Furniture category, including furniture, boards, posts, fences, playground items, and flooring solutions - all produced from recycled polyAL.

MATERIALS: Agglomerate, Granules rLDPE+Alu.

EXAMPLES: Aectual, Govaplast, ML Polyolefins/ Stella Green, Lепleco, Ecoyarn, Marcolite, GER.

Aectual

PRODUCT: 3D printed products and finishes from polyAL include stylish and functional wall paneling, planters, room dividers, stools, window screens, and more.

COMPANY: Aectual is the worlds' leading online furniture & finishes manufacturing platform producing in an [infinite circular](#) material loop via XL 3D printing of recycled materials.

LOCATION: Amsterdam, The Netherlands.

[WEBSITE](#)



Govaplast

PRODUCT: Boards, posts, decking, fencing, furniture, and playground items are crafted from Govaplast material, produced in Belgium. Recycled polyAL is a key component in the production of these items.

COMPANY: Govaplast is the trademark by Govaerts Recycling for various solid and high-quality profiles in recycled plastics.

LOCATION: Belgium.

[WEBSITE](#)



ML Polyolefins/ Stella Green

PRODUCT: Stella Green paving grids, also known as grass or gravel grids, are designed to strengthen and stabilise the ground while maintaining free water circulation and full plant vegetation. Plastic paving grid is an excellent alternative to paving stones, asphalt or concrete (or openwork concrete slabs) where it is required to maintain a permeable green area. Recycled polyAL is one of the materials used to produce Stella Green's plastic paving grids.



COMPANY: With over 20 years of experience in the plastic market, ML Polyolefins is a leading player in the recycled plastic industry in Central and Eastern Europe, as well as in injection molding production. They collect polypropylene (PP), polyethylene (PE), laminate packaging, including polyAL, and all types of polyolefins, both post-industrial and post-consumer.

LOCATION: Poland.

[WEBSITE](#)

Lepleco Floor Grids

PRODUCT: Latera is a tile made of a composite material, made from recycled polyAL and saw dust, for both internal and external paving. The aesthetics of polyAL combined with the robustness of wood form a perfect union. Due to its easy assembly and disassembly, it is suitable for both domestic and industrial use.



COMPANY: Waste is currently a major universal concern. LEPLECO tackles the problem by creating unique and practical every day products made with secondary raw materials deriving from polyAL and wood, [100% recycled and recyclable](#).

LOCATION: Italy.

[WEBSITE](#)

Ecuaplastic

PRODUCT: Ecuaplastic has created Ecoyarn, an [eco-thread](#) made from recycled polyAL. This innovative material is waterproof and resilient against harsh weather conditions, making it an ideal choice for weaving furniture and crafting decorative home accessories.

COMPANY: Ecuaplastic, a pioneering organisation in recycling polyAL from food and beverage cartons, embarked on a mission to find innovative applications for this sustainable material.

LOCATION: Ecuador.

[WEBSITE](#)



Marcolite

PRODUCT: Benches for outdoor use.

COMPANY: Marcolite is focused on recycling multi-layer containers and offer back to the market valuable products made from the recycled materials. Their goal is to minimise the environmental impact generated by their products throughout their life cycle.

LOCATION: Mexico.

[WEBSITE](#)



Green Earth Recycling

PRODUCT: Green plastic wood is composed of a unique blend of recycled polyethylene plastic, from shopping bags, recycled polyAL and other plastic materials. Strong and impact-resistant, these products have the beauty and finish of natural wood. They are maintenance-free, resistant to insects and termites, waterproof, and come with a 25-year warranty against rotting, splitting, and splintering.

COMPANY: Green Earth Recycling has devised a high quality, [environment-friendly](#) and long lasting wood alternative, putting together a winning combination of materials and technology.

LOCATION: Pakistan.

[WEBSITE](#)



Urban Ext

PRODUCT: Extrusion and injection of several profiles to produce furniture.

COMPANY: Urban Ext is a designer and manufacturer of outdoor furniture and products from Polymab, and carries out research and development for various polyAL outlets.

LOCATION: France.

[WEBSITE](#)



4.5 Construction applications

DESCRIPTION: In this section you will find examples of applications in the construction segment using recycled polyAL materials, including roof sheets and wall panels.

MATERIALS: rLDPE+Alu granules, rLDPE+Alu agglomerate, full carton package recycling.

EXAMPLES: Marcolite, GER, Ibaplac, Saveboard, Recoma, Gitta.

Marcolite

Product: Extruded roof tiles.

COMPANY: Marcolite is committed to enhancing the quality and presentation of its products. The company is dedicated to recycling multilayer containers and strives to minimise the environmental impact of its products throughout their life cycle.

LOCATION: Mexico.

[WEBSITE](#)



GER

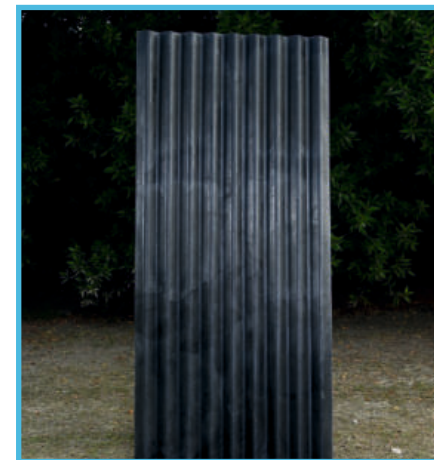
PRODUCT: Green Earth Tuff Boards, made from recycled polyAL, are a cost-effective option for shed construction, often ranking among the least expensive materials, including metal and asbestos sheets. In addition to being non-harmful to health, unlike asbestos sheets, Green Earth Tuff

Boards require no maintenance and boast weather and waterproof qualities. Unlike metal sheets, which tend to rust and corrode over time and necessitate regular painting, Green Earth Tuff Boards demand no such ongoing care. Moreover, Green Earth Tuff Boards serve as an ideal product for locations with extreme temperatures, given their insulation properties. In hot summers, they naturally keep the shed cool.

COMPANY: Green Earth Recycling has devised a high quality environment friendly and long lasting wood alternative, putting together a winning combination of material and technology.

LOCATION: Pakistan.

[WEBSITE](#)



Ibaplac

PRODUCT: Roof tiles, plates, corner protectors.

COMPANY: Ibaplac has been on the market since 1993, developing and applying innovative technologies to its products, providing the market with the most modern options in recycled products, with high resistance and durability.



Ibaplac has the Quality Management System – ISO 9001, which proves the quality and origin of the products offered.

LOCATION: Brazil.

[WEBSITE](#)

saveBOARD

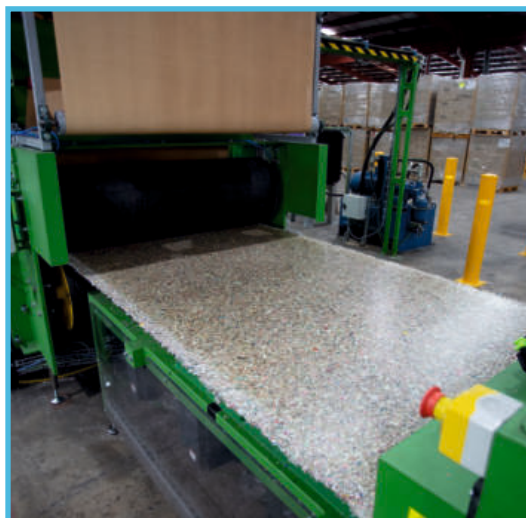
PRODUCT: saveBOARD is manufacturing low carbon building materials using the full carton package, including caps and straws.

Manufacturing in New Zealand (since Nov 2021) and in Australia (from Dec 2022), saveBOARD makes affordable, high performance, low carbon building materials which are a one-for-one replacement for plywood, oriented strand board (OSB) and suitable for replacing other construction panels. The panels can be fully recycled back into new panels. KFC and Woolworths are using saveBOARD products in their stores.

COMPANY: Manufacturer of construction materials.

LOCATION: New Zealand and Australia.

[WEBSITE](#)



Recoma

PRODUCT: RECOMA's board can replace most of the traditional construction boards and in some cases interior walls with two layers, since it's strong and stable, good for fastening screws and has a surface suitable for any treatment. Thereby it works as an affordable replacement for OSB boards, plywood, particleboard, in combination with plasterboard.

COMPANY: RECOMA gives new life to carton packages and turns them into low-carbon, circular construction boards that can replace traditional boards without extra cost or effort.

LOCATION: Sweden.

[WEBSITE](#)

Gutta

PRODUCT: Corrugated plastic roof sheets

COMPANY: The Gutta Group is an owner-operated, Swiss group of companies that focuses on the production, acquisition, logistics and marketing of building materials, components and garden products.

LOCATION: Germany.

[WEBSITE](#)



5. Glossary of abbreviations.

MT	Metric tons
LLDPE	Linear low density polyethylene
PolyAl	Polymer and aluminium
PP	Polypropylene
rHDPE	Recycled high density polyethylene
rLDPE	Recycled low density polyethylene
rPP	Recycled polypropylene
LDPE	Low density polyethylene
rLDPE + Alu	Recycled low density polyethylene with aluminium particles

