



# Polyco supported end market solutions in the **built environment**

Polyco   
**2025**



# Overview

Polyco is a producer responsibility organisation, that is implementing an Extended Producer Responsibility (EPR) Scheme, with the aim of increasing the collection and recycling of plastic packaging.

Polyco focuses on recycling of plastic packaging back into plastic products, maintaining the material in the plastic production loop.

However, there is still a portion of plastic packaging waste that remains unrecycled or cannot be recycled by conventional means. This leaves a gap in achieving sustainable material management.







The unrecyclable plastic packaging presents an opportunity to be repurposed into durable and functional building products, such as plastic lumber, insulation materials, and composite construction panels.

Current market demand for building materials made from recycled plastics is still low to effectively support this end market.

Polyco would like to showcase the viable built environment solutions that can assist in ensuring that the unrecyclable portion of plastic packaging waste remains out of our landfills and assists in achieving legislated targets.



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The Centre for Regenerative Design & Collaboration (CRDC SA) is tackling plastic waste through regenerative design.

CRDC have created a groundbreaking new innovative green building technology - an Eco-Aggregate, called RESIN8™.

Its lightweight and versatile nature makes it an ideal high performing aggregate, for use in structural and non-structural concrete applications, as well as asphalt.

## Concrete products include:

- M140 blocks
- Maxi bricks
- Pavers
- Kerbs and channels

The replacement of a percentage of natural aggregates with RESIN8™ in concrete products adds or maintains the strength, reduces weight, increases insulation and the thermal properties of these concrete products. **It also maintains the appearance of traditional concrete.**

**Customers include concrete and asphalt companies, property developers and municipalities.**

A number of project case studies are available on request.

## The waste products used as input materials:

RESIN8™ is a lightweight hybrid mineral-polymer eco-aggregate, boasting an impressive 90% composition of recycled and reused materials.

The bulk of plastic waste comes through commercial & industrial waste streams, and includes both **post-consumer** and **post-industrial** waste. This includes **chip packet** and other **multi-layers**. Up to **10% contamination** is allowed, and so washing of waste is not necessary. Additionally, it **bonds better** to concrete paste than clean plastic.

The other source of waste is through a collaborative community focused program called The Bag That Builds (TBTB). TBTB incentivises the collection of previously uncollected plastic waste. It's designed so that any type of plastic waste (Resins 1-7) can be placed into a single recycled bag (no need to separate out different types of plastic). The bag and all the unrecycled plastic in it are converted into RESIN8™.



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# INFINITE INDUSTRIES



Infinite Industries **was founded in 2008**, and has become a trailblazer in manufacturing sustainable, innovative upcycled plastic products. They are currently the only upcycling company in Africa to provide a full turn-key solution to multi-laminate plastics.

Infinite Industries works to create a circular economy for plastic waste, turning it into water-proof, rustproof, UV stable, non-toxic material that can be pressed into an infinite variety of applications.

## Infinite Industries produce:

- Boards of various thicknesses - suitable for roofing, buildings, tiling and any other application that would require board.
- Finished items – such as school desks, dustbins, planters and beehives. The options are only limited by your imagination.
- CNC cut – for interior design application, signage, anywhere you would like to showcase your innovation.

## Clients include:

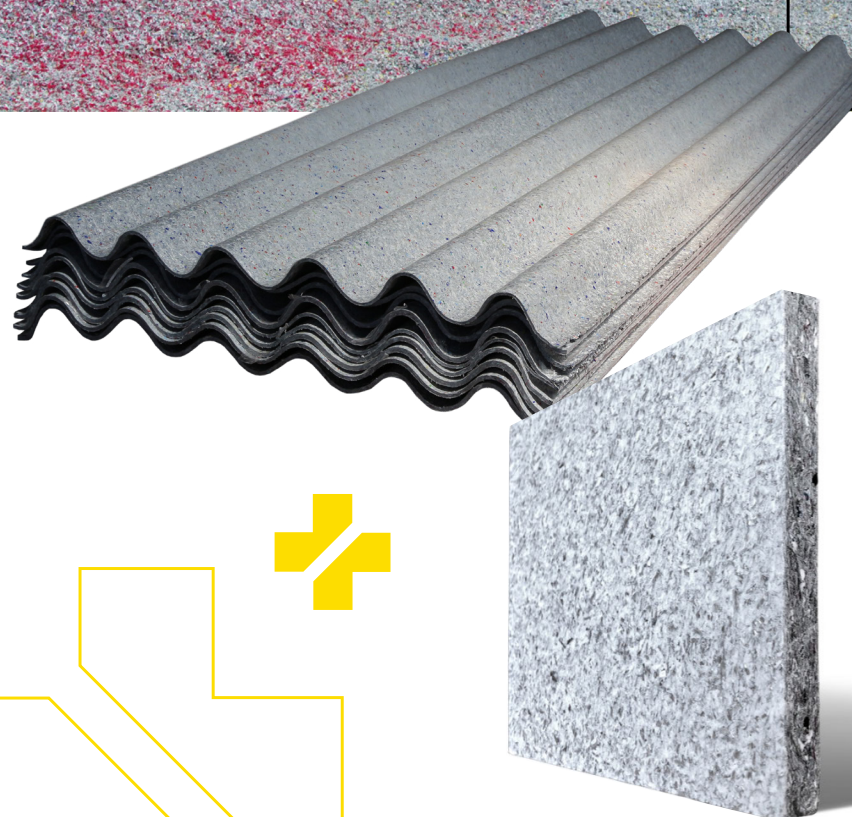
Tetrapak, Nampak, Woodlands Dairy/ First Choice, Liberty 2 Degrees, and Greenfields Sports and Leisure/ Belgotex.

The company has also done joinery work for Woolworths, SPUR, the V&A waterfront and RTT.

## The waste products used as input materials:

Infinite Industries currently utilise **all types of plastic materials**, provided the material is **clean**. They receive **post industrial** waste, as well as clean **post-consumer** waste that has been sorted and cleaned through a recycler.

**Infinite Boards** are manufactured from **100% multi-laminated** packaging materials. These are materials consisting of a combination of polymers, fibre as well as aluminium. This packaging can be used without separation, rendering Infinite Boards a true green sustainable product.



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# POLYPLANK



Polyplank, was **established in 2006** and joined the Malta Recycling group in 2022 which allowed for growth and diversification.

Polyplank has two main business lines. Primarily, the business designs and builds fit for purpose logistic and supply chain components such as pallets, shelving, fruit bins, and floor skids.

As a secondary business line, Polyplank manufactures and sells plastic planking and profiles to the plastic joinery, building contractor and private DIY market.

Through their excellent after sales service, they have managed to maintain some of their client pallet

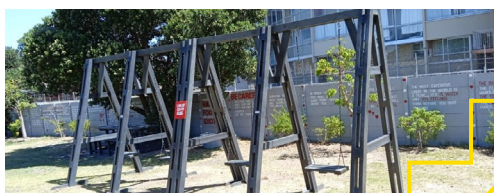
fleets since 2010.

Polyplank pride themselves on design for purpose solutions, products with uncompromising quality, efficiency and strength, cost effectiveness and longevity.

## The waste products used as input materials:

Polyplank uses a wide range of plastics as input materials. **This is mostly no. 7 multi-layer plastics, but also includes LDPE, HDPE, PP and PET.**

Currently, all input material is **clean post-industrial**. However, the company is **planning expansion into the post-consumer** market.



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# STONE PONY

Stone Pony Trading was established 23 years ago, **in 1999**.

Primarily, Stone Pony manufactures solutions in the energy sector. However, they also innovate ideas on waste management and have created a plastic modified emulsion for pothole repairs.

The pothole binder is sold to Stone Pony's manufacturing partner, GTH enterprises, who produce the final product. Their pothole mix is a cold tar that does not require heating during the installation process. Currently they offer a packaged product of 25kg bags.

The product has been used to construct driveways, where two bags (50kgs) are used per square meter when surfacing.

## STONE PONY

The product is pressure curing and takes approximately two days to reach full strength at 25 degrees Celsius.

Its appearance and strength matches conventional hot tar, but has the benefit of not requiring re-heating. Furthermore, it does not carry the risk of leaching of microplastics.

Currently the product is sold in hardware stores (**e.g. Buid it stores in KZN**) and sold to construction contractors directly.

### The waste products used as input materials:

Stone Pony use un-recyclable film plastic in their pothole binder. This is both post-industrial and post-consumer waste.

The plastic is chemically recycled and then added to the bitumen binder.



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# TUFFLEX

**TUFFLEX**  
Plastic Products (Pty) Ltd  
INNOVATIVE PLASTIC RECYCLING

Tufflex Plastic Products (Pty) Ltd has been in existence **since 1994**. It is an established, reputable and well-known plastic recycling operations in South Africa.

Tufflex specialises in the recycling of both post-consumer and post-industrial polyolefin waste and operates one of the most sophisticated flexible plastic wash-plants on the African continent.

Tufflex produces an extensive range of recycled plastic timber which is used in a variety of different industrial, agricultural and domestic applications.

These include such items as pallets, outdoor furniture, flower boxes, decks, warehouse shelving, scaffolding base boards, dustbins, picket fencing, school desks and jungle gyms.

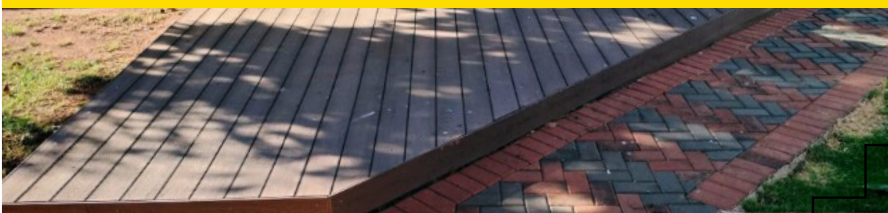
Tufflex timber benefits include being **robust** and **long lasting**, **UV resistant**, easy to **clean** and does not harbour **insects**.

**The waste products used as input materials:**

Tufflex's timber products are made from a variety of waste polymers. The recycled timber is **mostly post-consumer** waste, but the mix also consists of other substrates, some of which is post-industrial, such as polyamide, toothpaste tubes & multilayer packaging.

Furthermore, Tufflex proudly generates **almost zero waste to landfill**. All polyolefin waste and scrap generated through the conventional recycling processes is not dumped but added back into the timber.

**"If it can be built from wood, it can be built from Tufflex timber"**

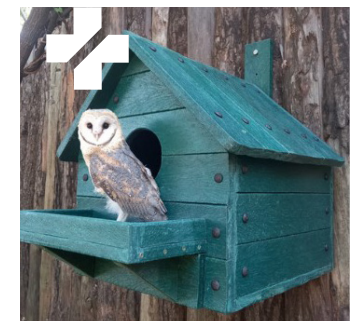
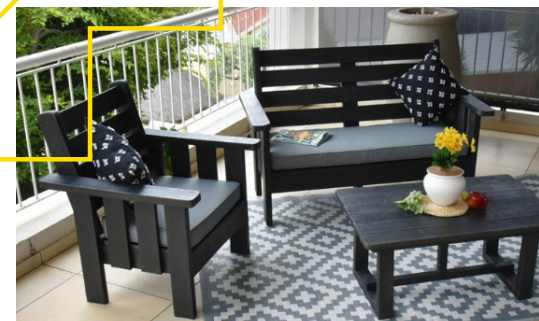
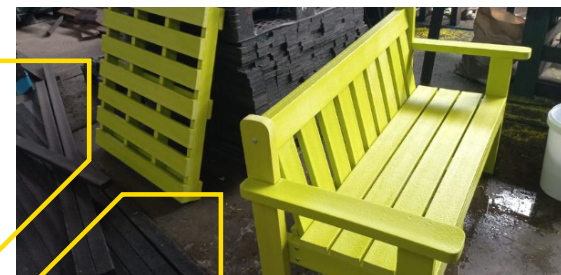


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# ZEROCRETE



Zeroconcrete **has been operating since 2003**. It specialises in the creation of functional art pieces and furniture using a groundbreaking combination of industrial waste, cement and cement replacement materials.

With an unwavering commitment to sustainability, Zeroconcrete aims to redefine the concept of waste.

By harnessing the power of plastics and fabric waste sourced from the industrial sector, Zeroconcrete gives new life to these materials and transforms them into remarkable pieces that blend both functionality and artistic expression.

Benefits of Zeroconcrete products include **a lower carbon footprint, lower weight, lower heat transfer, fire resistance, excellent insulation and better structural performance than traditional materials.**

## The waste products used as input materials:

Zeroconcrete makes use of **different types of plastics and fabrics**, that include yoghurt cups, carrier bags, flip flops, denims, t-shirts, off-cut material, clean old clothing, as well as any white plastic containers.

As Zeroconcrete is not licensed to sort and clean materials, the company requires input materials to be **clean waste**.



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# About Polyco

Polyco is a Producer Responsibility Organisation (PRO). A PRO is a company or entity that helps producers take responsibility for managing the collection and recycling of products or packaging materials after they have been used by consumers. PROs develop and manage Extended Producer Responsibility (EPR) schemes.

The EPR Scheme developed by Polyco covers all 6 plastic packaging materials – Rigid, Flexible, PET Non-beverage, Multi-layer, Polystyrene and Vinyl/PVC.

They pride themselves on meeting EPR requirements in a responsible, strategic, innovative and efficient manner.

Since its inception in 2011, Polyco has made investments of more than R86 million directly into South African plastic recycling companies - achieving a growth of more than

**125 000 TONNES THROUGH  
105 PROJECT PARTNERS.**

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Polyco's efforts are built on four key pillars that guide their investments – education and awareness, infrastructure, innovation and end-use development, and collaboration.

Collaboration is actioned through dedicated material working groups, comprising committed companies and individuals, without whom Polyco wouldn't be able to drive sustainable change and positive impact.

## GET IN TOUCH WITH POLYCO IF YOU...

- + Provide an end market solution
- + Are interested in products for uptake
- + Would like to become a Polyco member
- + Would like to be part of our Working Groups

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