



the recycle studio

central america · costa rica

MATERIALS FOR CIRCULAR DESIGN.



Waste is a concept.

A series of one or more bad decisions and erroneous perspectives.

And we're here to challenge them.

From our studio in Costa Rica, we transform would-be waste plastics into sheet materials for designing within the circular economy.

No forests felled; no mines mined; we take a material that already exists and excel it to its full potential.

To the boundary-pushers, the creatives, the environmentalists, the can-doers, the story-tellers and the optimists, our materials are designed for you.

Let's turn plastic waste into something worth celebrating.

THE MATERIALS.

PRESENTATIONS

Panels of 1000 mm x 1000 mm, in thicknesses of 0.25", 0.50", 0.75" and 1".

BENEFITS

Water and mould resistant, mouldable and translucent in some thicknesses and designs, easy to work.

CIRCULARITY

100% recycled, 100% recyclable, produced with renewable energy and up to 28 kilos of upcycled plastics per square metre.

APPLICATIONS

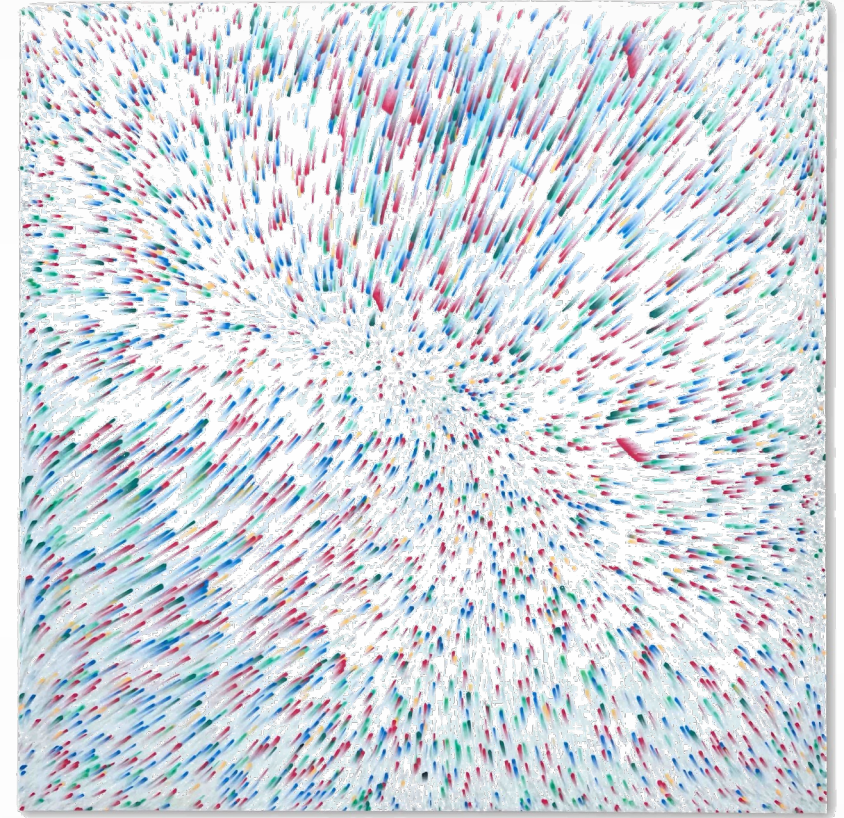
Furniture, surface material, wall panels, lights, art installations, product design etc.

WHERE

Homes, retail, hospitality and catering, offices, cultural spaces.

NOT RECOMMENDED FOR

High transit (i.e. floors), direct exposure to sunlight, temperatures over 85°C.



OUR COLLECTIONS.

We divide our material designs into two collections; base and limited.

Materials within the base collection are typically always available, although there could be small variations in tones due to the plastics we receive. If you're considering a big project, it's best to let us know so we can ensure that there is standardisation across your order.

The materials in our limited collection are designed from limited plastic sources which means that they are not always available, and in some designs, it's unlikely we'll be able to repeat them once they are gone.

We recommend to always consult the availability of any material before beginning your design process to avoid any disappointment.

Note: We post pictures on our social media of materials that have been made through the bespoke service - this does not necessarily mean they are available.



CURRENT COLLECTION.

DÁLMATA (HIPS)
BASE

CLORO (HIPS)
BASE

KOI OI (HDPE)
LIMITED

MEMPHIS (HIPS)
LIMITED



PALOMA (HIPS)
BASE

ELYSIAN (HIPS)
LIMITED

CORY (HIPS)
LIMITED

PAYASA (GPPS)
LIMITED

CURRENT COLLECTION.



PALOMA

High-impact polystyrene (HIPS).

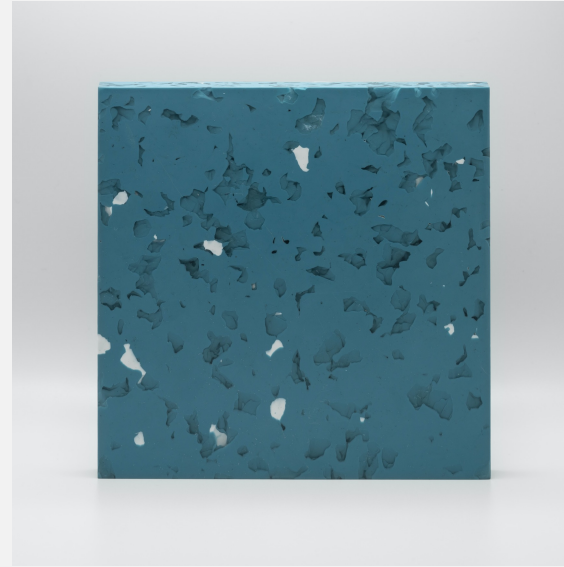
Part of our base collection.



CLORO

High-impact polystyrene (HIPS).

Part of our base collection.



ELYSIAN

High-impact polystyrene (HIPS).

Part of our limited collection.



DÁLMATA

High-impact polystyrene (HIPS).

Part of our base collection.

CURRENT COLLECTION.



KOI OI

High density polyethylene (HDPE).

Part of our limited collection.

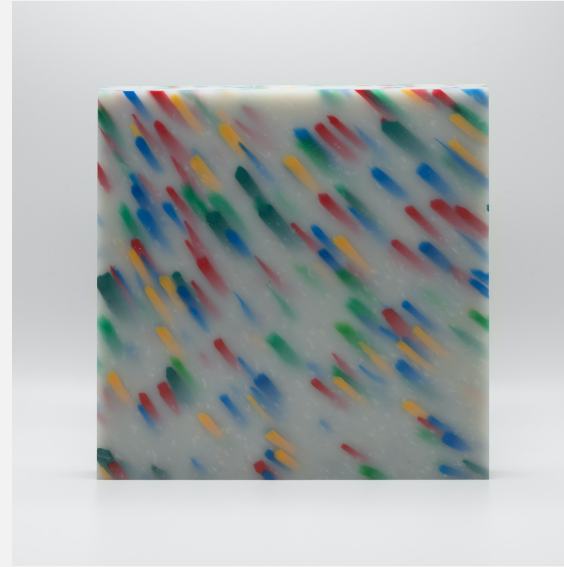
Currently only available in 0.25".



CORY

High-impact polystyrene (HIPS).

Part of our limited collection.



PAYASA

General purpose polystyrene (GPPS).

Part of our limited collection.



MEMPHIS

High-impact polystyrene (HIPS).

Part of our limited collection.

OUR SERVICES.

MATERIAL SELECTION

To ensure good performance of our materials, it's important to select the material and thickness that best fits the final use. Our team is on hand to guide you through this decision.

POST-PRODUCTION SERVICE

With the experience of transforming our materials into finished products, we can take care of any cuts or joins through our design service. Just get in contact with your requirements.



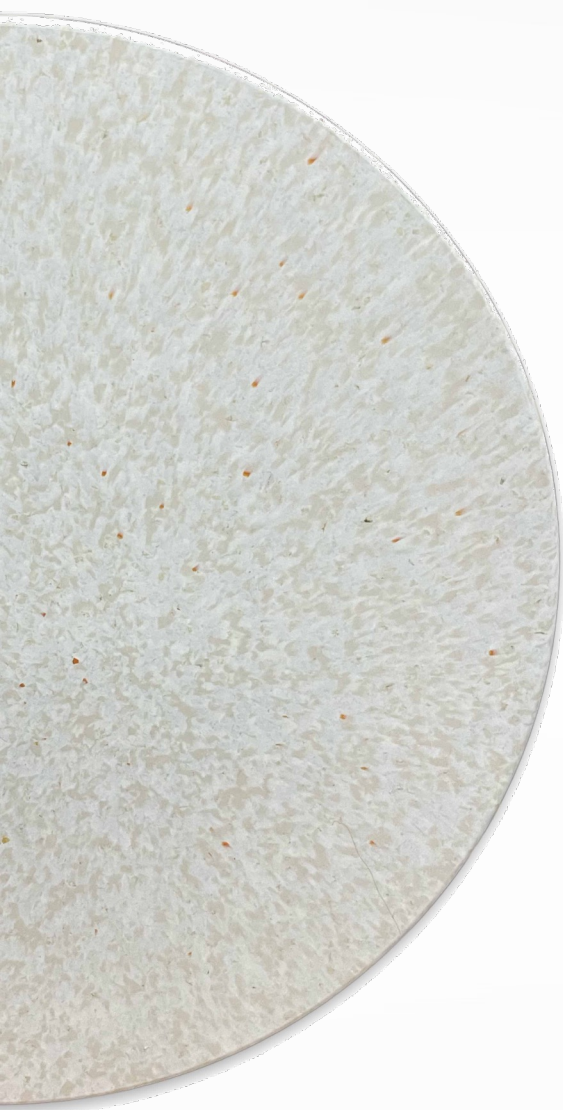
BESPOKE MATERIALS.

The perfect opportunity to design a unique material, this personalised service can take up to four weeks.

Our creative team will support you in designing a custom-made material in which colours, textures and even new sources of plastic can be explored. Although we are subject to the availability of our raw material, we'll put in our best effort to make your design a reality.

Contact us to find out more about the process.





PRICES.

	BASE	LIMITED
0.25"	\$145	\$165
0.5"	\$170	\$195
0.75"	\$205	\$235
1"	\$240	\$280

The prices are per square metre and don't include taxes or delivery. The post-production service is quoted separately. Prices are always updated on our website. There are discounts available on orders of more than 10 panels.



HOW TO ORDER.

1. Contact us with your selection of materials (design, thickness and quantities).
2. Decide if you want the panels as they are, or if you would like to enquire about any post-production services.
3. Once we have this information, we will work on your quote and establish a timeline for your project.

WORKING WITH PLASTICS.

Our materials can be worked similarly to hard woods or composite materials, so most wood-working techniques will work. Generally, the biggest difference to consider is the heat build up that can occur when working with plastics.

CUTTING BY HAND

Routing creates a smooth, clean cut for edges. It's best to roughly trim the material with a good jigsaw or table saw first to avoid excessive heat build up. If that is not possible, increase the depth of the cut around 6 mm at a time.

MACHINING

Excellent results can be achieved from both CNC milling and waterjet cutting. Waterjet cutting can allow for more intricate designs (> 1mm) but will cut straight through the materials. CNC milling allows for textures and varying depths. Designs are limited by the size of the router piece being used. Laser cutting will not produce great results.

JOINING

Sheets thicker than 0.5" can be joined using most traditional joining techniques. Surfaces spread over 50 cm should carry a supporting structure.

GLUEING

Plastics can be glued to most materials. We recommend roughly sanding or scouring the sticking surface. We recommend HiBond and epoxy for HIPS and GPPS, but it's likely that you will have to experiment with whatever is available in your country and it's worth checking the product notes. Glueing HDPE to itself can be slightly more complicated, but there are special glues available.

THERMOFORMING

Curves and bends can be created in 0.25" or 0.5" sheets by partially reheating and placing in a specially designed mould.

EDGES

The best edges are created using a router. Borders can be deburred or rounded with a router piece for a softer finish.

SURFACE FINISHING

Our materials have a matte finish. Plastics can be sanded and polished to create the desired effect.

MATERIAL CARE.

Our materials are easy to maintain and look after, but there are a few details to bear in mind.

Plastic melts when direct heat is applied. The materials resist up to 85°C, so a cup of coffee is fine, but a hot pan is not!

The materials can be cleaned with standard household detergents (soap, disinfectant, diluted bleach). Avoid heavy duty cleaners (i.e., muriatic acid) as these will erode the plastics. If you're unsure, we suggest you carry out a small test on a part of the material that isn't visible.

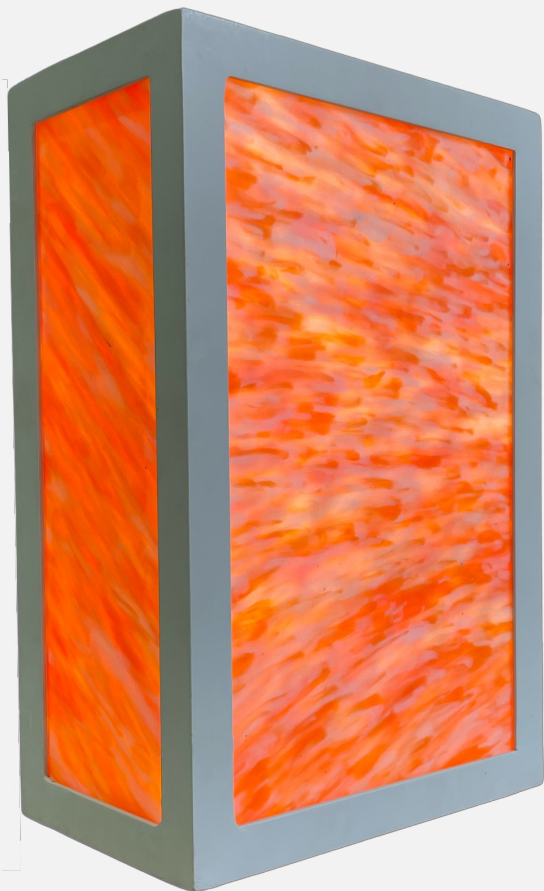
The materials have a medium scratch resistance. If you use a brush for cleaning, we recommend you use a soft bristle. Materials can be retouched using a light sandpaper.

Just like most materials, direct prolonged UV exposure can affect the mechanical qualities of the materials over time, and with some types of plastic cause discolouration. Occasional sunlight isn't a problem.

If ever you're in doubt, just ask.



	HDPE	HIPS	GPPS
DENSITY DENSIDAD	99.7 g/m ³	99.8 g/m ³	99.8 g/m ³
GLASS TRANSITION TEMPERATURE TRANSICIÓN VÍTREA		97.5°C	102°C
MELTING POINT PUNTO DE FUSIÓN	125°C		
THERMOGRAVIMETRIC ANALYSIS ANÁLISIS TERMOGRAVIMÉTRICO (TGA)	10% - 453°C 20% - 463°C 30% - 468°C	10% - 404°C 20% - 414°C 30% - 420°C	10% - 384°C 20% - 395°C 30% - 401°C
WEATHER RESISTANCE Temp 60°C, raditation 0.68 W/m2, cycles of 4 hours condensation and 4 hours radiation for 500 hours. INTEMPERISMO Temperatura 60 °C, irradiación 0,68 W/m2, ciclos de 4 horas condensación y 4 horas de irradiación para 500 horas.	No significant visual changes No se observan cambios visuales significativos	Significant visual changes observed on white materials (yellowing) Se observan cambios visuales significativos (amarillamiento) en materiales blancos	No significant visual changes No se observan cambios visuales significativos
HUMIDITY / HUMEDAD	0.06%	0.01%	0,04%
MAXIMUM RESISTANCE / RESISTENCIA MÁXIMA	2364.99 Mpa (kg/cm ²)	1918.67 (kg/cm ²)	3232.45 (kg/cm ²)
TENSILE STRENGTH / ELONGACIÓN A LA RUPTURA	15.84%	17.41%	3.92%
MAXIMUM FORCE The samples were analysed at 0, 250 and 500 hours of accelerated ageing through the weather resistance tests conducted above. FUERZA MÁXIMA Las muestras fueron expuestas a 0, 250 y 500 horas de envejecimiento acelerado con las pruebas de interperismo realizadas.	0 hrs 2075.84 N 250 hrs 1309.09 N 500 hrs 1007.62 N	0 hrs 1594.06 N 250 hrs 1618.19 N 500 hrs 1576.14 N	0 hrs 1541.56 N 250 hrs 1569.00 N 500 hrs 1419.37 N



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