



# CRITICAL.

From **plastic waste** to  
*beautiful, durable and  
circular materials.*



+

Our kaupapa/ purpose.

As a Māori company, our wellbeing and our future *depend* on the mauri (life force) of te taiao (natural world). Therefore our life's work is to *uplift* that mauri. This is who we are.

We co-founded **Critical**. because we want to be good tīpuna (ancestors) for future generations so our *tamariki* (children) can *prosper* for thousands of years to come.

+

## The Problem.

After spending years working with corporates and businesses, this is what we are hearing.

Every business have **problem plastics** no one can take.



Businesses have **zero waste commitments** that's *challenging* to solve.



They want a *great product* that's **durable**.



They want to **tell a great story** for *their customers*.

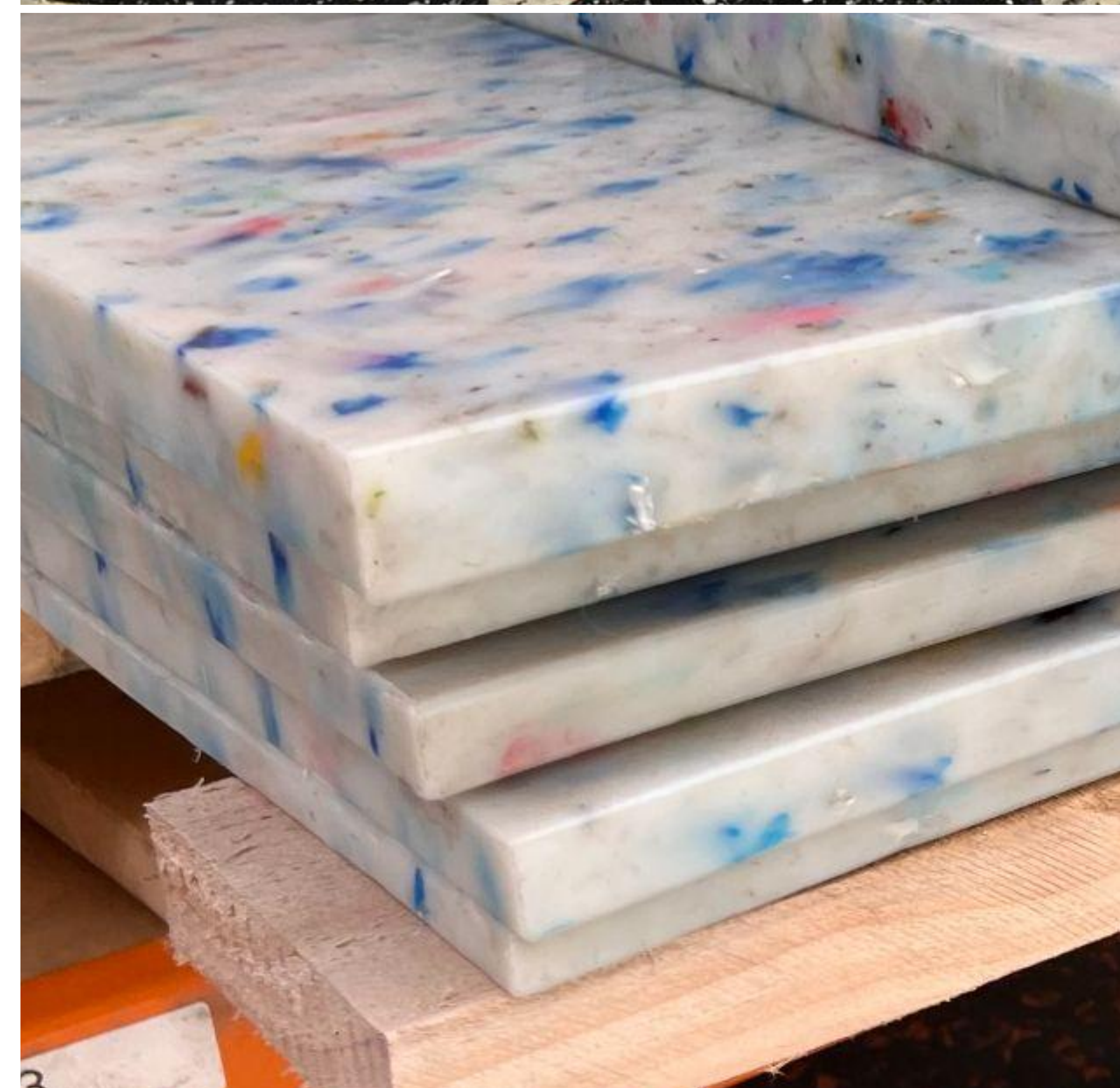


+  
The  
Solution.

~  
We clean up the ocean and land with beautiful, durable, endlessly recyclable building panels, made from 100% contaminated plastic waste.

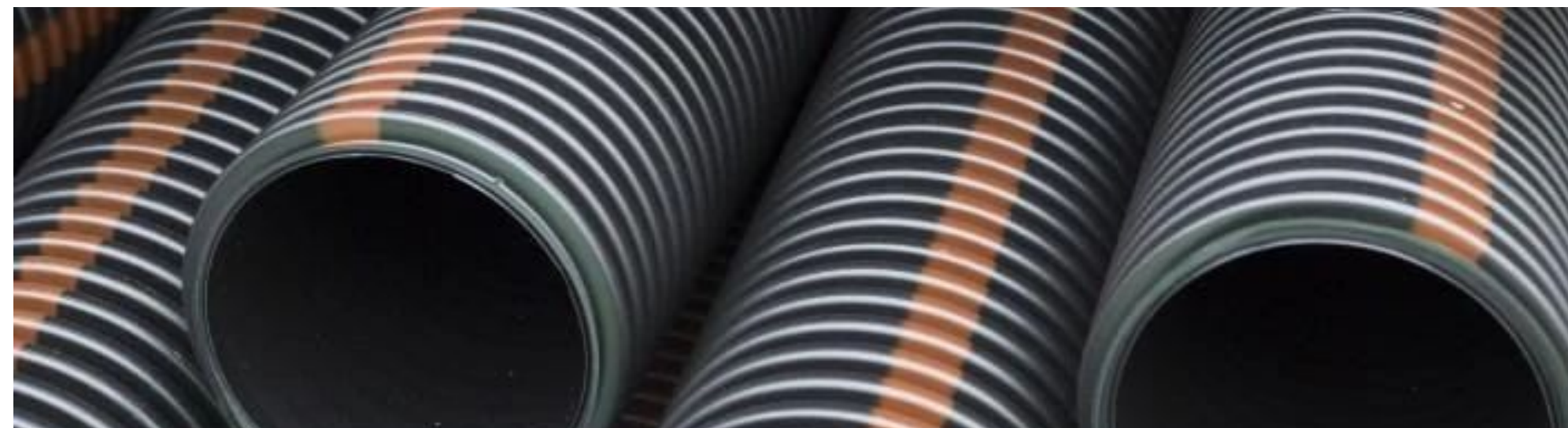
We call it the ...

**CRITICAL.**  
Cleanstone



+  
Unibond  
Technology

—  
We use your  
hard to  
recycle  
plastics no  
one else can  
take.



+  
Cleantech  
Advantage

Every tonne of plastic waste recycled offset approx 1.4 tonnes of carbon emissions.

Made in Auckland from NZ plastic waste.



vs.

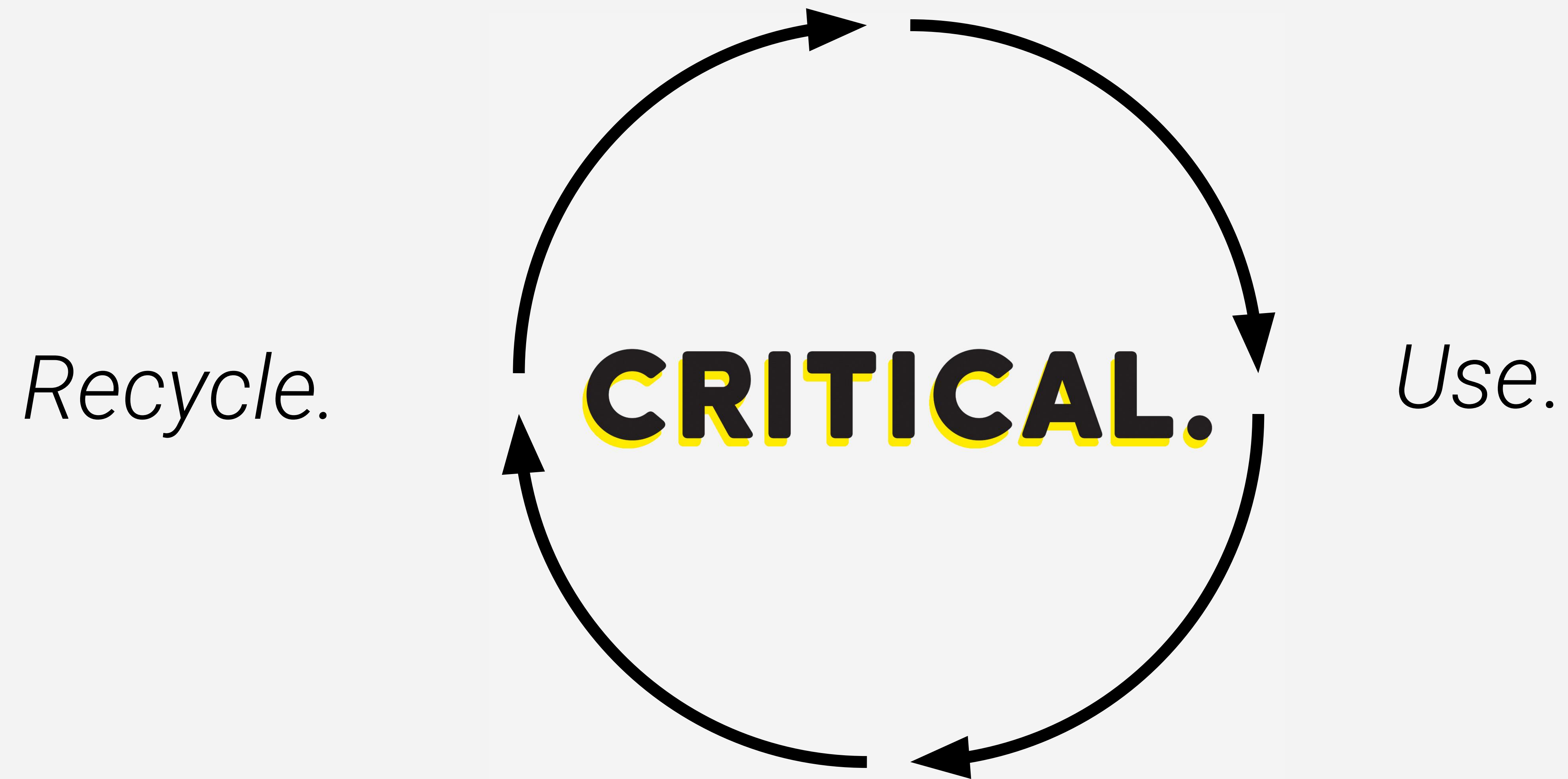


+  
**Buyback  
Programme**

\_\_\_\_\_

Critical. Will  
buy back  
existing  
Cleanstone at  
end of life or at  
store refresh  
as raw  
materials for  
future  
Cleanstone.

# Cleanstone

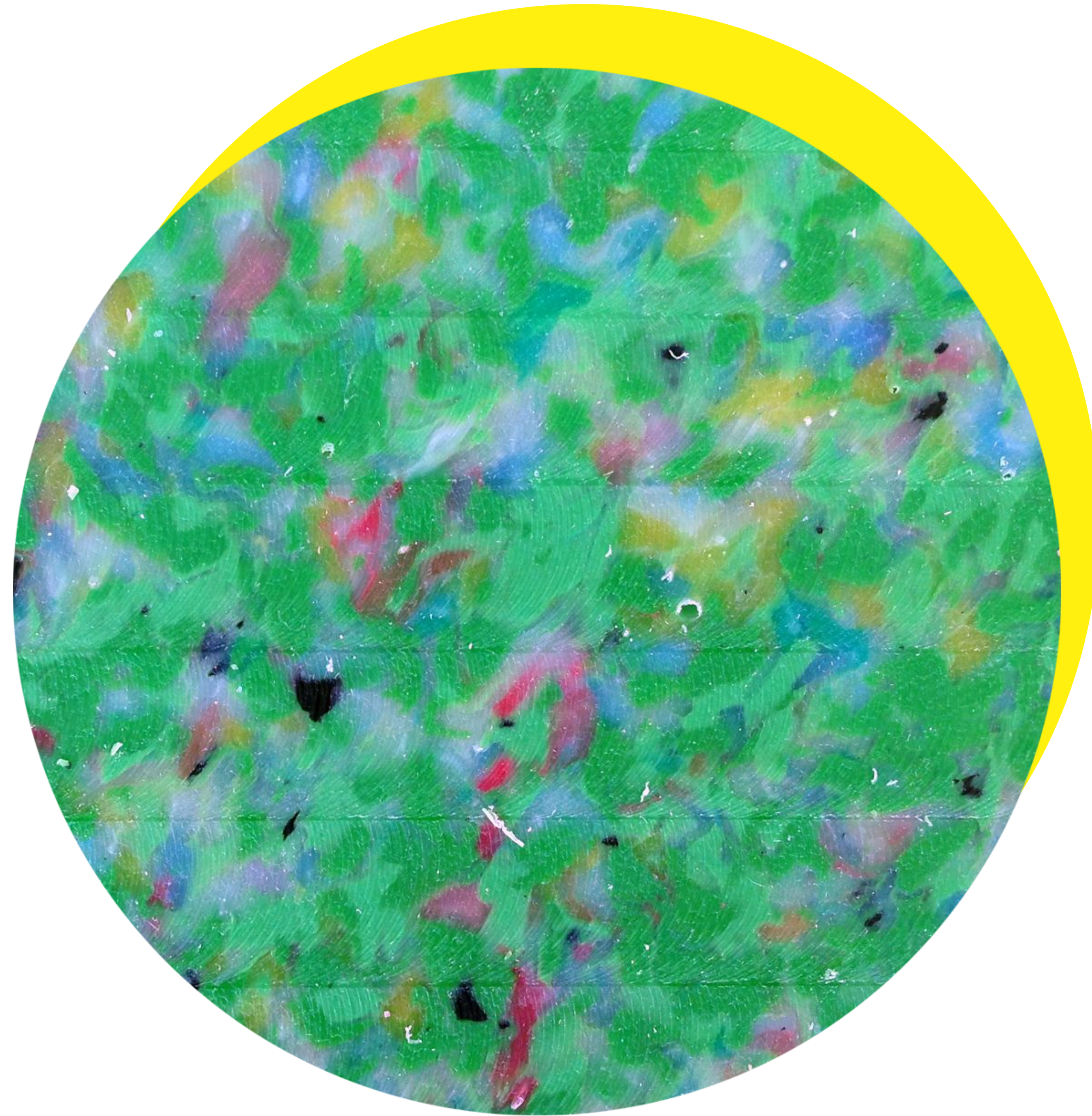


*We buy-back up to \$35  
per Cleanstone,  
credited to next gen  
Cleanstone you *buy*  
from us.*

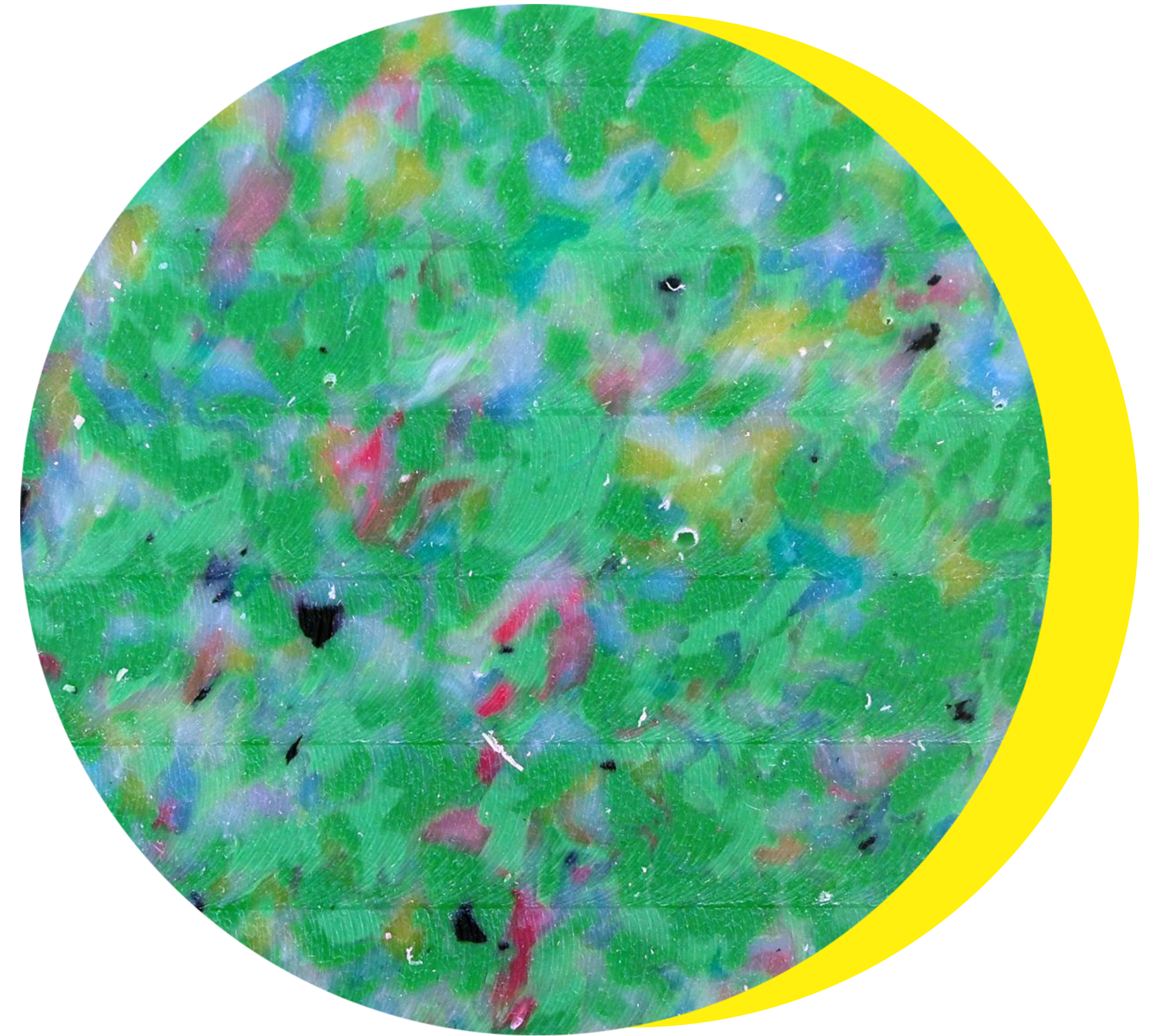
+  
Density  
Plus

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Cleanstone  
made from  
20 out of 24  
plastic types  
are made to  
take a  
beating.



+  
Day 1

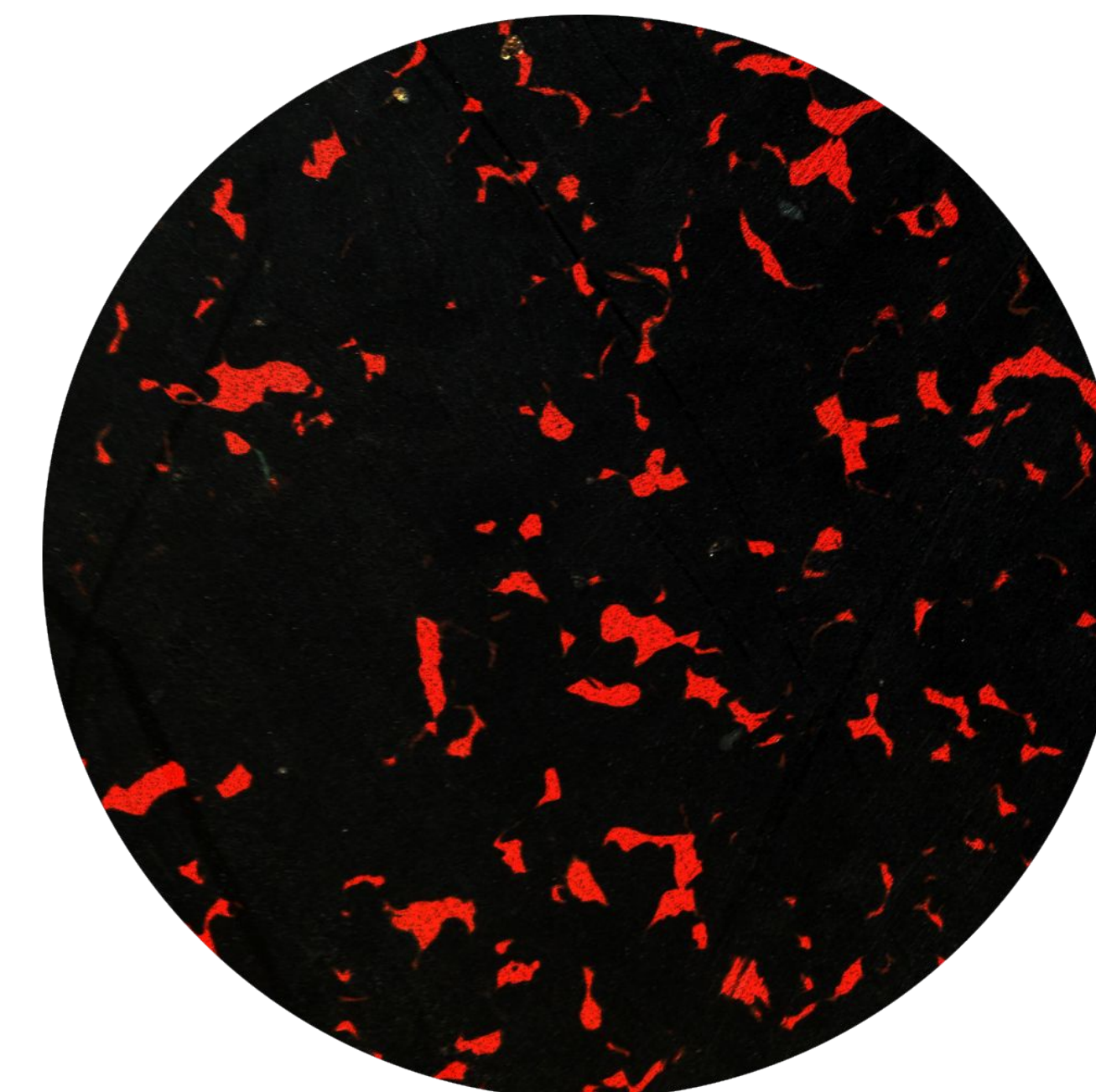
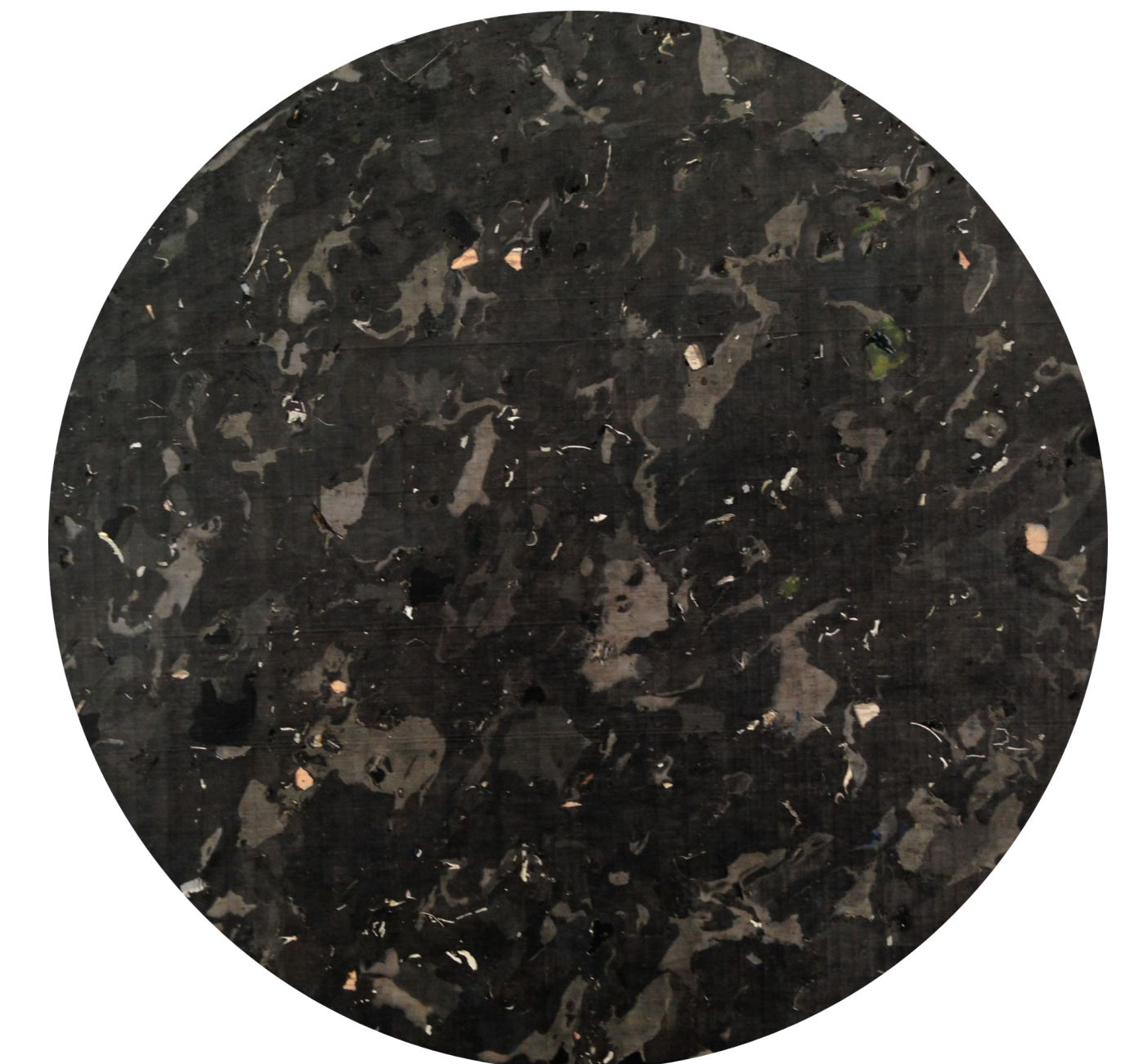
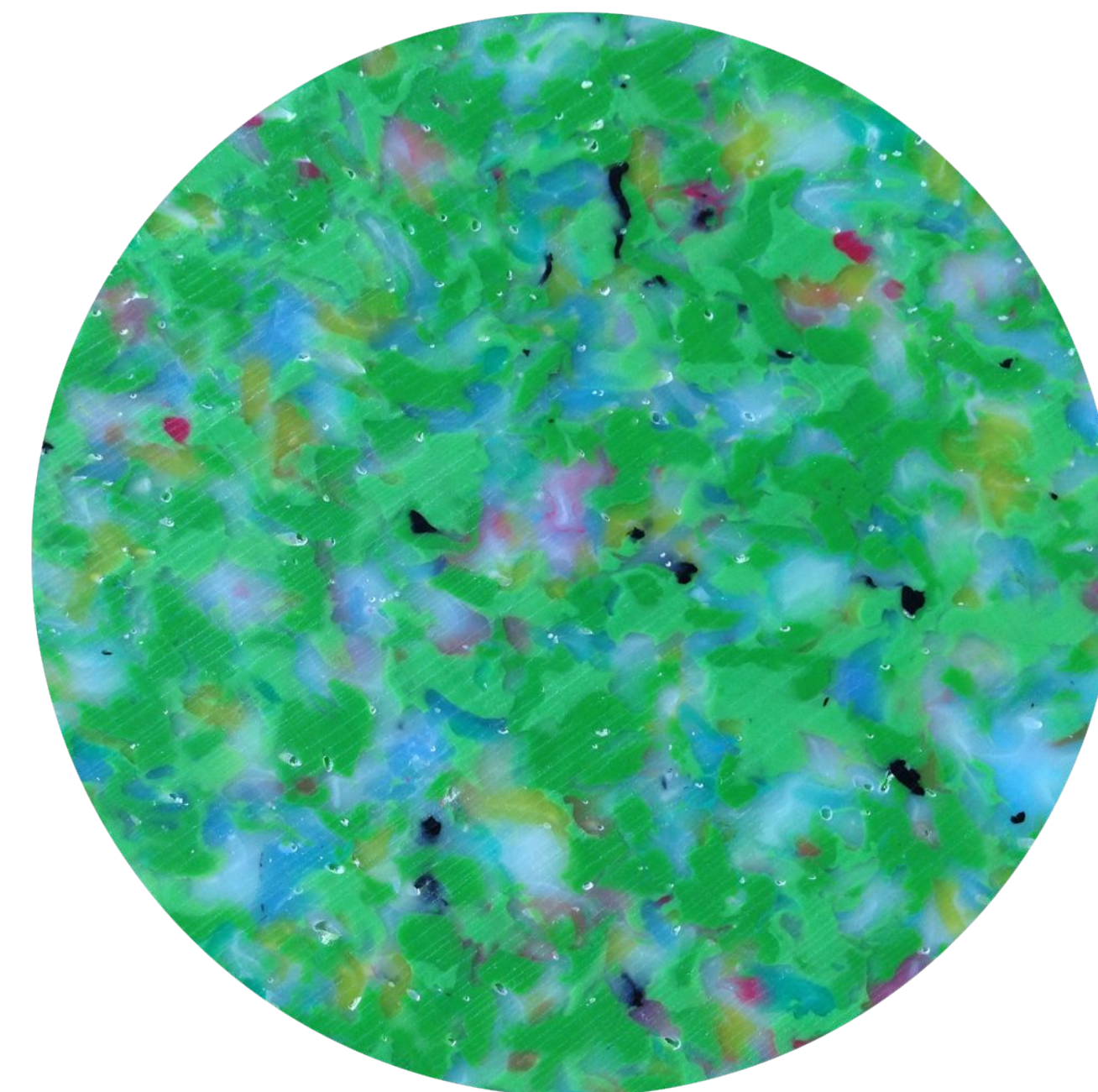
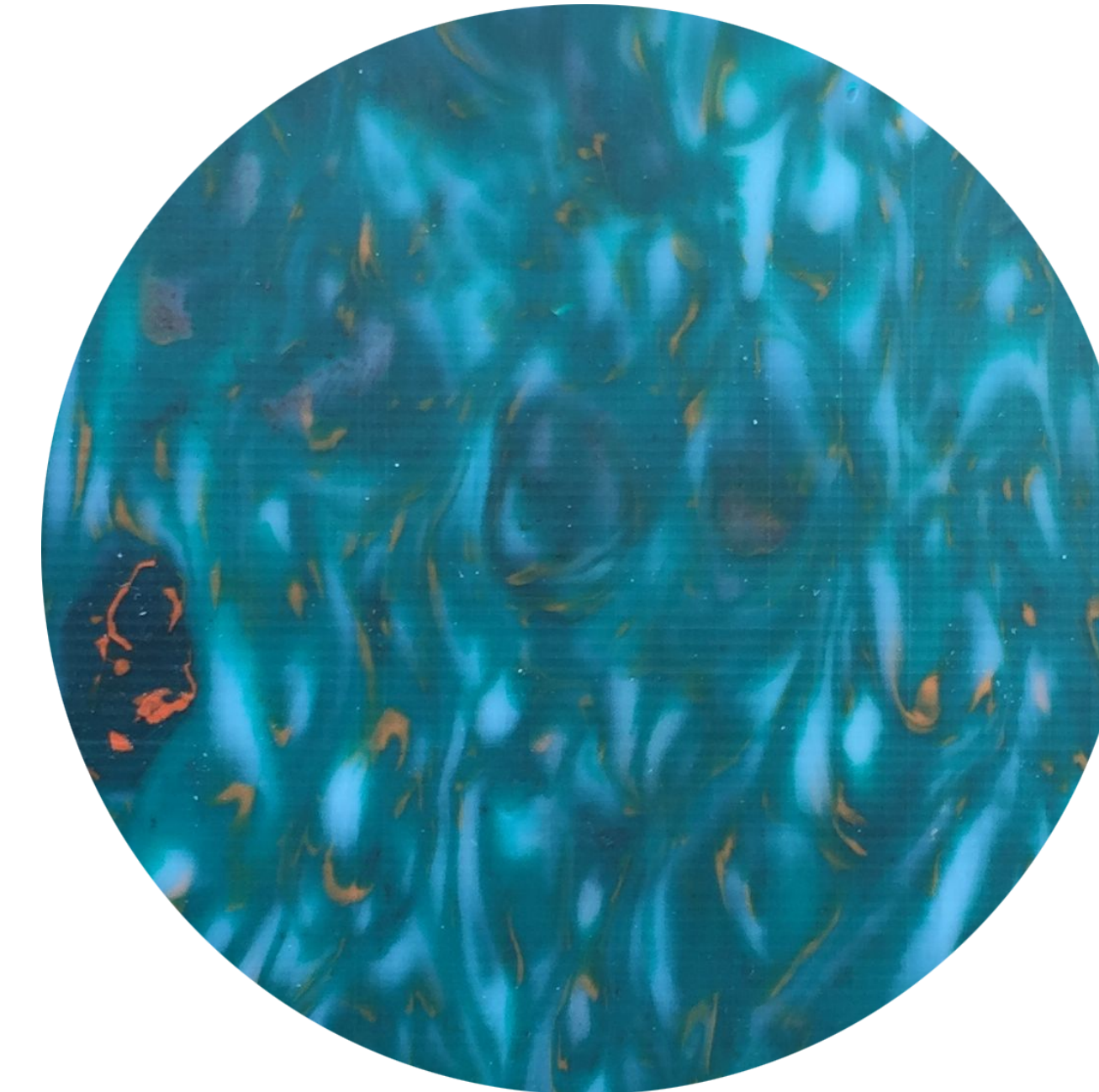


+  
Day 1,825

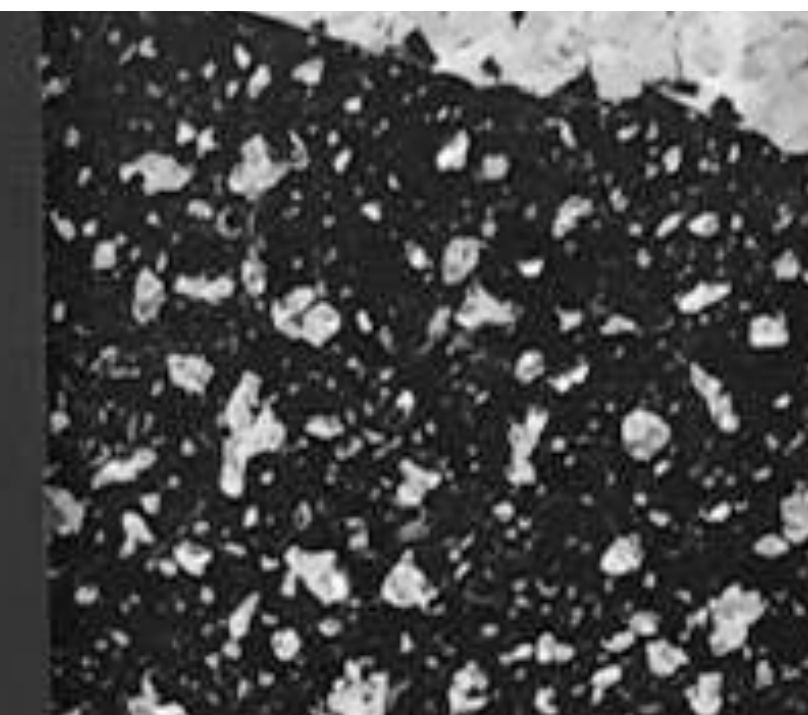


+  
Endless  
Design  
Advantage

—  
We work with  
you to  
co-design  
Cleanstones  
that tell a  
sustainability  
story specific  
and unique to  
your  
business.



**I am made from  
hundreds of recycled  
Torpedo7 single-use  
plastic bags.**



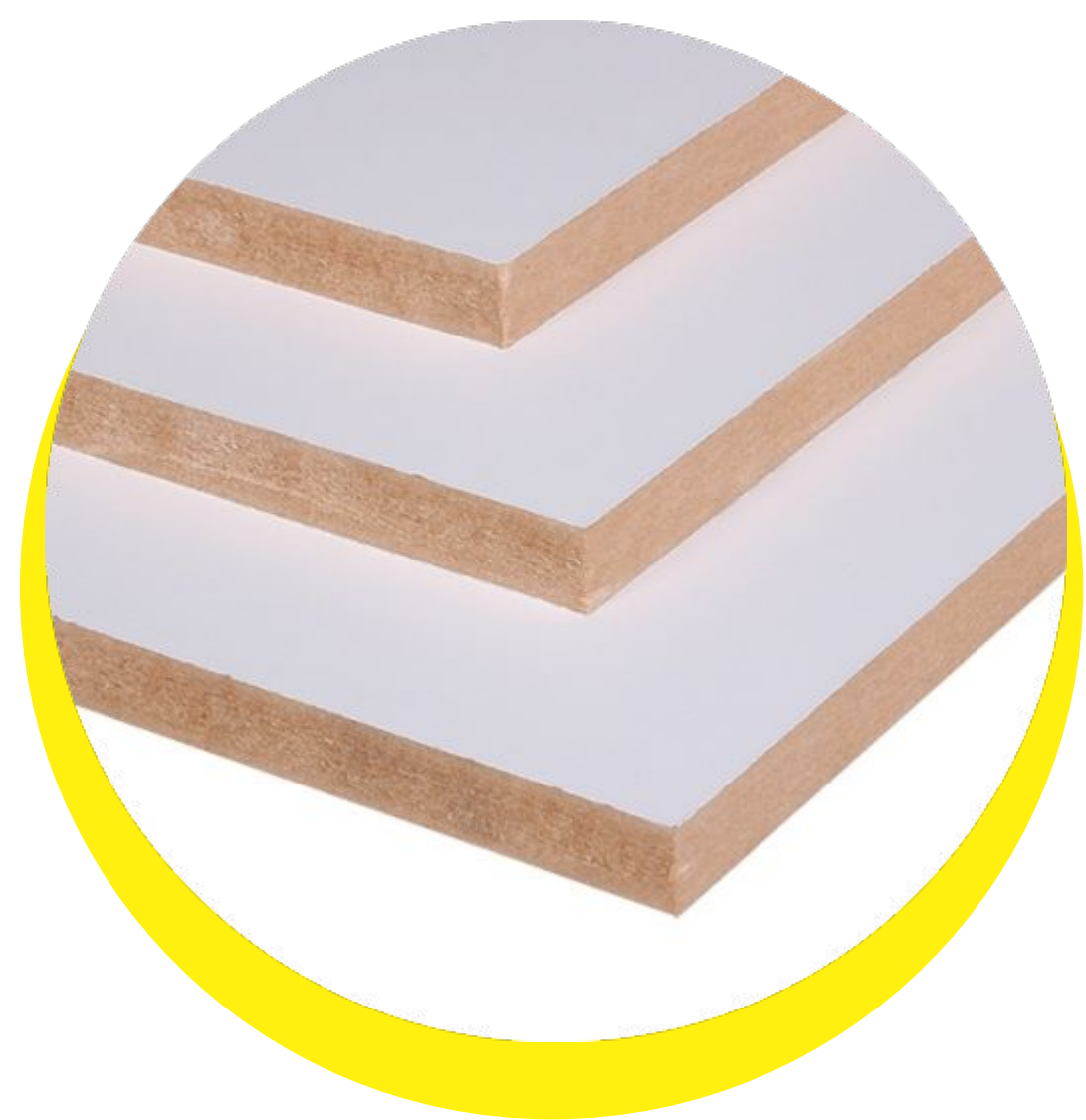
+  
Total cost of ownership  
**across 5 years**

1x  
**Cleanstone**  
*Lasts 20 plus years to a lifetime*



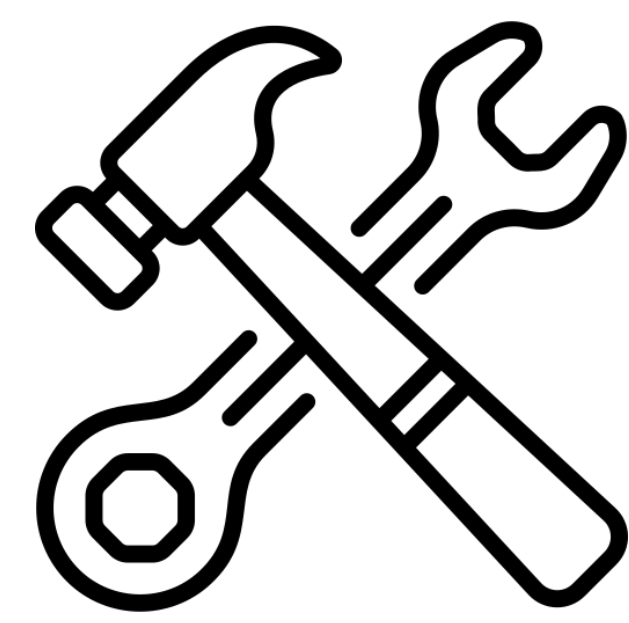
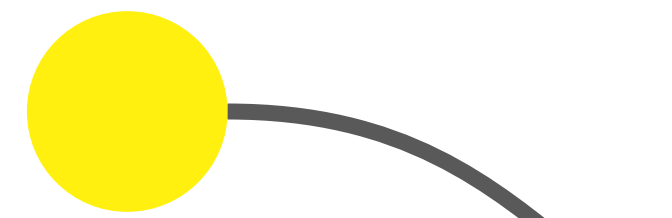
**\$68.00**

1x  
**Laminate MDF**  
*Lasts 5-7 years then landfilled.*



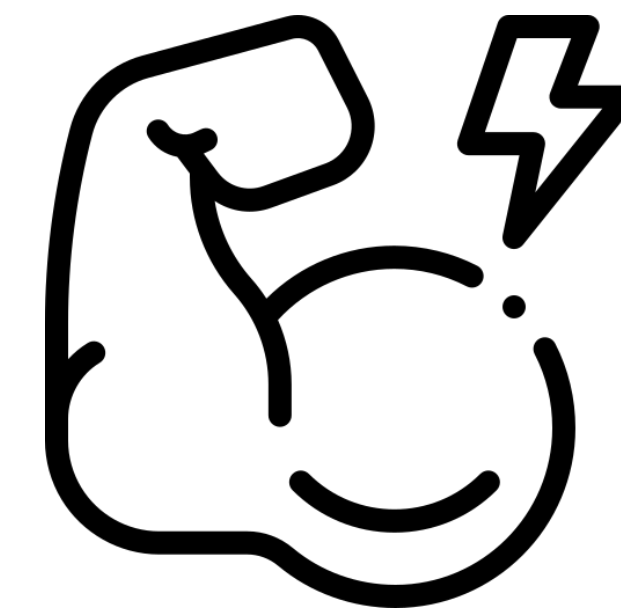
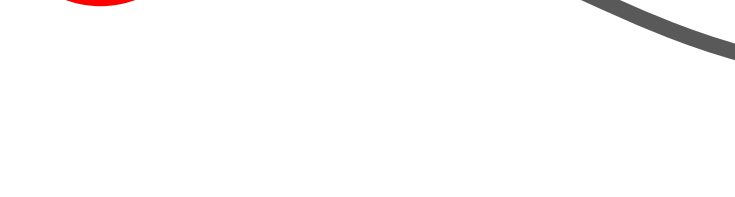
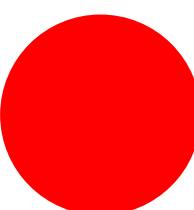
**\$182.85**

—  
\$400  
*upfront investment*



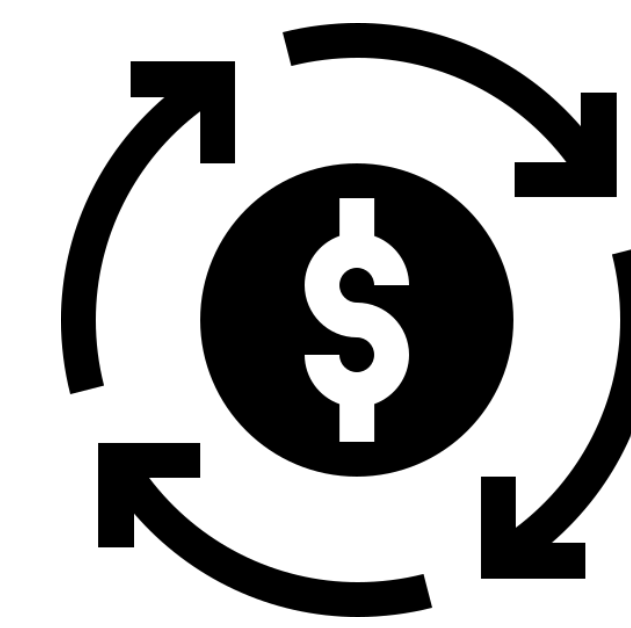
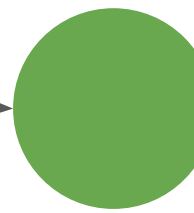
**Cost to Maintain**

**+\$15**  
*Quick sand and it's as good as new*



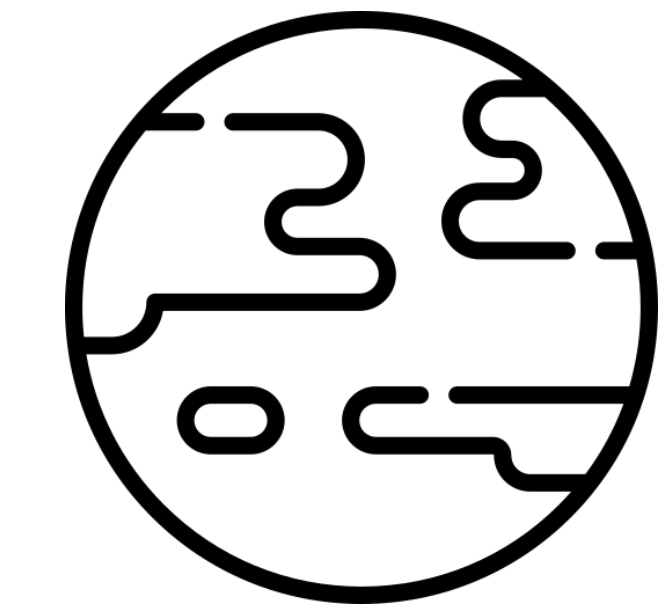
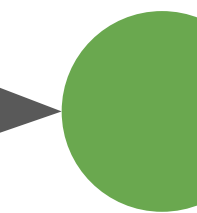
**Cost to Repair**

**\$0**  
*Durable. Won't break*



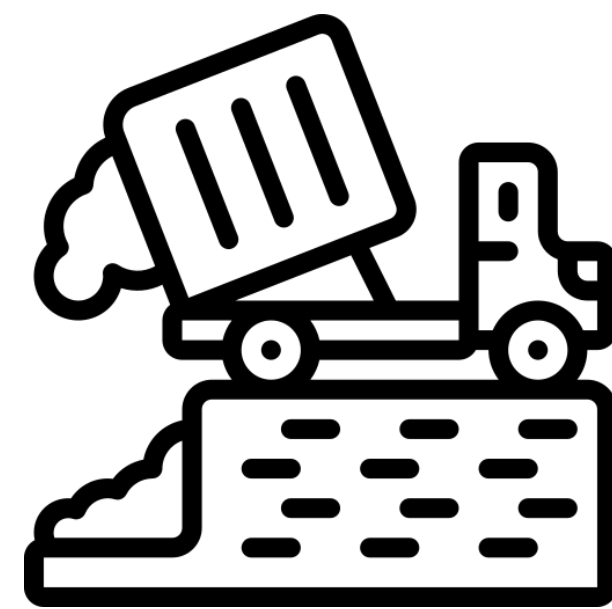
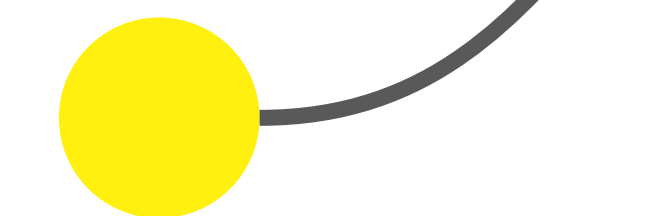
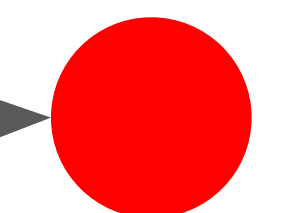
**End of Life Cost**

**-\$27**  
*Critical. will buy back your Cleanstone by weight to recycle into new Cleanstone. Endlessly.*



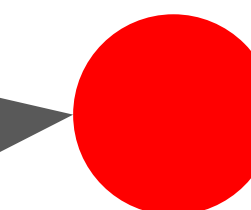
**Solution to plastic problem.**

**\$0**  
*Plastic waste reach full circularity, negating any costs to landfill.*



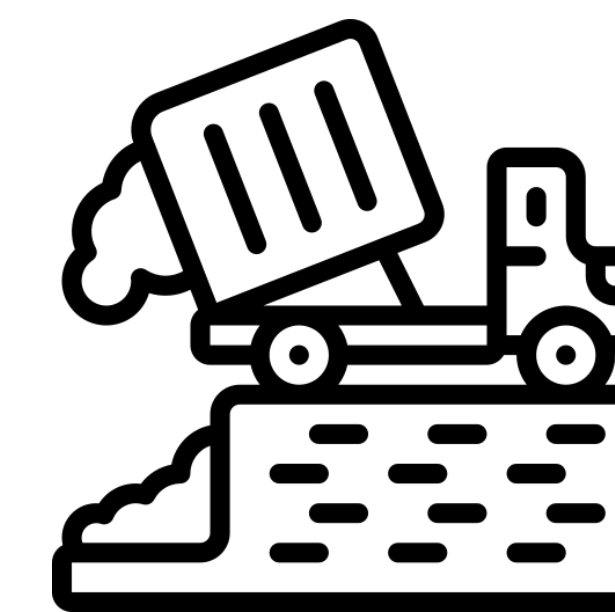
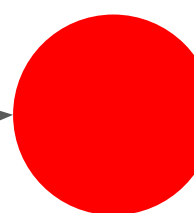
**Cost to Maintain**

**+\$37**  
*When laminate chips, it's often replaced and landfilled.*



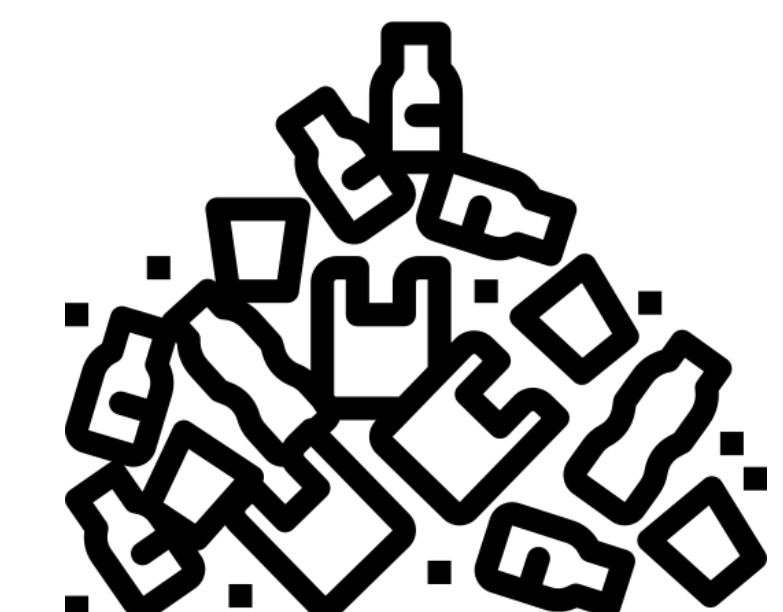
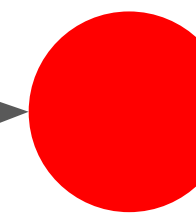
**Cost to Repair**

**+\$37**  
*Cannot be repaired so replaced and landfilled.*



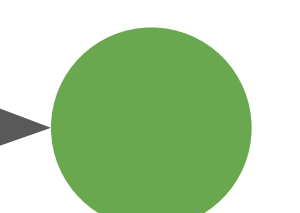
**+\$4.5**

*Freight logistics and landfilled*



**Plastics problem unresolved.**

**+\$11.5**  
*Equivalent weight of plastics sent to landfill p/yer across 5 years.*



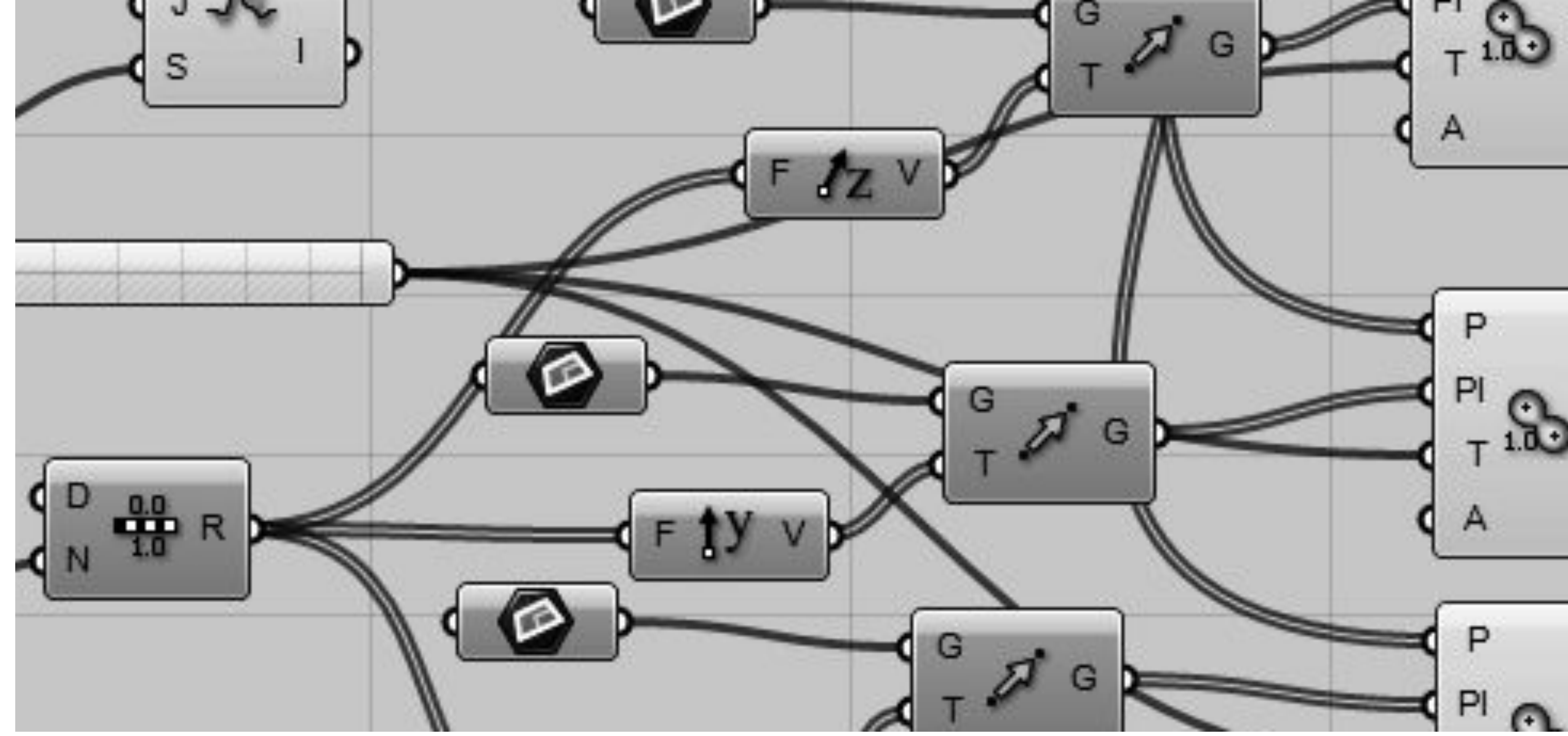
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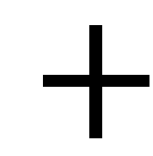
## Just-in-time Production

Critical.

can manufacture  
to scale with your  
demand and  
deliver

Cleanstones as  
we produce them  
at a fortnightly to  
monthly basis.





# Durability

	<b>Critical. Cleanstone</b> 1.2m by 2.4m, 18mm thick 100% recycled plastics.	<b>Laminate MDF</b> 1.2m by 2.4m, 18mm thick.	<b>Timber laminated Panels</b> (pine)	<b>ACM</b> Polyethylene plastic sandwiched between 2x prepainted thin aluminium panels
LIFE SPAN	<b>20+ years to lifetime.</b>	<b>5-10 years</b>	<b>5-10 years.</b>	<b>3-5 years indoors</b> <b>5-10 years outdoors</b>
INSTALL	<b>Quick.</b> Critical. Panels are prefinished and versatile to work with. No sanding and sealing.	<b>Quick with care.</b> MDF Laminates are pre finished panels but installation through cutting and fixing can damage the laminated veneer.	<b>Moderate to slow.</b> Timber laminated panels require labour to sand, seal, prime and paint.	<b>Quick.</b> Prefinished panels and versatile to work with. No sanding and sealing.
MAINTENANCE	<b>Very easy.</b> Scuffed surface, quick sand and it's good as new	<b>Labour intensive, and often landfilled.</b> Scuffed melamine surface become visually obvious and hard to clean. It's difficult to replace and often landfilled.	<b>Labour intensive</b> Scuffed surfaces visibly obvious and harder to clean. Requires sanding and recoating with polyurethane.	<b>Replacement</b> Scuffed surfaces visibly obvious and harder to clean. Requires sanding and recoating with polyurethane.
DURABILITY	<b>Very Tough.</b> Solid block of 100% recycled plastic material all the way through. No delamination, no chipping and no loss of quality from breakable veneers.	<b>Moderate.</b> Melamine surface chips from edges with wear. PVC edgeband delaminates exposing MDF interior.	<b>Moderate.</b> Timber slats delaminate over time creating gaps and cracks in the panel. Labour required to reglue and fill.	<b>Good</b> ACM Panels are strong and remain stiff over time but are prone to snapping and denting depending on use case.
LIQUID/ MOISTURE RESISTANCE	<b>Indestructible.</b> If dropped in pool of water, it will last forever.	<b>Vulnerable.</b> Exposure to moisture and liquid swells MDF, causing warpage and mould.	<b>Moderate.</b> More resistant to than MDF, but still prone to delamination, mould and swelling when seal breaks.	<b>Resistant.</b> Though both plastic core and aluminium don't react to moisture, bonding agents, laminates and paint do over time.
SURFACE WEAR	<b>Moderate but not easily visible</b> Though plastic surface is moderately resistant to scuffing, certain patterns can hide it.	<b>Harder wearing but Limited lifespan</b> Melamine is resistant to surface scuffing but over time when scratches become deeper, it's clearly visible and will need replacement.	<b>Moderate and visible</b> Scratches and scuffing are clearly visible with wear and tear. Soft timbers like pine and more prone to scratcing vs harder/ marine timbers.	<b>Moderate</b> Scratches to paint and dents are visibly obvious. Difficult to repair and often replaced.

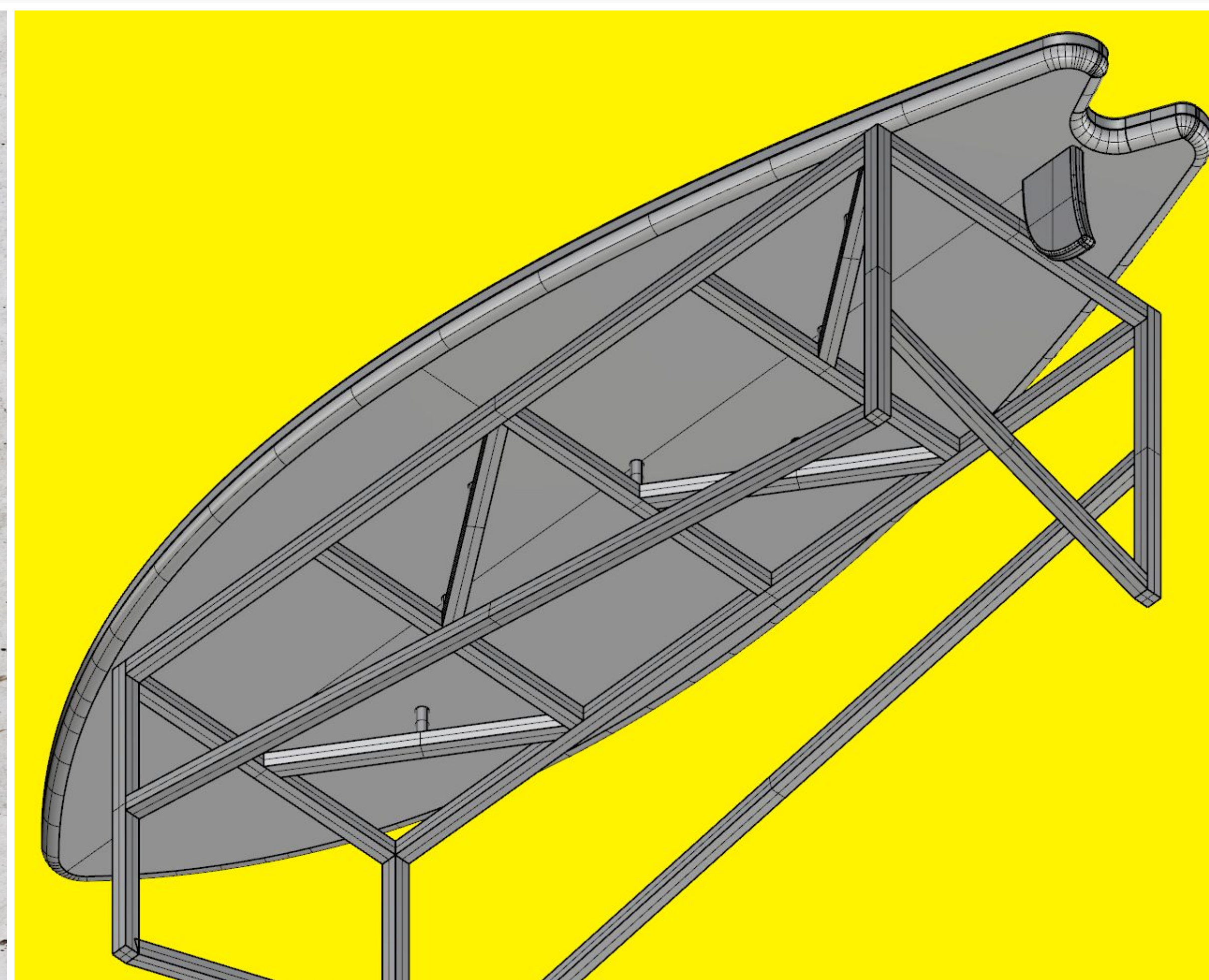


kōkako





**Torpedo7**





# HANGARUA RECYCLED MATERIALS

20% OF NEW ZEALAND'S LANDFILL VOLUME IS TAKEN UP BY PLASTIC WASTE

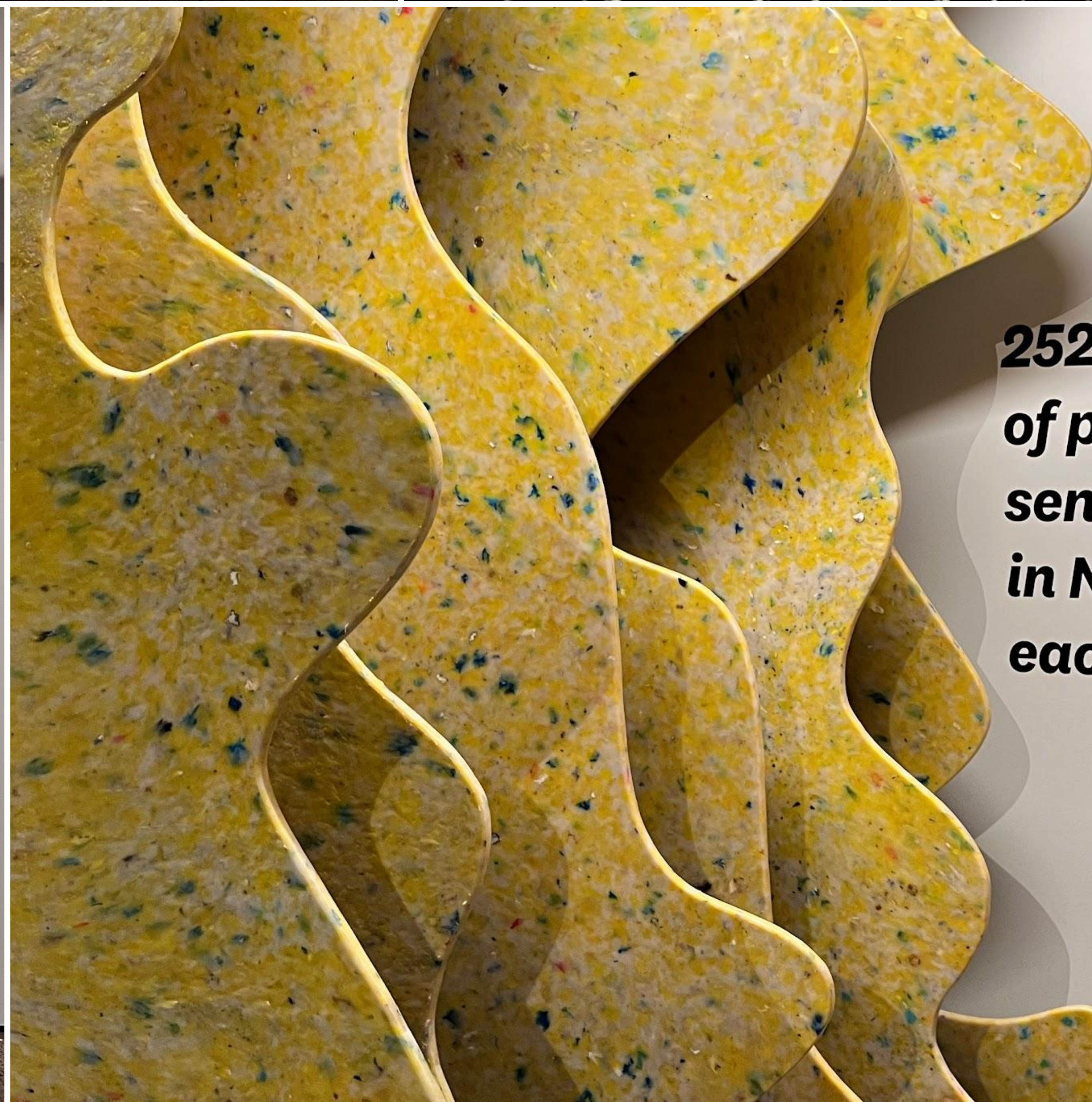


252,000 tonnes of plastic is sent to landfill in New Zealand each year!

Material waste innovation



Rui Peng



252,000 tonnes of plastic is sent to landfill in New Zealand each year!

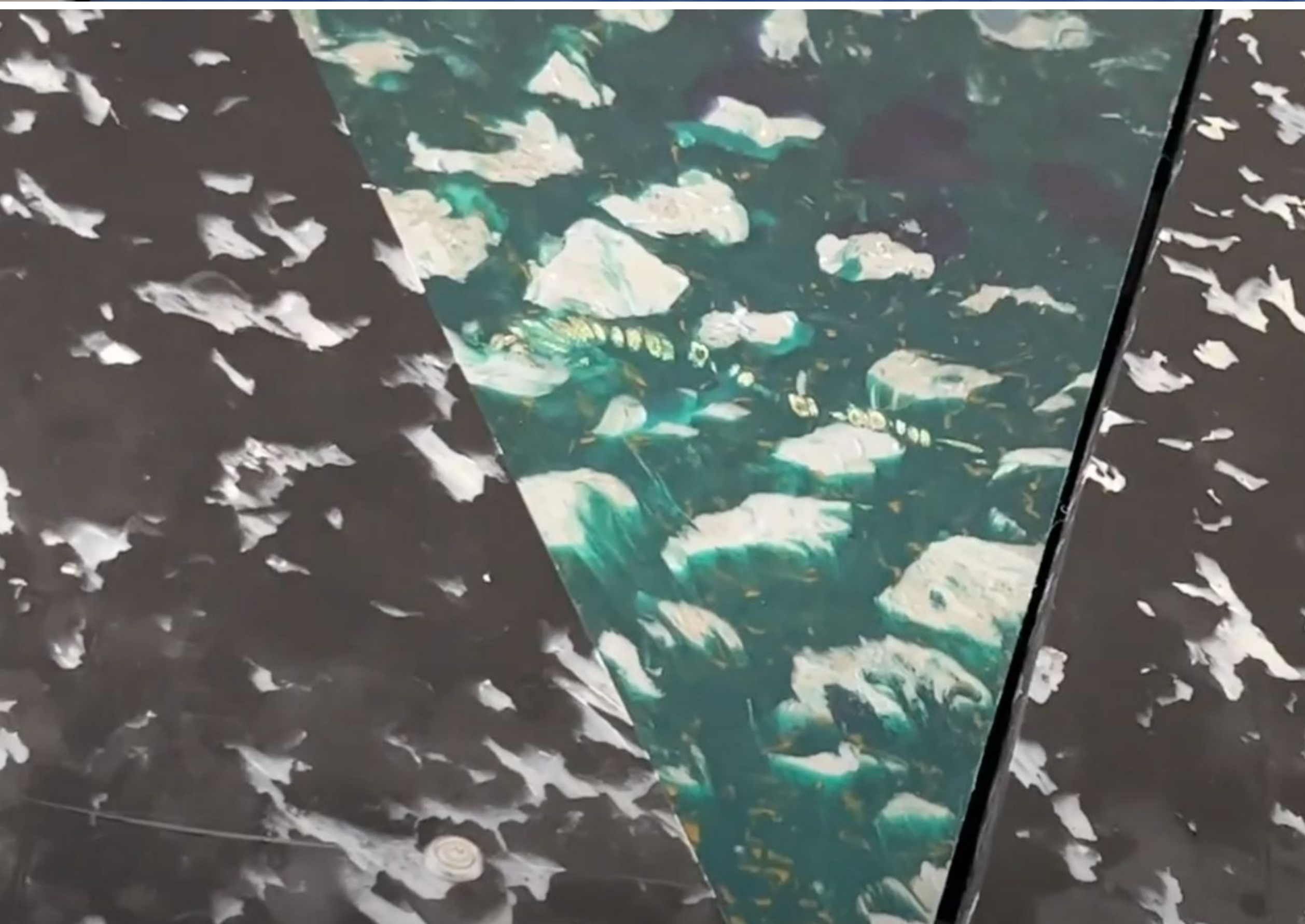
## Material waste innovation

He pakihi hou a Critical nō Tāmaki-makaurau e whai ana kia mutu te parahanga kirihou mā te aro atu ki te rōrahi whakaharhara o te para kirihou kāore e taea kia hangaruatia i tēnei wā. Kua whakaahutia e rātou he tukanga auaha kia hangaruatia ai te whānuitanga o ngā momo kirihou hei paparahi mō roto i te whare. He tukanga tāoke kore, he tautaiāo, ka taea hoki kia hangaruatia 100% me te aha ka taea ngā kirihou whakararu te whakamahi tonu, me te kore e tuku ki te ruapara.

Critical is an Auckland start-up that aims to end plastic pollution by addressing the huge volume of plastic waste that can't currently be recycled. They have developed an innovative process for recycling a wide range of plastics into interior panels. The process is non-toxic, environmentally sound and 100% recyclable allowing for problematic plastics to remain in circulation and stay out of landfill.



Rui Peng





## Rui Peng

*Co-founder.*

+64 21 173 9524

[rui@criticaldesign.nz](mailto:rui@criticaldesign.nz)

[@critical.things](#)

[@Criticalnz](#)

[@ru\\_aye](#)

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materials.*

[criticaldesign.nz](http://criticaldesign.nz)



