

 POLYBION[®]

* This is Celium®

WHY

There is No Planet B

WHAT

**We grow high-performance,
sustainable,
Bio-Assembled materials**

Circular Carbon Sourced (CCS) Bio Assembled Materials

GLOBAL LEATHER INDUSTRY

+23 Billion ft² / year

+ 80 Billion USD yearly

Animal Leather (40%) & Pleather Production (60%)

* This is not Celium®

Animal Leather & Plastic are Now Liabilities for Fashion and Luxury Brands

But there is currently no alternative...



Banned all exotic leather from their products



Banned fur.



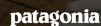
Sold 1 million "Ultraboost" shoes made of ocean plastic in 2017 alone. Investing in innovative materials.



35% of materials in 2017 were sustainably sourced or recycled. 100% objective for 2030.



Since 2013 has been using alter-nappa for shoes and bags.



Already sources several recycled materials.

Not just a trend, a permanent industry shift is happening...



Announced the first 100% plant based sports shoe.



2020 target of 100% recycled, organic or renewable materials in all footwear.



Investing already in innovative sustainable materials.



Not using animal leather ever again.



Banned fur.



Banned fur.

THE COW PROBLEM

1

#1 deforestation cause world wide

14k L

It takes 14,000 L of water to produce 1 kilogram of usable leather

18%

18% of global greenhouse emissions come from this industry alone

1 BILLION

More than 1,000,000,000 animals are slaughtered each year

Animals are not raw material

THE PLASTIC PROBLEM

300

MILLION

We produce 300,000,000 tons of plastic waste every year

13.8

Billion ft² /
year

60% of the world's leather production is plastic-based

13%

13% of global greenhouse emissions come from this industry alone

300

YEARS

It takes more than 300 years for plastic to degrade

**We need to slow the flow of plastic at its
source**

THE FOOD WASTE PROBLEM



Globally 30-40% of food produced for consumption is wasted

Food waste is a massive resource drain, using 21% of the world's fresh water


Food waste generates 8% of global greenhouse emissions

If food waste was measured as a country, it would rank third in the world for harmful emissions

But wait a sec....There is no waste in nature



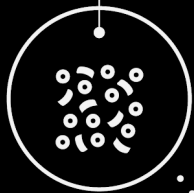
THREE problems, **ONE** solution...**BIOLOGY**



We are turning agroindustrial **FOOD WASTE** into an
organic high-end **LEATHER**-like material with a little help
from **BIOLOGY**

We have successfully developed a **BIOFABRICATION** process
within a **CIRCULAR** production model and the result is this,

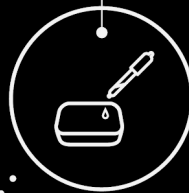
Food Waste as
Raw Material



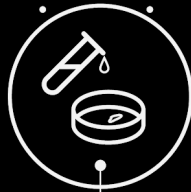
Grow & Shape



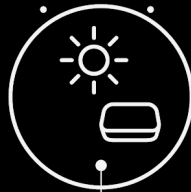
Dye



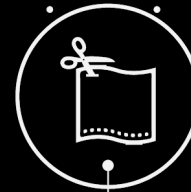
Product



Inoculate



Dry



Assemble



Metabolized in Guanajuato
by



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High-performance **BIOFABRICATED** membrane™

UNIQUENESS on a **MASS** scale™

GROWN to **WEAR**™


CIRCULAR CARBON SOURCED™

Bio Assembly Process

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Post-Processing Procedure REACH & EPA Compliant

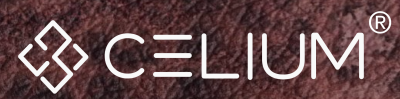
Tanned, Dyed, Embossed, and Formed using the same processes as animal leather.
We have developed a REACH and EPA compliant **TANNING & FINISHING** process.
Meets regulatory standards in Europe ([REACH](#)) and the US ([EPA](#)).

 POLYBION®

 CELIUM®

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PERFORMANCE

test	Celium®	PU	Calf Leather
Tensile Strength (Mpa)	15.79	4.8	19.61
Elongation (%)	17	18	40
Tear Strength (N)	37.7	25	49
Thickness (mm)	.8	1	1.5
Bally Flex (Cycles)	>150,000	100,000	>48,000
Bally Flex Wet (Cycles)	26,500	?	>18,000
Bally Flex Sweat (Cycles)	17,500	?	>18,000
Water Vapor (mg/cm2*h)	3.3	?	4



Celium® is REACH & EPA Compliant

Tests performed by Ciatec.mx

*Celium® is REACH compliant
 **Backing Material affects performance
 ***Tests performed by CIATEC
www.ciatec.mx

* Not Updated

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PERFORMANCE

Vegan Sustainable ✓✓	Vegan Non-Sustainable ✓×	Animal Non-Sustainable ××
CELIIUM®	PU/PVC Leather	Calf Leather

Tensile Strength (MPa)

15.79

4.80

19.61

Width (mm)

0.6

1

1.6

Bally Flex (cycles)

>150,000

100,000

>150,000

Carbon Source

Circular

Petroleum

Non-Sustainable

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**Backing Material affects performance
***Tests performed by CIATEC
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TARGET PRICE POINT

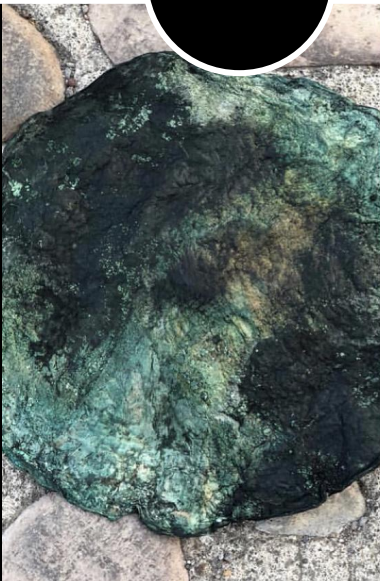
	Current Status	Target (FOAK1) 36 Months
	 CELIUM®	 CELIUM®
	Sold by Thickness & Performance	
*Development Price	\$30 USD/ft² \$323 USD/m²	\$10 to 30 USD/ft² \$108 to 323 USD/m²
Width (mm)	0.6	0.8 to 1.6

* Comercial Price susceptible to change

HOW WILL CELIUM® LOOK A YEAR FROM NOW?

CELIUM®

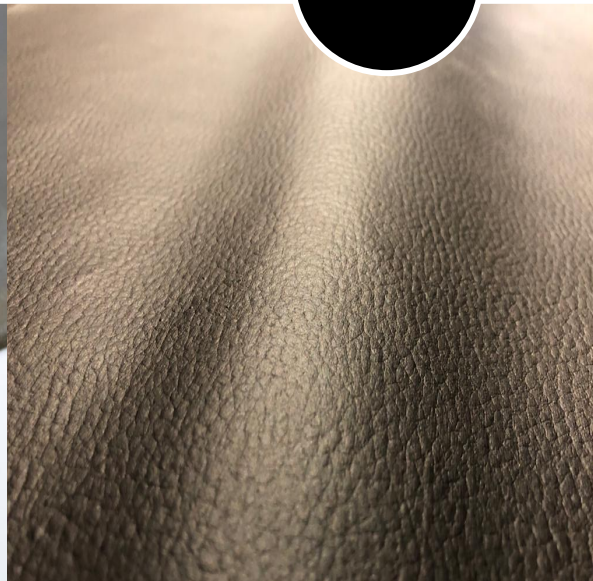
2017



2018



2019



2020

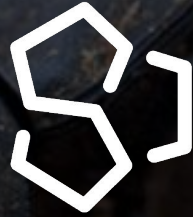


The future is not what it used to be

**Have the courage to reimagine one of
humanity's oldest materials!**

www.polybion.mx

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#BiologyAsTechnology