PEELSPHERE®

Bio-innovation material born at the intersectionality
of aesthetics, design, and material science



WWW.PEELSPHERE.COM

MEET PEELSPHERE ®

PEELSPHERE is a global innovation brand in plant-fiber leather, built on sustainable integrated technology.

We transform more than 60 types of commonly non-food agricultural by-products into plant-fiber leather for applications across footwear, apparel, bags, home furnishings, 3C products, and mobility solutions. We provide brands with comprehensive sustainability solutions.



PEELSPHERE

PEELSPHERE HONORS

KERING

PANGAIA

WINNER
German Sustainability Award Design 2021

GERMAN DESIGN AWARD WINNER

19&20 world's finest design talents winner

THE EARTHSHOT PRIZE

DESIGN+ TECHNOLOGY AWARD MATERIALICA 2018

Green Product Award

marie claire

DesignFarmBerlin Design in Tech Accelerator

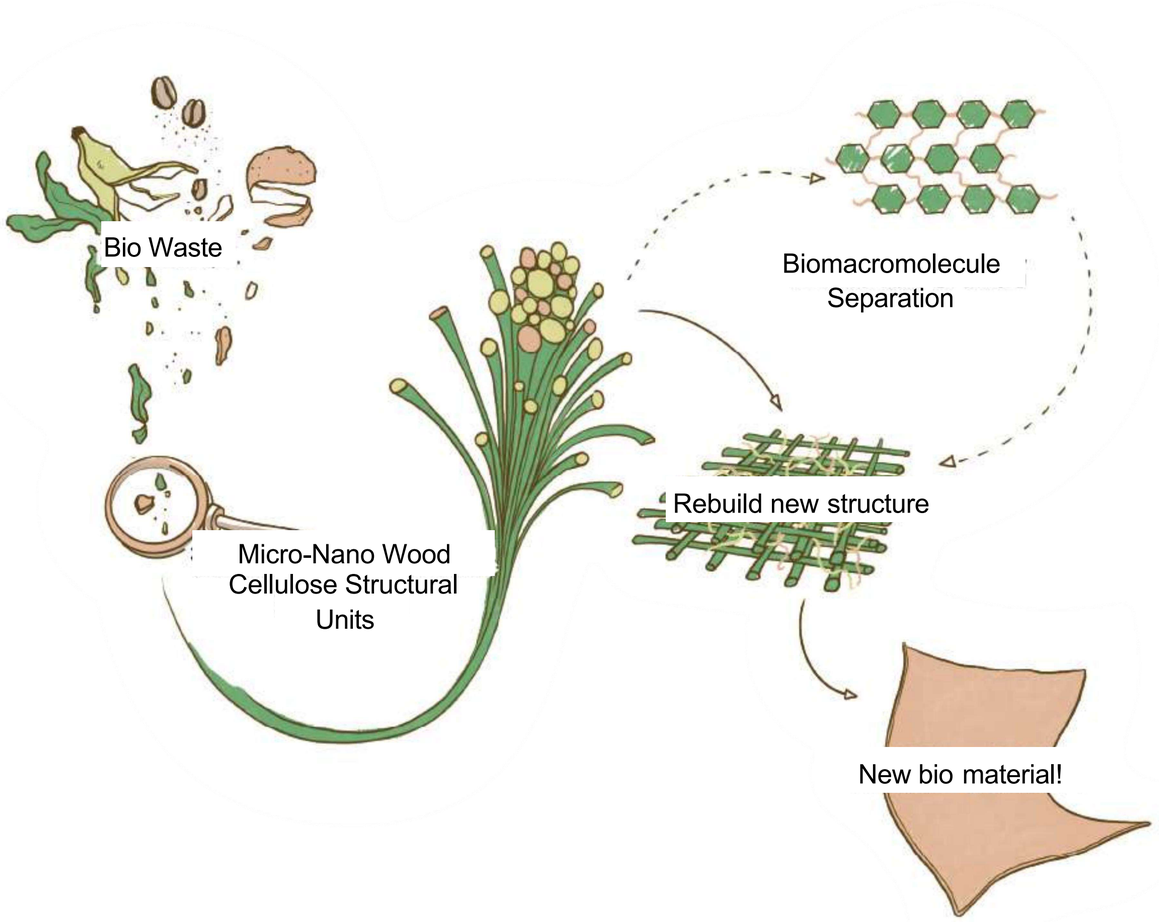
Re-FREAM is funded by the European Union's Horizon 2020research and innovation programme under grant agreement No 825647.

Re Re-FREAM

Senatsverwaltung für Wirtschaft, Energie und Betriebe | be Berlin

PEELSPHERE has earned several prestigious awards, including the 2022 Fortune Best Design Award and the German Sustainability Award (the first Chinese team to win). Other honors include the Kering K-gen Sustainability Pioneer Award, German Design Award, Oxford Best Innovation Award, and German Green Design Award. We've also received significant EU and German government funding and maintain long-term collaborations with the Fraunhofer Institute, Oxford University, and top German universities.

TECHNOLOGY



From over 60 plants, including algae, coffee waste, orange peels, etc.

Powered by its proprietary Bio-Based Material Technology Platform, the company precisely depolymerizes over 60 types of non-food agricultural waste—including seaweed, coffee husks, grape skins, and spent grain—down to the micro-nano scale. Through precise molecular design and structural reconstruction, these byproducts are converted into next-generation tech leather with bio-based content among the highest in the industry.

PEELSPHERE

Algaeskin™

Translucent Algae-based Leather Series

The world’s first 100% biobased, semi-transparent biotech leather developed from algae. This leather is fully carbon-neutral from production to final product, with a unique texture and exceptional performance. Currently, 27 distinct visual styles have been developed.

Applications:

High-end brand customization / Space decoration / Art installations

Unique ice-cool skin sensation

Translucent texture

100% biobased content

Unique natural patterns

OK biobased

TÜV AUSTRIA

S2624

TÜVAUSTRIA OK BIOBASED
with the highest 4 stars



PEELSPHERE

Bestwaste™

Fully Plant-Based Lifecycle Leather Series

The world’s first plant-based leather with performance reaching automotive and 3C (consumer electronics) standards. This material uses nanofibers from biological waste to reinforce biobased resin, constructing an ordered structure at the microscopic level. This approach overcomes limitations in biobased content while achieving high-performance material qualities.

Applications:

Footwear, apparel, bags / Select automotive interiors / Consumer electronics (3C) / Home decor

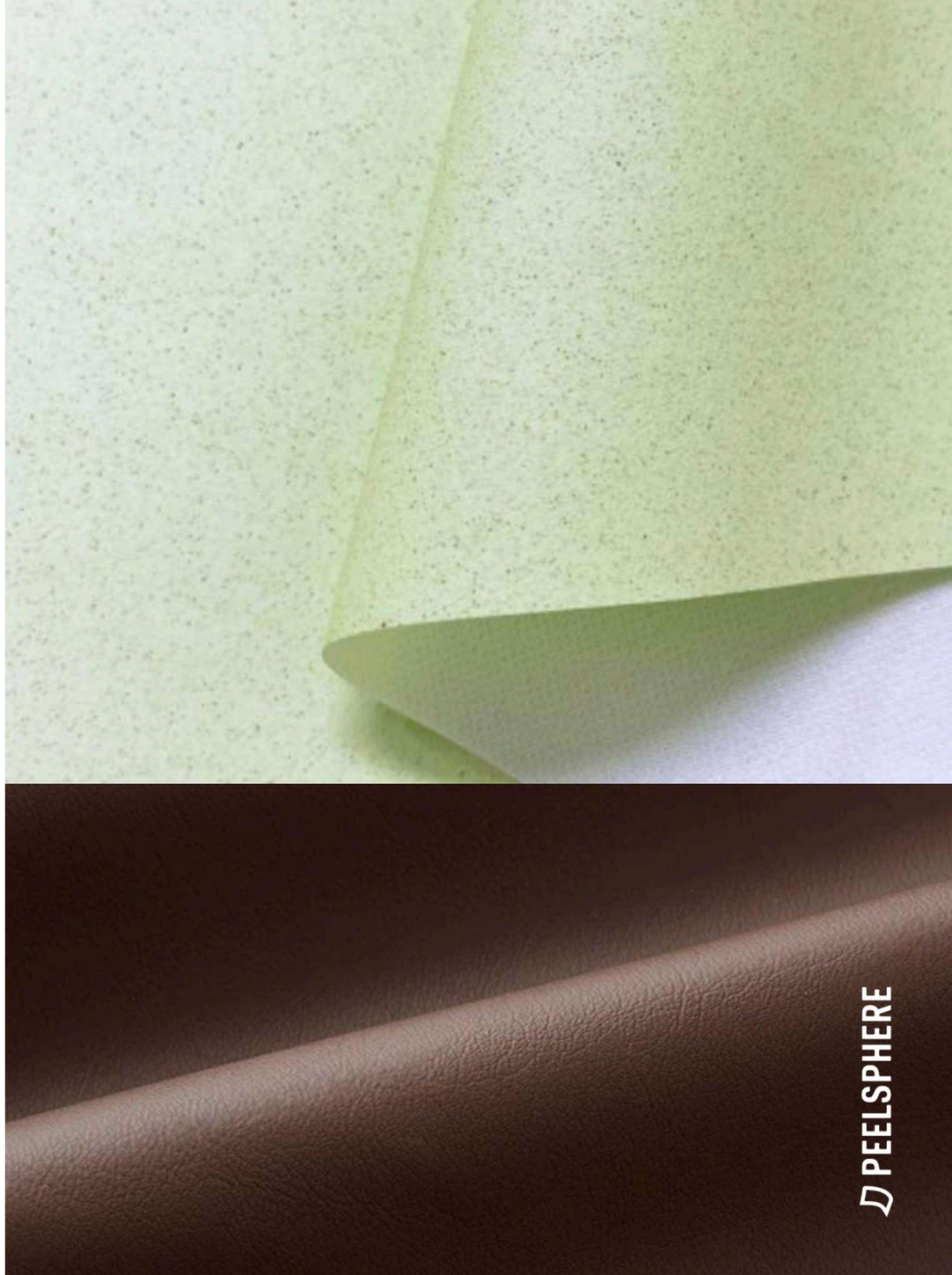
Durable and waterproof

Soft, skin-friendly texture

81% biobased content

Pass various testing standards

USDA Bioprefered 81%



Celtex™

Ultra-strong Hybrid Plant-based Leather Series

The world’s first hybrid plant-based leather with performance suited for full automotive interior coverage. Based on plant molecules such as citrus fiber, soybean oil, tree resin, and wood particles, it employs a “multi-network” strategy to enable reversible cross-linking. Primarily used in high-performance applications like automotive, consumer electronics (3C), sports equipment, and smart wearables.

Applications:

Footwear / Full automotive interiors / Consumer electronics (3C) / Home decor / Functional sports fabrics

Durable and waterproof

Excellent strength & flexibility

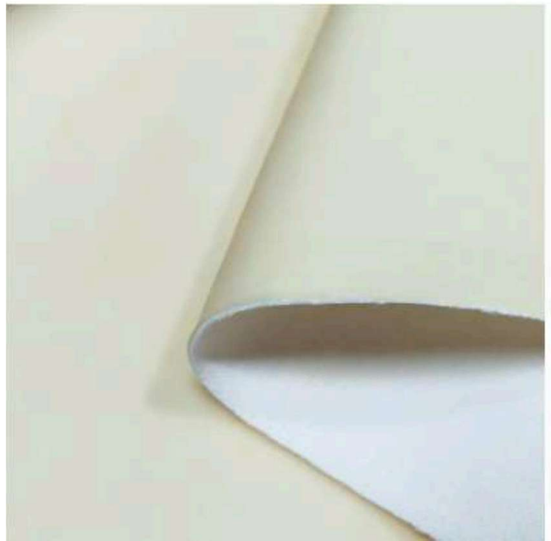
90% biobased content

Applications cover all daily life

USDA CERTIFIED BIOBASED PRODUCT PRODUCT 100%

USDA Bioprefered 100%







PEELSPHERE PERFORMANCE

The raw material is plant fiber and protein-based plant fiber leather.
Without 256 toxic chemicals prohibited by the EU have been added.

Comparison of real leather and traditional PU



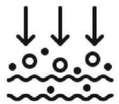
Highly resistant to hydrolysis

In humid weather, the material does not degrade, preventing aging and cracking.



High anti-fouling property

Resistant to lipstick and alcohol, easily confident in daily life.



Highly wear-resistant and scratch-resistant

Frees up after 100,000 uses, still as good as new.



Waterproof / Windproof

The rain drips off quickly, providing both wind protection and breathability.



High color fastness

It doesn't fade in the sunlight, and remains bright even after washing.



Machine washable

30° C multiple washes no deformation, no peeling.

PEELSPHERE

LOCALIZED HIGH-QUALITY SOURCING

STARBUCKS®

Coffee grounds from STARBUCKS South China area store
Coffee fruits from Tianyu Farm in China



FROM LOCAL TO LOCAL

PEELSPHERE

MATERIAL LIFECYCLE





1 Square Meter

Bestwaste™ Plant-Based Leather

=

18 Cups of Coffee

Coffee Waste from

PEELSPHERE

CERTIFICATIONS



ZERTIFIKAT | CERTIFICATE | CERTIFICAT | CERTIFICADO | СЕРТИФИКАТ | شهادة | 证书 | 인증서

OK biobased TÜV AUSTRIA

TÜV AUSTRIA

CERTIFICATE FOR AWARDING AND USE OF THE 'OK BIOBASED' CONFORMITY MARK

TA8072207179

Issued by TÜV AUSTRIA CERT GMBH

Product(s):	
Domain	Biobased Products
Group	Components & Constituents
Family	Others
Type	Miscellaneous components
Trade mark	PEELSPHERE ORISM
Description / Particularities	Imitation leather Colour: transparent Unprinted
Class (between 1 & 4):	The product is assigned to class **4**, meaning: Biobased Carbon Content of the product > 80 % ★★★★
Licensee:	**PEELSPHERE** An der Industriebahn 12 13088 Berlin Germany
Criteria:	• Certification Scheme with reference OK 20 edition C Methodology conform to EN 16640: "Bio-based products - Bio-based carbon content - Determination of the bio-based carbon content using the radiocarbon method"
Validity:	From 22 December 2022 till 22 December 2027
Conclusions of the examination:	The products comply with the above mentioned certification criteria, as confirmed by the report no 65004499 / 2022-AG-0296cert.
Applicable certification system:	Type examination followed by supervision through verification tests on samples from the distributor's stocks or of the market. The conformity of the product is guaranteed by the procedures for awarding and use of the 'OK biobased' conformity mark. This only applies for specimen bearing the 'OK biobased' mark.

Caution: *The use of OK biobased-certified polymers / materials is not a guarantee that intermediate or finished product into which it is incorporated complies with the requirements of the OK biobased certification scheme.*

Brussels, 22 December 2022

For the Certification Committee
Ph. DEWOLFS
President of the Committee

FM-BA-TABE-CERT-BIO-OKB-024_certificate_EN Rev 22.06

Annex: Data Sheet (1 page)

This certification was carried out according to the TÜV AUSTRIA CERT procedures for certification and is regularly monitored.
TÜV AUSTRIA CERT GMBH | Deutschstraße 10 | A-1230 Vienna

028068-21-6



USDA United States Department of Agriculture
Rural Development

USDA BIOPREFERRED® PROGRAM
PARTICIPANT

CERTIFICATE
OF USDA BIOPREFERRED®
PROGRAM PARTICIPATION

Congratulations to
Shenzhen Pufei Biotechnology Co., Ltd.'s
Bestwaste
for receiving the USDA Certified Biobased
Product Label on 09/11/2024 .

BioPreferred



USDA United States Department of Agriculture
Rural Development

USDA BIOPREFERRED® PROGRAM
PARTICIPANT

CERTIFICATE
OF USDA BIOPREFERRED®
PROGRAM PARTICIPATION

Congratulations to
Shenzhen Pufei Biotechnology Co., Ltd.'s
Celtex
for receiving the USDA Certified Biobased
Product Label on 11/07/2024 .

BioPreferred

OEKO TEX®

REACH COMPLIANT

LCA Life Cycle Asseessment

- Obtained the highest-level four-star rating certifi-cation for bio-based materials issued by the EU TÜV
- The biobased certification certificate issued by the United States Department of Agriculture (USDA)
- LCA - Life Cycle Assessment
- OEKO-TEX® Standard - An internationally recognized safety certification standard for textiles
- Complying with the 250-item EU Chemicals Management Re-gulations, REACH

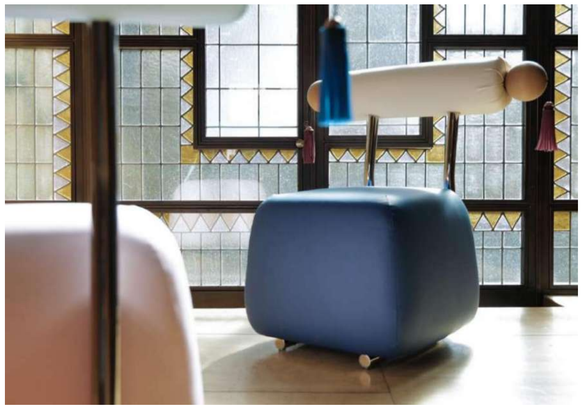
PEELSPHERE

APPLICATIONS

PEELSPHEREs products are currently used in various fields including clothing, bags, footwear, home furnishings, 3C products, automotive interiors, and decorative packaging



7or9



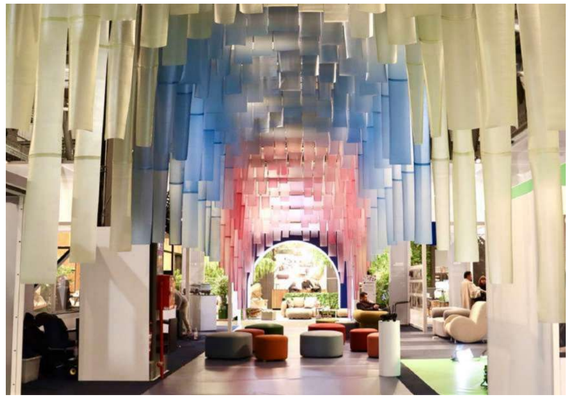
PEELSPHERE



BALENCIAGA



Aqara



Milan Design Week



MERCEDES-BENZ



NIKE



BMW

PEELSPHERE

Collaboration Medias and Brands

→Media

60+

wallpaper* FRAM3 form designboom' dezeen VOGUE BUSINESS

IDEAT 理想家 CONTEMPORARY LIFE ZKM zentrum für kunst und medien karlsruhe S+T+ARTS LIGHTHOUSE Re-FREAM ARS ELECTRONICA Art, Technology & Society stir world see. think. inspire. reflect LOHAS 乐活

siiddeutscheleitung DesignFarmBerlin Design in Tech Accelerator CCB MAGAZIN Deutscher Nachhaltigkeitspreis BIO

RAUM UND WOHNEN MATERIAL SOURCE STUDIO MUNIQUE WWD marie claire ELLE Green Product Award

→Brand

100+

KERING GUCCI BALENCIAGA BOTTEGA VENETA STELLA McCARTNEY RIVIAN Vivienne Westwood

RICHEMONT Cartier CHANEL FENDI ROMA TIFFANY&CO. BOUCHERON PARIS DEPUIS 1858

SELFRIDGES&Co NIKE lululemon new balance adidas ARKET COS PANGAIA

BMW Mercedes-Benz MORGAN TOYOTA HYUNDAI NISSAN polestar THE ORIGINAL OATLY!

PEELSPHERE



de zeen

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1 Mui Board enables smart home control from a plank of wood

2 Orient Express reveals plans to launch "world's largest sailing ship"

3 Sunne lamp by Sunne among nine new products on Dezeen Showroom

4 San Siro stadium "will not be torn down" says Italian minister

5 Hyundai Mobis debuts Ionig 5 that can "crab" drive sideways

Peelsphere is a leather-alternative biomaterial made from fruit waste and algae

Alice Finney | 12 January 2022 | 1 comment

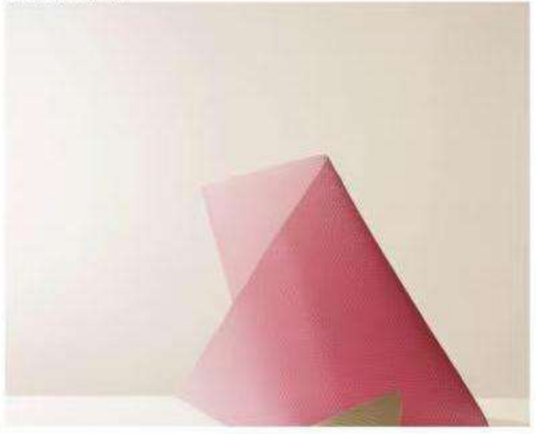
Berlin-based textile designer Youyang Song has used fruit peels and algae to create a biodegradable plant-based material that offers an alternative to leather.

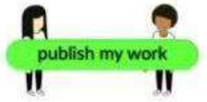
Peelsphere is a versatile and waterproof textile that can be hardened to form accessories like buttons, or left malleable and soft for items such as bags.

designboom

A VERSATILE, WATERPROOF TEXTILE MADE FROM BANANA PEELS + ALGAE

by observing and developing the renewability of plants, the designer focused on the potential of banana peels and algae to create PEELSPHERE. the resulting product is a malleable and waterproof textile that can be embroidered, woven, and knitted to create infinite patterns. moreover, depending on its use, it can harden to create a protective case, or turn soft to design fabrics. this bio-innovated material thus sits at the intersection of design, material science, and sustainability.





PRODUCT LIBRARY



PIXLIP



design\milk

LIFESTYLE

PEELSPHERE: Exploring the Potential of Banana Leather

06.28.23 | By TJ Girard





designboom design video competitions product library shop socialize







WWD



Inside Kering's Hotbed for Materials Innovation



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SPRING WISE

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Feature > Innovation Snapshot > Five sustainable fashion innovations that made an impact in 2022

FIVE SUSTAINABLE FASHION INNOVATIONS THAT MADE AN IMPACT IN 2022

INNOVATION SNAPSHOT

From grape leathers to platforms that facilitate garment recycling, here are the 2022 fashion innovations our readers have been most excited




Make sustainability a
part of everyday life

PEELSPHERE

X

BMW

PEELSPHERE apple skin-based
plant material is applied to
the global first
bio-leather side door
covering of BMW



ref：photo from BMW

PEELSPHERE

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Balenciaga

Algaeskin Air Vest

PEELSPHERE created a custom sustainable bio-based vest for Balenciaga .



PEELSPHERE

PEELSPHERE

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Boucheron

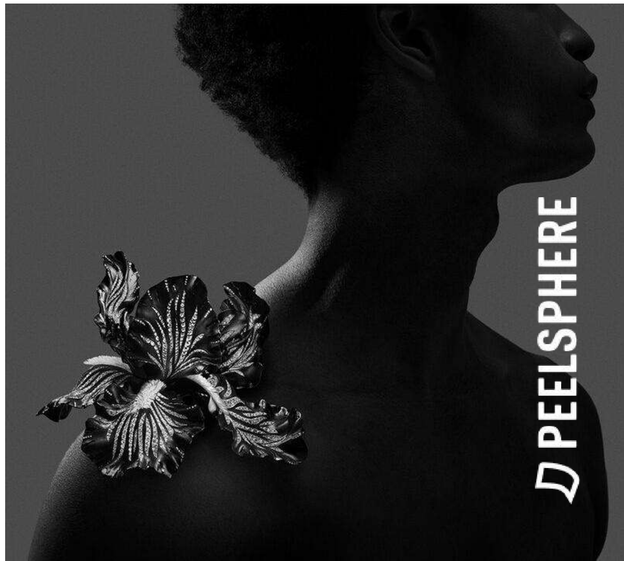
Boucheron High Jewelry 2025
Carte Blanche Collection
Impermanence

Claire Choisne has captured the essence of nature in her new Carte Blanche collection titled "Impermanence".









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ANTA

The World's First Fruit-Based Plant-Fiber "Safe Steps"

PEELSPHERE® partnered with ANTA KIDS® to co-develop the world's first fruit-based plant-fiber footwear collection.

Made with PEELSPHERE® fruit-based plant-fiber leather, the collection is designed with baby safety in mind and meets relevant EU safety and non-toxic requirements.











PEELSPHERE

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7or9

Sustainable Travel Series





7or9 focuses on women' s comfort and integrates interdisciplinary technology into classic footwear. Using PEELSPHERE® Bestwaste plant-based material, they balance inner comfort and outer design. Together with PEELSPHERE, 7or9 has launched a sustainable collection featuring air-cushioned heels, seamless barefoot shoes, cushioned flats, and large travel bags, enhancing comfort with sustainability.

PEELSPHERE

“Nature Lightens the Load"

7 or 9

Comfortable Travel with a "Hint" of Thoughtfulness:

soft biomaterial, green hues, minimalist design, tailoring for a more comfortable travel experience



One-piece 0-burden shoes



Large capacity commuter bag

PEELSPHERE

PEELSPHERE
X
TSUBO

CITY ROAMER 25SS

TSUBO, with a brand DNA rooted in high-end footwear, also develops apparel and accessories for an urban outdoor lifestyle. In collaboration with brand —— TSUBO, PEELSPHERE is launching a co-branded collection for the Spring/ Summer 2025 sustainable capsule series, featuring coordinated items such as clothing, shoes, and bags, all aimed at unveiling a new vision for sustainabl material craftsmanship.









PEELSPHERE

PEELSPHERE

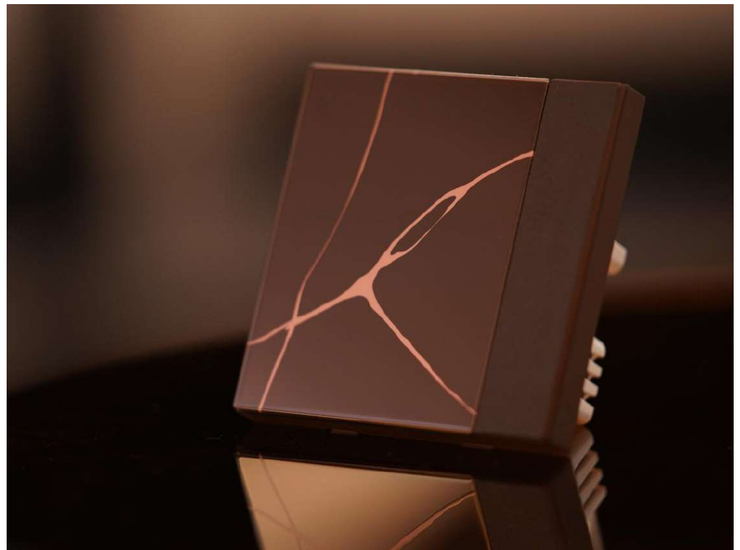
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Aqara

Flourishing Series Smart Wall Switch

H1 Elite Collector’s Edition
Luminous Glass & Golden Brown
Launched in 2026







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STARBUCKS

SS25 Christmas Gifts



PEELSPHERE

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STARBUCKS

SS26 Spring Gifts







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STARBUCKS

SS26 Autumn Gifts





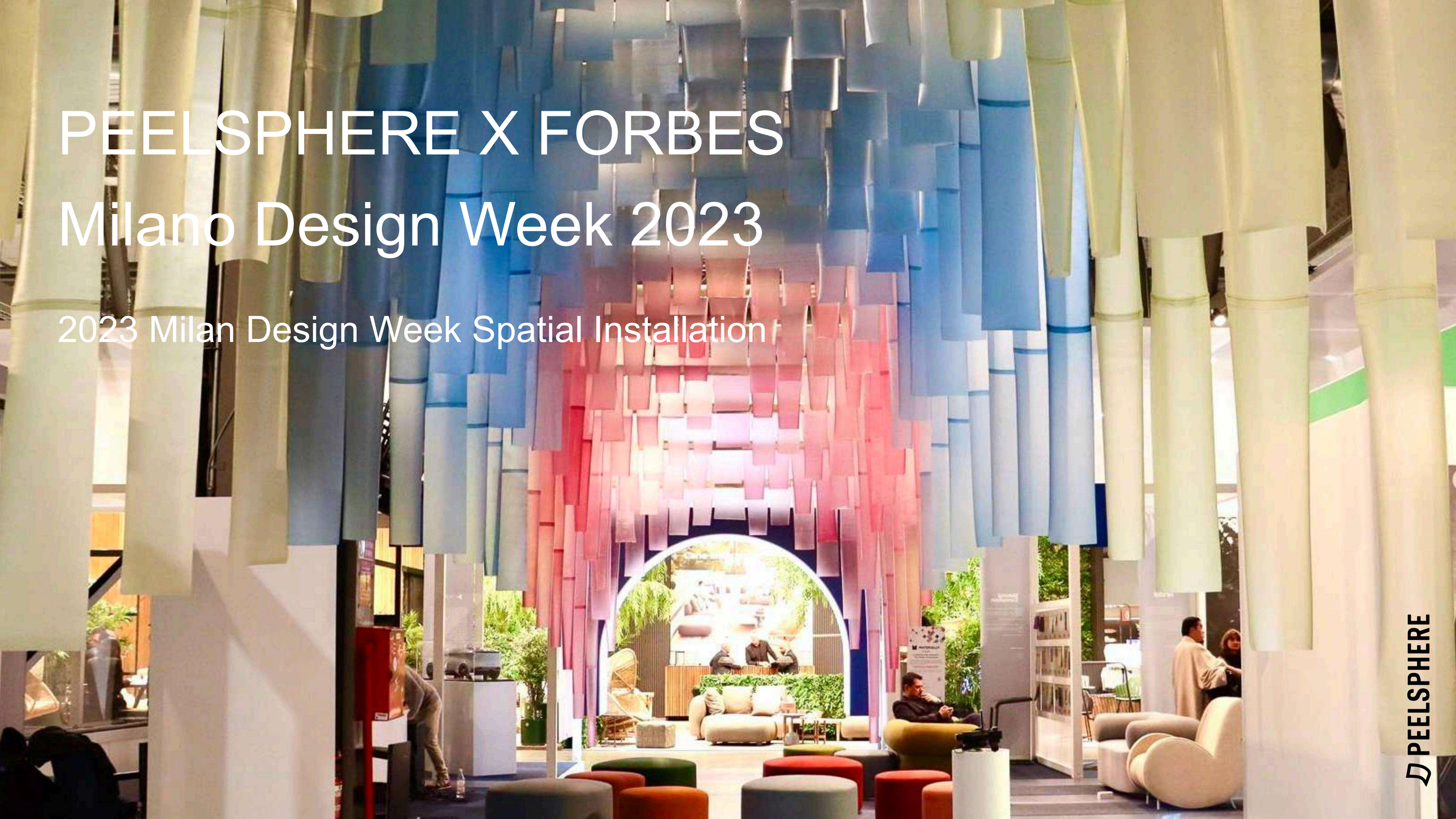


Building a global sustainable fashion ecosystem

PEELSPHERE

PEELSPHERE X FORBES
Milano Design Week 2023

2023 Milan Design Week Spatial Installation



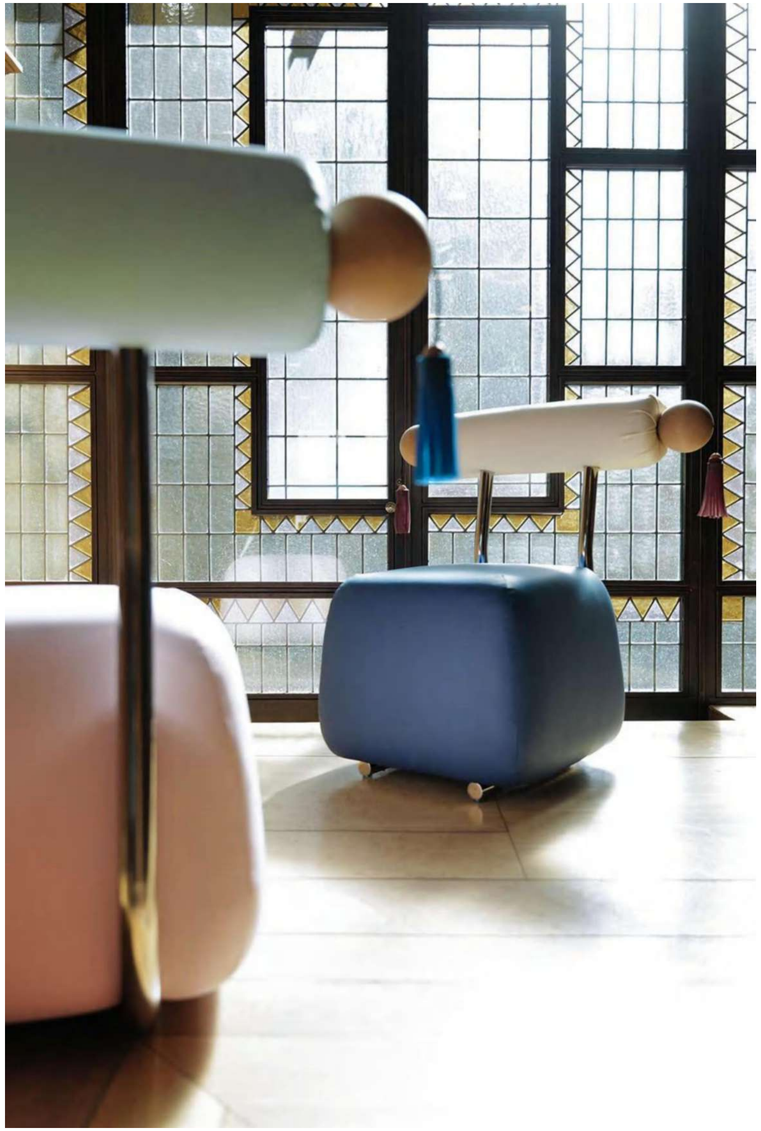
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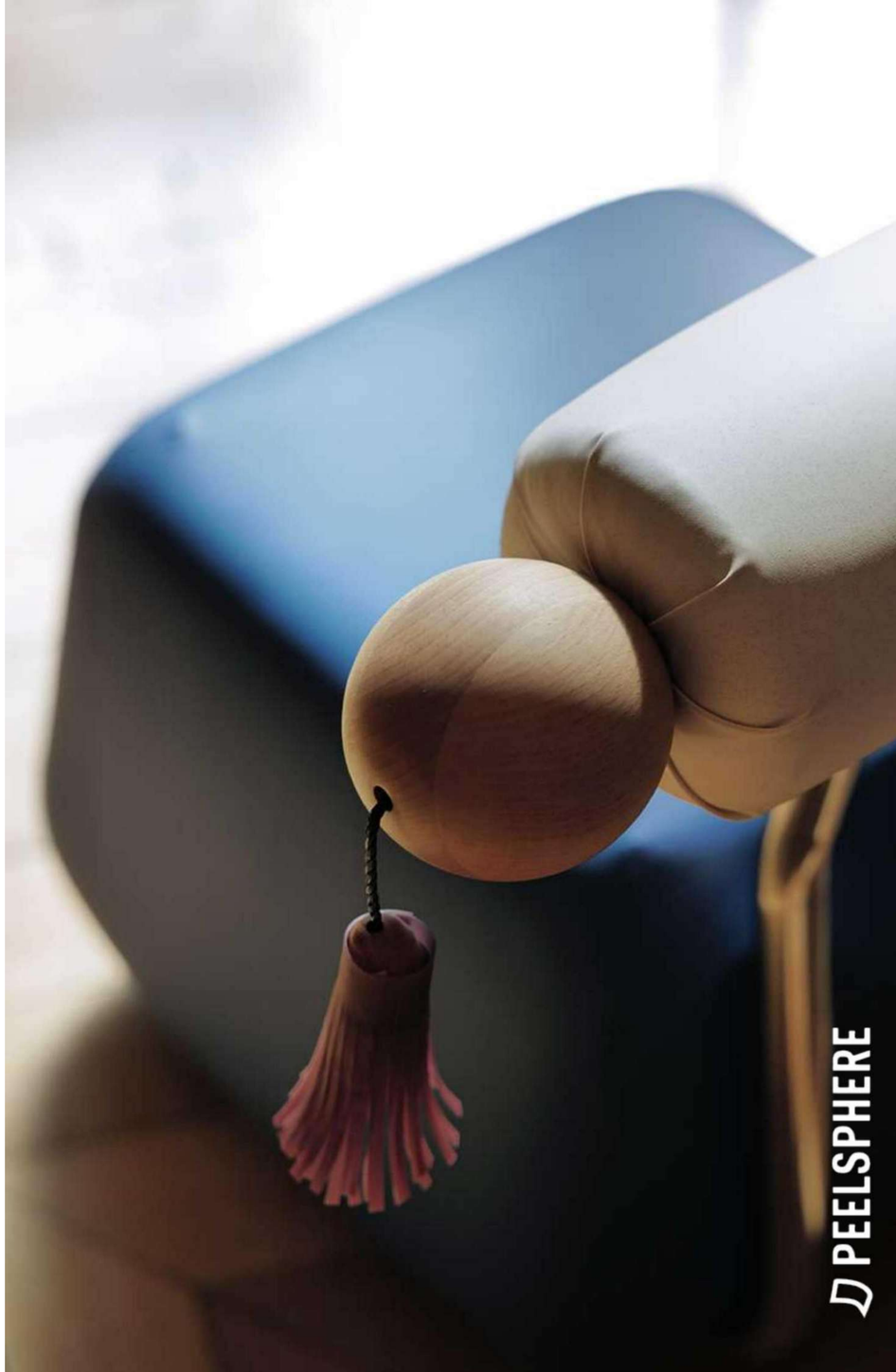
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MILANO DESIGN WEEK 2024

Eco-friendly soft-cover furniture series





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Aranya Art Center

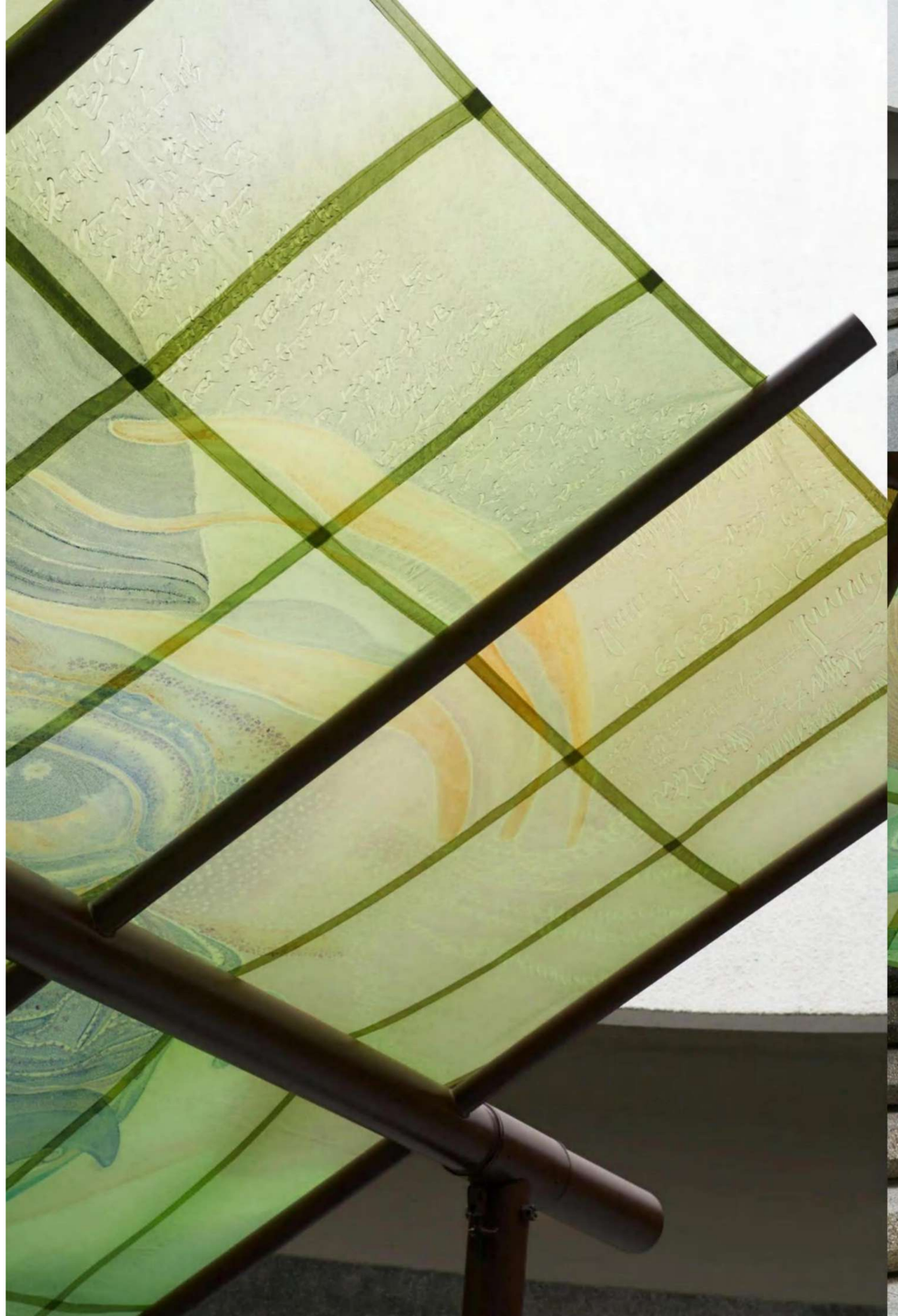
Payne Zhu：Sounding the Deep Water

Installation views,

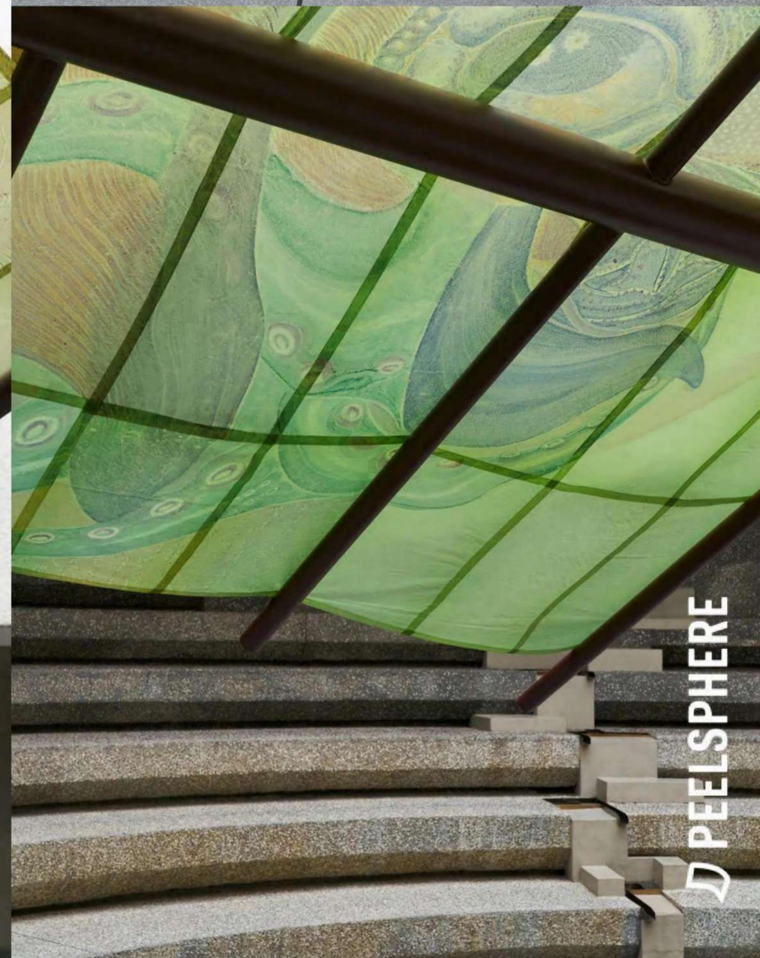
Payne Zhu: Sounding the Deep Water,

Aranya Art Center March 16 - September 7,

2025Photography Sun Shi





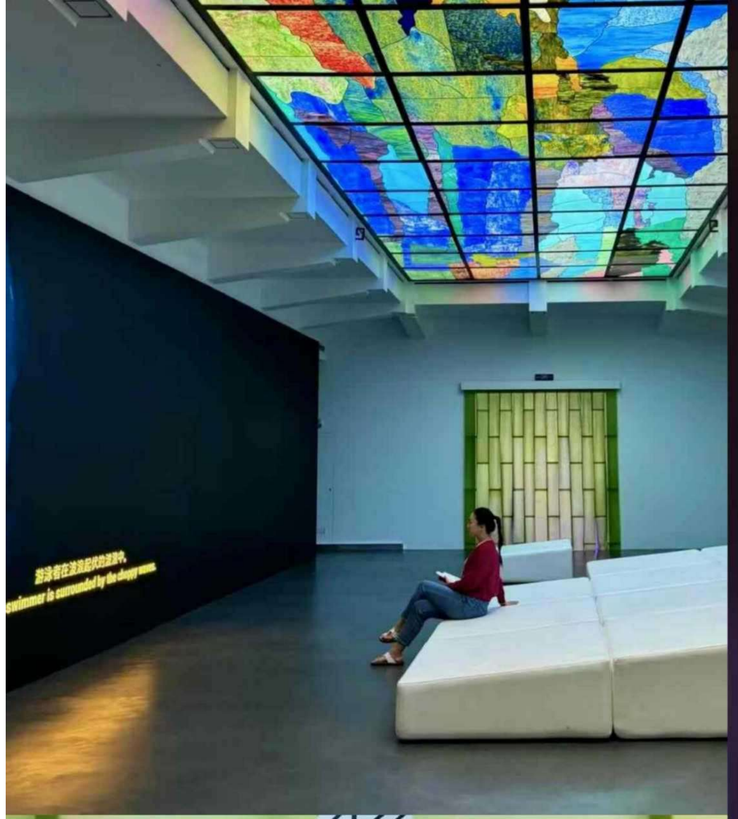


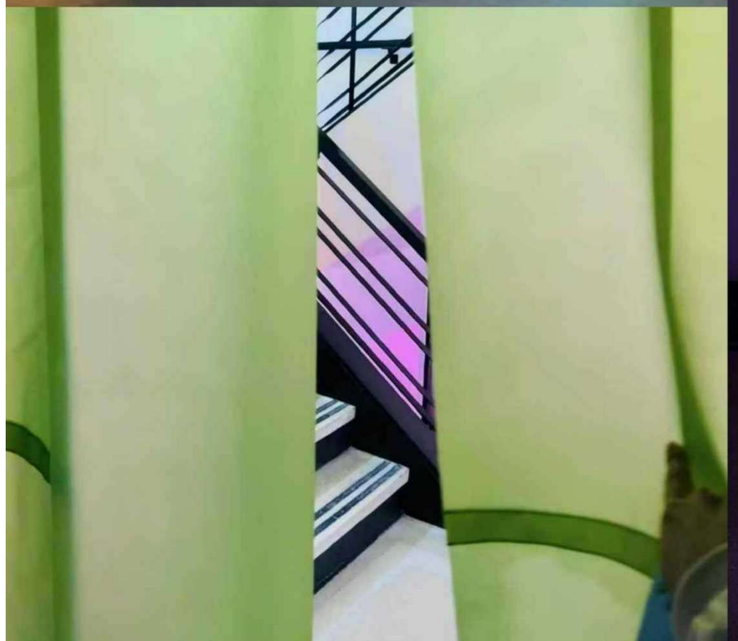
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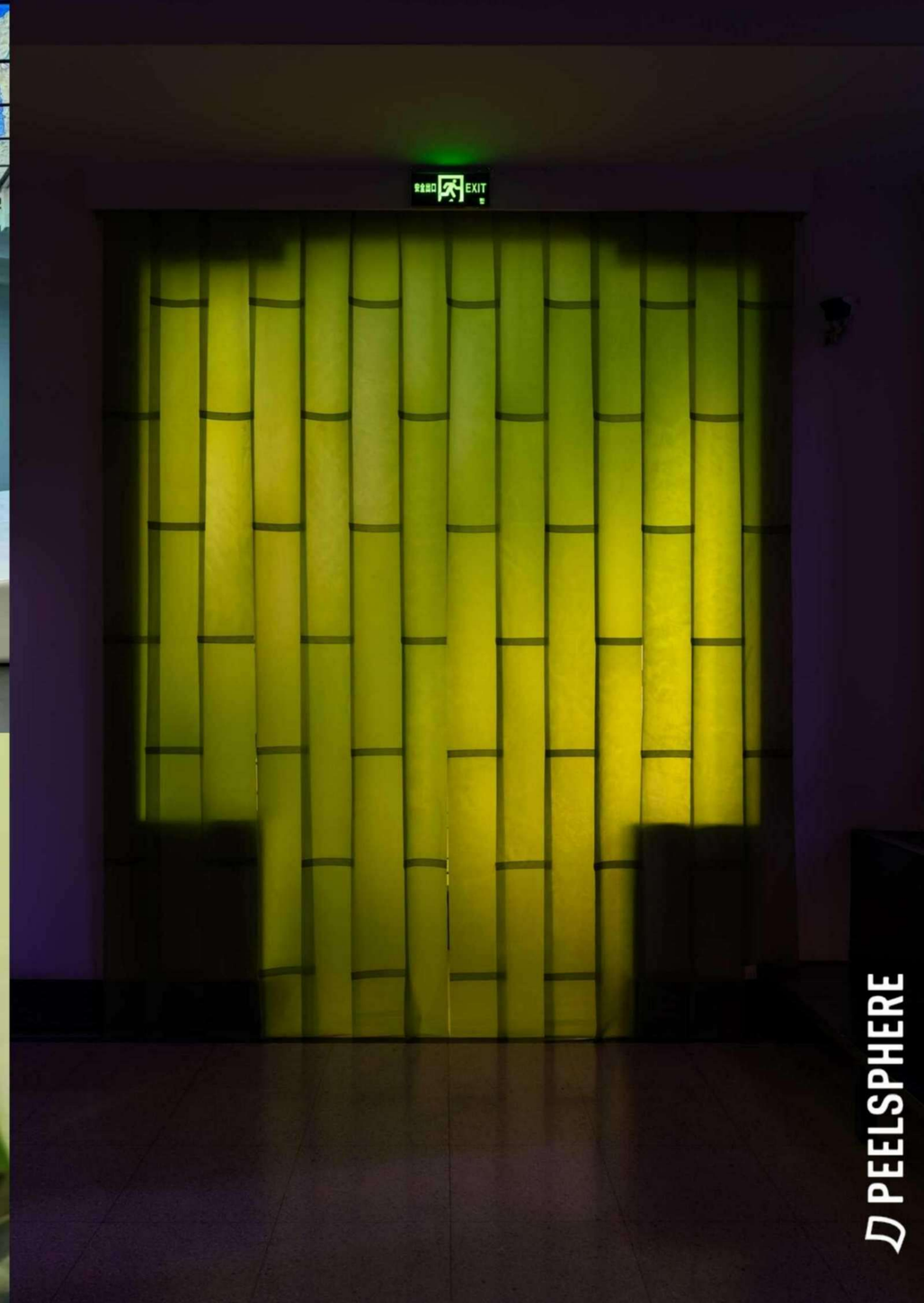
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RAM

" Lyndon B . Johnson :
The Best Synthetic Answer ”
Spatial installation
Shanghai Rockbund Art Museum







PEELSPHERE+Kering on Pitti Uomo

PEELSPHERE, in collaboration with Kering Group, showcased at Pitti Uomo, the world's largest men's fashion week. Italian designer Dalpaos presented a bio-based materials jacket made from Algaeskin material, with the event's press release on the Pitti Uomo website reaching over 200,000 reads.





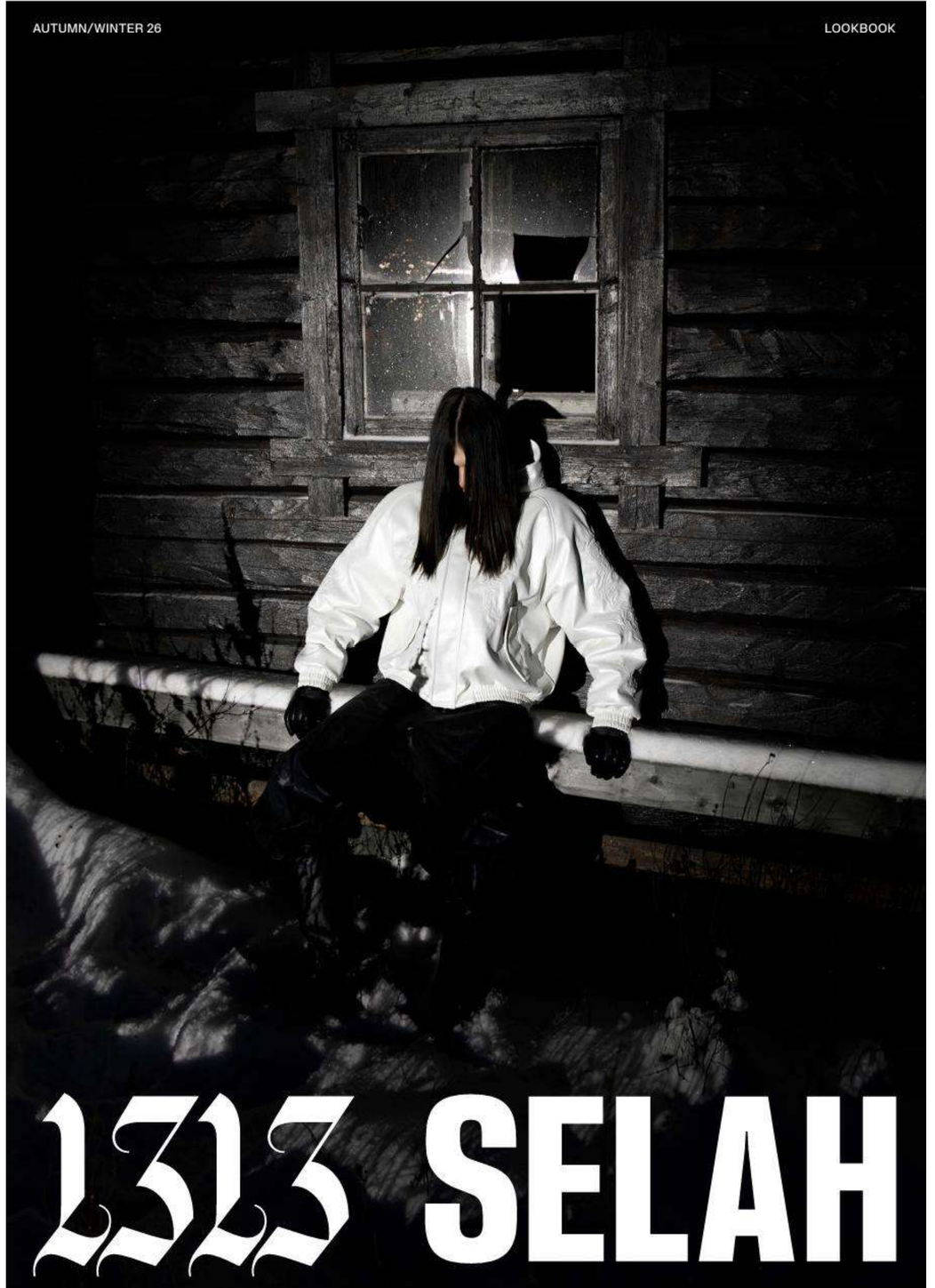
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1313Selah

AUTUMN/WINTER 26
Sustainable Collection







PEELSPHERE





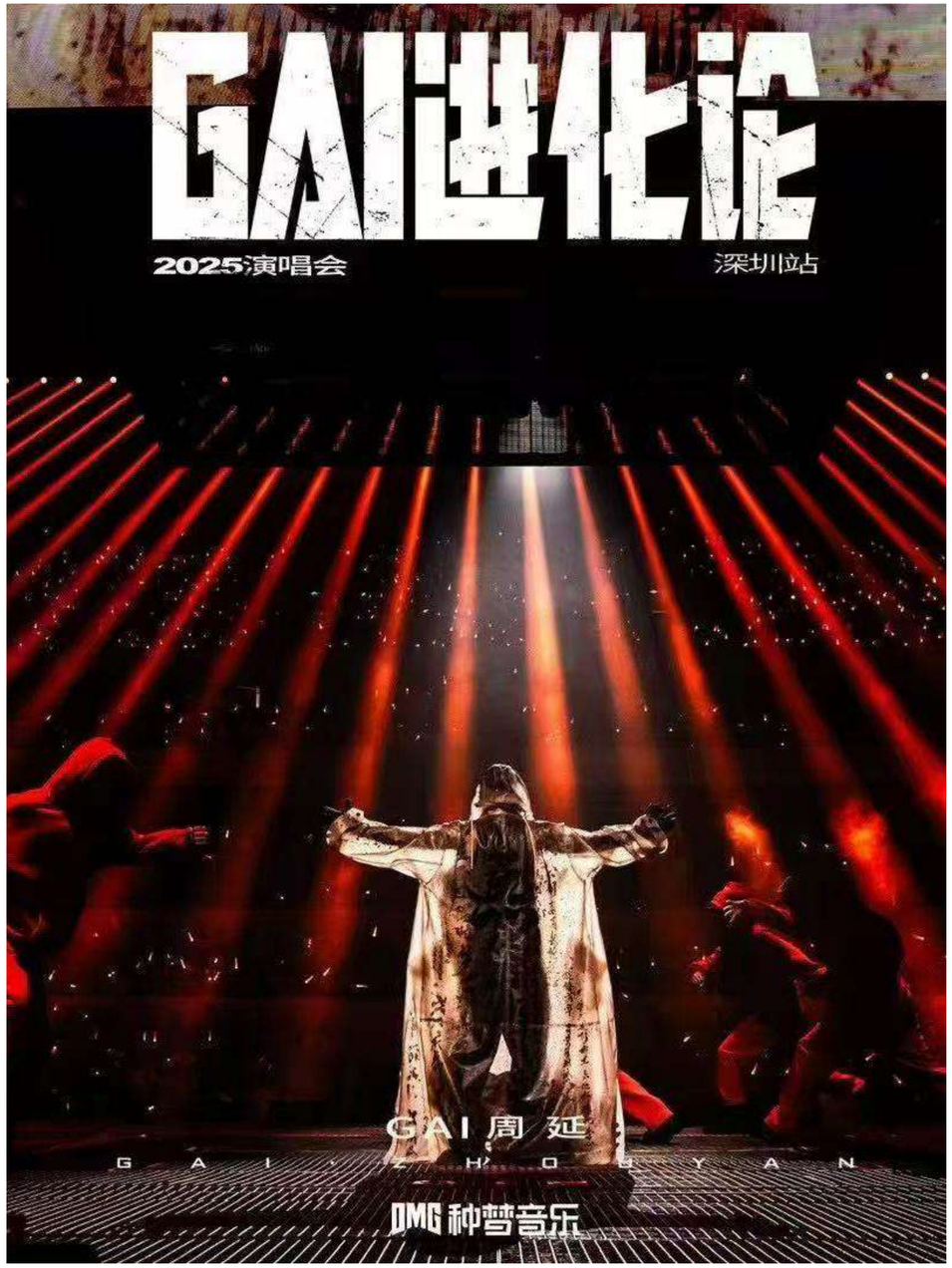
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ANGEL CHEN

25 SS —— ” Triumph”

Chinese designer brand ANGEL CHEN not only draws rich inspiration from traditional ethnic elements in fashion design but is also dedicated to expressing the resilience and freedom of nomadic culture through material innovation. Among these materials, the sustainable innovation of PEELSPHERE® showcases its unique charm, providing designers with endless creative possibilities.


GAI世化论
2025演唱会
深圳站
GAI周延
G A I · Z H O U Y A N
OMG种梦音乐


GAI世化论
2025演唱会
深圳站
GAI周延
G A I · Z H O U Y A N
OMG种梦音乐
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Oatly

Exploring the New Life of Oatmeal Scraps

Converting the material into jackets, seat coverings, tabletop accessories, screens, etc., allowing the new material to truly penetrate into more product fields, breaking the conventional thinking and demonstrating the potential of the material. Transforming the by-product of oats - oat bran - into semi-transparent biological fabric through various processing methods, this enables the material to have more application possibilities. The material is then transformed into jackets, seat coverings, tabletop accessories, screens, etc., allowing the new material to truly penetrate into more product fields, breaking the conventional mindset and demonstrating the potential of the material.



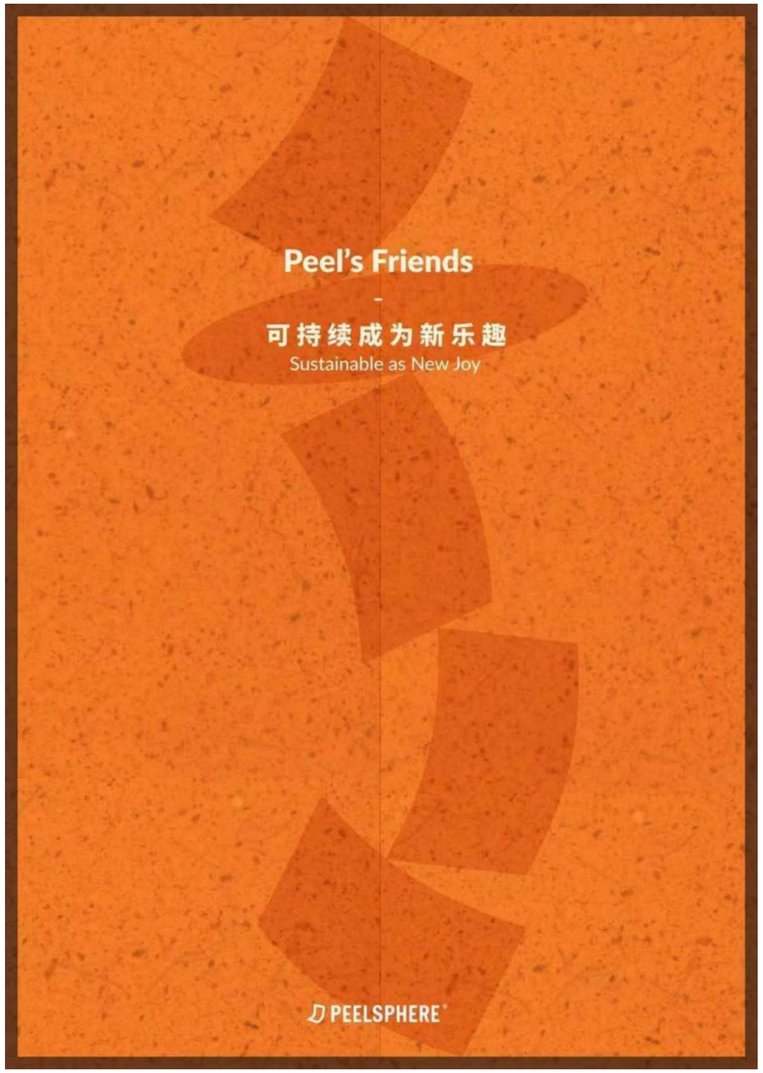
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HERMÈS

Hermès
creations

Invited by Hermès, PEELSPHERE designed exclusive sustainable bio-based materials, expanding the luxury brand 's vision and opening new opportunities for the industry ’s shift toward sust ainability. This initiative offers a compre-hensive solution for the fashion industry’s transformation.





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Mercedes-Benz

Sustainable Car Cover for Mercedes-Benz’s New Electric EQE

Mercedes-Benz seeks to emphasize green, low-carbon sustainability amid environmental challenges. As it advances towards a fully electric future, the brand explores innovative ways to combine biotech and materials, transforming nature into protection.



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NIKE

Fruit peel Shoe upper

In collaboration with Nike, we In collaboration with Nike, we integrated fruit pulp bio-materials onto the surface of the shoes, making an unprecedented innovative attem-pt.integrated fruit pulp bio-materials onto the surface of the shoes, making an unprecedented This move represents the footwear industry's efforts to alig innovativn with the require-ments of sustainable development.e attempt. It has had a huge impact on Instagram, receiving over 36,000 mentions and likes.This move represents the footwear industry's eff-orts to align with the requirements of sustainable develop-ment. It has had a huge impact on Instagram, receiving over 36,000 mentions and likes.











Shoe prototype in collaboration with nike
The department berlin
Material made banana peels

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TOYOTA

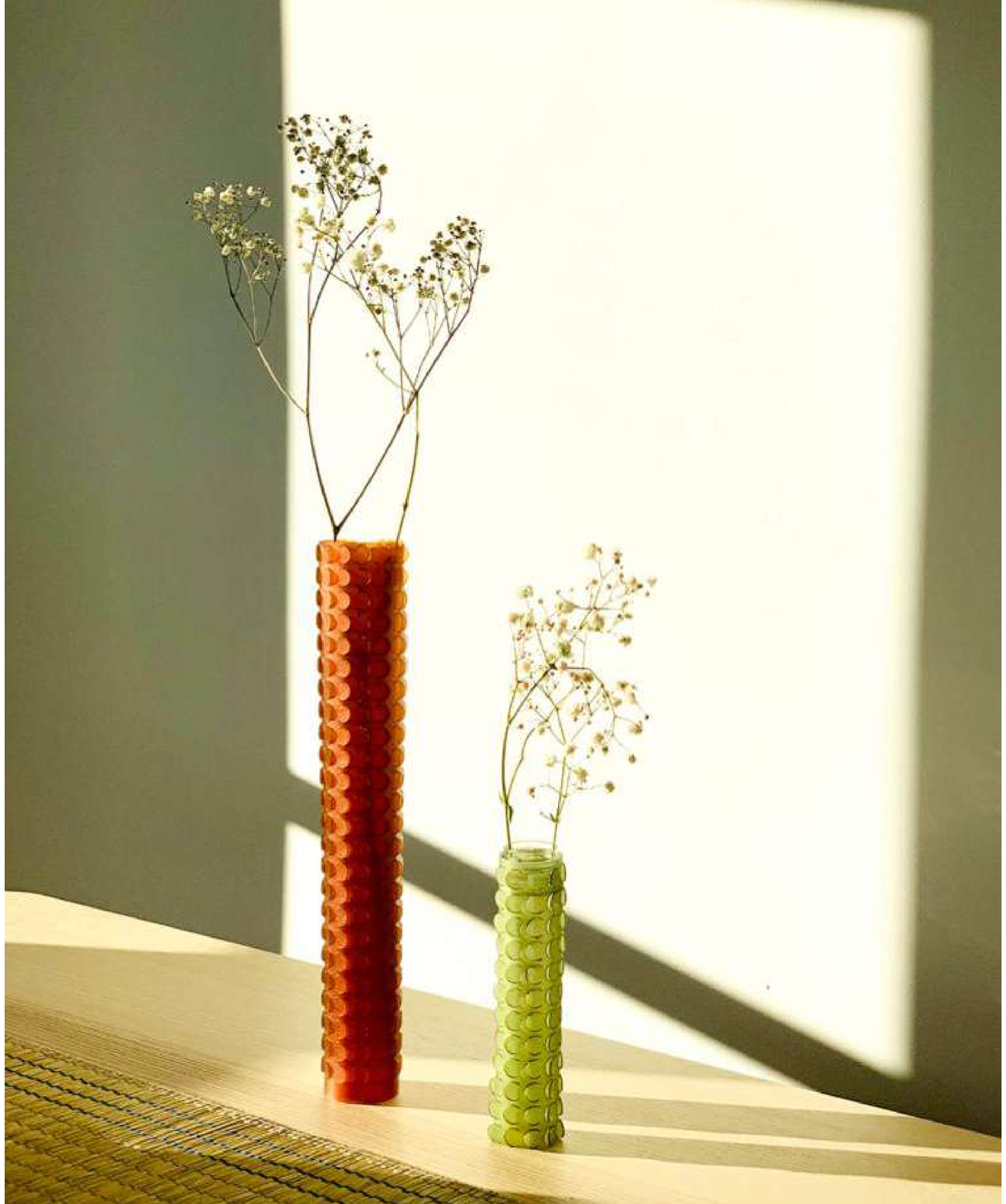
Bio-based modular automotive seats to make their debut at the 2025 Shanghai Auto Show





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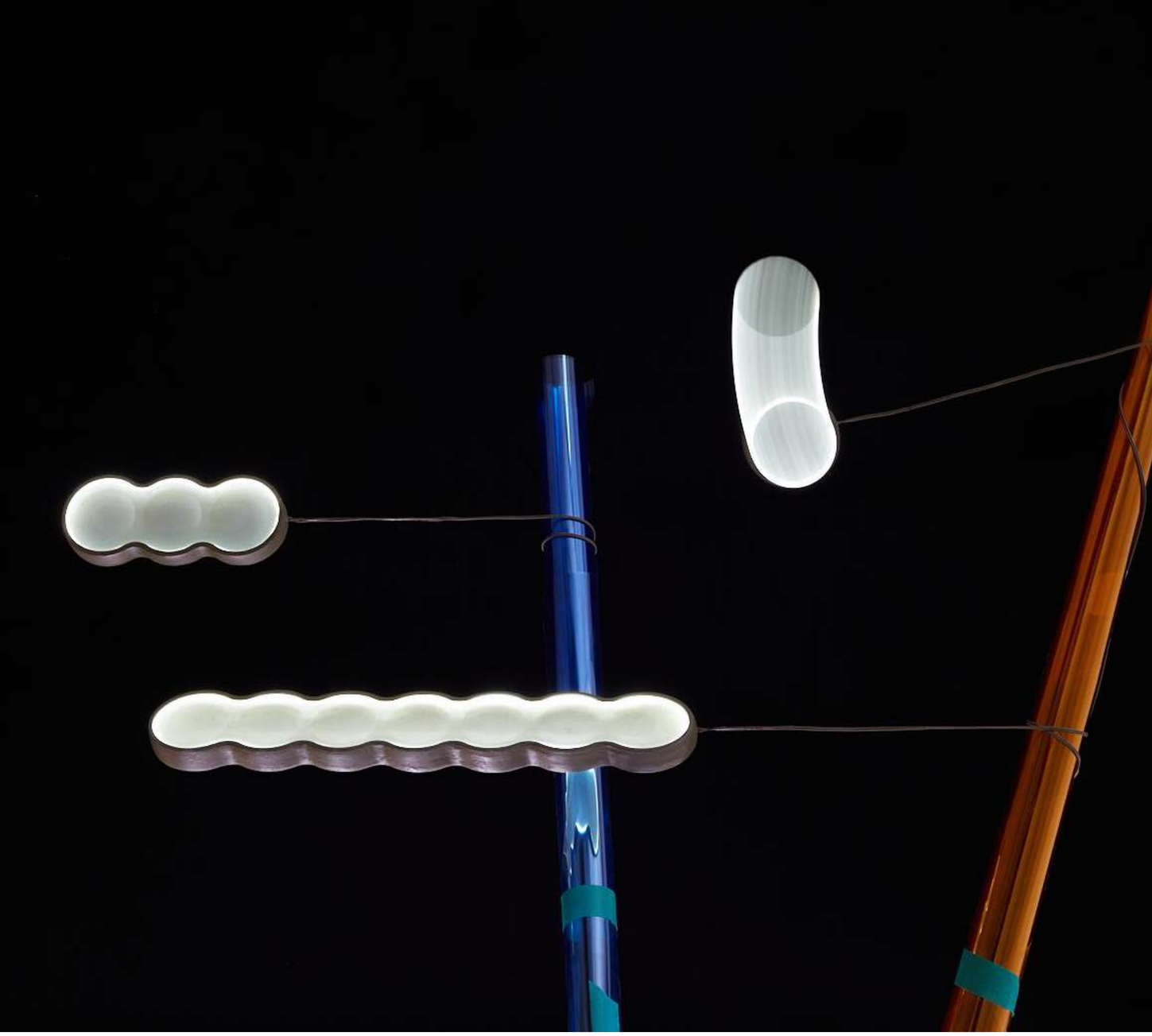
PEELSPHERE

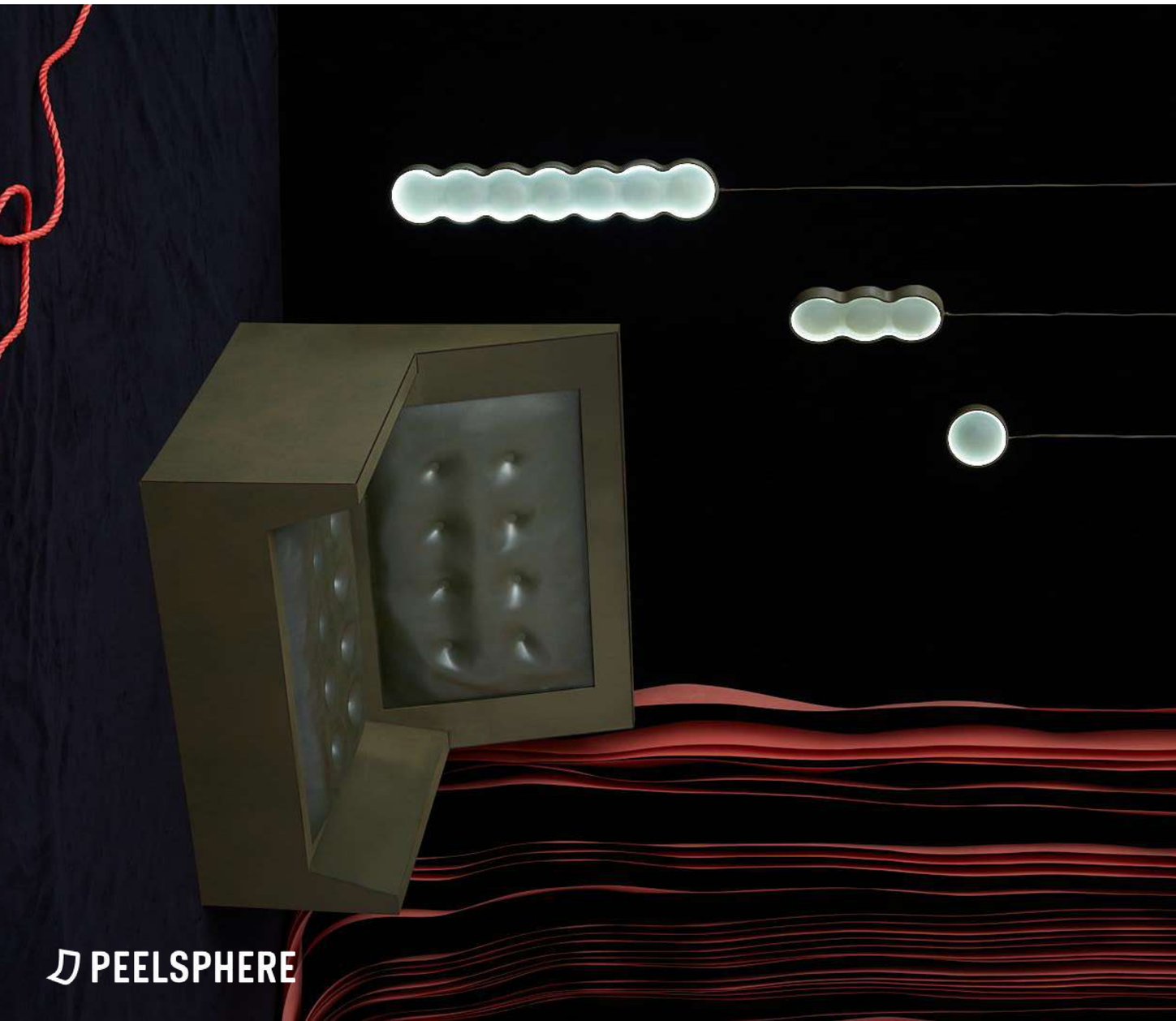

PEELSPHERE





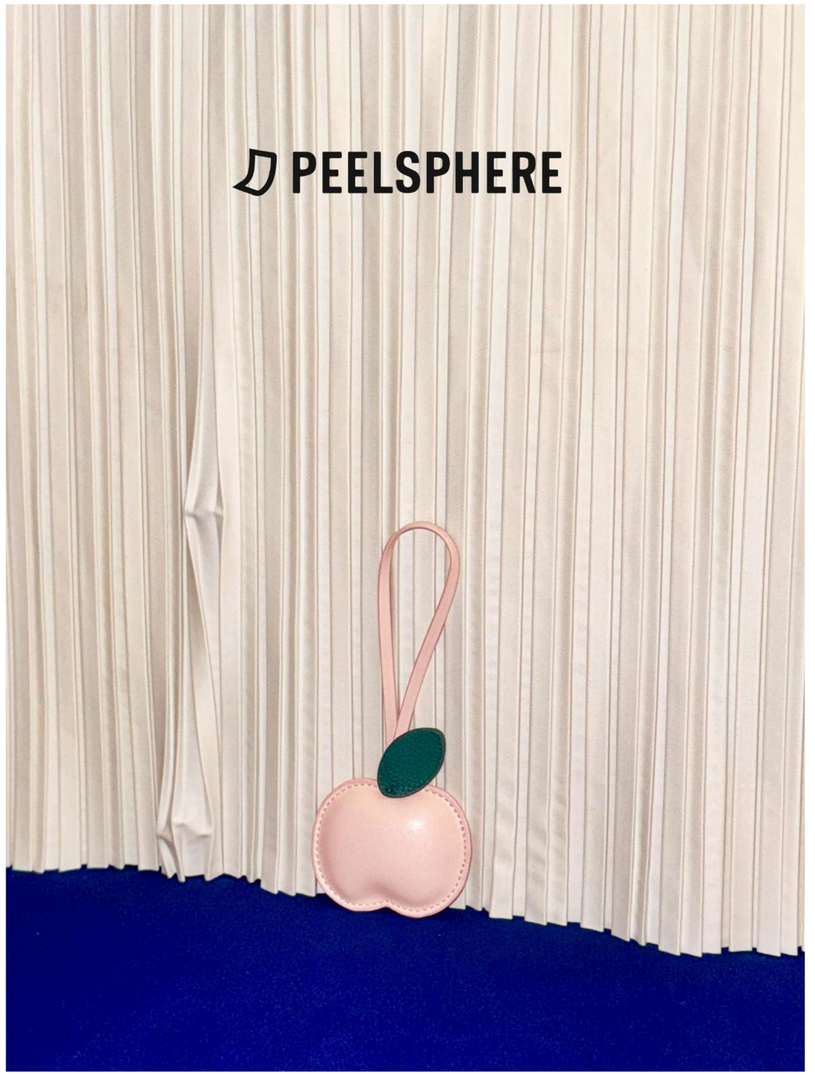
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