innovera™

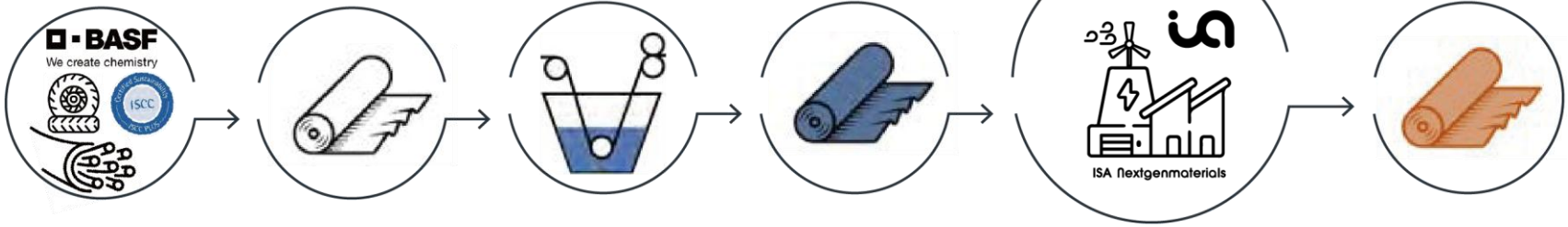
HARMONY IN YOUR HANDS

innovera™

ALL IT TAKES IS ONE TOUCH.

INNOVERA™ is the transformative material crafted using plant-based proteins, biopolymers, and recycled rubber. Completely animal-free, it is masterfully engineered to replicate the look and feel of the collagen found in leather. INNOVERA™ supports a circular economy with recyclability and seamlessly integrates into traditional leather production.

HOW IT'S MADE



Ultramid®
Ccycled®

Engineered
Scaffold

BIO-ALLOY™
Protein
Impregnation

Dry White

Re-Tanning
Dyeing
Fat-liquoring
Drying
Buffing
Finishing

INNOVERA™
Suede

HOW IT'S MADE

INNOVERA™ VS TRADITIONAL LEATHER

INNOVERA™ is engineered to mirror Leather's structure and functionality

INNOVERA™ Dry White

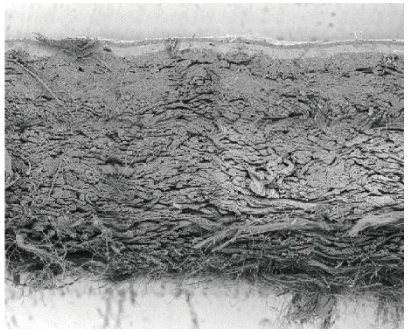
Traditional Wet Blue

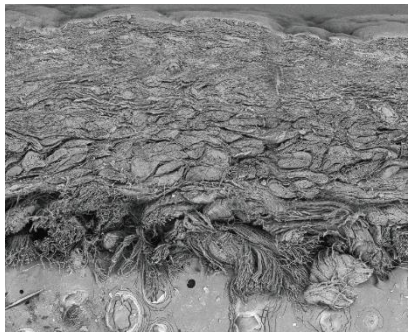
RETAN & FINISH

INNOVERA™ Suede & Finished

INNOVERA™ Cross Section

CROSS-SECTION





FEATURES

Created with Recycled Rubber
Uses post consumer waste, which never makes it to landfill. BASF Nylon recycling process of tires

Functionality Comes from Infused Plant Proteins
Traceable Non GMO soy protein isolate

Has >80% Renewable Content
Bio content of plant-based chemicals and proteins & recycled post-consumer tires

High Performance
Tensile, tear, elongation, abrasion stronger than regular suede

Finished to Look and Feel Like Leather
Genuine tanning craftsmanship

Lightweight
Lighter overall weight than suede, creates a lighter & faster product

Plant Proteins Give A Warm Touch
Improved feel over synthetic materials

Animal Free
Crafted with no animal derived products

100% Cuttable Area
No scars, brands or irregular shapes allows maximum yield

Scalability
Bio-engineered as a drop-in replacement for existing leather post-tanning

ORDERING INFO

THICKNESS: 1.0-1.2 mm

WEIGHT: 500-670 gsm

COMPOSITION: 60% Post Consumer Nylon

23-28% Bio-Alloy™

12-17% Dye and Finishes

DUTY OR HTS CODE: 5603.94

PANEL SIZE: 1.25 m x 1.4 m

LEAD TIME:

Production 30 days, samples 14 days

CAPACITY: 150,000 sf per month

PRODUCTION LOCATION: China / Vietnam

Test Specification

	INNOVERA™	NATURAL GRAIN LEATHER
Tensile	Specified Minimum: 18 N/mm2 Actual: around 25 N/mm2	Around 15 N/mm2
Elongation at break	Specified Minimum: 40% Actual: around 50% (roll direction) / 85% (transversal direction)	35%-65%
Baumann - slit tear strength	Specified Minimum: 80 N Actual: around 130 N (roll direction) / 100 N (transversal direction)	Around 50 N

Test Code	017 A0	Date	12/16/24	End User	ALL
Product Name	INNOVERA™			Color	ALL

ID	Property / Description	Test Method	Units	Requirement
12	THICKNESS OF LEATHER AND INSOLE MATERIALS	SATRA TM1	mm	Data
75	SOFTNESS	IUP36	mm	Data @ 25 mm aperture
550	TENSILE STRENGTH	SATRA TM43	N/mm2	min. 18
2	EXTENSION AT BREAK	SATRA TM43	%	min. 40
24	TEAR STRENGTH - BAUMANN METHOD	SATRA TM162	N	min. 80
494	MULLEN BURST	ASTM D3786	kgf/cm2	min. 20
22	FLEXING RESISTANCE OF UPPER METERIALS - BALLY FLEXOMETER - DRY	SATRA TM55	Pass /Failed	125,000 cycles No damage
485	CROCKMETER TEST - DRY - GRAIN	SATRA TM167	GSS RATING	Light colors: min. 3.5 Dark colors: min.1.5
487	CROCKMETER TEST - WET - GRAIN	SATRA TM167	GSS RATING	Light colors: min. 3.5 Dark colors: min.1.5
706	COLOUR FASTNESS TO MIGRATION INTOPOLYMERIC MATERIAL (PVC)	IS0 15701	GSS RATING	min. 3.5 (Grain side)
595	COLOUR FASTNESS TO WATER	SATRA TM335	GSS RATING	Light colors: min. 4 (Grain side) Dark colors: min.2 (Grain side)
104	LIGHT FASTNESS	ASTM D1148	GSC RATING	300 W/50 C/24 hours min.3 (Grain side)

CERTIFICATIONS

Renewable Carbon Content Exceeding 80% (bio-based + recycled)

Supporting Certifications/Data:
- C2C® Circularity certification (YE 2025)*
- ASTM Bio-content Analysis (Complete)

Circular End-Of-Life
INNOVERA™ can be looped back into BASF Ccycled® process.

Supporting Certifications/Data:
C2C ® Circularity certification (YE 2025)*

Traceability of recycled content from post-consumer car tires

Supporting Certifications/Data:
ISCCPLUS (End of 2026)*

Free of Hazardous Chemicals

Supporting Certifications/Data:
C2C ® Circularity certification (YE 2025)*

Quantified Environmental Footprint Via Third-Party Life Cycle Assessment (LCA)
Preliminary LCA conducted in 2023 found that INNOVERA™ reduces carbon footprint, water usage, energy consumption, and land use compared to equivalent bovine suede**.

* Projected timeline to complete certification for INNOVERA™ Dry White only.
** New LCAs will be commissioned in 2025 to reflect improved data quality and accuracy for the scaled processes

CERTIFICATIONS

SGS

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COMPONENT LIST / List of Materials

Sample No.	Component No.	Description	Material	Color	Remark
A	1	Innovera	Other materials	tan	/

Test Sample Identification

Component	Remarks
1	Material types excluded for testing

Test Method:

SGS Vegan Screening (SGS VPS100-2021) Program – Materials analyses based on the following test techniques:

- Identification via Microscopic Analysis
- FTIR screening against standard library
- Collagen Screening based on specific target marker detection with HPLC-MS/MS. Confirmation test based on amino acid analysis will be conducted upon detection of specific target marker

Test Result:

Components	Material No.	Results	Remarks
All tested Components	--	Animal-Derived Material Not Detected*	--

Notes:
*The result is reported according to SGS Vegan Screening (SGS VPS100-2020) Program which is based on SGS know-how and publicly available sources at the time the program is developed. No representation or warranty is made with regards to its completeness and no liability will be accepted for damages or consequential loss whatsoever resulting from the use of this product directly or indirectly, or reliance on the information provided.
*The table above only shows component(s) with detected animal-derived material(s), and components without animal derived material are not reported.
Some plant materials may also give positive results in the Screening test. Confirmation test based on amino acid analysis is required to verify the source of detected target marker
*The method reporting limit is 100 mg/kg

***** End of Report *****

SGS

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Summary of Test Result: (Detail test results on next page)

Test Parameter	Conclusion (Pass / Fail / Interim Fail)
SGS Vegan Screening (SGS VPS100-2021) Program	PASS

Notes:
PASS – No animal-derived material was detected on all tested components
FAIL – Animal-derived material was detected from tested component
INTERIM – Specific target marker detected from the screening test. There is a possibility of animal-derived material presence on the product. Amino acid analysis is recommended to confirm the presence of animal-derived substances.

Disclaimer
The conclusion is drawn according to the SGS Vegan Screening (SGS VPS100-2021) Program which is based on SGS know-how and publicly available sources at the time the program is developed. No representation or warranty is made with regards to its completeness and no liability will be accepted for damages or consequential loss whatsoever resulting from the use of this product directly or indirectly, or reliance on the information provided.

Sample Photo

Signed for and on behalf of
SGS (Hong Kong) Limited

Chan Kai Kong, Alfred, Technical Manager

SGS

Test Report SL1250031397401TX Date: July 07,2025 Page 1 of 3

ISA INDUSTRIAL LIMITED
22nd Floor, Tai Yau Building, 181 Johnston Road, Wanchai, Hong Kong

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description	:	(A) Innovera
Buyer	:	Own Reference Report
Color	:	Tan
Order No.	:	CS020917
Article No	:	Innovera
Sample Received Date	:	Jun 18, 2025
Sample Testing Date	:	Jun 18, 2025 - Jul 07, 2025
Test Performed	:	According to SGS Vegan Screening (SGS VPS100-2021) Program
Test Results	:	Please refer to the next page(s).

SGS Vegan Certification

Dry White Preliminary LCA

KEY IMPACT INDICATORS			
GWP 100a: kg CO_2 eg./m^2	Resource use: Fossil (MJ/m^2)	Water use: M^3/m^2	Eutrophication: Freshwater (kg P eq./m^2)
7.32	146.07	2.21	1.05×10^{-3}