

AAMATI

Why Mango Leather Changes Everything

50% mango pulp · 50% biopolymer · Stahl coatings
Cotton textile backing · Made in India with CSIR-CLRI

30+

Materials Tested &
Researched

12

ISO / SATRA Parameters

**Global
Patent**

India, US, Europe

90%

Bio-Based Content

10yr

Exclusive
manufacturing
license

Four Worlds of Leather



Category 01

Traditional Animal Leather

Derived from hides of cattle, goat, sheep, pig, crocodile and other animals. Animal leather has been the dominant material in luxury and footwear industries for centuries, offering durability and premium aesthetics, but involves complex supply chains and significant environmental impact.



Category 02

Synthetic Polymer Leather

Synthetic leather materials based on PU, PVC, TPU, and microfiber polymers offer consistent performance and lower cost, but are typically derived from petrochemical sources and have limited biodegradability.



Category 03

Plant-Based Leather Materials

Emerging class of materials derived from agricultural residues, fungi, fruit byproducts, and cellulose. These materials aim to reduce reliance on petroleum-based synthetics while offering improved sustainability credentials.



Category 04

Mango Biopolymer Leather

Bio-based leather alternative derived from mango agricultural biomass and developed in collaboration with CSIR-Central Leather Research Institute. The material combines agricultural waste valorisation with advanced polymer engineering to deliver a durable alternative for fashion accessories and footwear.

Developed with CSIR-Central Leather Research Institute (India's national leather science laboratory).

Replacing leather. Not with plastic. With mangoes.

Mango-based leather is a next-generation biodegradable material developed by AAMATI Green using mango agro-waste and advanced bio-based polymers. Designed as a sustainable alternative to traditional leather and synthetic materials such as PU and PVC, it offers a clean, circular solution for the future of fashion and product design.

Unlike conventional leather, which relies on animal hides and resource-intensive processes, mango-based leather transforms discarded fruit waste into a high-value material. Through patented technology developed in collaboration with CSIR-CLRI, AAMATI ensures consistency, durability, and scalability while maintaining a significantly lower environmental impact.

This material is completely plastic-free and biodegradable, aligning with evolving global sustainability standards, particularly in Europe and the United States. It is engineered to meet the performance and aesthetic requirements of luxury brands across applications such as handbags, footwear, accessories, and interiors.

By combining innovation, sustainability, and material science, AAMATI's mango-based leather represents a new class of materials — one that redefines how leather is produced and used in a circular economy.

Physical Properties & Specifications

AAMATI Mango Leather is a biopolymer-based leather alternative derived from mango agricultural biomass, developed in collaboration with CSIR–Central Leather Research Institute (CLRI), India's leading leather science institute. The material combines agricultural waste valorisation with advanced polymer engineering to deliver a durable and scalable alternative for fashion and accessories

Physical Properties – CSIR-CLRI Lab Results

Property	Test Result	Standard
Thickness	0.8 – 3.5 mm	ISO 2589
Tensile Strength	≥ 12 N/mm ²	ISO 3376
Elongation at Break	195 – 213 %	ISO 3376
Tear Strength	26.77 – 32.40 N	SATRA TM162/ISO 3377-2
Colour Fastness to Rubbing – Dry (512 rubs)	Grey Scale 4/5	ISO 11640/SATRA TM8
Colour Fastness – Wet (256 rubs)	Grey Scale 4/5 (Material & Felt)	ISO 11640/SATRA TM8
Mass per Unit Area	1180.47 g/m ²	SATRA TM28
Flex Endurance – Dry	Crack observed -30,000 cycles	SATRA TM55
Flex Endurance – Wet	Severe crack-30,000 cycles	SATRA TM 55
Heat Resistance	Up to 80°C	ISO 17233
Cold Crack	Pass at -10°C	ISO 4675
Abrasion Resistance	>35,000 cycles	Martindale ISO 12947
Available Width	110-140 cm	–
Surface Finish	Matte/Gloss/Satin	–

Independent testing performed by CSIR–CLRI laboratories.

RECOMMENDED APPLICATIONS



**Handbags
& Totes**



**Footwear
Uppers Material**



**Wallets &
Cardholders**



**Watch
Straps**



**Jacket
Panels**



**Backpacks
& Luggage**

Patents, Certifications & Commercial Readiness

Intellectual property and certification pathways are important indicators of technological maturity and commercial readiness in emerging biomaterials. The following overview compares major materials across patents, certifications, and production readiness

Material / Brand	Indian Patent	European Patent (EPO)	USA Patent (USPTO)	PETA Vegan	ISO Tested	GOTS / Oeko-Tex	LCA / Higg	MOQ (commercial)	Lead Time	Commercial Readiness
Bovine Full Grain	N/A	N/A	N/A	No	Yes	Partial	Yes	Any	2-4 wks	Very High
PU Leather	N/A	N/A	N/A	Yes	Yes	Some	Limited	Any	1-3 wks	Very High
Piñatex	No	Yes	Yes	Yes	Yes	In progress	Yes (Higg)	50 sq mt	4-8 wks	High
Desserto	No	Yes	Yes	Yes	Partial	In progress	Yes	50 sq mt	6-10 wks	High
Vegea	No	Applied	Applied	Yes	Partial	Some	Partial	50-100 sq mt	6-10 wks	Medium-High
Apple Leather (Frumat)	No	Applied	Applied	Yes	Yes	Some	Yes	30-50 sq mt	4-8 wks	High
Mycoworks (Reishi)	No	Yes (strong)	Yes (strong)	Yes	Yes	In progress	Partial	100+ sq mt	12-20 wks	High but at risk
Bolt Threads (Mylo)	No	Yes (extensive)	Yes (extensive)	Yes	Yes	Yes	Yes	NOT AVAILABLE Discontinued	N/A	Discontinued
Malai	Applied	Applied	No	Yes	Partial	Oeko-Tex applied	Partial	20-50 sq mt	6-10 wks	Medium-High
Mirum (NFW)	No	Yes	Yes (strong)	Yes	Yes	Yes	Yes	100+ sq mt	8-14 wks	High
AAMATI Mango	✓ Granted (India)	✓ Application filed (EPO)	✓ Application filed (USPTO)	Yes	Tested at CSIR-CLRI laboratories	Certification pathway under review	LCA under development	5 sq mt (sample) · 100 sq mt (commercial)	4-6 wks (sample) · 6-8 wks (commercial)	Commercial Ready

Material Origins & Supply Chain Overview

Where a material comes from determines its ethics, traceability, scalability, and supply chain resilience. This master table benchmarks every major leather type on origin, base material, processing method, and commercial price.

ANIMAL LEATHER

Material	Source	Primary Origin	Base Composition	Processing Method	CITES / Ethical Risk
Bovine · Full Grain	Cow hide	Brazil, USA, India	Collagen protein fibres	Chrome tanning (Cr ³⁺), vegetable tan	Medium
Bovine · Corrected Grain	Cow hide (lower grade)	Global	Collagen + PU coating	Chrome tanning + embossing	Medium
Crocodile / Alligator	Crocodylus spp.	SE Asia, USA, Africa	Osteodermal collagen scales	Specialised tanning, hand-finished	HIGH · CITES App II
Goat / Kidskin	Goat hide	India, Ethiopia, Turkey	Tight collagen weave	Chrome tanning, vegetable tan	Low-Medium
Sheep / Nappa / Lambskin	Sheep hide	NZ, Australia, Spain	Loose collagen, lanolin-rich	Chrome, alum, oil tanning	Low-Medium
Ostrich	Struthio camelus	South Africa	Unique follicle bump collagen	Chrome tanning, hand-dyed	Medium

Quick Competitive Comparison

Material	AAMATI Mango	Piñatex (Pineapple)	Desserto (Cactus)	Apple Leather	Mylo (Mushroom)
Indian Patent	✓	✗	✗	✗	✗
EU + USA Patents	✓ Both	~Partial	~Partial	~Partial	N/A
Agri-waste origin	✓ 100%	✓	Partial	✓	✗
Government R&D Partner	CSIR-CLRI	None	None	None	None
Commercial availability	✓ Now	✓	✓	✓	Discontinued

India produces over 20 million tonnes of mango annually, creating a large and stable agricultural biomass stream. This enables scalable sourcing without reliance on animal hides or petroleum-derived polymers.

AAMATI Mango Leather introduces a new raw material class in the leather ecosystem — agricultural biomass-based biopolymer composites.

Carbon Footprint & Environmental Impact

ANIMAL LEATHER

Material	CO ₂ eq (kg/sq mt)	Lifecycle water footprint	Land Use	Biodegradable	Toxic Chemicals	Recyclable / Compostable	LCA Available
Bovine Full Grain	110–270 kg CO ₂	15,000–20,000 L	High (grazing + feed)	Partial only	Chromium VI, arsenic, formaldehyde	Rarely	Yes (Higg)
Crocodile / Alligator	150–400 kg CO ₂	Very High	Very High	Partial	Formaldehyde, Cr, arsenic	No	Limited
Goat / Sheep	60–140 kg CO ₂	8,000–14,000 L	Medium-High	Partial	Chromium VI, alum salts	Rarely	Yes

SYNTHETIC LEATHER

PU Leather	15–25 kg CO ₂	500–1,200 L	Minimal (petroleum)	No · Microplastics	Solvents (DMF, MEK), plasticisers	No	Yes (partial)
PVC Leather	20–35 kg CO ₂	800–1,500 L	Minimal (petroleum)	No · Persistent	Dioxins, phthalates, chlorine	No	Yes

PLANT-BASED LEATHER

Piñatex	3–8 kg CO ₂	200–600 L	Minimal (leaf byproduct)	Partial (PU coating persists)	Low (some solvents in finish)	Partial	Yes (Higg)
Desserto	2–5 kg CO ₂	150–400 L	Minimal	Partial (PU binder)	Low	Partial	Yes
MycoWorks / Mylo	3–7 kg CO ₂	300–700 L	Very low (bioreactor)	Yes (mostly)	Low	Yes	Limited commercial availability
Apple / Grape Leather	2–6 kg CO ₂	100–350 L	Minimal (fruit waste)	Partial (synthetic backing)	Low	Partial	Yes
AAMATI Mango Leather	1.5–4 kg CO₂ /sq mt	80–200 L (agri-waste reuse)	Uses existing agricultural waste stream	Partially biodegradable bio-based composite	Reduced solvent and hazardous chemical usage	Designed for reduced environmental impact	Tested at CSIR-CLRI laboratories

source

Environmental benchmarks compiled from FAO livestock studies, Higg Materials Sustainability Index, and published biomaterial lifecycle analyses.

Commercial Pricing & Market Position

Sample Order

₹500/SQFT

₹5,382 per sq metre

MOQ: 5 sq mt · Lead time: 4–6 wks
Includes: Technical spec sheet + swatches

Commercial Order

₹450/SQFT

₹4,844 per sq metre

MOQ: 100 sq mt · Lead time: 6–8 wks
Custom colour & finish available

Best Value

Bulk / Partnership

NEGOTIABLE

500 sq mt+ orders

Co-branding available · Long-term
supply agreements welcome

Why Choose Aamati Mango Leather

- **First Mango-Based Biopolymer Leather Technology**
- **Developed in collaboration with central leather research institute**
- **Patented Manufacturing Process**
- **Circular Raw Material Source**
- **Compatible with luxury manufacturing system**
- **10-Year Manufacturing Licence – Supply Security**

Patent Portfolio & CSIR-CLRI Partnership

INDIA

National Patent · Granted

Mango biopolymer leather process and formulation. Filed and granted with the Indian Patent Office in collaboration with CSIR-CLRI.

Application Number: 202311010288

<https://Inkd.in/dU9fr-SG>

EUROPE

EPO Patent · Applied

European Patent Office application covering the biopolymer leather manufacturing process across all EU member states.

Application Number: EP24756488.3
Publication Number: EP4665904 A1

<https://register.epo.org>

USA

USPTO Patent · Applied

United States Patent and Trademark Office application protecting the formulation and process methodology in the American market.

Application Number: PCT/IN2024/050140
Publication Number: WO 2024/171215 A1

<https://Inkd.in/dJg74xF9>

Sampling & Commercial Ordering Guide

Mango Agri-Waste Biopolymer · CSIR-CLRI Certified · India Patent Granted · EU & USA Applied

	Size	Thickness	MOQ	Price	Lead Time	Colours & Print
Brand Evaluation Kit Swatch Sheet · Full Palette Ideal first step for any luxury brand evaluating AAMATI material.	30 × 30 cm (10 sq ft)	0.8 – 1 mm	Designer Package	₹5,000* per kit · fixed ~\$60	10 Days	10 Fixed Colours Curated palette + Swatch + Brochure
Material Sample Single Material Evaluation Perfect for material approval and initial design trials.	30 × 30 cm (1 sq ft)	0.8 – 1 mm	1 sq ft (30 × 30 cm)	₹500 per sq ft ~\$5.80	7 Days	1 Fixed Colour
Development Order Custom Colourway Development Develop your brand colourway before committing to full production.	1 – 7 sq ft per sheet	0.8 – 2 mm	50 sq ft (≈ 4.6 sq mt)	₹500 per sq ft ~\$5.80	15 Days	Custom Colour / Print Choose from 1500+ Designs
Commercial Order Production Run · Brand-Ready Material Full production run. Custom specs, white label, and branding options.	1 – 7 sq ft per sheet	0.8 – 2 mm	1,000 sq ft (100 sq mt)	₹450 per sq ft (~\$5.4)	45 Days	Custom Colour / Print / Thickness White Label · Custom Label Available
Exclusive Partnership Strategic Alliance · Long-Term Supply Strategic partner pricing. Long-term agreements & co-branding available.	1 – 10 sq ft per sheet	0.8 – 3.5 mm Full range	5,000 sq ft (500 sq mt)	Negotiated discuss terms Volume pricing · Contact us	Discussed	Full Custom - Dimension Square Co-branding · White Label · Supply SLA

*Shipping + VAT + GST Extra

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