

Technical Data Sheet



Flaura

MC

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Material Description

Flaura bio-based leather is a bio-based material developed from apple residues sourced from Quebec's agri-food industry. It is designed for demanding applications in furniture, interior design, and fashion.

The material combines:

- A polymer matrix;
- A flexible and durable structure;
- High physicochemical stability.

It provides a functional balance between:

- Breathability (water vapor permeability);
- Mechanical resistance (hydrostatic pressure);
- Durability.

Technical Properties

Property	Standard	Result	Interpretation
Thickness	ASTM E96/E96M	0,150 to 1 mm	Adjustable depending on application
Breathability*	ASTM E96	300 g/m ² ·24h	Moderate
Abrasion resistance	ASTM D4966	200 000 cycles (grade 3,5)	High
Hydrostatic pressure	AATCC 127	221 cm H ₂ O	Good water resistance
Flammability	CAN/CGSB 27-5	DNI**	Does not ignite
Water vapor diffusion	CAN/CGSB 49	33 mm	Moderate
Adhesion to substrate	ASTM D413	6,1 N / 25 mm	Very high
Cold flex (-40°C)	ASTM D751	Pass	No cracking
UV resistance	AATCC 16.3***	5/5	Excellent

* Measured at a thickness of 0.6 mm
** DNI: Do Not Ignite
*** Irradiance of 1.10 ± 0.03 W/m²/nm at 420 nm for 200 hours

Performance Analysis

The material demonstrates —>



Mechanical durability

- High abrasion resistance (>200,000 cycles);
- Strong adhesion, limiting delamination;
- Excellent performance under cold flex conditions.

Functional performance

- Good mechanical resistance (hydrostatic pressure resistance of 221 cm H₂O);
- Controlled breathability (300 g/m²·24h);
- High UV stability (grade 5).

Safety

- Non-flammable (DNI)

Environmental Impact

Flaura bio-based leather presents a favorable environmental profile:

The material positions itself as a lower-carbon alternative to synthetic and animal leathers.



UPCYCLING OF APPLE RESIDUES
(circular economy);

ESTIMATED AVOIDANCE OF 665 TONNES OF CO₂
emissions by 2028;

PROCESS ENERGY OPTIMIZATION:
≈ 0.026 GJ/m² saved, representing more than 2,600 GJ cumulatively;

REDUCED CARBON FOOTPRINT:
≈ 0.0086 t CO₂e per m² avoided during production

PROCESS CHARACTERISTICS:	Solvent-free; Low water usage; Low toxicity.
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Technical Positioning

Flaura bio-based leather offers —>



Performance comparable to technical synthetic materials;



Superior stability under extreme conditions (cold and UV);



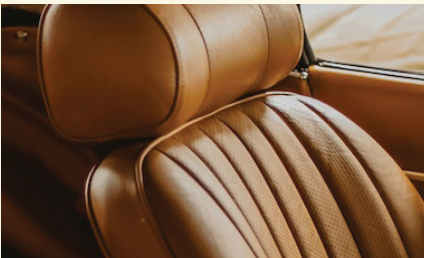
An optimized environmental profile.



Applications



Residential and commercial furniture;



Upholstery and coverings;



Interior design;



Fashion and accessories.

Conclusion

Flaura bio-based leather is an advanced material combining:

- Mechanical performance;
- Dimensional stability under varying conditions;
- Low carbon impact.

It represents a credible alternative to conventional materials in demanding applications.

