

Case Study

Luxury leather supplier Cyclica substantiates biodegradability claims with UL Environmental Claim Validation



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Third-generation, high-end leather for luxury brands

Cyclica supplies high-end leather to some of the most well-known fashion and luxury brands in the world. The Toffanin family has been active in the leather sector for three generations and established Cyclica in April 2021. In its latest effort, Cyclica brings to market a unique and innovative leather product that's not only beautiful, but results in a reduced impact on the environment.

Patented leather tanning from Oleum®

Oleum leather is a first-of-its-kind product that uses a patented leather tanning process that relies on water recovered from olive oil production. Cyclica developed a series of Oleum leather variations that use natural dyes and additives. Oleum leather maintains a luxury look and feel while remaining durable and meeting all related industry standards. It's also easily compostable, with tests revealing that it's 98% biodegradable in just three months.

The challenge

Oleum is made from materials that are derived from living organisms. It was successfully tested for biodegradability, compostability and biobased content, making it a favorite of environmentally conscious customers. However, there was no specific protocol on the market that would allow for the verification of its content. As a result, there was no way to substantiate these claims to retailers and consumers.

The path forward

UL Solutions proposed a four-month process that would provide an independent, proprietary approach to validate the biobased content of Oleum and its potential to become compostable waste at the end of its life. The protocol called for a series of criteria evaluations and testing to prohibit the entrance of highly-concerning, toxic substances and hazardous chemical content into the environment.

"We wanted a specific/ holistic protocol that would evaluate the biobased content, chemicals used and waste disposal methods that are correlated to a compostable claim."

*Pietro Toffanin,
Owner, Cyclica*



Oleum leather is beautiful and has reduced impact on the environment.

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Upon completion of the tests and after all the data was analyzed, UL Solutions established an average biobased content for Oleum of 73%. It also determined that the compostability of Oleum was compliant with the disposal requests of most countries in the world.

Cyclica has an established relationship with UL Solutions for chemical and mechanical laboratory testing. According to Cyclica owner Pietro Toffanin, UL Solutions already had many of the attributes he was seeking: a company with a broad international reach, one whose certifications were recognized worldwide, and above all, a company staffed by professionals who have cultivated deep technical and industry knowledge. The fact that UL Solutions is recognized by the fashion and luxury business community, including many of Cyclica's existing customers, was an added bonus.

"We are proud to offer our Oleum leather as a forward-thinking and more sustainable option for the fashion and luxury sector to use across a wide range of products. Achieving an Environmental Claim Validation for Oleum leather marks another major step in implementing Cyclica's sustainability philosophy and serves as an indication of our commitment to the environment."

Pietro Toffanin,
Owner, Cyclica

"Manufacturers of products made from leather and other materials — and their suppliers — are increasingly seeking ways to make their products or materials more sustainable while delivering the quality their customers expect," said Maria José Monteagudo Arrebola, environmental program manager for UL Solutions. "With the UL 1497 Environmental Claim Validation, UL Solutions is helping manufacturers consider how their products or materials can complete their life cycle with a focus on environmental impact and enhance the overall product circularity."

UL 1497 Environmental Claim Validation Procedure for Biodegradability and Compostability

UL 1497, Environmental Claim Validation Procedure (ECVP) for Biodegradability and Compostability, was developed to validate the degradation of a product or material either through biodegradability or compostability under managed waste disposal methods. This ECVP helps to safely assess and quantify end-of-life status, and covers all product categories

that contain a bio-based material. Product categories include everything from consumer products and household items to textiles, building materials, cleaning agents, raw materials, plastics, packaging and more. The procedure helps customers evaluate the sustainability of their organic materials or products. For a product to meet UL 1497 requirements, it first needs to be composed of biobased material so it will properly biodegrade. Product designers and the companies they work with are moving toward a more circular route for their products and are increasingly utilizing materials that, at the end of their usefulness, can be easily made into something new. UL 1497 helps these companies validate the use of their biobased material. It also allows for future validation through ongoing evaluations.

Toffanin believes the credibility and validation of UL Solutions set Oleum leather apart in a crowded marketplace filled with greenwashing or unsubstantiated sustainability claims. "Going forward, we plan to maintain this validation through a surveillance pathway and extend it to product lines that are currently under development. Because our first collaboration has been so successful, I see many more opportunities to work together in the future," said Toffanin.

"Natural and unprocessed hide is 100% biobased. But the biobased content percentage of leather depends on the processing and chemicals being used. This may come as a surprise, but traditional manufacturing methods can reduce the biobased content in leather to just 20%-30%. More sustainable practices result in preserving the natural biobased content of leather and higher rates of biodegradation."

Maria José Monteagudo Arrebola,
Environmental program manager, UL Solutions



Cyclica's business model is based on the end-to-end governance of the leather value chain.



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