

CASE STUDY

# UL Solutions Evaluates Durability and Recyclability of GUESS? Denim Garments Against The Jeans Redesign Guidelines

By Ellen MacArthur







## Introduction

In the traditional linear production model, the fashion industry uses different types of materials to produce garments, then sells the garments and generates waste through their subsequent disposal. Since the garments have a relatively short lifespan in the linear production model, they result in more waste being incinerated or disposed of in landfills, and they waste more water during the manufacturing process.

However, traditions change. Consumers are getting savvier, changing their habits to reduce their environmental impact. They're shifting their preferences toward sustainability and taking a low-waste approach to purchasing decisions. The global fashion industry is responding with sustainable initiatives with the intent to switch from a linear to a circular economy.

## The challenge

GUESS?, a global fashion brand that produces denim, apparel, handbags, footwear and accessories, joined the Ellen MacArthur Foundation's initiative to change the future of fashion with [\*\*The Jeans Redesign\*\*](#) project, aimed at bringing the fashion industry together to produce jeans following circular design principles.

GUESS? needed a trusted partner to evaluate the requirements of The Jeans Redesign's guidelines for durability and verify that its denim garments' fiber content comprises a minimum of 98% cellulose-based material for recyclability. GUESS? wanted their product to not only be sustainable, but also premium quality.

## The solution

In December 2020, GUESS? relied on UL Solutions, the global safety science leader, to evaluate whether the company's denim garments met The Jeans Redesign's guidelines. GUESS? has been working with UL Solutions for many years and decided to expand the partnership so UL Solutions could assess its parameters according to the Ellen MacArthur Foundation's initiative. To solve these challenges, UL Solutions' technical teams worked with GUESS? to evaluate its denim garments' durability and recyclability, providing testing.

## The results

For durability, UL Solutions' technical teams and GUESS? discussed the minimum requirements to satisfy consumers' expectations. After home-laundering the clothing 30 times, UL Solutions verified the clothing's status according to the following parameters:

- Appearance after washing
- Tensile strength
- Tear strength

The results satisfied the requirements, and the garments demonstrated good physical durability in relation to the tested parameters. Additionally, GUESS? denim garments responded well to washing at low temperatures and forgoing tumble dry, allowing for a "Machine Wash Cold, Line Dry" label in accordance with The Jeans Redesign's guidelines.

For recyclability, UL Solutions' teams separated all the components from GUESS? samples, including sewing threads, the waistband, front and back pocket linings, the wash care label, hanger loops and sizing labels to verify that the fiber content consists of a minimum of 98% cellulose material. GUESS? denim garments satisfy this requirement for The Jeans Redesign's initiative.

UL Solutions' partnership with GUESS? helped the company take an essential step toward a more sustainable approach, meeting the Ellen MacArthur Foundation initiative's requirements and communicating the brand's commitment to global consumers by adding The Jeans Redesign logo to its denim garments' hang tags.



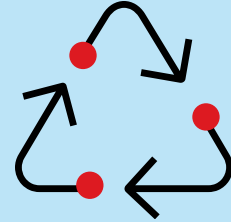


## Durability

Durability refers to a product's ability to remain functional when faced with the challenges of normal operation over its design lifetime without requiring excessive maintenance or repair.

Designing and manufacturing clothes that last longer represent key factors in increasing the average number of times consumers use those clothes, thereby reducing disposal of yearly garments. Two categories make up durability:

- Emotional durability: Garments that consumers cherish and maintain a positive connection with
- Physical durability: Garments that resist damage, allowing consumers to wear them many times



## Recyclability

Recyclability in the fashion industry refers to an existing garment's ability to support future repurposing for conversion into reusable products.

To help ensure that the materials used support recycling at the highest quality and value, denim garments produced according to The Jeans Redesign should not include more than 2% noncellulose-based fabric by weight.

- Cellulose-based fibers include but are not limited to cotton, hemp, lyocell and viscose.
- Noncellulose-based materials include all plastic-based fibers such as elastane, nylon and polyester.

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“Our sustainability goal was much easier to be achieved with UL Solutions as our key business partner, helping to help us test our garments and provide evidence that we meet our ambitious goals for circular and sustainable fashion. We are grateful for this partnership and look forward to continuing on this path together to make fashion better – for our world and our future!”

**- Jaclyn Allen, director of Corporate Sustainability at GUESS?**

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