THE JEANS REDESIGN
PARTICIPATION REPORT
December 2019
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THE STORY OF JEANS IS THE STORY OF FASHION

When the first blue denim jeans were created almost 150 years ago, they were bought for their strength, durability, and practicality. Jeans became synonymous with work, but soon came to define much more. Every generation has its own fashion style and every country has its trends, but what they so often have in common is jeans. The global jeans market was worth USD 57 billion in 2017.1

The fades, the rips, the frays, and the tears of our jeans create a bond no other garment can claim. But as we have seen with the rest of the fashion industry, changes to the way we produce and sell jeans are leading to huge problems with waste and pollution.

Over the last 15 years, we have doubled the amount of clothing produced, while the amount of time clothes are worn before they are thrown away has fallen by almost 40%2 – and jeans are no exception. After use, less than 1% of clothes are recycled into new.3 The rest of those materials are lost to landfill and incineration, or are used for lower-value applications – such as rags, cleaning cloths, mattress stuffing – representing a loss of material value of more than USD 100 billion every year.4

But it does not need to be that way and by coming together we can change this. The Jeans Redesign can become a beacon to the fashion industry and show what is possible when we join forces.

We have the opportunity to shift from the take-make-waste model of today to a circular economy in which business models increase the use of clothes, clothes are made from safe and renewable materials, and old clothes are used to make new ones.

1. See Fashion United, Global jeans market to grow to 60 billion dollars by 2023
The Jeans Redesign provides a launch pad to ensure all clothing is made from safe and renewable materials, and all clothing items are used more and made to be made again. Using jeans as a starting point, Make Fashion Circular aims to initiate actions that contribute to the reduction of waste and pollution, and support the protection of natural resources by establishing minimum requirements which are set out in the form of Guidelines.

To apply the guidelines to all jeans innovation gaps will need to be closed. It is the ambition of the project to identify them, and focus industry efforts towards addressing them to support the adoption of circular economy principles across all jeans and, ultimately, all clothing.

Make Fashion Circular, launched by the Ellen MacArthur Foundation in 2018 to support the creation of a circular economy for the fashion industry, has initiated this project. They have brought together over 40 experts in jeans production from across academia, brands, retailers, manufacturing, collectors, sorters, and NGOs to define collectively what good looks like for the future of jeans. From this shared vision a set of Guidelines has emerged that establish ambitious steps for jeans manufacturing and production.

Through early adoption, Participants in the project have the opportunity to exceed the minimum requirements set out by the Jeans Redesign Guidelines and, through transparent reporting, Participants can demonstrate themselves as front-runners in one or more of the four Guideline areas.
By starting with jeans, the Jeans Redesign aims to provide a framework for the industry to design clothing for a circular economy. If Participants collectively adopt the Guidelines, at scale, and in all four areas at the same time, there is an important opportunity to collectively raise the ambition level of the fashion industry. The Guidelines will be reviewed regularly and updated by Make Fashion Circular with input from the Jeans Redesign Participants, as necessary.

The Jeans Redesign has gathered leading brands and manufacturers and, starting December 2019, fabric mills who support this vision, and are committed to producing jeans – at scale by 2021 – in line with the Guidelines. This leading group will collectively produce around 520,000 jeans that meet the Guidelines by May 2021 at the latest.

A ‘Jeans Redesign logo’ will be provided by Make Fashion Circular for display on final products meeting the Guidelines to facilitate sorting after use. Use of the Jeans Redesign logo will be subject to specific terms and conditions, which will be reviewed annually and will be based on Participants meeting the reporting requirement categories.

To receive more information about the Jeans Redesign please contact: jeans@ellenmacarthurfoundation.org
First and foremost, the Guidelines stress that it is essential to respect the health, safety, and rights of all people involved in all parts of the fashion industry, and particularly to improve working conditions in manufacturing globally. The Guidelines provide minimum requirements for jeans on durability, material health, recyclability, and traceability.

Participants of the Jeans Redesign are pushing boundaries by adopting the Guidelines across all four areas at the same time. Throughout the Participant Specification pages, text in bold identifies those organisations going even further than the requirements set out in the Guidelines.
GUIDELINES

Increasing the average number of times clothes are worn presents a significant opportunity to capture value and design out waste in the clothing industry. Designing and producing clothes that last longer, and offering them via business models that increase their utilisation, would shift the perception of clothing away from being a disposable item to being viewed as a durable product. In addition to implementing design changes, the way clothes are treated during use can significantly increase the amount of times for which they can be used.

Make Fashion Circular conducted research involving multiple brands, manufacturers, and recyclers, which revealed that there are currently no consistently used methods or baseline across the fashion industry for measuring and comparing the durability of garments. Various performance indicators – such as tensile strength, abrasion resistance, and colour fastness – are used at a company level, but there is no common measure. Therefore, the Guidelines below offer a starting point for the industry to move towards alignment on durability. The Guidelines state that:

JEANS SHOULD WITHSTAND A MINIMUM OF 30 HOME LAUNDRIES AND STILL MEET THE ORIGINAL BRAND MINIMUM DURABILITY REQUIREMENTS.
This subsection applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)

GARMENTS SHOULD INCLUDE LABELS WITH CLEAR INFORMATION ON PRODUCT CARE, INCLUDING WASHING FREQUENCY, WASHING TEMPERATURE AND AVOIDING TUMBLE DRYING.
This subsection only applies to brands, retailers, garment manufacturers
SUBSTANCES OF CONCERN THAT ENTER THE PRODUCTION PROCESS OF Textiles often remain in textiles. This raises concerns due to the adverse effects they can have on people and the environment. Reported impacts range from allergic reactions, respiratory diseases, and increased instances of cancer, to the loss of aquatic life. Some of the chemicals used can persist in the environment and may accumulate over time.

Cotton production uses 2.5% of the world’s arable land, but accounts for 16% of all pesticides used; in India 50% of all pesticides are used for cotton production. Chemicals used in the production of cotton could cause serious damage to the environment and have negative health impacts on farmers, with reported cases of acute poisoning from pesticides.

During recycling, the presence of hazardous substances has the potential to disrupt the recycling process and lead to the continued circulation of and therefore exposure to these substances, depending on the recycling methods used. Rapidly eliminating hazardous substances from textile production is required to enable healthy flows of materials in a circular system, along with methods to remove those that remain in circulation from existing textiles. According to the Guidelines.

As of December 2019 fabric mills can join the Jeans Redesign therefore additional requirements have been added in this section. These additional requirements are clearly marked on the next page.

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5. See A. Mclaren, et al., *Clothing longevity perspectives: exploring consumer expectations, consumption and use*
7. KEM, *Chemicals in textiles: risks to human health and the environment* (2014); Greenpeace, *Eleven flagship hazardous chemicals*
8. See Greenpeace, *Dirty fashion: how pollution in the textiles supply chain is making viscose toxic* (2017)
9. See Rodale Institute, *Nine ways you may not realise cotton is in your food*
12. Based on expert interviews and see EPEA, *Mechanical and chemical recycling of plastics*
CELLULOSE-BASED FIBRES SHOULD BE SOURCED FROM REGENERATIVE FARMING, ORGANIC OR TRANSITIONAL METHODS
This subsection applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)

JEANS ARE MADE WITH CHEMICALS THAT COMPLY WITH ZDHC LEVEL 1 MRSL AS A MINIMUM\(^\text{13}\), AND CONVENTIONAL ELECTROPLATING, STONE FINISHING, POTASSIUM PERMANGANATE (PP), AND SANDBLASTING ARE PROHIBITED.
This subsection applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)\(^\text{14}\)

THE MILL HAS IMPLEMENTED THE ZDHC WASTEWATER GUIDELINES, INCLUDING TESTING AND REPORTING IN ACCORDANCE WITH THE LATEST VERSION OF THAT DOCUMENT AS A MINIMUM.
This subsection has been added after close exchange with a number of fabric mills. Although the Wastewater Guidelines apply across the textile and footwear industry, at this point in time they are only mandatory for fabric mills

THE WASTEWATER VOLUME CREATED FOR DENIM FABRIC IS A MAXIMUM OF 0.025 m\(^3\)/YARD OR BELOW
This subsection has been added after close exchange with a number of fabric mills and thus is only mandatory for fabric mills at this point in time

\(^{13}\) See Roadmap to Zero, MRSL, conformance guidance

\(^{14}\) Fabric mills usually do not apply chemicals like PP in their process as this is mainly used in garment finishing. Fabrics provided for Guideline-compliant jeans must be made without the use of PP.
The way clothes are produced, including the way fabric is made and chosen, rarely considers the recyclability of the materials once they are no longer used. Converging towards an optimised palette of materials – including blends where these are needed for functionality – and developing these alongside highly efficient recycling processes for those materials, is a crucial step in scaling up recycling. This also includes developing new materials where no current ones are suitable to provide both the desired functionality and recyclability.

Based on research for the 2017 Ellen MacArthur Foundation’s report *A new textiles economy* and interviews with multiple recycling specialists (over 10 recyclers – both chemical and mechanical), the Guidelines align jeans design and construction with the preferred feedstocks of currently available and commercially adopted mechanical recycling and chemical recycling processes.

**JEANS SHOULD BE MADE WITH A MINIMUM OF 98% CELLULOSE-BASED FIBRES (BY WEIGHT IN THE TOTAL TEXTILE COMPOSITION)**
This subsection applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)

**METAL RIVETS SHOULD BE DESIGNED OUT, OR REDUCED TO A MINIMUM**
This subsection only applies to brands, retailers, and garment manufacturers

**ANY ADDITIONAL MATERIAL ADDED TO THE JEANS, SHOULD BE EASY TO DISASSEMBLE**
This subsection applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)
Recycling technologies rely on accurate detection of materials and sorting to ensure well-defined material streams (either a single material or well-defined combinations of materials, including blends). Therefore, correct labelling and material identification is paramount to accurately sort collected clothing for recycling. Universal tracking and tracing technologies – integrated in the design of clothing and aligned to processes across the value chain – will be needed to support the identification of materials in the system and thereby improve the output quality of the recycling process.

To identify the jeans produced as part of the Project, the Jeans Redesign Logo will be made available to Participants meeting the Logo Terms and Conditions. The Jeans Redesign logo must be as durable as the redesigned jeans themselves, and align with the requirements for total textile composition. It may only be printed on the inside of the garment if it complies with the minimum requirements laid out in the Guidelines.

Should companies start to integrate technology that enables sorting, all technology added to the jeans must not interfere with the recycling process and/or must be easily removable, and be able to withstand washing and wear and tear, while retaining full functionality until the end-of-use.

**USE JEANS REDESIGN LOGO**
This subsection applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)

**[OPTIONAL: USE TECHNOLOGY THAT ENABLES SORTING]**
This subsection applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)
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<td>Boyish Jeans</td>
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<td>Artistic Miliners</td>
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<td>Prosperity Textiles</td>
<td>113</td>
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<tr>
<td>Soorty</td>
<td>75</td>
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</table>
THE JEANS REDESIGN

PARTICIPANT SPECIFICATIONS

BRANDS
Atelier & Repairs is a design-driven product and services platform dedicated to circularity. We approach design from the perspective of sustaining a product through many lives by utilising intentionally selected leftover and sustainably made textiles while manufacturing with as little environmental impact as possible.

Our mission is to establish a new world standard of infinite reuse by reducing excess at both artisanal and industrial levels.

- Marisa Ma, Co-Founder
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet ATELIER & REPAIRS’ minimum test standard for jeans.

This will be verified by requesting relevant certification by the facilities that will be included in the manufacturing process.

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to line dry
- Instructions to avoid tumble drying

This will be verified by the textile supplier on an accessible label.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:

a. Conventional electroplating
b. Potassium Permanganate
c. Stone finishing
d. Sand blasting

This will be verified through the ZDHC Gateway.

This will be verified by the textile supplier on an accessible label.

This will be verified by requesting relevant certification by the facilities that will be included in the manufacturing process.
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
<th>Verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>N/A</td>
</tr>
<tr>
<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Material composition will meet the 98% cellulosic minimum.

This will be verified by requesting relevant certification by the facilities that will be included in the manufacturing process.

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
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</table>

N/A
BAM designs and manufactures soft and sustainable bamboo activewear. I founded the company in 2006, not only inspired by the amazing qualities of bamboo, but also wanting to prove that a business could be successful by doing things ‘the right way’, both environmentally and socially.

We have spent the last two years tracing back through all the layers of our supply chain, right back to the forests where our bamboo is grown. We believe that the best way to know what is going on in your supply chain is to see it for yourself, to meet the people who are involved.

It is more important than ever for every company in the textile industry to take responsibility for the footprint it creates throughout the production life cycle. For BAM, this begins with choosing low impact raw materials such as bamboo and organic cotton, increasing durability and designing out waste. We’re always innovating to create lower impact products and circularity is now a top priority when developing these new ranges.

The ‘Make Fashion Circular’ initiative sits perfectly within BAM’s sustainable business strategy and we are proud to be participating in the Jeans Redesign project. The guidelines provided have been invaluable for the development of BAM’s forthcoming range of jeans which will include some exciting design features. Not least is the addition of bamboo viscose which adds some fantastic performance attributes to the fabric, making our jeans suitable for all kinds of activities.

- David Gordon, Founder of BAM
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries | Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet BAM’s minimum test standard for jeans.

This will be verified by
● Appearance: CA-TM 02 OR GAAW x 30 (TBC)
● Dimensional stability ISO 6330
● Tensile force ISO 139342
● Seam force ISO 13935-2
● Abrasion ISO 12947-2

Wearer trial testing: We have several brand ambassadors who are professional climbers. We have arranged for a day at a climbing centre near our head office in Devon where they can test how our new jeans fare during some intensive climbing. They will then get to keep the garments and provide us with regular feedback over the following months on how the garments wash and wear.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified through the ZDHC Gateway.

● Cotton content: Cotton will be organically grown. This will be verified by OCS transaction certificate for the fabric.
● Viscose content: Raw material will be bamboo, a rapidly renewable natural resource, sourced from an FSC certified plantation. Declaration from supplier on bamboo viscose source and from fibre producer for bamboo source.

This will be verified through a written declaration from the manufacturer / processor. (We may be able to provide further certification from the processor after the bulk fabric is ordered but this is not confirmed yet.)
## Recyclability

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
</tr>
<tr>
<td>Material composition will meet the 98% cellulosic minimum.</td>
<td>N/A</td>
<td>Removed entirely.</td>
</tr>
<tr>
<td>This will be verified by 3rd party fibre analysis testing.</td>
<td></td>
<td>The jeans will include metal zip teeth and button which will be easy to remove by cutting out.</td>
</tr>
</tbody>
</table>

## Traceability: Enable Easy Sorting for Recycling

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option</th>
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</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
<tr>
<td>The Jeans Redesign Logo will be printed onto the care label or an additional woven label stitched into the garment.</td>
<td>We will be launching the jeans with a take-back scheme making it easy for customers to ensure the product ends up in the correct waste stream.</td>
</tr>
</tbody>
</table>
Since 1987, VERO MODA has been present in the mind of young women looking for new trends, accessible styles and fashionable must-have items. We were one of the first brands to launch within what later became the BESTSELLER family. Today we are a part of a global and successful family business with stores and employees all around the world. Fast-fashion is our metier. A vibrant and accessible approach to fashion is our trademark. And being together in style is our brand essence. We navigate in an ever-changing fashion world, but we never lose sight of our values.

Divided into different departments, we ensure always to have specialists in different fields, each doing their best to create results and simple solutions for everyone. However, fashion is something we do together. In a world of me, VERO MODA celebrates the us.

VERO MODA is proud to participate in the Ellen Macarthur Foundation’s valuable project: the Jeans Redesign. For VERO MODA, this project is the start of our circular journey, where we will learn and contribute to making fashion circular. A circular mindset is very important for our industry and we are aware that we all need to actively embrace more sustainable and responsible behaviour.

Jeans Redesign has a clear purpose and structured guidelines, which gives us huge incentive to participate and look at how we make our jeans.

We are proud to be involved in this project and we look forward to working with our designers, suppliers and other partners in our supply chain to turn our ambitions into reality.

“Changes need to be made. So we have decided to join Make Fashion Circular Jeans Redesign as it is important to us that we do our part, protecting and preserving the environment for future generations. Jeans are durable, so let’s design for longevity and make our jeans with a circular mindset.”

– Rune Gade, Concept and Product Responsible, Vero Moda Denim
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries
Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet valid third party test institute minimum test standard for jeans.
- Tear resistance EN/ISO 13937-1
- Tensile strength EN/ISO13934-1
- Change of surface: ISO 12945

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying

This will be verified by valid third part test institute.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by either Organic blend/content standard or GOTS certified fibre from yarn mill or branded fibre from Lenzing.

This will be verified through the ZDHC Gateway.

We will use Jeanologia EIM system to measure the environmental impacts of the specific washes and ensure it is a Low Impact wash. We can 2nd party verify this from BESTSELLER internal environmental team or a 3rd party – all sites have an onsite verification. All metal trims will have a 3rd party verification on process (non-conventional electroplating). Environmental Management at the laundry will be evaluated by Higg FEM (at least level 1 in all areas).
## Recyclability

For further details refer to the Guidelines.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
</tr>
</tbody>
</table>

- Material composition will meet the 98% cellulosic minimum. This will be verified by either Organic blend/content standard or GOTS certified fibre from yarn mill or branded fibre from Lenzing.
- Jeans will include tbc* % post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by Global Recycled standard and Recycled blend/content Standard.

*Cannot be reported at this stage. If PCRC is included this will be reported upon in the project report 2021.

## Traceability: Enable Easy Sorting for Recycling

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
</tbody>
</table>

N/A

N/A
Blue of a Kind is honoured to be part of such forward-thinking organisation. Our company has embedded the values of circular economy and up-cycling in its very founding principles. We are delighted to join forces with the Ellen McArthur Foundation in the challenge to promote a cultural shift towards a more mature and conscious production mode.

- Fabrizio Consoli, CEO & Founder
**DURABILITY**
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet BLUE MILANO SRL’s minimum test standard for jeans.

This will be verified by:
- Jeans will need to keep shape and general appearance, outside as well as inside, with regard to embellishment included (e.g. internal waistband). Fading in colour and fraying on the hems, as in line with the brand’s philosophy will be considered part of the beauty of the garments.
- Fabric abrasion resistance test AATCC 008

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to line dry
- Instructions to avoid tumble drying

This will be verified by Care Label attached to the front left side of the jeans, right below waistband

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**MATERIAL HEALTH**
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by use of our relevant production will be manufactured with almost entirely dead-stock and faulty 100% GOTS certified cotton garments.

This will be verified through the ZDHC Gateway.

This will be verified by requesting relevant certification by the facilities that will be included in the manufacturing process.
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option/Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
</tr>
<tr>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
</tr>
</tbody>
</table>

Material composition will meet the 98% cellulosic minimum.

This will be verified by our entire relevant production will be made of rigid fabrics, exclusively made of cotton.

Complete absence of metal rivets.

The Jeans will NOT include metal rivets, RFID tags or back-patch, and in general materials other than fabrics. The Organisation confirms it is easy to remove by performing the following: unstitching will be the only process needed to disassemble the garments.

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option/Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
</tbody>
</table>

N/A
Eco-friendly vintage inspired denim. The only impact we’ll leave on the planet is good jeans.

Boyish Jeans is a collection of sustainable women’s denim founded by California native, Jordan Nodarse. Designed in Los Angeles, each collection is centred on vintage silhouettes with a modern update, all available at an attainable price point. Inspired by the stylish women who often describe their personal style as “Boyish,” the brand utilises men’s fabrics and fits, tailored for a woman’s body when creating all collections.

Boyish focuses on product quality, fit, and authentic washes to create styles reminiscent of your favourite pair of vintage jeans with an updated, fresh design and feminine fit. At the core of all Boyish collections lies a deep commitment to leaving as little impact on the earth as possible. Therefore, Boyish utilises ethical and sustainable practices when developing and manufacturing its products. All jeans are produced with sustainable fabrics through a completely environmentally-friendly and cruelty-free process.

“We are very excited to work alongside the Ellen MacArthur Foundation because fashion is extremely wasteful, from disposing of old products to the whole supply chain, so we try to do our part to be as thoughtful as possible in every aspect of our operations. We will offer our new products with the Guidelines the Ellen MacArthur Foundation put together in Spring of 2020 in both our USA and European wholesale accounts.”

- Jordan Nodarse, Creative Director, Boyish Jeans
**DURABILITY**
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 50+ home laundries (Minimum # is 30) and retain their ability to meet Boyish’s minimum test standard for jeans.

This will be verified by tests done by BACL
- Appearance CA-TM 02
- Dimensional stability ISO 6330 (as part of CA TM 02)
- Tensile force ISO 139342
- Seam force ISO 13935-2
- Abrasion ISO 12947-2

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by: This will be included in our BACL test

**MATERIAL HEALTH**
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting
- No hypochloride, use of neutral based cold water enzymes blue sign certified through Nearchimica

This will be verified by Lenzing certified for Refibra lyocell, GRS certified for recycled content, and OCS certified for organic cotton.

This will be verified through the ZDHC Gateway.

This will be verified by EIM Score, OEKO TEX and GOTS.
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Optional:</th>
<th>Requirement</th>
<th>Optional:</th>
<th>Requirement</th>
<th>Optional:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td></td>
<td>Include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td></td>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td></td>
</tr>
<tr>
<td>Material composition will meet the 98% cellulosic minimum. <strong>This will be verified by:</strong></td>
<td>PCRC: N/A</td>
<td>Jeans will include 43% post-industrial/pre-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>N/A</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td>N/A</td>
</tr>
<tr>
<td>Our materials will consist of 100% natural and recyclable fibres–zero petroleum/fossil fuel/oil content.</td>
<td></td>
<td>This will be verified by GRS &amp; BACL.</td>
<td></td>
<td>The jeans will include only woven labels and the organisation confirms it is easy to remove by performing the following: trimming select labels off.</td>
<td></td>
</tr>
</tbody>
</table>

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Optional:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td></td>
</tr>
<tr>
<td>Optional: use of technology that enables sorting.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
C&A has been a pioneer in developing and marketing fashion that is truly designed for circularity. In 2017, C&A launched the world’s first Gold level Cradle to Cradle Certified™ garment - a T-shirt and in 2018, the world’s most sustainable jeans were unveiled – Gold level Cradle to Cradle Certified™ jeans. This was a pioneering achievement, for C&A and a milestone moment in the fashion industry. Meanwhile, we have brought to market almost 4 million pieces of this revolutionary apparel in all areas, men, women, children and babies.

Through Fashion For Good we have shared our open-source Bill of Materials and Lessons Learned to give every producer, brand or retailer the information, advice and boost they need to make their products and production processes circular as swiftly and efficiently as possible.

We want to move the industry to a circular model – but we cannot do it alone. We will continue our efforts to bring more products to market but are delighted to see so many other organisations join this vision of designing products for circularity so we can reach scale collectively.

“We want to evolve the apparel industry to a future where every material is used and reused safely, where ecosystems are protected and where people are provided with dignified work. This means making products that are ‘made for their next use’ and where we no longer talk about ‘end of life’. We are delighted to see that the lessons we have learned and shared while developing the world’s first world’s first Gold level Cradle to Cradle Certified™ garments have built the base for the Jeans Redesign.”

- Charline Ducas, Leader Global Circular Economy at C&A
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet C&A’s minimum test standard for jeans.

This will be verified by:

- Appearance: CA-TM 02
- Dimensional stability ISO 6330 (as part of CA TM 02)
- Tensile force ISO 13934-2
- Seam force ISO 13935-2
- Abrasion ISO 12947-2

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by adding this information as part of the product’s care instruction

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:

- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by Organic Content Standard (OCS) or Global Organic Textile Standard (GOTS) Certification.

This will be verified through the C2C Certified Product Standard at Gold level.

This will be verified by C2C Certified Product Standard at Gold level.
### RECYCLABILITY

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>N/A</td>
</tr>
<tr>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>N/A</td>
</tr>
<tr>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>N/A</td>
</tr>
<tr>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td>The jeans will include metal trims and C&amp;A confirms it is easy to remove by performing the following: cutting out.</td>
</tr>
</tbody>
</table>

This will be verified by material composition and **C2C Certified Product Standard at Gold level**.

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
</tbody>
</table>

N/A
Fairblue Jeans is a French company that is proud to present the largest range of 100% Green Jeans ever imagined! Today, to produce this essential piece of clothing in our wardrobe, the numbers speak for themselves: it will create minimum 10,000 litres of polluted water to make even one pair of jeans! An astronomical quantity of water that has become blue, toxic, not very recyclable and that will often be discharged into the watercourses near the factories. Every month, billions of cubic meters of polluted water are found in our lands and water sources, making humans and animals sick. Faced with such an ecological catastrophe, it is necessary, at a given moment, to say stop. Fairblue Jeans decided to say stop.

After a lot of research on the most advanced techniques available today on the ecological and responsible design of jeans, Fairblue exploits them all in order to offer you the cleanest possible jeans. Fairblue offers denim, raw material of jeans, made exclusively from organic cotton with GOTS label from CANDIANI in Italy. Fairblue favors Laser, allowing a reduction of use of 97.4% of water and 80% of chemicals. Not to mention that this technique gives the jeans a choice of styles infinitely more precise, we wash only in a ZDHC compound. Fairblue prohibits any product from animals. Leather inserts adorning jeans are made from pineapple and corn, it's vegetable leather! Fairblue is committed to ecology down to the smallest detail: all labels, pockets, accessories and other attributes will be recycled. The jeans will be delivered in a 100% vegetable and compostable packaging!

Fairblue is fully made in Italy: from denim material CANDIANI, cut & sew, washing, accessories. On our own, we approached ViJi *, a 100% French company bringing together a number of experts in the field of ecology. This is to control and certify our sourcing from harvest to packing, to show off all ecology lovers like Fairblue. Everybody thinks today more or less Green, still it is necessary to prove it. A module will be affixed to each of our jeans.

Being green does not exclude the lack of taste. Fans and lovers of quality jeans can only appreciate the tip of the trend that our jeans offer. Entirely made in Italy, our creations will be to the tastes of all. We do not sacrifice the look or the quality. Everything is reflected in the name and the very identity of the brand: "Fair" comes from English meaning fair, honest, beautiful. "Blue" means our blue jeans, a must-have piece of any wardrobe. In short, if we want, we can. At Fairblue Jeans we want and we can!

- Guy Cohen Solal, CEO
**DURABILITY**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Be able to withstand a minimum of 30 home laundries</th>
<th>Provide information on how to care for the jeans visibly on the garment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 35 home laundries and retain their ability to meet Fairblue Jeans’ minimum test standard for jeans.</td>
<td>Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:</td>
</tr>
<tr>
<td>This will be verified by</td>
<td></td>
</tr>
<tr>
<td>• LAB TEST inside SGS / INTERTEK</td>
<td>• Information on reducing washing frequency</td>
</tr>
<tr>
<td>• stability ISO 6330:2012(E)</td>
<td>• Instructions to wash at low temperatures (30 degrees or below)</td>
</tr>
<tr>
<td>• appearance ISO 6330:2012</td>
<td>• Instructions to avoid tumble drying</td>
</tr>
<tr>
<td>• Fade test</td>
<td>• Line dry</td>
</tr>
<tr>
<td>• Color fastness to washing ISO 6330/2012</td>
<td>• Donate or recycle</td>
</tr>
<tr>
<td>• Color fastness to friction ISO 12947-2&amp;4</td>
<td></td>
</tr>
<tr>
<td>• Resistance of seams X 3 : ISO13935-1 : 2014</td>
<td></td>
</tr>
<tr>
<td>• Abrasion resistance (10,000 cycles) ISO 12947-2&amp;4</td>
<td></td>
</tr>
<tr>
<td>• Tear resistance initiated ISO 13937-1:2000</td>
<td></td>
</tr>
<tr>
<td>• Color fastness to Washing ISO 105 C06: 2010</td>
<td></td>
</tr>
</tbody>
</table>

**MATERIAL HEALTH**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Source cellulose-based fibres from regenerative farming, organic or transitional methods.</th>
<th>Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.</th>
<th>In addition, the use of the following chemicals or processes is prohibited:</th>
</tr>
</thead>
<tbody>
<tr>
<td>This will be verified by using only GOTS Cotton for jeans and pockets</td>
<td>This will be verified through ITACLAB, who conforms with the ZDHC MRSL Level 1.</td>
<td>a. Conventional electroplating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Potassium Permanganate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Stone finishing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. Sand blasting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This will be verified by ITACLAB.</td>
</tr>
</tbody>
</table>
**RECYCLABILITY**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material composition will meet the 98% cellulosic minimum.</td>
<td>N/A</td>
<td>Rivets will be removed entirely.</td>
<td>The jeans will not include any material or technology and the Organisation confirms it is easy to remove.</td>
</tr>
</tbody>
</table>

This will be verified by LAB TEST inside SGS or INTERTEK

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**TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
</table>

The objective of ViJi is to trace the production cycle in order to fulfill two objectives: to support brands in their approach of transparency and traceability, and to give ethical decision-making elements to consumers through indicators on the social and environmental conditions of production.

Thanks to the cross-fertilization of supplier / brand / trusted third party data (certifying bodies, control offices, auditors, NGOs, associations, etc.), the ViJi system enables federating all the players in the textile / clothing sector and reinforces traceability and the reliability of the information listed on the supply chain of a given garment. This information is stored, secured and transmitted to you in the most educational way so that you can choose your clothes in your soul and conscience.
Combining style, design, and technology since it was founded in 2012, Frank And Oak offer collections of clothing and accessories for men and women that are thoughtfully designed and well suited to the lifestyles of its customers. Present on the web and in 23 boutiques across Canada, the brand provides a personalized online experience to hundreds of thousands of members, surpassing its role as a retailer to reinvent the customer experience. Inspired by ethical thinking and with an eye to the future, Frank And Oak upholds the values of equity, diversity and inclusion and works to promote them in its communities. Frank And Oak is certified B Corporation®, meeting the highest standards of social and environmental performance, public transparency, and legal accountability in the industry.

“As a brand, we've declared that we would strive continuously to find innovative solutions across our operations that leave a positive impact on the environment. Denim was of the first challenges we took on, and have been active in reimagining such an iconic product. Frank And Oak is proud to be part of The Jeans Redesign by the Ellen MacArthur Foundation, and we are looking forward to the positive long-term amplification this project will bring to our industry.”

Melisa Alessi - Director, Sustainability and Product Development
DURABILITY
For further details refer to the Guidelines.

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 35 home laundries and retain their ability to meet Frank And Oak’s minimum test standard for jeans.

This will be verified by:
- In house testing for minimum laundering requirements with visual inspection of garment
- Accredited QA 3rd party test labs will conduct the following tests: Crocking; Abrasion resistance; Tensile strength, tearing strength and seam slippage; Pocket strength.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

MATERIAL HEALTH
For further details refer to the Guidelines.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC), manufacturing restricted substance list (MRSL) as a minimum.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by accredited certifications such as GOTS or OCS for organic cotton.
We currently prioritise recycled cotton and also use organic cotton, linen and hemp, and Lenzing fibres (Tencel Lyocell, Tencel Modal) in our compositions.

This will be verified through the ZDHC gateway.

This will be verified by a declaration from manufacturer including development of product under hydro-less and laser processes and sharing of wash recipes. This can also include Jeanologia EIM system verification.
### Recyclability
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include 10% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>This will be verified by fibre composition analysis reports.</td>
<td>This will be verified by GRC, confirmation from fabric mill and/or garment manufacturer, for specific styles using post consumer waste fibres.</td>
<td>We have removed all rivets on our denim as of January 2020.</td>
<td>The Jeans will include shanks and zippers that can be easily removed by performing mechanical cutting. We aim to continue research on this point as this aspect of circularity is important and dictates our design – the commitment to remove rivets was as an effort to remove a barrier for easy recycling– we hope to innovate in solving the other pain points.</td>
</tr>
</tbody>
</table>

### Traceability: Enable Easy Sorting for Recycling
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>We are looking for a viable solution/technology to share end of life solutions on our products.</td>
<td></td>
</tr>
</tbody>
</table>
Gap is one of the world’s most iconic apparel and accessories brands known for American casual style.

One of Don and Doris’ founding principles when they opened the first Gap store was to “do the right thing” and this is something we continue to strive to everyday. As a global brand, we have a responsibility to take accountability for ourselves, our customers and our planet. We achieve this through our existing commitments and evolving goals in cotton, water and our people. Through the EMF Jeans Redesign, we have the opportunity to push our core product further, and reimagine the denim process from end to end. Within this challenge, we want to find ways to reduce our carbon footprint each step of the way – from where the material is being sourced to how the garment is produced and ensuring it is fit for recycling. By bringing this product to life, we are able to test how the customer responds to the product, what we can do to keep delivering, and share that learning with the industry.

"At Gap, denim is in our DNA and as we mark our 50th year, we see it as both our heritage and our future. To honour our past while upholding our responsibility to our planet and customers, we look forward to the challenge of reimagining the denim process from end to end and working to create a positive impact each step of the way, both environmentally and socially."

– Michele Sizemore, SVP of Production, Gap
## DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet GAP’s minimum test standard for jeans.

This will be verified by:
- Tearing Strength: ASTM D2262-2017
- Tensile Strength: ASTM D50342009 (2013)

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by Presence of care label on the product

## MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by use of certified organic fibres (Global Organic Textile Standard (GOTS) Organic Content Standard (OCS)).

This will be verified through the ZDHC Gateway.

This will be verified by the use of the ZDHC Gateway, Jeanologia EIM system and GAP Inc. Sand Blasting Policy, which bans sandblasting.
## Recyclability
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>This will be verified by fibre composition disclosed on Care and Content label.</td>
<td>Jeans will include 5% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by use of certified recycled fibres (Global Recycled Standard (GRS) or Recycled Claim Standard (RCS)).</td>
<td>N/A</td>
<td>The Jeans will include trims and the Organisation confirms it is easy to remove by pre-processing for recycling.</td>
</tr>
</tbody>
</table>

## Traceability: Enable Easy Sorting for Recycling
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
<th>N/A</th>
</tr>
</thead>
</table>
GUESS is proud to join the Ellen MacArthur Foundation, its Jean Redesign programme and the Make Fashion Circular initiative. To develop the initial Jeans Redesign concept, GUESS is partnering with the Fashion Institute of Design and Merchandising (FIDM), where GUESS has sponsored a sustainability class since 2016. Other GUESS initiatives to promote circular fashion include RESOURCED, its customer take back programme and GUESS Vintage, its curated collection of second-hand clothing.
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet GUESS’s minimum test standard for jeans.

This will be verified by:
GUESS is capable of either conducting the wash testing in-house or contract a 3rd party lab to conducting these tests for us. GUESS works with several 3rd party labs including BV, UL, SGS and Fitil. The vendor we choose for the testing will depend on availability and pricing. Tests that may be conducted include Abrasion Resistance, After-wash Appearance, and Colour Fastness.

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label showing the following information: Care Instruction Labels are created in-house by GUESS. GUESS may contract a 3rd party lab to verify information on labels.

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying

This will be verified by a 3rd party lab.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:

a. Conventional electroplating
b. Potassium Permanganate
c. Stone finishing
d. Sand blasting

This will be verified by requesting applicable certifications such as OCS certificates for organic fabrics.

This will be verified through the ZDHC Gateway.

This will be verified by a 3rd party lab.
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
</tr>
<tr>
<td>Material composition will meet the 98% cellulosic minimum. This will be verified by a 3rd party lab.</td>
<td>Jeans may include up to 30% pre- or post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by a 3rd party lab.</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.). The Jeans may include screw back tack buttons or double shank tack buttons and the Organisation confirms these are easy to remove by performing the following: unscrewing the screw back tack buttons or popping out the double shank tack buttons.</td>
</tr>
</tbody>
</table>

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
H&M Group is part of the Jeans Redesign through two of its brands, H&M and Weekday. They are developing different denim products for this project having the customers’ needs and the circular economy principles in mind. H&M’s and Weekday’s design teams will use as much textile waste as possible, such as collected garments or production left-overs. The products are designed to last for a long time, and to be easily recycled.

For H&M Group, this project is the next step in its work to apply circular economy principles into its business - from the design stage, to when the product reaches customers and eventually also when being recycled. The learnings from this project will help the different teams across the organisation to implement circularity in the production process on a bigger scale.

“These are exciting times for the fashion industry. H&M Group is re-thinking every step to use natural resources in a smart way and to minimise waste. The Jeans Redesign by the Ellen MacArthur Foundation is a great opportunity for us to challenge the way jeans are designed, a garment that can be found in everyone’s wardrobe.”

- Cecilia Brännsten, Head of Environmental Sustainability H&M Group
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet H&M’s minimum test standard for jeans.

This will be verified by:
- 30 degree Celsius temperature and line dry method to reach 30HL
- We performed three tests to secure the durability here after 30HL:
  1) Tensile Strength (ISO13934-2)
  2) Tearing (ISO13937-2)
  3) Dimensional stability (ISO6330) modified based on customers washing method

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying
- Dark Colour Denim May transfer onto light coloured materials
- Wash with similar colours and similar material

This will be verified by our durability tests mentioned and are based on customers following the care instructions.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by
- GOTS (Global Organic Textile Standard and OCS (Organic Cotton Standard).

This will be verified through the ZDHC Gateway.

This will be verified by
- Conventional Electroplating: for this project we are only using metal trims in their natural raw metal colour (weekday = stainless steel, H&M = aluminium). That means, no plating (neither eco or conventional, or oxidation) is used.
- Potassium Permanganate: We can show the wash recipe of what we are using.
- Stone finish: We can show the wash recipe of what we are using.
- Sand blasting: H&M is since 2012 only allowing production in factories that are entirely sandblasting-free.
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total textile composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
</table>

Material composition will meet the 98% cellulosic minimum. This will be verified by **Content analysis testing method: Deviation of fibre content ISO1833.**

Jeans will include tbc % post-consumer recycled content (PCRC) on average (by weight) of the total textile composition. This will be verified by **GRS (Global Recycled Standard) and RCS (Recycle Claim Standard).**

The Jeans will include [metal trims] and the Organisation confirms it is easy to remove by performing the following: I:CO & Re:newcell will follow their existing technology to remove and collect metal trims for recycling. We also collaborate with YKK to develop as durable metal trims (rivets and buttons) in decreased metal weight/consumption and minimize use of mixed metal types and plating to increase recyclability.

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
</table>

N/A
Radically different denim that does not only make your ass look fabulous but that is also designed and made according to circular economy principles.

We want to change the way the textile industry currently works by raising the bar and showing it is perfectly possible to design and make premium, high-quality jeans according to circular economy principles.

“Denim jeans are an obvious starting point to make a positive change, given the huge impact with regards to the resource intensive raw materials, the intensive chemical processes generally used for dyeing and finishing denim and the throw-away nature of today’s consumer culture.”

- Tom Duhoux, Founder, HNST
**DURABILITY**
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet HNST Jeans’ minimum test standard for jeans.

This will be verified by quality tests done by independent test and research centre:
- Abrasion – ISO 12947-1:1998
- Tear strength – ISO 13937-1:2000
- Wrinkle recover – ISO 9867:2009(E)
- Colour fastness test for washing with soap – ISO 105-C10:2006

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying
- Instructions to avoid bleaching
- Instructions to avoid dry cleaning
- Instructions to use the specially developed pro-biotic spray to avoid washing

This will be verified by being part of legally required label.

**MATERIAL HEALTH**
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming; organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- a. Conventional electroplating
- b. Potassium Permanganate
- c. Stone finishing
- d. Sand blasting
- e. Chlorine bleaching
- f. PVC free silkscreen print

This will be verified by Global Organic Textile Standard (GOTS).

Additionally, recycled fibres are tested in independent laboratoria. When limit values of OEKO-TEX 100 Class II are not met, the batch of recycled content will not be used for jeans

This will be verified through the ZDHC Gateway, independent lab analytics, certifications such as OEKO-TEX 100.

This will be verified by production guidelines in code of conduct, assessment of processes and provided MSDS of our production partners, independent lab analytics, certifications such as OEKO-TEX 100 and self-assessment Jeanologia EIM reports & scores.
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>This will be verified by analysis done by independent test and research centre.</td>
</tr>
<tr>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Jeans will include 21% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by Textile Exchange Global Recycled Standard (GRS).</td>
</tr>
<tr>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>Jeans are designed rivet-free.</td>
</tr>
<tr>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td>The Jeans will include removable and replaceable buttons and the Organisation confirms it is easy to remove by performing the following: unscrewing the button.</td>
</tr>
</tbody>
</table>

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Backed by 130 years of purposeful design and craftsmanship, Lee’s® versatile styling and superior fit continue to inspire generations.

Lee® has empowered the working world towards a brighter future since 1889, when H.D. Lee cast a vision to redefine quality in product. Weaving purpose into everything we do, sustainability is at the forefront of every decision Lee makes.

We innovate at every step of the denim supply chain, minimising water and energy consumption in sourcing, dyeing, and manufacturing, but that’s not the whole story. Like our founder did 130 years ago, Lee is envisioning a new future for our industry, we’re making our clothes last even longer and ensuring they have a second, third, and even fourth life. Lee isn’t selling clothing and walking away, we want to be there when your clothing is ready to be put to another use.

For the Jeans Redesign, we’re focusing our initial efforts to bring a fully compostable jean to our consumers. We plan to launch a small collection by May 2020.

“Like people across the world, at Lee, we know the urgency of the climate crisis. As a global, heritage denim brand, we feel the responsibility. It’s an honor to partner with the Ellen MacArthur Foundation to transform our industry and create a dynamic, sustainable future.”

– Roian Atwood, Director of Sustainability, Lee
**DURABILITY**
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet Lee’s minimum test standard for jeans.

This will be verified by:

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by Kontoor Brands Global Sustainable Business, Innovation and Design Teams.

**MATERIAL HEALTH**
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:

- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by

This will be verified through the ZDHC Gateway.

This will be verified by the manufacturer, Kontoor Brands Compliance and Sourcing teams, third party auditors.
# RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td></td>
</tr>
<tr>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td></td>
</tr>
<tr>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td></td>
</tr>
<tr>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td></td>
</tr>
</tbody>
</table>

This will be verified by the mill, Kontoor Brands Global Sustainable Business team, third party auditors.

---

# TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
</tbody>
</table>

N/A
MUD Jeans is a circular denim brand that produces jeans via the principles of the circular economy.

As a circular denim brand, it is only natural to see that our sustainability strategy aligns almost perfectly with the Jeans Redesign. Already today, we share various standards in terms of material health and recyclability, which is very empowering. Therefore, MUD Jeans aims to produce all its jeans, 100%, in line with the Guidelines by May 2021. MUD Jeans’ initial efforts will focus on durability. Research will indicate if there is still room for improvement on this front.

“Being a circular denim brand and an industry pioneer, MUD Jeans is delighted to participate in the Jeans Redesign. Industry-wide standards concerning recyclability and circularity are urgently needed to make the denim sector more circular. Projects like these pave the way. We are glad to see that our circular denim is performing very well. Our jeans, for example, already contain between 23-40% post-consumer recycled cotton. Therefore, we want to focus on the durability standard and research if there is still room for improvement.”

– Eva Engelen, CSR Manager, MUD Jeans
DURABILITY
For further details refer to the Guidelines.

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet MUD Jeans’ minimum test standard for jeans.

This will be verified by:
- Appearance CA-TM 02
- Dimensional stability ISO 6330
- Tensile strength ISO 13934-2
- Tearing ISO 13937-2
- Abrasion ISO 12947-1
- Seam force ISO 13935-3

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by sharing this information on the garment label, on the wash consciously page and on all product pages from the MUD Jeans website.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by Global Organic Textile Standard (GOTS) certified.

This will be verified through the ZDHC Gateway.

This will be verified by mutual agreement with the suppliers and is partly assessed by the Nordic Swan Ecolabel.
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total textile composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>This will be verified by fibre composition in combination with organic content standards such as Global Organic Textile Standard (GOTS) and recycled fibre standards such as Global Recycled Standard (GRS).</td>
<td>Jeans will include <strong>23% post-consumer recycled content (PCRC)</strong> on average (by weight) of the total textile composition. This will be verified by fibre composition and Global Recycled Standard (GRS).</td>
<td>N/A</td>
<td>The jeans will include <strong>recyclable stainless steel buttons and rivets</strong>. MUD Jeans confirms it is easy to remove by performing the following technique: mechanical cutting.</td>
</tr>
</tbody>
</table>

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

| Use Jeans Redesign logo | Optional: use of technology that enables sorting. | N/A |
At OUTERKNOWN, we’ve always strived to make every decision with the highest regard for the hands that build our clothes and the world we call home.

By working with the Ellen MacArthur Foundation on the Jeans Redesign we hope to enable change across the fashion industry and shed light on circular design, providing tools and resources to the industry at large. At OUTERKNOWN, we already meet important guidelines with our SEA Jeans through sourcing organic cotton and designing into disassembly. We’re now challenging ourselves to find a way to improve our process and continue to raise the bar in striving to create the world’s most circular denim.

“Outerknown’s mission is to protect natural resources, empower the people crafting our clothes and inspire change within the industry and beyond. We’re excited to participate in the Jeans Redesign to push the boundaries on sustainable practices and create significant environmental and social improvements.”

– Megan Stoneburner Azim, Director of Sourcing & Sustainability, OUTERKNOWN
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet Outerknown’s minimum test standard for jeans.

This will be verified by: SGS 3rd party testing

- ASTM D5034 Tensile Strength
- ASTM D1424 Tear Strength
- ASTM D1683 Seam Strength and Seam Slippage

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by including instructions on the garment.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:

a. Conventional electroplating
b. Potassium Permanganate
c. Stone finishing
d. Sand blasting

This will be verified by the Global Organic Textile Standard (GOTS) or Organic Content Standard (OCS) certification.

This will be verified through the ZDHC Gateway.

This will be verified by Jeanologia EIM reports.
RECYCLABILITY
For further details refer to the Guidelines.

- Include a minimum of 98% cellulose-based fibres by weight in total textile composition.
- Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.
- Metal rivets will be removed entirely or reduced to a minimum.
- Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).

This will be verified by the Global Organic Textile Standard (GOTS) or Organic Content Standard (OCS) certification.

N/A  N/A  N/A

TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

- Use Jeans Redesign logo
- Optional: use of technology that enables sorting.

N/A
Outland Denim's foundations were built on social sustainability and justice for some of the world's most vulnerable people. However we do not believe one can advocate for social justice without taking steps to protect our environment too by way of managing garment impact in the design, user, and post-life stages. We are driven by an ethos of “zero exploitation” which includes delivering positive social outcomes while mitigating environmental impact pre and post consumer-use and, where we can, improving the ecological and economic status of entire communities.

Our production is entirely in-house, which gives us full control not only of our product quality, but also the way in which our goods are produced, by whom and under what conditions. Our environmental stewardship begins with the engagement of suppliers who meet our strict criteria for raw material standards, and is realised in the development of our stand-alone wash and finishing house. This project will ensure the ecological integrity of this crucial part of jean production, and utilises the best available new technology for reducing water usage and carbon emissions.

Our commitment to creating a product lifecycle geared toward full circularity is something that we are striving towards daily. In partnership with universities, governments and institutions around the world, our current research and development projects begin in the areas of water purification, minimising environmental impact through cotton dyeing processes, carbon footprint reduction, minimising our post-industrial and post consumer waste to the point of eradication, and extends to the intricate tracking of social and environmental impact with the use of big data and block chain technology.

We believe that the quality of our design and craftsmanship should reflect our commitment to making products that are enjoyed and worn for a lifetime. As Australia's first denim brand to become a certified B Corporation, we believe that neither communities nor the environment should suffer in the pursuit of fashion. For the betterment of the world and its inhabitants, and the next generations, we enthusiastically commit to the Make Fashion Circular, Jeans Redesign Guidelines proposed by the Ellen MacArthur Foundation.
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries | Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Outland Denim’s minimum test standard for jeans.

This will be verified by:

- Physical testing and visual inspection of garments
- Dimensional stability ISO 6330
- Seamforce ISO 13935-2
- Abrasion ISO 12947-2
- *Tear strength ISO 13937-2
- *Tensile strength ISO 139342
- Appearance CA-TM02
- Colour fastness to rubbing ISO 105-X12
- Colour fastness to perspiration ISO 105-E04 or GB/T 3922
- Colour fastness to water ISO 105 - E01
- Stretch and Recovery ASTM D 3107
- Colour fastness to Ozone AATCC 109
- PH ISO 3071
- Colour fastness to artificial light ISO 105-B02

Jeans produced in accordance with the Guidelines will include an easily accessible label showing the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying

This will be verified by washing instructions including all the above on the care label inside the jean.
**MATERIAL HEALTH**
For further details refer to the Guidelines.

| Source cellulose-based fibres from regenerative farming, organic or transitional methods. | Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum. | In addition, the use of the following chemicals or processes is prohibited:
  a. Conventional electroplating
  b. Potassium Permanganate
  c. Stone finishing
  d. Sand blasting
  e. Hypochlorite - eliminated by using ozone
  f. Strong alkali chemicals like Metabisulfite - eliminated neutralization processes by use of sustainable chemicals
  g. Acidic and alkali chemical liquor - Ensure to nötr condition during chemical processes by utilising alternative techniques
  h. High Liquor Ratio rate - Ensure to use low liquor ratio by using different methods
  i. Hand sanding - eliminated hand sanding by use of laser techniques

This will be verified by the Global Organic Textile Standard (GOTS).

This will be verified through the ZDHC Gateway.

This will be verified by 3rd party assessment.
# Recyclability

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Material composition</td>
<td>Must meet the 98% cellulosic minimum. This will be verified by Bossa Denim and the GOTS certification they hold for the organic cotton used in Outland Denim orders.</td>
</tr>
<tr>
<td>2. Metal rivets</td>
<td>Will be removed entirely or reduced to a minimum. N/A</td>
</tr>
<tr>
<td>3. Additional material</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.). The Jeans will include buttons, minimal rivets and zippers and the Organisation confirms it is easy to remove by performing the following: cutting around the edges of the hardware.</td>
</tr>
</tbody>
</table>

Jeans will include up to 20% pre-consumer/post industrial recycled content on average by weight of the total fabric composition. This will be verified by denim certification from Control Union - Global Recycled Standard and Recycled Claim Standard Blended

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# Traceability: Enable Easy Sorting for Recycling

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use Jeans Redesign logo</td>
<td>N/A</td>
</tr>
<tr>
<td>2. Optional: use of technology that enables sorting.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Created in 2009 by Yael Aflalo, Reformation is a revolutionary lifestyle brand that proves fast fashion and sustainability can coexist. Reformation combines stylish, vintage-inspired designs with sustainable practices, releasing limited-edition collections for women who want to look beautiful and live sustainably. A 100% carbon, water and waste neutral company, Reformation infuses green measures into every aspect of the business. From running a sustainable factory in Los Angeles to using deadstock and eco fabrics to tracking the environmental impact of every product, Reformation is committed to pushing the industry forward. The brand has also established itself as a pioneer in retail innovation, developing an in-store tech concept that brings the best of its online experience to its 14 physical doors.

“The way most denim is currently produced is harmful to the environment. The conventional cotton farming process alone uses significant water and pesticides, and seriously toxic chemicals are often used to dye and finish denim. Our mission at Reformation is to lead and inspire a sustainable way to be fashionable – we also really love wearing denim, so tackling sustainable denim was a no-brainer for us. We’re thrilled to participate in the Make Fashion Circular Jeans Redesign so we can collaboratively address the most pressing needs in the denim industry and move towards a circular system.”

– Yael Aflalo, Founder and CEO, Reformation
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet LYMI Inc's minimum test standard for jeans.

This will be verified by physical tests including:
- Tensile strength (ASTM D5034)
- Tearing strength (ASTM D1424)
- Abrasion resistance (ASTM D4966)
- Dimensional Stability to Laundering (AATCC15)
- Appearance after Washing (AATCC 135/150, AATCC TS006)
- Colourfastness to Laundering (AATCC 61)

Testing firms available include Intertek, BACL and in house testing facilities.

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by physical testing with an in house and/or third-party testing firm.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

This will be verified by supply chain mapping/traceability requirements and Global Organic Textile Standard (GOTS) or Organic Cotton Standard (OCS) scope certifications and Transaction Certificates (TCs).

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

This will be verified the ZDHC Gateway.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by confirmation of an approved chemical formulations and processes list used by our jean manufacturers. All denim manufacturers must sign our Sustainable Partners Guidebook which outlines requirements for our RSL (AFIRM 2019) and our approved processes/finishes. Additionally, certifications like Oeko-tex, Bluesign will verify safe chemistry as well as self-assessment verification tools like ChemSec and Jeanologia.
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
</tr>
</tbody>
</table>

This will be verified by fibre composition confirmation of materials, zipper tape, thread, interlinings and labels used.

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
</tbody>
</table>

N/A
In a world with limited resources, we must move to an industry founded on circular economy principles. Through transparency and coming together to share best practices we can drive the fashion landscape forward towards this future vision. As a global leader in denim, we are proud to join the Ellen MacArthur Foundation Jeans Redesign alongside other brands that are committed to the circular transformation of our industry. Over the past years, we have made positive steps in our denim production through low-impact finishing, more sustainable cotton and better dyeing technology.

Signing up to the Jeans Redesign Guidelines is just one of several ways we at Tommy Hilfiger are moving from a take-make-waste approach to a system where we reuse, repair, recycle and share. As part of this journey, we are bringing product innovation with sustainability benefits, and we recently launched our 100% pre-consumer recycled cotton denim styles. We will continue to join forces with our industry partners to create best-in-class designs in ways that are both socially and environmentally positive.

“In a world with limited resources, we must move to an industry founded on circular economy principles. Through transparency and coming together to share best practices we can drive the fashion landscape forward towards this future vision. As a global leader in denim, we are proud to join the Jeans Redesign alongside other brands that are committed to the circular transformation of our industry.”

– Martijn Hagman, CFO, Tommy Hilfiger Global and COO, Tommy Hilfiger Global & PVH Europe
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet Tommy Hilfiger’s minimum test standard for jeans.

This will be verified by:
- Accredited QA 3rd party test labs will conduct the below tests as per Guideline requirements.
- Dimensional Changes: AATCC#150/158#179 Modified
- Colorfastness to Crocking. Crockmeter Method: AATCC#8
- Breaking Strength and Elongation of Textile Fabrics: ASTM D-50342
- Tearing Strength: ASTM D-1424
- Failure in Sewn Seams of Woven Fabrics: ASTM D-1683
- Mass Per Unit Area (Weight) of Fabric: ASTM D-3776

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

Care label included with instructions to:
- Reduce washing frequency
- Cold wash – wash at 30 degrees or less
- Avoid tumble-drying.

This will be verified by
- Testing by accredited QA 3rd party test labs conducted for appearance after cold wash

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified by organic cotton certification (e.g. OE) for all cellulose-based fibre components of the garment

This will be verified through the ZDHC Gateway.

This will be verified by accredited QA 3rd party verified EIM reports as per internal PVH Europe / Tommy Hilfiger Global ‘Lower Impact Denim’ (LID) programme processes.
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th></th>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include 0% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
</table>

Weight of all components of denim garment will be verified by accredited QA 3rd party test labs. | N/A | N/A | N/A | N/A |

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th></th>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
</table>

N/A
THE JEANS REDESIGN
PARTICIPANT SPECIFICATIONS

GARMENT MANUFACTURERS
&
FABRIC MILLS
Artistic Milliners is a vertical denim manufacturing company based out of Pakistan. Centred on our core values of quality, service, innovation and sustainability, we are the preferred choice of leading denim brands of the world. Our interest in joining Ellen Mac Arthur Jeans Redesign project is aligned with the blueprint of the company based on circularity and transparency.

Artistic Milliners has strong focus on Climate Positive Action. We believe circularity is not limited to the product itself- but also includes the resources that goes into making denim. We recycle 85% of water in all our mills and laundries; have Wind Energy Plants that offsets more than 50% of GHG emissions then what is required to make us carbon neutral. We are also working to digitize supply chain of cotton to bring visibility to our farmers and make our denim more sustainable.

“As manufactures of the World’s first Cradle to Cradle Gold Certified Denim; and the first in Pakistan to launch PCW Denim programme - we speak from experience when we say there is no other nexus to combine fast fashion and sustainability other than circular economy.”

- Omer Ahmed, Managing Director, Denim Division, Artistic Milliners

“Ellen Mac Arthur initiative to include both garment manufactures and denim mills in the Jeans Redesign project is a step in the right direction. Artistic Milliners is uniquely placed to collaborate with EMA on both fronts- mill side and garment side- and hence comprehensively curate a truly circular Jeans right from the farms to the factories.”

- Murtaza Ahmed, Managing Director, Garments Division, Artistic Milliners
**DURABILITY**
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Artistic Milliners’ minimum test standard for jeans.

AM has in-house facility for testing for home laundry washes.

- Abrasion Resistance (BS EN ISO 12947-2)
- Colour fastness (ISO 105 X12 / ISO105 C06 / ISO 105 E04 / ISO 105 E01)
- Dimensional Stability (ISO 6330)
- Tensile Strength (ISO 13934-1 / ISO 13934-2)(ASTM 5034)

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying.

This will be verified by third party who’ll check care labels of garments.

**MATERIAL HEALTH**
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:

a. Conventional electroplating
b. Potassium Permanganate
c. Stone finishing
d. Sand blasting

This will be verified through the ZDHC Gateway.

The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum.

The ZDHC Wastewater Guidelines are subject to updating by ZDHC. At the time of creation of this document, the latest version is called ZDHC Wastewater Guidelines Version 1.1, published in July 2019. This will be verified by reporting wastewater data through the ZDHC Gateway.

The produced volume of wastewater is treated to the ZDHC Wastewater Guidelines.

This will be verified through the ZDHC Gateway.

The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum.

The ZDHC Wastewater Guidelines are subject to updating by ZDHC. At the time of creation of this document, the latest version is called ZDHC Wastewater Guidelines Version 1.1, published in July 2019. This will be verified by reporting wastewater data through the ZDHC Gateway.

The produced volume of wastewater is treated to the ZDHC Wastewater Guidelines.

This will be verified through the ZDHC Gateway.
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Metal rivets will be removed entirely or reduced to a minimum. Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
</tr>
</tbody>
</table>

Material composition will meet the 98% cellulosic minimum.

This will be verified by AM Lab which is accredited by BV Labs and ITS.

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
</tbody>
</table>

N/A
Soorty is the vertical denim and jeans manufacturer with Platinum Leed Certificated denim mill and its recently launched garment operation; “DenimKind” based in Pakistan. Soorty also has its Gold Leed Certified garment operation in Bangladesh and represents sustainability in the denim and jeans industry at scale with 6.5 million meters and 4 million units in production.

DenimKind is disrupting the way Soorty looks at manufacturing with 1 million units per month with a focus on innovative sustainable operations powered by renewable energy source, updated technology and in guidance of the SDGs.

Soorty embraces circular design for responsible manufacturing and has integrated a Minus Zero perspective in redesigning its business offer with a strong focus on in-house recycling yarn production, use of sustainable raw materials, water consumption conscious processes as well as the first in the industry with vertical Cradle to Cradle™ Gold Certified products with Material health score at Platinum.

Cradle to Cradle™ is Soorty’s advanced design system for developing sustainable products based on circular design and is offered to the entire value chain that ensures traceable, responsible production from fabric to finished garments. The Soorty Cradle to Cradle™ Gold Level presents Pure-D fabrics and Smart Loop garments. Smart Loop; fashioned in DenimKind is the highest form of technology that aims a conscious mindset for collaborating with the design to produce the most responsible jeans – closing the loop and enhancing circularity. By onboarding Jeans Redesign, Soorty presents its commitment to continue to seek creative and collaborative solutions to help advance the industry as well as to cater to the needs of the future generations.

Soorty believes in the power of innovations and is constantly exploring collaborative, creative solutions. Soorty’s Future Possibilities is an off and online collaboration platform to engage with global stakeholders in the fashion industry to lead, ignite, innovate, inspire beauty and innovation through ideas, interactive experiences and collaborative growth. At Soorty we define ourselves as engineers at heart with the need to be regenerative by design.

Soorty has global exposure with an R&D centre in Corlu, Turkey, a creative design office in Amsterdam, sales offices in the US and Turkey.

- Muhammad Mansoor Bilal, VP Marketing, Research & Innovation
**DURABILITY**

For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

<table>
<thead>
<tr>
<th>Provide information on how to care for the jeans visibly on the garment</th>
</tr>
</thead>
</table>

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Soorty Enterprises’ minimum test standard for jeans.

This will be verified by:

- Colour Fastness to Washing ISO 105-C06
- Colour Fastness to Water ISO 105-E01
- Colour Fastness to Perspiration ISO 105-E04
- Colour Fastness to Rubbing ISO 105-X12
- Colour Fastness to Ozone ISO 105-G03
- Colour Fastness to Light ISO 105-B02
- Tear Force ISO 13937-1
- Tear Force(Tongue) ISO 13937-2
- Tensile Strength (Grab) ISO 13937-2
- Seam Slippage ISO 13936-1
- Seam Strength 13935-2
- Pilling Resistance IDO 12945-2
- Fabric Weight ISO 12127-1
- Elastic Behaviour ISO 14704-1 Method A
- pH ISO 3071
- Stretch and Recovery ASTM D 3107
- Domestic Washing and Drying Cycle ISO 6330
- Abrasion Resistance ISO 12947-2

Jeans produced to the Guidelines will include an easily accessible label that will include the following information. Ensure that jeans produced are in line with the below:

Care label included with instructions to:

- Reduce washing frequency
- Cold wash – wash at 30 degrees or less
- Avoid tumble-drying.
- Wash inside out

This will be verified by 3rd party physical testing.
### MATERIAL HEALTH
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Source cellulose-based fibres from regenerative farming, organic or transitional methods.</th>
<th>Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.</th>
<th>In addition, the use of the following chemicals or processes is prohibited:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>a. Conventional electroplating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Potassium Permanganate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Stone finishing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. Sand blasting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum. The wastewater volume created for denim fabric is a maximum of 0.025 m³/yard or below.</td>
</tr>
<tr>
<td>The wastewater volume created for denim fabric is a maximum of 0.025 m³/yard or below</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**This will be verified by:**
- OCS or GOTS
- Through the ZDHC Gateway and C2C Certified™ Product Standard at Gold Level.
- By C2C Certified™ Product Standard at Gold Level & Jeanologia EIM scores (Environmental Impact Measurement) & also from manufacturer’s process audit.
- Soorty Denim is treating its 100% industrial wastewater through WWTP according to ZDHC wastewater guidelines. Test reports of Wastewater are uploaded over ZDHC gateway portal, published & verified by ZDHC.
- Our volume of wastewater is under 0.02 m³/yard.

### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>This will be verified by GRS for recycled fibre content material composition test and C2C Certified Product Standard at Gold level.</td>
<td>Jeans will include 5-20% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by GRS/RCS Certifications.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>We can offer the logo application to our customers and after their agreement we can use it.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
THE JEANS REDESIGN
PARTICIPANT SPECIFICATIONS

GARMENT MANUFACTURERS
Arvind ranks amongst the top denim manufacturers worldwide and its products are known for being innovative and sustainable.

At Arvind, we intend to apply the concept of circularity holistically and expand the scope beyond fibres and adopt a circular production system which looks at all the input resources and end of life. Our intent is to establish a regenerative model for our industry which nurtures and does not cause unnecessary environmental harm. We believe our approach aligns with the Jeans Redesign and we can make significant progress due to this collaboration. We intend to follow the Guidelines for developing and supplying the fabrics made in accordance with the design requirements and to encourage our customers to adopt it, in addition to fulfilling the demand from existing Jeans Redesign partners.

“Arvind has been working extensively on bringing circularity concepts to the denim industry for the last five years. We hope to accelerate these efforts in a collaborative manner by engaging in the Jeans Redesign which will help in formalising the technical requirements and scaling the ambitions by all industry actors.”

– Aamir Akhtar, CEO, Arvind Limited
**DURABILITY**
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet Arvind’s minimum test standard for jeans.

This will be verified by:
- Appearance: CA-TM 02
- Dimensional stability ISO 6330 (as part of CA TM 02)
- Tensile force ISO 13934-2
- Seam force ISO 13935-2
- Abrasion ISO 12947-2

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by visual inspection of the garments.

**MATERIAL HEALTH**
For further details refer to the Guidelines.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

This will be verified through the ZDHC Gateway.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

This will be verified by chain of custody standards/certificates for organic cotton. We will be able to provide GOTS or OCS certifications.
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Jeans Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Jeans will include at least 5% and going up to 40% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by GRS/RCS certifications for fabrics</td>
</tr>
<tr>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>N/A</td>
</tr>
<tr>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>N/A</td>
</tr>
<tr>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Jeans Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td>Optional: use of technology that enables sorting.</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>
DEMCO is a manufacturer for DENIM and knitwear that was founded in 1991 in Tunisia (Monastir, Moknine industrial area). In 2018, we had a turnover of 78 Mi EUR and presently count 20 Companies with 4 500 employees. Certifications that we have achieved include fair trade, GOTS, GRS, Higg, Oeko-tex.

DEMCO group is committed to sustainability and we are voluntarily offsetting of total CO2eq emissions. Our waste management includes not only sorting, collecting & recycling but also 100% wastewater treatment of which 80% is recycled. Additionally, 25% of energy needs are covered by 1532 solar panels, our water consumption reduced by 93%, our chemicals usage by 50% and our energy consumption by 35%.
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet DEMCO’s minimum test standard for jeans.

This will be verified by:

- Showcasing the differences in a jeans that are washed 5 times, 10 times, 15 times, 20 times, 25 times and 30 times with a subsequent tearing strength test
- Waiting for other tests to be realised

Jeans produced to the Guidelines will include an easily accessible label that will include the following information. Ensure that jeans produced are in line with the below:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

This will be verified by GOTS and OEKO TEX

This will be verified through the ZDHC Gateway. Presently, the chemicals list complies with the MRSL

In addition, the use of the following chemicals or processes is prohibited:

- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

- PP will not be used starting January 2020
- Pumice Stones are replaced by eco-stones
- Sandblasting : stopped 10 years ago

This will be verified through EIM (Jeanologia).
### Recyclability
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denim fabric composition will meet the 98% cellulosic minimum.</td>
<td>Pre-consumer recycled content available. Ongoing tests with post consumer content.</td>
<td>Use of natural hardware by 2020</td>
<td>Use of screw button by 2020</td>
</tr>
</tbody>
</table>

This will be verified by GRS.

### Traceability: Enable Easy Sorting for Recycling
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In case RFID is used, it is attached to the label which can easily be removed by scissors.</td>
<td></td>
</tr>
</tbody>
</table>
Denim Expert Limited is a niche denim manufacturing plant located in Chattogram, Bangladesh. Since its foundation in 2009, the company has become a benchmark in Bangladeshi denim manufacturing and washing. It boasts a fully integrated and sustainable production system, from high quality raw material to sewing and finishing, to meet growing demand of denim from discerning Western customers.

“We believe making the planet a better place to live in is a responsibility of all of us. From this self-responsibility, Denim Expert Limited has joined this initiative as we are committed to producing not only quality denims but also improving the quality of lives.”

- Mostafiz Uddin, Managing Director of Denim Expert Limited
**DURABILITY**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Be able to withstand a minimum of 30 home laundries</th>
<th>Provide information on how to care for the jeans visibly on the garment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Denim Expert’s minimum test standard for jeans.</td>
<td>Jeans produced to the Guidelines will include an easily accessible label that will include the following information. Ensure that jeans produced are in line with the below:</td>
</tr>
<tr>
<td>This will be verified by the physical tests below:</td>
<td>● Information on reducing washing frequency</td>
</tr>
<tr>
<td>● Ability to achieve a rating of 3.0 after 30 Home laundry, test method AATCC 124 (3)</td>
<td>● Instructions to wash at low temperatures (30 degrees or below)</td>
</tr>
<tr>
<td>● Dimensional stability (ISO 6330)</td>
<td>● Instructions to avoid tumble drying</td>
</tr>
</tbody>
</table>

This will be verified by garment testing companies SGS, BV, TÜV, ITS

**MATERIAL HEALTH**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Source cellulose-based fibres from regenerative farming, organic or transitional methods.</th>
<th>Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.</th>
<th>In addition, the use of the following chemicals or processes is prohibited:</th>
</tr>
</thead>
<tbody>
<tr>
<td>This will be verified by GOTS, OCS, OEKO-TEX</td>
<td>This will be verified through the ZDHC Gateway</td>
<td>a. Conventional electroplating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Potassium Permanganate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We have replaced the Potassium Permanganate with Peroxidase enzymes and ZDHC approved Level 1 alternate chemicals to fade or to give used look to the garments.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c Stone finishing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We have replaced the stones with no-stone technology washing machines which have abrasive plates are fixed into the inner drum of the machine and also using synthetic stones which can withstand 2000 hours of wash cycles. The garments/Jeans during wash cycles get in contact with the inner drum of the machine and also with synthetic stones and gives desired look to the garments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. Sand blasting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sand blasting is a process which gives distressed look to the jeans, we simulate similar aesthetic look by deploying highly precise and modern laser machine to simulate similar kind of distress look on the Jeans.</td>
</tr>
</tbody>
</table>
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option</th>
<th>Condition</th>
<th>Verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
</tr>
</tbody>
</table>

This will be verified by CERES

Jeans will include a maximum of 20% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition

This will be verified by UNIFY for REPREVE and "CERES" for recycled cotton.

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
</table>

- In case RFID is used, it is attached to the label which can easily be removed by scissors.
With a production capacity of 300-350K/month and 50K in sample services, Denimvillage (Suglobal Tekstil ve Konfeksiyon Sanayi A.S.) continues to inspire its long-term strategic partners and selected customers (premium and super-premium brands) from Europe, USA, Japan, Canada and Australia with its denim washes for the past two decades.

Ever since we first started our operations, we have focused tirelessly on sustainable value creation through sustainable management and decide to be authentically sustainable every day. An example is DV’s decision to not include any sandblasting lines from inception although these operations were commonplace.

We believe that sustainability is a continuous act of commitment to long-lasting social and environmental justice that is rewarding for local and global economies; a commitment that is intrinsically valuable and requires the application of innovative approaches in the complex and non-linear garment manufacturing industry that exists today.

We know that DV is not alone in its journey. That is why, we endeavour to make our customer portfolio more than 70% sustainable by 2022, and work exclusively with customers that show credible commitment to the circular model.

By choosing suppliers who make considerable efforts in using harmless processes, high quality accessories and fabric, we strive to guarantee better material health and durability. Achieving resourcefulness in both pre- and post-consumer processes means optimizing the life cycle of a pair of jeans while operating within the circular model. At DV, this will set the tone for the next 5 years.

The pillars of our planned circular model will be incrementally carried out within the supply chain where we source, recreate and reuse materials at all three stages: design & collection, product development and production processes, without disposing them in the landfills.

In rethinking the design and development and production processes of a pair of jeans, we do not only want to achieve sustainable development for our business, but to leave the world a better place.

We were excited to hear about the Jeans Redesign Initiative by EMF because it meant that our individual efforts for the past 20 years were finally joined with others in a collective space. Thus, this is a valuable project that will allow us to renew this commitment in a new era and contribute to reforming the birth of a pair of jeans.

Hadi Karasu, Chairman
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Denim village’s minimum test standard for jeans.

This will be verified by the physical tests below:
- Colourfastness to crocking (MTCC 8)
- Colourfastness to rubbing (BS EN ISO 105 X12)
- Seam strength (ASTM D1683)
- Tear strength (ASTM D1424 - Modified)
- Tensile strength (ASTM D5034 - Modified)
- Strength and Growth (ASTM D3107 - Modified)
- pH (ISO 3071)

Provide information on how to care for the jeans visibly on the garment

Jeans produced to the Guidelines will include an easily accessible label that will include the following information:
- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying
- or Instructions to wash with similar colours and inside out
- or instructions to use only colour detergent
- or instructions to avoid bleach
- or instructions to wash and dry similar colours together
- or instructions to fabric composition

This will be verified by visual inspections of the garments i.e. presence of care label.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

In addition, the use of the following chemicals or processes is prohibited:
- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting

Our company is registered on ZDHC Gateway and we abide by the products listed on MRSL. Therefore, this will be verified through the ZDHC Gateway.

In addition to above, we are using latest sustainable wash technologies by Jeanologia (ozone, laser and e-flow) to achieve low impact by reducing the use of water and chemicals. We engage in energy and water-saving projects and have an advanced and effective waste management technology.

This will be verified by a software program developed by our IT and R&D teams which assess environmental and other impact regardless of the brand of the machines.
DENIM VILLAGE

RECYCLABILITY
For further details refer to the Guidelines.

Include a minimum of 98% cellulose-based fibres by weight in total textile composition.

Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.

Metal rivets will be removed entirely or reduced to a minimum.

Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).

We use 98% cellulose-based fibres (mostly cotton) in the jeans on demand (depending on the client).

This will be verified by the material composition of fabric.

We are already using pre-consumer recycled content. Left over fabrics or jeans and other materials (clippings, scraps etc.) that emerge during the production are sent to our strategic project partners (recycle centers) where they are turned into their raw state of fibre. Our fabric supplier who remanufactures the fabric then buys and uses these recycled fibres, which may comprise materials recycled up to 100%. Denimvillage - Suglobal then buys and uses this recycled fabric in jeans. Pocketing of the jeans may consist of recycled products too.

We are currently in dialogue with our customers to form greater collaboration to work towards a project that contributes to the use of post-consumer recycled content in our products.

Denimvillage - Suglobal is committed to taking the necessary measures to reduce or entirely remove the use of metal rivets. These redesigning efforts might include but are not limited to using recyclable metals, bartacking to replace metal rivets etc. for this project.

The Jeans will include easily replaceable etiquettes and confirm it is easy to remove by performing simple removal methods such as tearing or cutting e.g. with the help of scissors.

TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

Use Jeans Redesign logo

Optional: use of technology that enables sorting.

Throughout the production processes, we use internal sorting connected to our software system. Our own internal traceability barcode etiquettes help tracing the jeans. Sorting jeans that contain specific material composition or the Jeans Redesign Logo will thus be possible.

Furthermore, Denimvillage - Suglobal's RFID Project is run together with Istanbul Technical University, awarded by the Scientific and Technological Research Council of Turkey, TUBITAK, and was finalized successfully in a pilot. We intend to implement it at a larger-scale as part of our intelligent management for tracking and inventory control. We will work towards implementing the existing mechanism (or establishing a new one) for our pilot project within the scope of this initiative.
This year Frontline Clothing HK is celebrating 25 years of excellence in denim development and manufacturing. Through its ongoing commitment to sustainability via direct investment in the latest machine technology and sustainable chemical research they have built a world-class organization supporting some of the world’s most forward-thinking denim brands. Frontline has built a unique one-stop-shop for global creatives in the denim industry to develop sustainable product from initial concept, all the way through the production process to shipment. From our extensive on-sight “eco-fabric library” to our state of the art development centre, located within the production facility in South China and Cambodia we are a full service design to delivery organization that believes in the execution of high quality sustainable production that will ultimately help contribute to the ultimate goal of a circular economy.

By partnering with the Ellen MacArthur foundation and joining the Jeans Redesign project, Frontline has further strengthened its commitment to move the industry forward through its focus on providing better and more sustainable alternatives to its talented and diverse global customer’s base. We believe that only through true and transparent collaboration with our clients and industry partners can one truly report positive movement forward for our planet and people.

“It seems simple: our planet has gifted us many valuable resources, it’s up to us to not exploit them. I’ve never viewed this as a trend but a personal and corporate responsibility but like an orchestra it takes a lot of people working together to change the norm. At Frontline, the aesthetic decisions lie in the hands of our customers but we are committed to promote and support our goal of contributing to a circular economy. Working with the Ellen MacArthur Foundation on Jeans Redesign is an opportunity to achieve that goal. We are very excited to know we are not alone”

– Roel Vossen, Founder and CEO, Frontline Clothing, Ltd.
Durability
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Frontline Clothing’s minimum test standard for jeans.

Quality assurance Procedure – Raw Material (Fabric) test before production:

- Fabric weight evaluation. (+1-5%)
- Fabric PH value evaluation (AATCC 81)
- Dimensional change of fabric after home laundering (AATCC 135)
- Skewness change in fabric twist (AATCC 179)
- Tensile & tearing strength of Fabric (ASTM D5034 & ASTM D2261)
- Stretch & Recovery: Stretch Properties of fabric woven from stretch yarn (ASTM D3107)
- Seam Strength & Seam slippage of Woven fabric (ASTM D1683)

Durability guidelines – Garment will be verified by:

- PH value evaluation (AATCC 81)
- Dimensional change of garment after home laundry (AATCC 150) as per care label
- Colour Fastness to laundering: accelerated (AATCC 61) covering colour changing & staining
- Colour Fastness to dry & wet crocking (AATCC 8)
- Pilling after home laundering (ASTM D4970)
- Tearing strength of fabric by the tongue (ASTM D2261) / Falling Pendulum (ASTM D1424)
- Stretch & Recovery: Stretch Properties of fabric woven from stretch yarn (ASTM D3107)
- Standard Test method for pocket reinforcement (ASTM D7506)
- Seam Strength & Seam slippage of Woven fabric (ASTM D1683)
- Attachment strength of trims (rivet / shank / snap), (ASTM D7142)

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying
- Instructions to avoid dry cleaning

This will be verified by Bureau Veritas, ITS or SGS in conjunction with intensive in-house lab testing all the way through the production process. Additionally, this will be present on a care label on the garment.
### MATERIAL HEALTH

For further details refer to the Guidelines.

| Source cellulose-based fibres from regenerative farming, organic or transitional methods. | Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum. | In addition, the use of the following chemicals or processes is prohibited:  
  a. Conventional electroplating  
  b. Potassium Permanganate  
  c. Stone finishing  
  d. Sand blasting |
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>This will be verified by the Global Organic Textile Standard (GOTS) or Organic Cotton Standard (OCS).</td>
<td>This will be verified through the ZDHC Gateway.</td>
<td>This will be verified by Frontline Clothing Ltd. which uses pumice stone and PP alternatives in addition to laser, ozone. this will be additionally verified by Jeanologia EIM report.</td>
</tr>
</tbody>
</table>

### RECYCLABILITY

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material composition will meet the 98% cellulosic minimum. This will be verified by Bureau Veritas, ITS and SGS. Additionally, this will be visible to consumer on the care label.</td>
<td>This will be verified by Global Recycled Standard (GRS).</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
</table>

By using blockchain technology though a Q.R. code that stays with the jean throughout its life, all information about the jean will be listed, such as, fabric composition, chemicals used, EIM score and all certifications.
It is with great pleasure and excitement that we at the Hirdaramani group strengthened our sustainability agenda, by joining the Ellen MacArthur Foundation *Make Fashion Circular* in 2019 and its journey on the Jeans Redesign.

As a large manufacturer of lifestyle casual apparel, denim manufacturing is at the core of our activities. Hirdaramani’s infrastructure powers end-to-end supply chain solutions to the industry via factories in Sri Lanka, Bangladesh, Vietnam and Ethiopia. The Group is one of the largest manufacturers of jeans globally and is committed to reduce the usage of water, energy and chemicals in its manufacturing processes through product Redesign, technology and innovation. The design team is focussed on closed loop fashion and the Group continues to invest in creating more sustainable products.

The Ellen MacArthur Foundation is an esteemed global platform on which we as stakeholders of the global fashion industry can lend our expertise at a round table of brands, manufacturers and recyclers for the greater goal of a truly responsible fashion industry.

As a supplier to our global customer portfolio of brands, we hope to open better manufacturing pathways that lead to a future of circularity. 10 years ago, Hirdaramani launched Asia’s first carbon neutral, LEED platinum certified Green factory. Most recently, in 2019 we were proud to announce that greenhouse gas (GHG) emissions from energy use of our Sri Lankan apparel vertical have reached a net-zero status. We look forward to a transformative journey in collaboration with the Ellen MacArthur Foundation.

The Hirdaramani Group has reinforced its strong commitment to sustainability by joining the Ellen MacArthur Foundation *Make Fashion Circular* in 2019 and actively participates on the collaborative Jeans Redesign.

“We are extremely confident that through this collaboration, we will be able to develop further solutions to reduce waste and pollution throughout our operations and within the total fashion industry.”

- Nikhil Hirdaramani, Director, Hirdaramani Group
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries (Minimum # is 30) and retain their ability to meet HIRDARAMANI’s minimum test standard for jeans.

This will be verified by: Tearing, Tensile, Abrasion, Seam Slippage, Stretch and recovery (Testing method – USA – AATCC, EU – ASTM & ISO).

- Tensile: 4.5lb
- Tearing: 60-85lb
- Abrasion: 15000 Cycle
- Seam Slippage: 35-40lb
- Stretch & Recovery (Growth): 7%
- Appearance: Satisfaction
- Color Change: 4
- Self-Staining: 4-5
- Defect: Satisfaction
- Dimensional Changes: Brand dependent

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying
- Wash inside out

This will be verified by physical testing.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

This will be verified by OCS, RCS, GOTS certificates.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

This will be verified through the ZDHC Gateway and the Oeko-Tex certification (raw material and washing plants).

In addition, the use of the following chemicals or processes is prohibited:

a. Conventional electroplating
b. Potassium Permanganate
c. Stone finishing
d. Sand blasting
e. [Optional - Insert additional]

This will be verified by Jeanologia review of EIM scores (Environmental Impact Measurement).
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Option</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based</td>
<td>Material composition will meet the 98% cellulosic minimum. This will be verified by composition test.</td>
</tr>
<tr>
<td>fibres by weight in total textile composition.</td>
<td></td>
</tr>
<tr>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Jeans will start with 10% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by traceability by record.</td>
</tr>
<tr>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
</tr>
</tbody>
</table>

The Jeans will include form of printed ID/Info Code and it is easy to remove because it is printed on the garment and not difficult to remove at end of life of the garment.

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>
Kipaş Textiles is a sustainable yarn, fabric and denim mill with 35 years of experience.

By participating in the Ellen MacArthur’s Jeans Redesign Project, Kipaş Textiles emphasizes its determination to contribute to a circular economy by transforming the way denim is designed and produced. Because we care about the planet, its nature, the people and future generations. With 35 years of experience, an annual production capacity of 80 million meters of fabric, a daily production of 330 tons of yarn and over 5 million garments annually, Kipaş is one of the largest sustainable yarn, fabric and denim manufacturers and preferred suppliers of the world’s leading brands.

Sustainable production is in our DNA, and we are committed to make a positive impact in the fashion and textile industry. We believe real change happens through a combination of continuous improvement, innovation and strategic collaboration. Kipaş has invested in long-term partnerships with companies like Lenzing and Unifi for their innovative fibres. Our products meet with the highest requirements of standards and independent certification organisations such as GOTS and GRS.

Through our conscious production system with environmentally friendly methods and the latest recycling technologies, we are tackling waste and pollution. In fact, Kipaş’s recycled ‘Denim by Denim’ fabrics are produced with zero water and zero chemicals. In addition, Kipaş adds at least 5% post-consumer recycled cotton to all its new developed fabrics including denim. Starting from FW20/21 we will increase the percentage gradually up to 25% in 2025. By constantly optimizing our operations, setting ambitious targets, and by seeking innovative solutions and collaborations across the whole value chain.

“Being part of an industry that has a significant impact on climate change, natural resources and human rights, we have the opportunity to become part of the solution. Kipaş is honoured to participate in the Ellen MacArthur Foundation’s Jeans Redesign and contribute to a circular economy. Starting from FW20/21, Kipaş will increase the percentage of post-consumer cotton from 5% gradually up to 25% in 2025. By constantly optimising our operations, by seeking innovative solutions and collaborations across the whole value chain.”

– Halit Gümüşer, Member of Board Kipaş Textiles
DURABILITY
For further details refer to the Guidelines.

| Be able to withstand a minimum of 30 home laundries | Provide information on how to care for the jeans visibly on the garment |

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 40 home laundries (Minimum # is 30) and retain their ability to meet Kipas’ minimum test standard for jeans.

A combination of a series physical tests, such as tear strength test, tensile strength test, abrasion test and shrinkage (dimensional change) test. We are applying below test methods:

- Tensile strength test: ASTMD 5034
- Tear strength test: ASTMD 1424
- Shrinkage test: ISO 6330
- Abrasion test: ISO 12947-2

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees or below)
- Instructions to avoid tumble drying
- Instructions to wash with similar colours and inside out
- Instructions to use only coloured detergent
- Instructions NOT to use bleaching detergent
- Instructions NOT to apply dry cleaning
- Instructions NOT to spot clean.

This will be verified by inhouse tests according to Kipas’ standards.

MATERIAL HEALTH
For further details refer to the Guidelines.

| Source cellulose-based fibres from regenerative farming, organic or transitional methods. | Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum. | In addition, the use of the following chemicals or processes is prohibited: |

- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting
- Chemicals compliant with REACH

This will be verified by GOTS and/or OCS certifications. This will be verified through the ZDHC Gateway. This will be verified by EIM Jeanologica.
**RECYCLABILITY**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Metal rivets will be removed entirely or reduced to a minimum.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material composition will meet the 98% cellulosic minimum. This will be verified by fibre content analysis test method.</td>
<td>Jeans will include at least 5% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition. This will be verified by GRS and RCS certifications.</td>
<td>N/A</td>
<td>Jeans will include easy removable buttons.</td>
</tr>
</tbody>
</table>

**TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING**
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Use Jeans Redesign logo</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A However, Kipas will look into this opportunity and might reach out to companies that have the right expertise for this technology, like The Fibersort Project or the partners - collectors and recyclers - that are participating in this Jeans Redesign project.</td>
<td></td>
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</tbody>
</table>
SAITEX is the world’s first and only denim factory that is B-Corp Certified, bluesign approved, Fair Trade, and LEED-certified. Under the leadership of Sanjeev Bahl, SAITEX has become a facility with unrivalled technology and sustainability impact in the fashion apparel manufacturing industry. Their current facilities are based in Ho Chi Minh City, with denim washing, sewing and finishing all on-site. The facility produces an average of 18,000 pairs of jeans per day and with a $2M water recycling system on-site.

SAITEX challenges the assumption that denim factories can’t be responsible for planet and people. Their global facilities serve as a destination for anyone looking to create and support responsibly made apparel. In launching its Jeans Redesign, the company leverages a dynamic opportunity that will create a circular business through the design, manufacturing, sale and up-cycling of denim garments.

The design and content of the jeans will remain in the hands of the designing brands, but SAITEX will arrive to them with a commitment to:
- Not use any hazardous chemicals
- Recycle 100% of the water used in the process that is not evaporated
- Remove all PP and sand blasting from the process
- Recycle all bi-products from the production process
- Encourage brands to design garments that will include fibres from regenerative agriculture and recycling
- Encourage brands to design garments that will include recycled parts
- Provide innovative traceability solutions through Fibretrace

“Through our continuous research and investment into responsible circular manufacturing practices, SAITEX’s aim is to encourage the rest of the industry to follow our lead,” explains CEO Sanjeev Bahl. By launching our Jeans Redesign we will extend an existing collaboration with the brands that produce sustainable products within our facilities. This programme will extend the circularity of manufacturing instantly proving that the loop can be closed on the lifecycle of any jean. Our hope is to support a fundamental shift in thinking towards a circular economy model starting with the fashion industry.”

– Sanjeev Bahl, CEO, SAITEX
**DURABILITY**
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Saitex’s’ minimum test standard for jeans.

This will be verified by:

- Dimensional changes of garments after home laundering (AATCC 150)
- Pilling after home laundering (ASTM D4970)
- Determining steam twist in garments
- Breaking strength of textile fabrics: grab test (ASTM D5034)
- Tearing strength: Elmendorf apparatus (ASTM D1424-09)
- Failure in sewn seams: woven fabrics (ASTM D1683-17)
- Attachment strength of trims (16 CFR 1500.53)
- Pocket strength (TPDD-00004)
- Colourfastness to actual laundering (AATCC 124)

Provide information on how to care for the jeans visibly on the garment

Jeans produced in accordance with the Guidelines will include an easily accessible label that will include the following information:

- Information on reducing washing frequency
- Instructions to wash at low temperatures (30 degrees of below)
- Instructions to avoid tumble drying

This will be verified by Bureau Veritas.

**MATERIAL HEALTH**
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

This will be verified by the Global Organic Textile Standard (GOTS) certification.

Jeans are made with chemicals that comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

This will be verified through the ZDHC Gateway.

Saitex is the only Bluesign certified laundry in the world which corresponds to level 3 ZDHC.

In addition, the use of the following chemicals or processes is prohibited:

- Conventional electroplating
- Potassium Permanganate
- Stone finishing
- Sand blasting
- [Optional - Insert additional]

This will be verified by Saitex, which will be using alternative methods such as Laser, Ozone, Nano spray, and natural alternatives to PP.
### RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Verification</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>This will be verified by Bureau Veritas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional: include x% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>This will be verified by Global Recycled Standard (GRS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal rivets will be removed entirely or reduced to a minimum.</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
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<tr>
<th>Requirement</th>
<th>Optional: use of technology that enables sorting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Jeans Redesign logo</td>
<td></td>
</tr>
</tbody>
</table>

Fibretrace is a technology which uses pigments and minerals that are embedded in the fibre to bring traceability seed to shelf. These are identified by a scanner that will be connected via Bluetooth to mobile devices where all the information about the garment can be found: composition, care information, countries that it has gone through, chemicals it contains, environmental impact, certifications of manufacturers etc.
THE JEANS REDESIGN
PARTICIPANT SPECIFICATIONS

FABRIC MILLS
Advance Denim has the distinction of being the oldest denim manufacturer in China and has dedicated its efforts around the core beliefs of innovation, service, quality, people and sustainability. These core beliefs drive our efforts at being a world leader in denim. Sustainability has been a key focus and we have set industry leading goals and results. We have invested heavily in a new dye technology called Big Box dying that reduces the number of dye boxes to just one Big Box and has up to 95% water savings while using true indigo dye to give you the real vintage wash down. We have also set the aggressive strategic plan of using 90% green fibres in all of our styles over the next five years. The focus on innovation does not take away our drive to be a world leader in innovation. This drive for innovation has created close to 40 new patents granted or pending in 2018/2019 and more to come in 2020. We believe that sustainability and innovation can be achieved in tandem but our long-term success will be merging innovation, sustainability and true vintage denim aesthetic.
## DURABILITY
For further details refer to the Guidelines.

| Be able to withstand a minimum of 30 home laundries | Provide information on how to care for the fabric to the garment manufacturers, e.g. whether fabric needs caution due to special process of finish |

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Advance Denim’s minimum test standard for jeans.

This will be verified by:
- Tensile strength test ASTM D5034
- Tear strength test ASTM 01424

Jeans produced to the Guidelines will include an easily accessible label that will include the following information:
- Reduced washing frequency
- Wash at low temperatures (30 degrees C or below)
- Avoidance of tumble drying
- No chlorine bleach

This will be verified by 3rd party testing company.

## MATERIAL HEALTH
For further details refer to the Guidelines.

| Source cellulose-based fibres from regenerative farming, organic or transitional methods. | Denim fabric is free of hazardous chemicals and made with chemicals that will comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum. | The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum.¹ |

This will be verified by GOTS and/or OCS certifications. This will be verified through the ZDHC Gateway. The ZDHC Wastewater Guidelines are subject to updating by ZDHC. At the time of creation of this document, the latest version is called ZDHC Wastewater Guidelines Version 1.1, published in July 2019. This will be verified by reporting wastewater data through the ZDHC Gateway.² |

The wastewater volume created for denim fabric is a maximum of 0.025 m³/yard or below.

The produced volume of wastewater is treated to the ZDHC Wastewater Guidelines.


² [https://www.roadmaptozero.com/gateway/wastewater-module](https://www.roadmaptozero.com/gateway/wastewater-module)
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>N/A</td>
</tr>
<tr>
<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>N/A</td>
</tr>
<tr>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Denim fabric composition will meet the 98% cellulosic minimum.

This will be verified by fibre content analysis test.

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional: use the Jeans Redesign logo on the fabric to ship to the garment manufacturer. Provide any certification needed to validate the fabric is Guideline-compliant.</td>
<td>N/A</td>
</tr>
<tr>
<td>Optional: use of technology that enables sorting.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
As a leader in denim innovation, Cone Denim is committed to sustainable innovation and responsible manufacturing to create unique performance and vintage-inspired denim fabrics. We look for opportunities to collaborate with likeminded partners to identify and lead initiatives that make a difference and bring positive change and new approaches throughout the fashion supply chain. As part of the new Elevate Textiles, Cone Denim looks for opportunities to build on our sustainability initiatives and advance our global leadership. We recently established 2025 Sustainability goals focused on driving initiatives to responsibly source fibres, reduce water consumption and lower greenhouse gases. The Ellen McArthur Foundation’s Jeans Redesigned movement aligns with our passion to effect positive change, and we are excited to be a mill partner and part of the transformation.
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Cone Denim’s minimum test standard for jeans.

This will be verified by:
- The fabric should test at a minimum of 65% of original strength after 30 Home Laundries
- Rigid Tear-AST MD 14241
- Rigid Tensile-ASTMD 5034

Provide information on how to care for the fabric to the garment manufacturers, e.g. whether fabric needs caution due to special process of finish

Jeans produced to the Guidelines will include an easily accessible label that will include the following information:
- Reduced washing frequency
- Wash at low temperatures (30 degrees C or below)
- Avoidance of tumble drying
- Use non-chlorine bleach if needed

This will be verified by specification sheets provided to the garment manufacturer.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Denim fabric is free of hazardous chemicals and made with chemicals that will comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

This will be verified by Global Organic Textile Standard (GOTS) or similar Organic Cotton program documentation that provides transparency into the organic cotton origin for the supplier and the brand.

The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum.¹

The ZDHC Wastewater Guidelines are subject to updating by ZDHC. At the time of creation of this document, the latest version is called ZDHC Wastewater Guidelines Version 1.1, published in July 2019.

The produced volume of wastewater is treated to the ZDHC Wastewater Guidelines.

The produced volume of wastewater is treated to the ZDHC Wastewater Guidelines.

This will be verified through the ZDHC Gateway.

The wastewater volume created for denim fabric is a maximum of 0.025 m³/yard or below

This will be verified by reporting wastewater data through the ZDHC Gateway.²

² https://www.roadmaptozero.com/gateway/wastewater-module
## RECYCLABILITY
For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Inclue a minimum of 98% cellulose-based fibres by weight in total textile composition.</th>
<th>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denim fabric composition will meet the 98% cellulosic minimum.</td>
<td>Denim fabric will include up to 5% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>N/A</td>
</tr>
<tr>
<td>This will be verified by purchase records and 3rd party testing.</td>
<td>This will be verified by RCS Certification.</td>
<td></td>
</tr>
</tbody>
</table>

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

| Optional: use the Jeans Redesign logo on the fabric to ship to the garment manufacturer. Provide any certification needed to validate the fabric is Guideline-compliant. | Optional: use of technology that enables sorting. | N/A |
Blue Diamond was founded in 1958 as a cotton mill. In 1996 they committed themselves to specializing in denim production. Collaborating with the “Godfather of Denim,” Adriano Goldschmied since 2012, Blue Diamond changed its focus on innovation and sustainability.

Blue Diamond is committed to a greener future with its willingness to use cotton blends with sustainable recycled fibres from Lenzing, Lycra, Unifi and its continued expansion of its recycled cotton, organic cotton and natural fibres offerings. To align with our environmental responsibilities, we are working diligently with 3rd party certification organizations. We hold certificates from Higg, GRS, RCS, ISO and others for our recycled and organic cottons. With the spirit of product development, we are looking at all aspects of denim production to make a change towards efficiency, sustainability & circularity.

We believe Ellen MacArthur Foundation and the Jeans Redesign participation is bringing forth the needed awareness to the public.

“I’ve been a fan of Ellen MacArthur since she was sailing, now I realise that that’s not the only interest we have in common, we also share the will and drive to work for a better future. For the second part of my career, once I realised how much our methods of working were hurting the planet, I have been committed to pioneer and promote sustainability in the denim industry. I was among the first to understand that technology needs to be coupled with determination to want to do better, and commitment to change to propel thing forward. This is what I admire and like so much about the Ellen MacArthur Foundation, they go straight to doing the actual work as opposed to just talking about it. A hands on method which I can relate to. When I met Blue Diamond, they were a representation of an old mill, working in the same way they had for a long time in one of the most polluted areas in China. House of Gold’s goal was to show how from such a dire situation you can always grow and drastically change for the better, Blue Diamond is now one of the leaders in innovation and research. It’s been a challenge to transition to more sustainable methods, as opposed to starting a whole new mill from scratch, then again, I’ve always like a challenge. This should be an example that it can be done.”

- Adriano Goldschmied, President / Founder of House of Gold
DURABILITY
For further details refer to the Guidelines.

Be able to withstand a minimum of 30 home laundries

Provide information on how to care for the fabric to the garment manufacturers, e.g. whether fabric needs caution due to special process of finish

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet House of Gold’s (through Blue Diamond: Xingtai H&J Textiles Co., Ltd) minimum test standard for jeans.

This will be verified by:

- ASTM D-1424 (Tear test)
- ASTM D-5034 (Tensile test)
- ISO testing upon client request.

MATERIAL HEALTH
For further details refer to the Guidelines.

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Denim fabric is free of hazardous chemicals and made with chemicals that will comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum.¹

The wastewater volume created for denim fabric is a maximum of 0.025 m³/yard or below

This will be verified by reporting wastewater data through the ZDHC Gateway.²

Source cellulose-based fibres from regenerative farming, organic or transitional methods.

Denim fabric is free of hazardous chemicals and made with chemicals that will comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum.

The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum.¹

The wastewater volume created for denim fabric is a maximum of 0.025 m³/yard or below

This will be verified by reporting wastewater data through the ZDHC Gateway.²

This will be verified by GOTS certified organic cotton.

We have inquired to joining ZDHC in August 2019, but due to a Chinese NGO law they are not allowed to accept Chinese contributors at this moment. We are compliant with the requirements of the ZDHC MRSL.

The ZDHC Wastewater Guidelines are subject to updating by ZDHC. At the time of creation of this document, the latest version is called ZDHC Wastewater Guidelines Version 1.1, published in July 2019.

This will be verified by reporting wastewater data through the ZDHC Gateway.²

² https://www.roadmaptozero.com/gateway/wastewater-module
### Recyclability

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</th>
<th>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
<td>Denim fabric composition will meet the 98% cellulosic minimum.</td>
<td>Currently 10% of our total production is from Pre-Consumer (Post-Industrial) recycled content. As more fibre companies provide recycled products, our goal is to have 50% of our production made with Pre-Consumer content. We currently do not have any Post-Consumer Recycled Content because we do not have a reliable source yet.</td>
</tr>
<tr>
<td>80% of our total production meets 98-100% cellulose based fibres.</td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Traceability: Enable Easy Sorting for Recycling

For further details refer to the Guidelines.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Optional: use of technology that enables sorting.</th>
<th>N/A</th>
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<tr>
<td>Optional: use the Jeans Redesign logo on the fabric to ship to the garment manufacturer. Provide any certification needed to validate the fabric is Guideline-compliant.</td>
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As a large-scale denim fabric manufacturer, Prosperity Textile is committed to promote more sustainable practices in denim, such as using more sustainably-sourced materials, reducing the consumption of water and chemicals in our processes, and designing innovative fabrics which pair well with lower impact jeans laundries. The four areas that Jeans Redesign outlines at its guidelines, durability, material health, recyclability and traceability, are fully in line with our agenda on denim reform, we are excited to be part of this project and will work closely with the Ellen MacArthur Foundation and other stakeholders to make a positive impact in the denim industry.

“Circular economy is not easy work, even more so when there are billions pairs of jeans made and sold every year. We are happy to participate in Jeans Redesign project to design and produce denim fabrics in accordance with the principles of a circular economy at scale, and we believe through our collaborations we will be able to make denim and jeans more sustainable.”

- Andy Zhong, Marketing Director
**DURABILITY**
For further details refer to the Guidelines.

| Be able to withstand a minimum of 30 home laundries | Provide information on how to care for the fabric to the garment manufacturers, e.g. whether fabric needs caution due to special process of finish |

Jeans produced in accordance with the Guidelines will be able to withstand a minimum of 30 home laundries and retain their ability to meet Prosperity Textiles’ minimum test standard for jeans.

This will be verified by:
- A full set of Fabric Physical Tests including Abrasion resistance, Dimensional stability, Colour fastness, Tensile strength and Tearing Strength
- Tested at mill's inhouse test lab or 3rd party labs based on different market standards such as AATCC, ASTM, ISO and GB/T

Jeans produced to the Guidelines will include an easily accessible label that will include the following information:

- Reduced washing frequency
- Wash at low temperatures (30 degrees C or below)
- Avoidance of tumble drying

This will be verified by sharing information on Prosperity Textile’s communication tools like website, presentations, product pages, labels, etc.

**MATERIAL HEALTH**
For further details refer to the Guidelines.

| Source cellulose-based fibres from regenerative farming, organic or transitional methods. | Denim fabric is free of hazardous chemicals and made with chemicals that will comply with Level 1 Zero Discharge of Hazardous Chemicals (ZDHC) manufacturing restricted substance list (MRSL) as a minimum. | The mill has implemented the ZDHC Wastewater Guidelines, including testing and reporting in accordance with the latest version of that document as a minimum.³ | The wastewater volume created for denim fabric is a maximum of 0.025 m³/yard or below |

This will be verified by GOTS and OCS certifications, the transactions records of fibre/yarn/fabrics, or the TENCEL lyocell certification number.

This will be verified through the ZDHC Gateway.

The ZDHC Wastewater Guidelines are subject to updating by ZDHC. At the time of creation of this document, the latest version is called ZDHC Wastewater Guidelines Version 1.1, published in July 2019.

This will be verified by reporting wastewater data through the ZDHC Gateway.²

² [https://www.roadmaptozero.com/gateway/wastewater-module](https://www.roadmaptozero.com/gateway/wastewater-module)
## RECYCLABILITY
For further details refer to the Guidelines.

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<th>Recyclability Requirements</th>
<th>Notes</th>
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<tr>
<td>Include a minimum of 98% cellulose-based fibres by weight in total textile composition.</td>
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<td>Optional: include post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.</td>
<td>Enable easy disassembly of any additional material that is added to the fabric (metals, radio-frequency identification (RFID), etc.).</td>
</tr>
</tbody>
</table>

Denim fabric composition will meet the 98% cellulosic minimum.

This will be verified by mill's fabric data sheet based on our inhouse test labs or other 3rd party lab tests on fibre content.

Denim fabric will include 5% post-consumer recycled content (PCRC) on average (by weight) of the total fabric composition.

This will be verified by GRS/RCS certifications.

## TRACEABILITY: ENABLE EASY SORTING FOR RECYCLING
For further details refer to the Guidelines.

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<th>Traceability Requirements</th>
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</table>
THE JEANS REDESIGN
IN SUPPORT OF THE GUIDELINES
“Jeans today are often made from complex materials and complicated structures, making it more difficult to recycle these garments. The Jeans Redesign Guidelines can help change that. The Guidelines can help the future of fashion by encouraging jeans to be made in a way that offers the potential of a second life - either through resale, recycling or upcycling - projects that Beyond Retro are extremely passionate about. The products can also be inputted into innovative recycling projects such as our collaborations with re:newcell and Converse, expanding the potential even further. Through this, a lot more products can be fully utilised with a much longer lifespan within a more circular economy.”

Steven Bethell, President and Partner, Bank and Vogue
“Circular Systems is an innovative materials company which has developed Texloop™ technology for the upcycling and management of textile and apparel waste streams. As a textile recycler, we depend on the entire textile supply chain, including manufacturers, brands and retailers, to produce garments that our technology can recycle.

There is currently a disconnect between the efforts of recyclers & the rest of the textile supply chain. The increasing complexity of fabrics and materials excludes many garments from being recycled into acceptable qualities. To increase the amount of apparel, including jeans, that can be recycled with our Texloop™ technology, we need to begin communicating our requirements upstream and support efforts that change the way that we design jeans.

We understand the Jeans Redesign is a starting point which begins to unite the efforts of the industry. As an industry, we are running out of time to take the urgently needed collective action to address the threats to our planet. The Jeans Redesign is a first step in tackling the issues at their root cause: By creating a dialogue between the designers of jeans & the recyclers of jeans.

Jeans that are produced Guideline-compliant are an acceptable feedstock for our technologies. We call on manufacturers, brands and retailers to design their jeans Guideline-compliant.

We strongly believe that the Jeans Redesign can enable a systems-thinking approach that engages all stakeholders in the supply chain. This is the critical factor required to properly address the challenges of circularity in the denim sector, and this should be seen as a framework that can be iterated upon and optimised to extend the reach of design and manufacturing guidelines across all the other sectors of apparel, accessories and footwear.

Additionally, we feel this step must be considered now, and enacted as soon as possible.”

Isaac Nichelson, CEO/Co-Founder, Circular Systems SPC
“At EVRNU we have invented an entirely new kind of engineered fiber called NuCycl made from discarded clothing. As part of our NuCycle innovation, we are calling on designers to ‘begin with the end in mind’, so that we can extend the life cycle of textile fibres. NuCycl makes it easier for the global textile industry to adopt a new model for how end-of-life clothing and unwanted textiles are managed with its garment-to-garment recycling technology.

However, today’s garment fabrics are often made from a blend of different materials which require more steps and resources to recycle. The Jeans Redesign translates our call on designers in concrete and actionable Guidelines that designers can follow. Our technology would be able to recycle the jeans produced in accordance with the Jeans Redesign Guidelines and we call on brands and retailers to get involved.”

Cheri Buell, COO, EVRNU

“The fashion industry needs an update, both its systems and values - denim is a great starting point. We all love our jeans, so let’s all wear jeans that love us back - by respecting the people who make them, and the resources from which they are made.”

Orsola de Castro, Founder and Creative Director, Fashion Revolution

“At HKRITA we support projects that take action and make a difference. The Jeans Redesign aims to do just that. Through this project we want to establish clear design guidelines, and useful production tools to make jeans more durable, sustainable and recyclable. The Jeans Redesign will enable and support our goal of a circular economy for the fashion and apparel industry. We look forward to a day soon when all jeans are made this way”

Edwin Keh, CEO, The Hong Kong Research Institute of Textile and Apparel
“The Jeans Redesign is an important milestone of Make Fashion Circular to support the circular design of jeans and ultimately all kinds of textiles. I:CO endorses this project, because the way clothes are designed from the start is critical for the efficiency of our I:CO system of textile collection, sorting, reuse and recycling and for achieving our mission to enable circular supply chains in the fashion industry.

To aid in the products’ material reutilisation, I:CO commits to investing in employee training at our global network of sorting facilities in order to gather items with the Jeans Redesign logo and provide for their reuse or recycling back into fibres for new garments.

We acknowledge that creating a circular economy for jeans requires a concerted and long-term effort from all stakeholders. With our early commitment, we want to pave the way for a critical mass of circular products to be collected and recycled through our I:CO take-back system. Therefore, we call for all brands and retailers to follow and start designing their jeans according to these important Guidelines.”

Axel Buchholz, CEO, I:CO

“At Infinited we have developed a technology that can recover all cellulosic fibres from garments. As a recycler we depend on brands to design clothing in a way that can be recycled efficiently. In reality, fabrics are increasingly made from multiple different materials which makes it more challenging and increases the costs to recycle most of them. Especially the amount of elastane poses a real challenge on recyclability.

The Jeans Redesign tackles the issue at its root cause, by connecting the design with available recycling technologies. Our technology would be able to recycle all the jeans produced in accordance with the Jeans Redesign Guidelines and we call on brands and retailers to get involved.”

Petri Alava, CEO, Infinited Fiber Company
“As a cellulosic fibre producer and recycler we strongly believe in collaboration between brands and the textile value chain as being key to bringing innovation and biobased materials to the consumers. Creating jeans that are made from biobased raw materials with an end of life purpose fits our TENCELTM fibres sustainability vision and our understanding of circular economy. Therefore we see the Jeans Redesign Guidelines as an important first step towards closing the loop in the textile industry. We are pleased to be part of the Guidelines’ evolution.”

Tricia Carey, Director Global Business Development for Denim, Lenzing

“We fully endorse the Jeans Redesign because it gets at a simple root cause for why almost no fashion is circular today; when we don’t make clothes that can be recycled, there won’t be any recycled clothes. For us as recyclers of natural fashion materials, complex blended fabrics that contain unsafe chemicals are as single-use as a plastic straw. We call on all manufacturers and brands to design their jeans in compliance with the Jeans Redesign Guidelines, and we commit to recycling 100% of such products once they can no longer be worn.”

Mattias Jonsson, CEO, re:newcell

“At Recover, as both a recycler and manufacturer of recycled yarns, we want to contribute to scaling the high-value recycling of post-consumer garments in the market. To be able to do so we depend on brands and retailers to produce garments that contain recycled content and are designed to be recycled. The Jeans Redesign is a fantastic starting point to increase both the availability of good feedstock into our recycling plants as well as the demand for post- consumer recycled content.”

Alfredo Ferre, CEO, Recover
“Today, the vast majority of garments that cannot be reused are downcycled into low value applications, like rags, mattress stuffing and insulation. Designing for durability and recyclability, as set out in the Guidelines, marks a pivotal change in the industry. Jeans designed this way will remain at a higher quality making them particularly attractive for local resale, but also for recycling and upcycling, when they can no longer be worn. Collaboration is essential. As a collector and sorter, we cannot create the circular economy for fashion alone. We are calling manufacturers, brands and retailers to follow the Jeans Redesign Guidelines to help us ensure the clothes they produce and sell never become waste.”

Martin Böschen, CEO, TEXAID

“Textile Exchange believes circularity is integral to the future of fashion and we are proud to work with the Ellen MacArthur Foundation on the Jeans Redesign. Textile Exchange’s mission is to accelerate the uptake of preferred fibres and materials, and the Jeans Redesign Guidelines align with that goal in key ways: requiring the use of organic cotton or in-transition cotton, suggesting the use of recycled content, and ensuring production without the use of potentially hazardous finishes and dyes. Textile Exchange knows that true industry transformation is only possible through a collaborative approach and we encourage brands and manufacturers to commit to using the Jeans Redesign Guidelines.”

La Rhea Pepper, Managing Director, Textile Exchange

“Designing apparel for recyclability will be a game-changer for the planet. By creating common standards and removing uncertainties in the content of denim, the Jeans Redesign will lower the cost of circularity by helping optimise recycling processes.

While Tyton’s solution can effectively recover polyester and cotton at any ratio in apparel, the addition of elastane to blends has been growing – this poses both technical and cost challenges for all recycling technologies. This leading effort to consider the relevant factors for recycling at the design stage is a model that we at Tyton would like to see replicated for other apparel categories.”

Peter Majeranowski, CEO, Tyton BioSciences LLC
“As recyclers, we need brands and retailers to produce clothes that our technology can process. But the increasing number of fibre types used in clothing generally, and the elastane in jeans particularly, means many garments will never be recycled. To change this we must change the way jeans are designed and made. The Jeans Redesign addresses this, by connecting design with today’s recycling technology, helping ensure that at the end of their life old jeans can be used by more brands to make new jeans.

We hope that the Guidelines lead to wider acceptance and use of post-consumer recycled content by brands and retailers.”

Kimberley van der Wal, Business Development Manager, Wolkat

“We’re excited to see the Jeans Redesign as it exemplifies a real and tangible step towards a circular flow of resources for the textile industry. As a polymer recycling technology designed to take in pure and blended polyester and cotton/cellulose, designing mono fibre products isn’t necessary for our process. However, focusing designer’s minds on optimal materials for achieving ‘100% circular’ will only improve the yield of the raw materials which can be recirculated in industrial processes of the future while reducing waste in the form of other non-recyclable materials.”

Cyndi Rhoades, Founder CEO, Worn Again Technologies
ABOUT MAKE FASHION CIRCULAR

*Make Fashion Circular* was launched by UK charity the Ellen MacArthur Foundation at the Copenhagen Fashion Summit in 2018. The initiative brings together leaders from across the fashion industry, including designers, brands, cities, philanthropists, NGOs, and innovators. Make Fashion Circular is heading up international efforts to stop waste and pollution in fashion by creating a circular economy for the industry, in which clothes are made from safe and renewable materials, new business models increase their use, and used clothes are turned into new ones.

To make fashion circular, businesses, governments, innovators, and citizens need to join forces. Make Fashion Circular brings together industry leaders including Burberry, Gap Inc., H&M, HSBC, PVH and Stella McCartney as Core Partners. Make Fashion Circular is supported by Philanthropic Partners C&A Foundation, MAVA Foundation, and players of People’s Postcode Lottery.
Philanthropic Partners

C&A Foundation

MAVA

People's Postcode Lottery

Postcode Dream Trust