



THE JEANS REDESIGN

GUIDELINES





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1. INTRODUCTION

This document sets out the specific requirements for jeans that will be produced as part of the Jeans Redesign. This work builds upon extensive research from the Ellen MacArthur Foundation's 2017 report *A new textiles economy: redesigning fashion's future*, as well as existing efforts by industry players to improve jeans production, including C&A and Fashion For Good's open source guide *Developing Cradle to Cradle Certified™ Jeans*.¹

In February 2019, *Make Fashion Circular* brought together a group of industry experts in an intensive workshop, to collaboratively test and further develop a common vision of what good looks like for jeans. As an outcome of the workshop, a draft set of Guidelines were produced for the Jeans Redesign, these have been tested and iterated with representatives from brands, garment manufacturers, fabric mills, recyclers, and academics in addition to those present on the day.

The result of this work is a set of co-developed Guidelines that define a starting point for the industry to design and produce jeans in accordance with the principles of a circular economy at scale. The Guidelines are divided into four areas: durability, material health, recyclability, and traceability. This document lays out the definition of terms in each area, the detailed requirements that must be achieved as a minimum, and the process for validating these achievements.

2. PARTICIPATION

Brands, retailers, garment manufacturers and fabric mills can get involved in the following way.

Join

- Sign the Participation Form. Brands and retailers additionally agree to produce a minimum number of the Participant's total jeans output in accordance with the Guidelines.

Implement

- Brands, retailers and garment manufacturers will make the redesigned jeans available on the market by the end of May 2021 while fabric mills will produce fabric that is compliant with the Guidelines.
- Drive actions to bridge innovation gaps and raise the industry ambition level.

Report

- Brands and garment manufacturers report the number of redesigned jeans produced according to the Guidelines to *Make Fashion Circular* and how these requirements have been met.
- Fabric mills report the amount of fabric (in yards) produced according to the Guidelines.

¹ [Developing Cradle to Cradle Certified™ Jeans](#)



To receive more information on participation please contact jeans@ellenmacarthurfoundation.org

3. VALIDATION

To take part in the Project, Participants must specify how their jeans will meet the Jeans Redesign Guidelines, and how they intend to accelerate progress against the Guidelines beyond the minimum requirements set out.

Participants will detail the validation methods that will be used to confirm the Guidelines have been met. This information will be provided on the Participation Form and, unless otherwise stated, will be publicly disclosed as part of the reporting progress by the Ellen MacArthur Foundation on behalf of *Make Fashion Circular*.

Participants are encouraged to disclose the percentage of jeans produced that will meet the Guidelines in either their annual report or sustainability report to offer a benchmark for progress. In addition, Participants are requested to disclose the number of their jeans produced that will meet the Guidelines to *Make Fashion Circular* which will publish the figure as an aggregated number for all Participants.

By the end of May 2021, Participants will be required to submit the Report Form to *Make Fashion Circular* to confirm that they have met the initial agreed specifications, to share any deviations from this original specification, and to provide details of how these meet each element of the criteria. To comply with its charitable objectives, the Ellen MacArthur Foundation on behalf of *Make Fashion Circular* will make the information submitted on the Report Form public on the *Make Fashion Circular* website.

Make Fashion Circular encourages third-party verification or assurance of reported data where appropriate. If Participants confirm this has been obtained, this will be included alongside the Participant's reported data. Please note that *Make Fashion Circular* do not verify or audit the data provided to it, and this is then reported on an 'as is' basis.

Please provide high-level information about the type of third-party organisation who will perform the verification or assurance exercise, and any plans for future development of verification or assurance processes for the data reported.

It is the responsibility of each Participant to make available on request information on the third-party verification that confirms compliance with any element of the requirements set out in Guidelines.

Participants meeting the logo terms and conditions will be granted permission to use the Jeans Redesign logo on jeans produced in line with the Guidelines. Use of the Jeans Redesign logo will be reassessed yearly, based on compliance with reporting requirements.

4. CIRCULAR ECONOMY CONCEPT AND PRINCIPLES

Looking beyond the current ‘take, make, and dispose’ extractive industrial model, a circular economy aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles:

- **Design out waste and pollution.** A circular economy reveals and designs out the negative impacts of economic activity that cause damage to human health and natural systems. This includes the release of greenhouse gases and hazardous substances, the pollution of air, land and water, as well as structural waste such as traffic congestion.
- **Keep products and materials in use.** A circular economy favours activities that preserve more value in the form of energy, labour, and materials. This means designing for durability, reuse, remanufacturing, and recycling to keep products, components, and materials circulating in the economy. Circular systems make effective use of biologically based materials by encouraging many different uses before nutrients are returned to natural systems.
- **Regenerate natural systems.** A circular economy avoids the use of non-renewable resources where possible and preserves or enhances renewable ones, for example by returning valuable nutrients to the soil to support regeneration.

In a circular economy, economic activity builds and rebuilds overall system health. The concept recognises the importance of the economy needing to work effectively at all scales – for large and small businesses, for organisations and individuals, globally and locally.

Transitioning to a circular economy does not just amount to adjustments aimed at reducing the negative impacts of the linear economy. Rather, it represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.

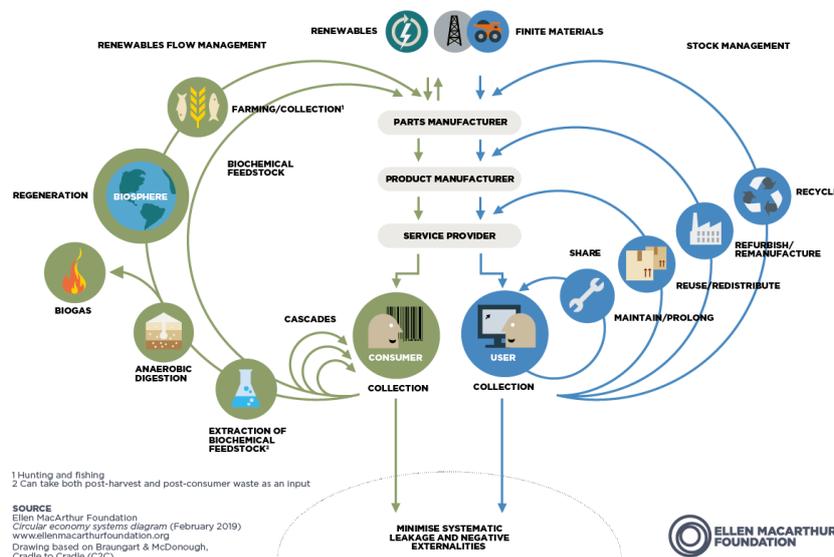


Figure 1: Circular economy system diagram

5. DESIGN GUIDELINES

5.1. DURABILITY

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 a durable product. In addition to implementing design changes, the way clothes are treated during use can significantly increase the amount of time for which they can be used.²

Research for the Jeans Redesign with multiple brands, manufacturers, and recyclers did not reveal a consistently used method or baseline across the fashion industry to measure and compare the durability of garments. On an individual basis, companies test for various performance indicators such as tensile strength, abrasion resistance, and colour fastness but there is no common measure. Therefore, the Guidelines below offer a starting point for the industry to move towards alignment on durability.

DEFINITION

Durability is the ability of a physical product to remain functional, without requiring excessive maintenance or repair, when faced with the challenges of normal operation over its design lifetime.³

This can generally be categorised into two broad aspects:

- **Physical durability:** considers construction and strategic reinforcing in order to create products that can resist damage and wear.
- **Emotional durability:** considers the product's ability to stay relevant and desirable to the user (or multiple users).

Further explanatory notes

- The Guidelines primarily focus on ensuring physical durability but acknowledge the importance of emotional durability to increase the number of times a garment is worn.
- It is intended that both the physical and emotional durability will be taken into account by Participants.
- This definition of durability applies to a product over multiple users, for example, through reuse, sharing, and reselling.

² See A. McLaren et al., [Clothing longevity perspectives: exploring consumer expectations, consumption and use](#)

³ Tim Cooper, The durability of consumer durables. *Business Strategy and the Environment*. 3 (1): 23-30.
See Wrap, [Clothing design for longevity](#)



GUIDELINES

The following measures define the minimum standards of durability that must be met:

a. BE ABLE TO WITHSTAND A MINIMUM OF 30 HOME LAUNDRIES

Section 5.1 Durability subsection a. applies to all organisations (brands, retailers, garment manufacturers, and fabric mills).

Jeans produced in accordance with the Guidelines will withstand a minimum of 30 home laundries, and afterwards retain their ability to meet the Participant's usual minimum durability requirements for jeans. Participants are requested to provide details of tests that will be used, e.g. abrasion resistance, dimensional change, etc.

Further explanatory notes:

- Examples of test methods available to test the above dimensions include, but are not limited to: ISO, AATCC, ASTM.

b. PROVIDE INFORMATION ON HOW TO CARE FOR JEANS VISIBLY ON THE GARMENT

Section 5.1 Durability subsection b. only applies to brands, retailers, and garment manufacturers.

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

- Information on reducing washing frequency⁴
- Instructions to wash at low temperatures (30°C or below)⁵
- Instructions to avoid tumble drying⁶

Further explanatory notes:

- This information can be included as part of the legally required label or as an additional label.
- Labels sewn into the jeans are included in the total fabric composition.

⁴ Expert interviews during Jeans Redesign workshop. See Chip Bergh, President and CEO, Levi Strauss [video interview](#)

⁵ DEFRA, Reducing the environmental impact of clothes cleaning (2009), p23-23

⁶ DEFRA, Reducing the environmental impact of clothes cleaning (2009), p23-23



5.2. MATERIAL HEALTH

Substances used at all stages of the production process often remain in textiles, both intentionally and unintentionally.⁷ 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 in humans to the loss of aquatic life.⁸ Some of the chemicals used can persist in the environment and may accumulate over time.⁹

Cotton production uses 2.5% of the world's arable land, but accounts for 16% of all pesticides used;¹⁰ in India 50% of all pesticides are used for cotton production.¹¹ 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.¹²

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.¹³

Rapidly eliminating hazardous substances from textiles 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.

DEFINITION

Material health refers to the safety – with respect to human health and the environment – of the materials and other substances that make up a product and that are used in the production process, ranging from raw material generation to after-use treatment. As a first step to improving material health, natural resources can be grown using regenerative (or in the shorter-term, organic) farming methods, and the most harmful chemicals can be removed from production processes and replaced with safe alternatives. Such actions help ensure that the constituent materials of a product can be safely channelled through either a biological or a technical after-use pathway.

⁷ Greenpeace, Dirty laundry: unravelling the corporate connections to toxic water pollution in China (2011), p.70

⁸ KEMI, Chemicals in textiles: risks to human health and the environment (2014); Greenpeace, [Eleven flagship hazardous chemicals](#); Changing Markets Foundation, Dirty fashion: How pollution in the textiles supply chain is making viscose toxic (2017)

⁹ See Greenpeace, [Eleven flagship hazardous chemicals](#)

¹⁰ See Rodale Institute, [Nine ways you may not realise cotton is in your food](#)

¹¹ D. Maxwell et al., State of the apparel sector report: Water, GLASA (2015), p.14; K.R. Dey et al., Impact of pesticide use on the health of farmers: a study in Barak valley, Assam (2013)

¹² Nanda Kishore Kannuri and Sushrut Jadhav, Generating toxic landscapes: impact on well-being of cotton farmers in Telangana, India (2018), Anthropology and Medicine, 25:2, 121-140, [DOI: 10.1080/13648470.2017.1317398](#); Pesticide Action Network, Is cotton conquering its chemical addiction? A review of pesticide use in Global Cotton Production (2017), p.49. See Pan-UK, [Cotton's chemical addiction](#)

¹³ Based on expert interviews. See EPEA, [Mechanical and chemical recycling of plastics](#)



GUIDELINES

The following measures define the minimum standards of material health that must be met:

a. SOURCE CELLULOSE-BASED FIBRES FROM REGENERATIVE FARMING, ORGANIC OR TRANSITIONAL METHODS

Section 5.2 Material Health subsection a. applies to all organisations (brands, retailers, garment manufacturers and fabric mills).

Further explanatory notes:

- Cellulose-based fibres include, but are not limited to: cotton, hemp, lyocell, and viscose.
- A regenerative agricultural system preserves the integrity of a farm's natural ecosystem, increasing its health, biodiversity, and resilience.¹⁴ Regenerative agriculture includes practices such as permaculture, no till, holistic grazing, and keyline land preparation.¹⁵
- To generate maximum soil regeneration, and therefore land productivity and farm profitability, several regenerative methods are often combined.
- The longer-term aim is to source all cellulose-based fibres from regenerative sources. In this first version of the Guidelines, cellulose-based fibres from organic sources – which may or may not meet regenerative criteria – are used as a starting point.
- 'In transition' or 'transitional' organic and regenerative methods are all included (see Appendix I for definitions). Examples of methods that could be used to verify cellulose-based fibres from regenerative or organic farming methods include, but are not limited to:
 - Global Organic Textile Standard (GOTS): The aim of GOTS is to define worldwide recognised requirements that ensure organic status of textiles, from harvesting of the raw materials, through environmentally and socially responsible manufacturing up to labelling in order to provide credible assurance to the end-consumer.¹⁶
 - Organic Content Standard (OCS): The goal of the OCS is to ensure trust in organic content claims. The OCS verifies the presence and amount of organic material in a final product. It provides a chain of custody system from the source of the organic raw material to the final product through certification.

¹⁴ See Regeneration International, [Why regenerative agriculture?](#)

¹⁵ SYSTEMIQ, Ellen MacArthur Foundation, and SUN, *Achieving Growth Within* (2017), p.80

¹⁶ See Global Standard, [General description](#)



b. JEANS ARE MADE WITH CHEMICALS THAT COMPLY WITH LEVEL 1, ZERO DISCHARGE OF HAZARDOUS CHEMICALS MANUFACTURING RESTRICTED SUBSTANCE LIST AS A MINIMUM

Section 5.2 Material Health subsection b. applies to all organisations (brands, retailers, garment manufacturers, and fabric mills).

The Zero Discharge of Hazardous Chemicals (ZDHC) Manufacturing Restricted Substance List (MRSL) is a list of chemical substances banned from intentional use in facilities that process textile materials. This includes not only chemicals used specifically for production, but also cleaning supplies, machine cleaners, lubricants, etc. that are in use in the facility for maintenance and support. The ZDHC MRSL sets restrictions on trace concentrations for banned chemical substances that are not intentionally used but may be found as unintended contaminants within a commercial chemical formulation.¹⁷

Companies may verify conformance with ZDHC requirements of at least level 1 through the ZDHC 'Gateway'.¹⁸ Examples of methods that could be used to verify safe chemistry beyond ZDHC Level 1 include, but are not limited to: Bluesign and Cradle to Cradle Certified™. While not third-party verification, tools such as ChemSec and Jeanologia can support self-assessment of chemical selection.¹⁹

c. IN ADDITION, USE OF THE FOLLOWING CHEMICALS OR PROCESSES IS PROHIBITED

Section 5.2 Material Health subsection c. only applies to brands, retailers, garment manufacturers as the below are usually applied to constructed jeans. Although fabric mills usually do not use such chemicals/ processes, the fabrics supplied must also be conform with this subsection.

- **Conventional electroplating.** Electroplating is the process of coating with metal by means of an electric current. The major environmental issues associated with electroplating activities are the generation of hazardous wastes and effluent disposal as well as odour and noise.²⁰
- **Stone finishing.** The use of pumice stones has several damaging effects and negative factors, such as: decreasing fabric quality, damaging the washing machine, causing a build-up of sludge that needs to be disposed of in an appropriate manner, breaking down into smaller parts during washing that get caught in pockets and other parts meaning garments need to be washed several times to get rid of residue, and a large quantity of stones are needed for washing.²¹
- **Potassium permanganate (PP).** Potassium Permanganate (PP) is a strong oxidising agent used to create different finishes on jeans. The use of PP decreases performance and durability and is thus counterproductive to the Project goal of increased durability.²² PP in contact with skin can cause irritation, burning, and pain; PP coming in contact with eyes carries the risk of a permanent loss of vision. PP is also an environmental hazard, especially for marine pollution and can bioaccumulate in the food chain.²³

¹⁷ See Roadmap to Zero, [MRSL conformance guidance](#)

¹⁸ See Roadmap to Zero, [Gateway](#)

¹⁹ See [Jeanologia](#) and [ChemSec](#)

²⁰ See Science Direct, [Electroplating](#)

²¹ International Journal of Engineering Research, Volume No.6, Issue No.12, pp.499–501. See Science Direct, [Stone size](#)

²² See Semantics Scholar, [Investigation of the Influence of Potassium Permanganate on Denim Jeans Processing During Acid Wash](#)

²³ See New Jersey Department of Health and Senior Services, [Hazardous substances fact sheet](#)



- **Sand blasting.** Sand blasting is a process used to create a distressed look on jeans. Sandblasting reduces the durability of the garment and is dangerous for workers' health, with risks such as the potential for serious damage to the respiratory passages.²⁴

d. THE FABRIC MILL HAS IMPLEMENTED THE ZDHC WASTEWATER GUIDELINES, INCLUDING TESTING AND REPORTING IN ACCORDANCE WITH THE LATEST VERSION OF THAT DOCUMENT²⁵ AS A MINIMUM.

Section 5.2 Material Health subsection d. has been added after close exchange with 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.²⁶

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.

Companies may verify conformance with ZDHC Waste Guidelines through the ZDHC 'Gateway'.²⁷

e. THE WASTEWATER VOLUME CREATED FOR DENIM FABRIC IS A MAXIMUM OF 0.025 m³/YARD OR BELOW

Section 5.2 Material Health subsection e. has been added after close exchange with fabric mills.

The way denim is made is often water-intensive, but practices are improving, and mills are continuously lowering the amount of water needed. The produced volume of wastewater is treated to the specifications 5.2 subsection d. of these Guidelines.

5.3. RECYCLABILITY

The way clothes are made, including the way fabric is constructed and chosen, rarely considers the recyclability of the materials once they are no longer in use. 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.²⁸

Based on research for the 2017 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 emerging chemical recycling processes.

²⁴ See Clean Clothes, [Fashion: a victim's report on sandblasted denim](#). Levi Strauss, [It's time to ban sandblasting](#)

²⁵ See [ZDHC Wastewater Guidelines V1.1](#)

²⁶ Application of the ZDHC wastewater guidelines across the entire value chain is subject to the next update of the Jeans Redesign Guidelines.

²⁷ See ZDHC Wastewater Module

²⁸ Based on extensive expert interviews conducted for A new textiles economy: redesigning fashion's future, p.92 (2017) and the Jeans Redesign.



DEFINITION

Recyclability refers to the ability to keep materials in use once a product and its components can no longer be reused or repaired. Garments can be recycled at various levels:²⁹

- Fabric recycling takes pieces of complete fabric and re-sews them to create (parts of) a new garment. This level of recycling is sometimes also referred to as ‘remanufacturing’.
- Yarn recycling unravels the yarns used to make knitted garments while keeping them intact.
- Fibre recycling sorts garments by colour and material which are then shredded and processed back into fibres.
- Polymer recycling takes fibres back to the polymer level, destroying the fibres but keeping the chemical structure of the material intact. This can be achieved by either the melting and extruding of textiles made from mono-material plastic-based fibres, or by extracting the polymer with a solvent (often used in cellulosic recycling).
- Chemical monomer recycling breaks down polymers into individual monomers or other constituent materials that can then serve as feedstock to produce virgin-quality polymers.

GUIDELINES

The following measures define the minimum standards of recyclability that must be met:

a. INCLUDE A MINIMUM OF 98% CELLULOSE-BASED FIBRES BY WEIGHT IN THE TOTAL TEXTILE COMPOSITION

Section 5.3 Material Health subsection a. applies to all organisations (brands, retailers, garment manufacturers, and fabric mills).

To ensure materials used can be recycled at the highest quality and value, jeans produced to the Guidelines should not include more than 2% non-cellulose based fabric by weight.

Further explanatory notes:

- Cellulose-based fibres include, but are not limited to: cotton, hemp, lyocell, and viscose.
- Non-cellulose based materials include all plastic-based fibres, for example, elastane, nylon, and polyester.
- Any additional fibres containing tracking or tracing technology are included in the total textile composition and must not disrupt mechanical or chemical recycling processes.
- Zipper tape is included in the total textile composition.
- Thread used for seams is included in the total textile composition.
- Interlinings are included in the total textile composition.
- Labels are included in the total textile composition.
- Recycled content is included in the total textile composition.

²⁹ Ellen MacArthur Foundation, A new textiles economy: redesigning fashion’s future (2017), p.96



b. [OPTIONAL: INCLUDE % [PLEASE INSERT PERCENTAGE HERE] POST-CONSUMER RECYCLED CONTENT ON AVERAGE (BY WEIGHT) OF THE TOTAL FABRIC COMPOSITION.]

Section 5.2 Material Health subsection b. applies to all organisations (brands, retailers, garment manufacturers, and fabric mills).

Post-consumer recycled content (PCRC) can potentially contain hazardous substances, depending upon the dyes or treatments that were applied when the garment was made. Since this can only be identified by rigorous chemicals testing, some certifications that specify strict material health guidelines, such as Cradle to Cradle Certified™, do not allow for such recycled content to be included. Therefore, to avoid excluding those Participants already working towards strict material health guidelines, PCRC is optional in this first iteration of the Guidelines. However, use of PCRC is strongly encouraged.

Further explanatory notes:

- PCRC refers to garment to garment recycling only.
- Recycled plastic-based fibres from PET bottles or other industries are excluded.
- PCRC does not need to be material that was originally produced using regenerative or organic farming methods.
- Pre-consumer content can be added in addition to the elected PCRC.
- PCRC is part of the overall fabric composition, and must meet criteria of section a of the recyclability guidelines.

Examples of validation include, but are not limited to:

- The Global Recycled Standard (GRS). A full product standard to verify and track recycled raw materials through the supply chain. It also includes processing criteria to prevent the use of potentially hazardous chemicals, and verifies positive social or environmental production at the facilities. The GRS uses the chain of custody requirements of the Content Claim Standard (CCS).³⁰
- The Recycled Claim Standard (RCS). A chain of custody standard to verify and track recycled raw materials through the supply chain. It does not address the use of chemicals or any social or environmental aspects of production beyond the integrity of the recycled material. The RCS uses the chain of custody requirements of the Content Claim Standard (CCS).³¹

c. METAL RIVETS ARE REMOVED ENTIRELY OR REDUCED TO A MINIMUM

Section 5.3 Recyclability subsection c. only applies to brands, retailers, and garment manufacturers as the process described is only relevant for such organisations.

Metal rivets are difficult to remove for recyclers. As a consequence, larger parts of the upper fabric of jeans are cut off and landfilled or incinerated. To maximise the amount of fabric that can be recycled, ideally metal rivets will not be used. If metal rivets are used, these must be kept to a minimum. Alternatives, such as the use of bar tacks, exist and are adopted in the industry today.

³⁰ See Textile Exchange, [Integrity](#)

³¹ See Textile Exchange, [Integrity](#)



d. ENABLE EASY DISASSEMBLY OF ANY ADDITIONAL MATERIAL THAT IS ADDED TO THE FABRIC (ACCESSORIES, METALS, RADIO-FREQUENCY IDENTIFICATION (RFID), ETC.)

Section 5.3 Recyclability subsection d. applies to all organisations (brands, retailers, garment manufacturers, and fabric mills)

Trims that cannot be easily disassembled for removal can cause additional waste fabric at the recycling stage as they are often removed by cutting. Any additional materials, including accessories, or digital technologies should be designed to be easily removed allowing for reuse and recycling at the end of use.

5.4. TRACEABILITY

Correct labelling and material identification is paramount to accurately sort collected clothing for reuse and recycling. In order to continue to realise the benefits of jeans produced in alignment with the Jeans Redesign Guidelines after their first user, it will be necessary to identify them as part of the Project. Recycling processes 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). Universal tracking and tracing technologies – integrated in the design of clothing and aligned to processes across the value chain – could support the identification of materials in the system.

DEFINITION

Traceability allows the tracking of the activity of an identity, process or an element, and enables the tracking of materials, product, and the conditions in which they were produced through the supply chain.^{32,33}

Transparency relates directly to relevant information made available to all elements of the value chain in a standardised way which allows common understanding, accessibility, clarity, and comparison.³⁴

Further explanatory notes

- Traceability refers to being able to accurately identify the material composition of the jeans.
- Information to be included for tracking and tracing is the level of chemical compliance (what chemicals have been used to produce the jeans).
- Traceability includes identifying the jeans as being compliant with the Guidelines.

³² See [ISO/IEC 27036-3:2013](#)

³³ See OECD, [Due diligence guidance for responsible supply chains in the garment and footwear sector](#)

³⁴ See UNECE, [Transparency and traceability for sustainable value chains](#)



GUIDELINES

The following measures define the minimum standards of traceability that must be met.

a. USE JEANS REDESIGN LOGO

Section 5.4 Traceability subsection a. applies to all organisations (brands, retailers, garment manufacturers, and fabric mills).

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.

Fabric mills may use the logo to mark their Guideline-compliant fabrics.

b. [OPTIONAL: USE TECHNOLOGY THAT ENABLES SORTING]³⁵

Section 5.4 Traceability subsection b. applies to all organisations (brands, retailers, garment manufacturers, and fabric mills).

All technology added to the jeans must not interfere with the recycling process and/or be easily removable, and be able to withstand washing, wear and tear, while retaining full functionality until the end-of-use.

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Fabric Recycling: fabric recycling takes pieces of complete fabric and re-sews them to create (parts of) a new garment. This level of recycling is sometimes also referred to as 'remanufacturing'. It can take the form of utilising factory offcuts and leftover materials, or large parts of post-use garments that are disassembled and reused in a new garment while keeping the fabric intact. If a change in colour is needed, the fabric can be treated with bleaches or dyes in the process. This type of recycling does not require advanced technologies, but only has limited applications as it is labour intensive, inconsistent supply of fabrics will not allow for large scale production, and the fabric is often too small to be made into another garment or the quality is too low.³⁶

Hazardous Chemicals: hazardous chemicals are those that show intrinsically hazardous properties: persistent, bioaccumulative and toxic (PBT); very persistent and very bioaccumulative (vPvB); carcinogenic, mutagenic, and toxic for reproduction (CMR); endocrine disruptors (ED); or are of equivalent concern, not just those that have been regulated or restricted in other regions.³⁷

³⁵ A number of companies are currently developing such technologies including Eon, circular.fashion, and others (list cannot be extensive)

³⁶ Ellen MacArthur Foundation, A new textiles economy: Redesigning fashion's future (2017), p.96

³⁷ [Roadmap to Zero](#), definition based on EU REACH regulation



In transition or transitional: transitioning production to organic certification usually takes place over a 36-month (three-year) period, unless using virgin land. It is an ongoing cycle of shifting conventional farming practices to an organic management system until the land qualifies to be certified organic under national or international organic standards.³⁸

Organic: organic cotton is cotton that is produced and certified to organic agricultural standards. Its production sustains the health of soils, ecosystems, and people by using natural processes rather than artificial inputs. Importantly, organic cotton farming does not allow the use of toxic chemicals or GMOs (genetically modified organisms). Instead, it combines tradition, innovation, and science to benefit the shared environment and promote a good quality of life for all involved.³⁹

Plastic-based fibres: often also referred to as ‘synthetic fibres’ in the industry. In this document the term plastic-based fibre is used to explicitly exclude man-made synthetic fibres such as lyocell or viscose.

PCRC Post-Consumer Recycled Content: proportion, by mass, of post-consumer recycled material in a product or packaging. Note: ISO14021’s usage of term clarifies post-consumer material as material generated by households or by commercial, industrial, and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.⁴⁰

Recyclable: a product is designed so that material from products can be recovered when it can no longer be used. The materials recovered feed back into the process as feedstock for the original or other purposes. Use for energy recovery, fuel or backfilling are excluded.

Regenerative: a regenerative agricultural system preserves the integrity of a farm’s natural ecosystem, increasing its health, biodiversity, and resilience.⁴¹ Regenerative agriculture includes practices such as permaculture, no till, holistic grazing, and keyline land preparation,⁴² several of which methods are often combined.

Remanufacture: remanufacturing is the process of disassembly of products into components, testing, and recombining those components into a product of at least original performance. Generally, the resultant new product is given a warranty that is identical to that of an equivalent product manufactured out of all new parts.

³⁸ See Textile Exchange, [Transitional cotton](#)

³⁹ See [About Organic Cotton](#)

⁴⁰ Source: ISO 14021:2016 modified, Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling), Usage of terms, modified (focus on post-consumer recycled material). Permission to reproduce extracts from ISO publications is granted by BSI Standards Limited on behalf of the International Organization for Standardization. No other use of this material is permitted.

⁴¹ See Regeneration International, [Why regenerative agriculture?](#)

⁴² SYSTEMIQ, Ellen MacArthur Foundation, and SUN, Achieving Growth Within (2017), p.80; Ellen MacArthur Foundation, Cities and circular economy for food (2019)



Renewable material: material that is composed of biomass⁴³ from a living source and that can be continually replenished. When claims of renewability are made for virgin materials, those materials shall come from sources that are replenished at a rate equal to or greater than the rate of depletion.⁴⁴

Reusable: a product that is, or its components are designed so that they can be, put back into service after use. A product can be repaired, upgraded or refurbished before it is used again. Components of a product can be reused in a new product.

Spirality: torque fabric condition, wherein filling yarns or knitted courses are angularly displaced from a line perpendicular to the edge or side of a fabric or garment.⁴⁵

⁴³ ISO 14021:2016: Biomass is defined as a “material of biological origin excluding material embedded in geological formations or transformed to fossilised material. Note 1 to entry: This includes organic material (both living and dead) from above and below ground, e.g. trees, crops, grasses, tree litter, algae, animals and waste of biological origin, e.g. manure (modified: part on renewable energy excluded)”; ISO/IEC 13273-2:2015, Energy efficiency and renewable energy sources — Common international terminology — Part 2: Renewable energy sources, Biomass definition: “Note 1 to entry: The biomass includes waste of biological origin. Note 2 to entry: The material includes animal by-products and residues and excludes peat.”

⁴⁴ Source: ISO 14021:2016, Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling) — Sections 7.14.1. Usage of term and 7.14.2. Qualifications. ISO 14021: “An unqualified claim of renewability shall only be made when the product consists of 100% renewable material, allowing for de minimis amounts of non-renewable materials being contained in that material. Otherwise, renewability claims shall be qualified as follows:
a) where a claim of renewable material content is made, the percentage by mass of renewable material to the total mass shall be stated;
b) the percentage of renewable material content (mass fraction) for products and packaging shall be separately stated and shall not be aggregated.”

⁴⁵ See [ISO 16322-3:2005\(en\)](#)



DISCLAIMER

The information given in these Guidelines has been provided by the Ellen MacArthur Foundation and has not been independently verified. While the Guidelines have been prepared in good faith, no warranty, assurance or undertaking (express or implied) is, or will be made, and no responsibility or liability will be accepted by any of the Ellen MacArthur Foundation corporate group (including the *Make Fashion Circular* initiative) or by any of their respective officers, employees or agents in relation to the adequacy, accuracy, completeness or reasonableness of this information (whether written or oral) or notice or document supplied or otherwise made available to the recipient or its advisors in connection with the Jeans Redesign (the Project). All and any such responsibility and liability is expressly disclaimed. The recipient acknowledges and agrees that no person has, nor is held out as having, any authority to give any statement warranty, representation, assurance or undertaking on behalf of Ellen MacArthur Foundation or its *Make Fashion Circular* initiative in connection with the Project.

No information set out or referred to in these Guidelines shall form the basis of any contract. Any prospective Participant for the Project shall be required to complete, sign and submit the Participation Form to the Ellen MacArthur Foundation.

None of the guidelines will, on its own, be sufficient to realise a circular economy for fashion. However, all of them contribute towards that vision, and, collectively, they are an important and necessary step forward. These guidelines are considered a 'minimum bar'. All Participants are encouraged to take additional and/or more ambitious steps that contribute to achieving the vision. Regularly, the 'minimum bar' of the Guidelines will be reviewed and, where relevant and after consultation, raised to ensure the Jeans Redesign continues to represent true leadership.

If you would like more information about participation, please contact jeans@ellenmacarthurfoundation.org