

EPD – ENVIRONMENTAL PRODUCT DECLARATION

**IN ACCORDANCE WITH ISO 14025 FOR:
GREEN QUILTED JACKET 4101 GRP AND JACKET QUILTED REVERSIBLE 4012 TA**

GENERAL INFORMATION

OWNER OF THE EPD:

Fristads AB Prognosgatan 24, 501 11 Borås, Sweden
Contact person: Lene Jul, Product Management Director,
lene.jul@fristads.com
www.fristads.com

NAME AND LOCATION OF PRODUCTION SITE:

Vietnam

PROGRAMME:

The International EPD[®] System
www.environdec.com

PROGRAMME OPERATOR:

EPD International AB

EPD REGISTRATION NUMBER:

S-P-01761

PUBLICATION DATE:

2020-03-04

VALIDITY DATE:

2025-03-04

GEOGRAPHICAL SCOPE:

Global

Prepared with the assistance of RISE AB.

A GREEN REVOLUTION

Fristads is the first company in the world to measure the environmental impact of clothes. Fristads Green is a concept of workwear where the entire manufacturing chain is characterized by environmental awareness and innovation to minimize the footprint on the environment. We started with a collection for craftsmen, but our aim is to make the Green concept a part of every product segment within coming years.

EPD – ENVIRONMENTAL PRODUCT DECLARATION

Fristads Green products have a certified Environmental Product Declaration (EPD) giving information about the environmental performance, contents and recycling, which has been controlled and verified according to the requirements of the International EPD® System. More information is available at environdec.com. The EPD registration numbers are displayed in connection to the products.



COMMITTED TO SUSTAINABILITY

In 2019 Fristads became the first clothing producer in the world to introduce a new standard for measuring the total environmental impact of a garment – from choice of material to delivery of the finished garment.

With three own factories in Europe and sales in more than 20 countries, there are many people around the world working for us – and we care for each and every one of them. These are fine words of course, and we stand firmly behind them. Injustices, unreasonable working hours, low wages, corruption – these are all issues that we resist, where we are constantly on our guard. We work hard to exert our influence wherever our products are made.

We have set high requirements for the companies that want to be our suppliers, at all stages. We give consideration to all the details in the chain, from human rights to environmental impact. It's our duty.

Our work with sustainability is based on the 10 principles in the UN's Global Compact, which forms the basis for our Code of Conduct. We respect and promote human rights according to the United Nations Declaration of Human rights and the Core Conventions of the International Labour Organisation. As a member of amfori BSCI (Business Social Compliance Initiative), we pursue a constructive and open dialogue among our business partners and stakeholders to reinforce the principles of a socially responsible business.

We are certified according to ISO 14001 and work constantly to improve our environmental performance. We monitor the use of chemicals in our products throughout our supply chain. Our Restricted Substance List, shared among all suppliers, reflects the latest EU harmonized legislation which includes REACH, pops regulation, Biocide Regulation and Product Safety Regulation, and is updated regularly based on the guidance of our partner RISE, the Swedish Chemical Group. Furthermore, most of our products are OEKO-TEX® certified.

These efforts are rarely visible from the outside. But, we know they make a difference. For this reason, they are extremely important for us as we strive to make a better world to live in, a world we can proudly leave for the generations that follow us. Read more at fristads.com.



HUMAN RIGHTS,
LABOUR, ENVIRONMENT,
ANTI-CORRUPTION



SOCIAL COMPLIANCE



ENVIRONMENT



CHEMICAL REGULATIONS



CHEMICAL REGULATIONS

EPD

ENVIRONMENTAL PRODUCT DECLARATION

By developing an EPD, Fristads aims to contribute to positive change and greater transparency when it comes to environmental impact.



The Fristads Green concept presents the first EPD certified garments in the world. Fristads Green is the world's first clothing line with an Environmental Product Declaration (EPD).

THE WORLD'S FIRST EPD FOR CLOTHING

Fristads objective is to contribute to a longterm, sustainable and transparent measuring tool for environmental impact – a standard that can be used throughout the textile industry.

An Environmental Product Declaration (EPD) is an independently verified and registered document that communicates transparent and comparable information about the life cycle environmental impact of products. The relevant standard for Environmental Product Declarations is ISO 14025, where they are referred to as "Type III environmental declarations". A Type III environmental declaration is created and registered in the framework of a programme, such as the International EPD® System.

The International EPD® System has, as a main objective, the ambition to enable and support organisations in any country to communicate quantified environmental information on the life cycle of their products in a credible, comparable, and understandable way. All EPDs registered in the International EPD® System are publically available and free to download on this website: www.environdec.com.

All EPDs are based on Product Category Rules providing rules, requirements, and guidelines for a defined product category. The overall goal of an EPD is to provide relevant and verified information to meet the communication needs in the various applications: procurement, ecodesign or environmental management systems. An important aspect of EPD is to provide the basis of a fair comparison of products and services by its environmental performance. EPDs can reflect the continuous environmental improvement of products and services over time and are able to communicate and add up relevant environmental information along a product's supply chain.

EPD®



GREEN QUILTED JACKET 4101 GRP

Contrast tape on shoulders made of recycled polyester

Part of zippers made of recycled polyester

100% recycled polyester
PrimaLoft® padding from PET bottles

Made of recycled polyester. The polyester is dyed using the e-dye® system which reduces water consumption by 75%

All surplus material from production is utilised on site and turned into new products

Clean design involving minimal details and smart solutions; saves energy in production and facilitates recycling of the material

Packable garment into inner pocket, no use of plastic bag

Added value; Can be combined with jacket 129667 Green Shell jacket and is EN 342 certified as combination



GREEN QUILTED JACKET 4101 GRP

Article no 130806

Part of Fristads Green collection / Fluorocarbon free water repellent treatment / Fully lined and quilted padding / Packable / Buttons at neck and sleeve ends for use as lining in jacket 129667 / Full length front zip / Raglan sleeves / Contrast tape on shoulders / Inner pocket with zip / 2 front pockets with zip / Elasticated ribbon at sleeve ends and bottom / Extended back / e.dye® / With EPD (Environmental Product Declaration) / Approved according to EN 342 together with jacket 129667 / OEKO-TEX® certified.

MATERIAL 100% recycled polyester. 100% recycled polyester padding. Lining 100% recycled polyester.
WEIGHT 55 g/m², 80 g/m², lining 70 g/m². **COLOUR** 940 Black. **SIZE** XS-4XL.



QUILTED JACKETS 4101 GRP AND JACKET QUILTED REVERSIBLE 4012 TA

The Green Quilted jacket 4101 GRP and Jacket quilted reversible 4012 TA are constructed from a main fabric made of polyester respective nylon.

| GARMENT NAME | STYLE NO | DESCRIPTION |
|-----------------------------------|----------|--|
| Green Quilted jacket 4101 GRP | 130806 | Jacket: Green collection, dope dyed recycled polyester |
| Jacket quilted reversible 4012 TA | 126432 | Jacket: Comparison product, nylon |



GREEN QUILTED JACKET 4101 GRP

Art no 130806



JACKET QUILTED REVERSIBLE 4012 TA

Art no 126432

LCA INFORMATION

– LIFE CYCLE ASSESSMENT

Life Cycle Assessment is a method for analysing the environmental impact of a product throughout its life-cycle, from the extraction of raw materials (the cradle) to handling the waste (the grave).

GOAL OF THE STUDY

An LCA study has been conducted in accordance with ISO 14044 and the requirements stated in the General Programme Instructions by The International EPD® System¹.

The goal of the present LCA study has been to calculate environmental impact values for Fristads' Green Quilted jacket 4101 GRP and Jacket quilted reversible 4012 TA to create this Environmental Product Declaration, to be used for communicating environmental performance to customers.

SCOPE OF THE STUDY

The scope of this study is cradle to gate and includes all processes up until the jacket is manufactured, see Figure 1. All material and resource consumption is tracked back to the point of raw material extraction, mainly by using cradle-to-gate data² from the Ecoinvent database. The functional unit of the study is 1 (one) garment, in accordance with the Product Category Rules (PCR)³.

DATA COLLECTION

The inventory for the LCA study was carried out during 2019, collecting data for 2018 and 2019. The data for the textile processing is provided by the Fristads' suppliers. Data for confectioning was collected by Fristads' staff.

ALLOCATION

Whenever it has been necessary to partition the system inputs and outputs, mass criteria have been used in accordance with the PCR. Such situations have for example been when the share of energy and water consumption of an entire production plant has been allocated to the specific fabric based on the total production volume (mass) of the plant.

CUT-OFF RULES

The PCR states that life cycle inventory data for a minimum of 99 % of total inflows to the three life cycle stages (up-stream, core and downstream modules) shall be included and a cut-off rule of 1% regarding energy, mass and environmental relevance shall apply.

ASSUMPTIONS AND LIMITATIONS

Some general assumptions have been made around transport vehicles to enable use of database data from Ecoinvent⁴ to represent primary data. Country electricity mix datasets have been used for electricity when the site reports that they use the country electricity net.

Generally, the LCA data should be used with precaution if interpreted for any other purpose than this EPD.

DATA QUALITY

The data quality has been considerably increased by the experience from making a similar study in the past⁵.

ADDITIONAL INFORMATION ABOUT THE LCA STUDY

TIME REPRESENTATIVENESS:

2018-2019

DATABASE(S) AND LCA SOFTWARE USED:

SimaPro version 9.0.0.48⁶
ecoinvent version 3.5⁷

CALCULATION METHODS

Resource use values are calculated from Cumulative Energy Demand V1.10. Potential environmental impacts are calculated with the EPD (2018) v1.00 method as implemented in SimaPro: CML-IA baseline v3.05 for eutrophication, global warming, ozone depletion and abiotic resource depletion; CML-IA non baseline method for acidification; AWARE v1.02 for water scarcity and ReCiPe 2016 Midpoint (H) v1.1 for photochemical oxidation. For global warming potential, the default characterization factors are the IPCC (2013) factors as implemented in CML baseline method. However, the latter does not provide the same resolution in EPD (2018) V1.00 as is specified in the EPD template (fossil, bio-based respective land use and land transformation), wherefore instead the method Greenhouse Gas Protocol V1.02 is used.

DESCRIPTION OF SYSTEM BOUNDARIES:

cradle-to-gate

LCA PRACTITIONER:

Sandra Roos, RISE
PO Box 104, SE-431 22 Mölndal, Sweden

THIRD PARTY REVIEWER:

Marcus Wendin, Miljögraff AB, Övre Hövik 25b,
SE-430 84 Göteborg, Sweden

SYSTEM DIAGRAM

The system boundaries of this EPD are decided by the Product Category Rules (PCR) and illustrated by Figure 1.

Garment manufacturing, retail, use and end-of-life processes are not included. The only downstream process included in the system boundary, the transport to the customer, was found to give a negligible contribution to the environmental impact (<1% for all categories). Therefore, the downstream phase is not reported separately.

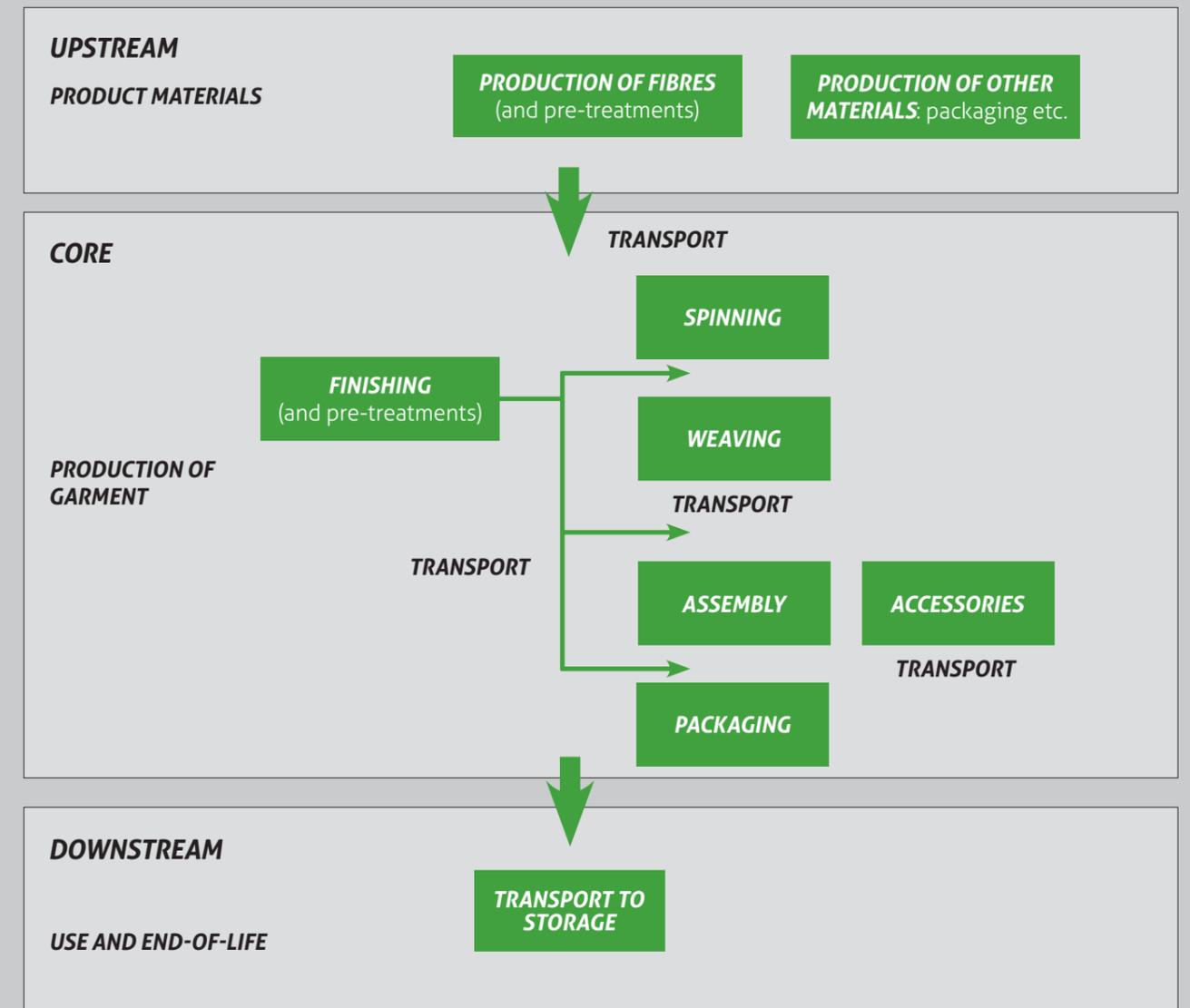


Figure 1. The system boundaries include upstream, core and downstream processes.

¹ EPD International, "General Programme Instructions for the International EPD® System Version 3.0" (Stockholm, Sweden, 2017), www.environdec.com.

² Cradle-to-gate = all processes from cradle (mining site, forest etc.) to gate (until the goods is produced and ready for delivery at the factory gate).

³ EPD International, "PCR 2019:04 Jackets, coats and other similar outdoor garments: UN CPC 282. Product Category Rules According to ISO 14025. Version 1.01" (2019).

⁴ Ecoinvent, "Ecoinvent" (Zurich, Switzerland: Ecoinvent, 2019), <https://www.ecoinvent.org/database/database.html>.

⁵ EPD International, "EPD GREEN CRAFTSMAN JACKETS 4538 GRN AND JACKET 4555 STFP. EPD Registration Number S-P-01534." (2019).

⁶ <http://www.environdec.com/en/Detail/epd710#.VVxI2cw-M8>.

⁷ PRé Consultants, "SimaPro 9.0" (PRé Consultants, 2019), <http://www.pre-sustainability.com/simapro>.

⁸ Ecoinvent, "Ecoinvent" <<https://www.ecoinvent.org/database/database.html>>.

PRODUCT CHARACTERISTICS

The product characteristics are presented in the table below.

PRODUCT CHARACTERISTICS

| CHARACTERISTIC | TEST METHOD | RESULTS GRP | RESULTS TA |
|--|---|--|--|
| COMPOSITION | Regulation EU No 1007/2011 | 100% Polyester | 100% Polyamide |
| FABRIC | | Ripstop | Plain |
| MASS PER UNIT AREA | EN 12127 | 55 g/m ² | 50 g/m ² |
| WIDTH | EN 1773 | 150 cm | 153 cm |
| ABRASION STRENGTH | ISO 12947-2 | 15 000 rubs 12 kPa | Exceeds 10 000 rubs 12 kPa |
| TEAR STRENGTH | ISO 13937-2 | Warp: >12 N Weft: >12 N | Warp: 12 N Weft: 11 N |
| TENSILE STRENGTH | ISO 13934-1 | Warp: >300 N Weft: >250 N | Warp: 550 N Weft: 300 N |
| SEAM SLIPPAGE | ISO 13936-2 | 2 mm | 2 mm |
| PILLING TEST (MARTINDALE) AFTER 5000 RUBS | EN ISO 12945-2 | 4 | 4-5 |
| DIMENSIONAL CHANGE TO WASHING | EN ISO 6330 EN ISO 3759 EN ISO 5077 | Lengthwise: +/-3% Widthwise: +/-3% | Lengthwise: +/-2% Widthwise: +/-2% |
| PH OF WATER EXTRACT | EN ISO 3071 | 4.0-7.5 | 6.4 |
| COLOUR FASTNESS TO ARTIFICIAL LIGHT: XENON ARC FADING LAMP TEST | EN ISO 105 B02 | 6 | 6 |
| COLOUR FASTNESS TO WASHING | EN ISO 105 C06 | Colour change: 4-5 Colour staining: Acetate: 4-5 Cotton: 4-5 Nylon: 4 Polyester: 4-5 Acrylic: 4-5 Wool: 4-5 | Colour change: 4-5 Colour staining: Acetate: 4 Cotton: 4-5 Nylon: 4 Polyester: 4-5 Acrylic: 4-5 Wool: 4-5 |
| ACID AND ALKALINE PERSPIRATION | EN ISO 105 E04 | Acid and Alkaline: Colour change: 4-5 Colour staining: Acetate: 4-5 Cotton: 4-5 Nylon: 4-5 Polyester: 4-5 Acrylic: 4-5 Wool: 4-5 | Acid and Alkaline: Colour change: 4-5 Colour staining: Acetate: 4 Cotton: 4 Nylon: 3-4 Polyester: 4-5 Acrylic: 4 Wool: 4 |
| DRY AND WET RUBBING | EN ISO 105 X12 | Dry: 4-5 Wet: 4-5 | Dry: 4 Wet: 3-4 |

CONTENT DECLARATION

GREEN QUILTED JACKET 4101 GRP SIZE L

| MATERIALS | UNIT | % | ENVIRONMENTAL / HAZARDOUS PROPERTIES |
|----------------------|------|------|--------------------------------------|
| Fabric GRP | | 24% | 100% recycled polyester |
| Fabric TAFR | | 32% | 100% recycled polyester |
| Padding Primaloft | | 39% | 100% recycled polyester |
| Interlining cotton | | 1% | 100% cotton |
| Thread polyester | | ~ 0% | 100% polyester |
| Care and size labels | | 2% | 100% polyester |
| Paper trims | | 2% | 100% paper |

JACKET QUILTED REVERSIBLE 4012 TA SIZE L

| MATERIALS | UNIT | % | ENVIRONMENTAL / HAZARDOUS PROPERTIES |
|----------------------|------|------|--------------------------------------|
| Fabric Acode | | 23% | 100% nylon |
| Fabric OP 180 | | 30% | 100% nylon |
| Fabric Acode lining | | 35% | 100% polyester |
| Padding | | 8% | 100% polyester |
| Thread polyester | | ~ 0% | 100% polyester |
| Care and size labels | | 2% | 100% polyester |
| Paper trims | | 2% | 100% paper |

PACKAGING

Distribution packaging: Cardboard box

RECYCLED MATERIAL

Provenience of recycled materials (pre-consumer or post-consumer) in the product:

The claim that the mechanical recycled polyester fibre is made with recycled materials is certified by third parties: Scientific Certification Systems (SCS Certification) as well as the Global Recycled Standard.

ENVIRONMENTAL PERFORMANCE

The only downstream process included in the system boundary, the transport to the customer, was found to give a negligible contribution to the environmental impact (<1% for all categories). Therefore, the downstream phase is not reported separately but is included in the total figure.

POTENTIAL ENVIRONMENTAL IMPACT

| PARAMETER | | UNIT | JACKET | UPSTREAM | CORE | TOTAL |
|--|----------------------------------|--------------------------------------|----------|----------|-------|-------|
| Global warming potential (GWP) | Fossil | kg CO ₂ eq. | 4101 GRP | 3.03 | 1.63 | 4.92 |
| | | | 4012 TA | 5.61 | 2.00 | 7.87 |
| | Biogenic | kg CO ₂ eq. | 4101 GRP | 0.34 | 0.11 | 0.45 |
| | | | 4012 TA | 0.48 | 0.28 | 0.77 |
| | Land use and land transformation | kg CO ₂ eq. | 4101 GRP | 0.004 | 0.001 | 0.005 |
| | | | 4012 TA | 0.01 | 0.01 | 0.02 |
| TOTAL | kg CO ₂ eq. | 4101 GRP | 3.20 | 1.67 | 5,13 | |
| | | 4012 TA | 5.81 | 2.12 | 8,19 | |
| Acidification potential (AP) | | kg SO ₂ eq. | 4101 GRP | 0,014 | 0.008 | 0.027 |
| | | 4012 TA | 0,025 | 0.010 | 0.040 | |
| Eutrophication potential (EP) | | kg PO ₄ ³⁻ eq. | 4101 GRP | 0,005 | 0.002 | 0.008 |
| | | 4012 TA | 0,009 | 0.004 | 0.014 | |
| Formation potential of tropospheric ozone (POCP) | | kg NMVOC | 4101 GRP | 0,010 | 0.005 | 0.018 |
| | | 4012 TA | 0,018 | 0.006 | 0.028 | |
| Water scarcity potential | | m ³ eq. | 4101 GRP | 1,24 | 1.20 | 2.46 |
| | | | 4012 TA | 1.24 | 1.85 | 8.94 |

USE OF RESOURCES

| PARAMETER | | UNIT | JACKET | UPSTREAM | CORE | TOTAL |
|--|-----------------------|-------------------------|----------|----------|------|-------|
| Primary energy resources – Renewable | Use as energy carrier | MJ, net calorific value | 4101 GRP | 4.9 | 3.6 | 8,6 |
| | | | 4012 TA | 10.5 | 5.8 | 16,4 |
| | Used as raw materials | MJ, net calorific value | 4101 GRP | 0 | 0 | 0 |
| | | | 4012 TA | 0 | 0 | 0 |
| | TOTAL | MJ, net calorific value | 4101 GRP | 4.9 | 3.6 | 8,6 |
| | | | 4012 TA | 10.5 | 5.8 | 16,4 |
| Primary energy resources – Non-renewable | Use as energy carrier | MJ, net calorific value | 4101 GRP | 41.1 | 18.4 | 63,4 |
| | | | 4012 TA | 89.6 | 23.9 | 117,5 |
| | Used as raw materials | MJ, net calorific value | 4101 GRP | 1.3 | 0.1 | 1,5 |
| | | | 4012 TA | 13.5 | 0.0 | 13,5 |
| | TOTAL | MJ, net calorific value | 4101 GRP | 42.4 | 18.5 | 64,9 |
| | | | 4012 TA | 103.0 | 23.9 | 131,0 |
| Secondary material | | kg | 4101 GRP | 0,48 | 0.00 | 0.48 |
| | | 4012 TA | 0 | 0 | 0 | |
| Renewable secondary fuels | | MJ, net calorific value | 4101 GRP | 0 | 0 | 0 |
| | | 4012 TA | 0 | 0 | 0 | |
| Non-renewable secondary fuels | | MJ, net calorific value | 4101 GRP | 0 | 0 | 0 |
| | | 4012 TA | 0 | 0 | 0 | |
| Net use of fresh water | | m ³ | 4101 GRP | 7,6 | 22.4 | 30.0 |
| | | | 4012 TA | 24,1 | 35.7 | 59.8 |

WASTE PRODUCTION AND OUTPUT FLOWS

WASTE PRODUCTION

| PARAMETER | UNIT | JACKET | UPSTREAM | CORE | TOTAL |
|------------------------------|------|----------|----------|------|-------|
| Hazardous waste disposed | kg | 4101 GRP | 0 | 0 | 0 |
| | | 4012 TA | 0 | 0 | 0 |
| Non-hazardous waste disposed | kg | 4101 GRP | 0.09 | 0.06 | 0.14 |
| | | 4012 TA | 0.21 | 0.16 | 0.37 |
| Radioactive waste disposed | kg | 4101 GRP | 0 | 0 | 0 |
| | | 4012 TA | 0 | 0 | 0 |

The result tables shall only contain values or the letters "INA" (Indicator Not Assessed). It is not possible to specify INA for mandatory indicators. INA shall only be used for voluntary parameters that are not quantified because no data is available.

ADDITIONAL INFORMATION

Our garments are OEKO-TEX® certified at garment level and we have a well-established programme to monitor chemical safety compliance.

The water savings (Water Scarcity Footprint) in Green Quilted jacket 4101 GRP compared to Jacket quilted reversible 4012 TA stems mainly from using dope dyeing instead of piece dyeing in the core processes, which is illustrated in Figure 1.

The Global Warming Potential (GWP) of Green Quilted jacket 4101 GRP compared to Jacket quilted reversible 4012 TA are shown in Figure 2. The lower climate impact stems from using recycled polyester in the upstream part as well as using less fossil fuels in the core processes.

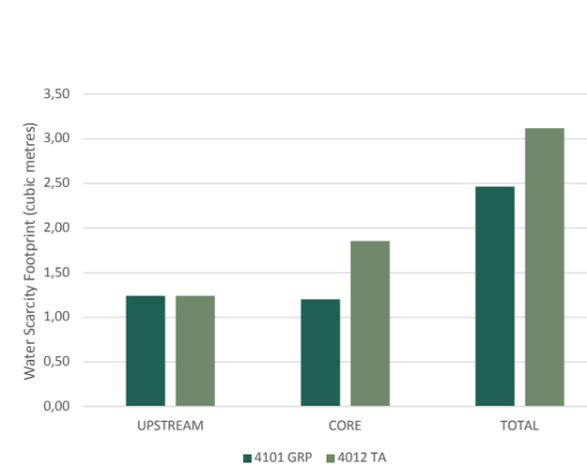


Figure 1. The Water Scarcity Footprint of Green Quilted jacket 4101 GRP and Jacket quilted reversible 4012 TA. Figures for one jacket.

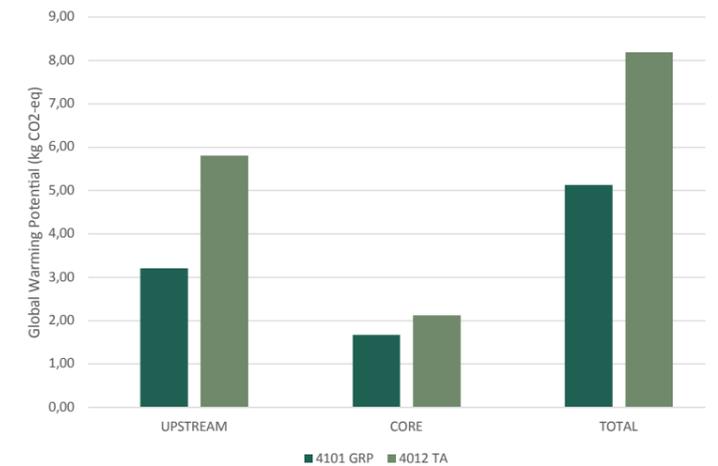


Figure 2. The Global Warming Potential of Green Quilted jacket 4101 GRP and Jacket quilted reversible 4012 TA. Figures for one jacket.

REDUCES WATER CONSUMPTION BY 75%



e.dye®
– THE WATERLESS COLOURING SYSTEM

e.dye is a solution dyed polyester color system with over 2,500 colors and a sophisticated color-matching process for textiles. Solution dyeing means putting color inside the masterbatch chips, melt spun and extruded into yarn in color, instead of extruding raw white yarn that is later dyed in traditional water dye process.

With over 20 years of experience, e.dye Ltd has the R&D and knowhow to offer customers a wide range of support and value added services that provide a competitive edge.

By controlling the entire supply chain, they make their own recipe by producing their masterbatch 100% in-house. This is then sent throughout the supply chain with clear instructions for the best end result

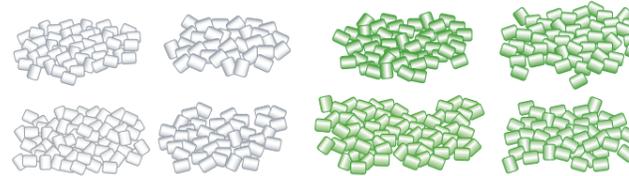
on fabric ready for garment production. They ensure that quality meets the highest standards. e.dye® Waterless Color System™ offers an environmentally sustainable process for dyeing fabrics. Using the solution dyed polyester process, e.dye® requires no water to dye synthetics. By adding the color before the polymers are extruded, the color is inside the yarn, resulting in superior color performance. e.dye is a solution dyed polyester color

system with over 2,500 colors and a sophisticated color-matching process for garment textiles.

e.dye is a paradigm shift in textile dyeing, because e.dye actually puts the color inside the yarn.

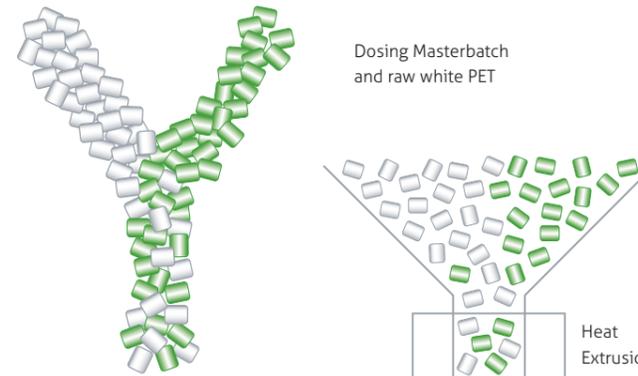
THIS IS THE e.dye TECHNIQUE

WHAT IS e.dye?

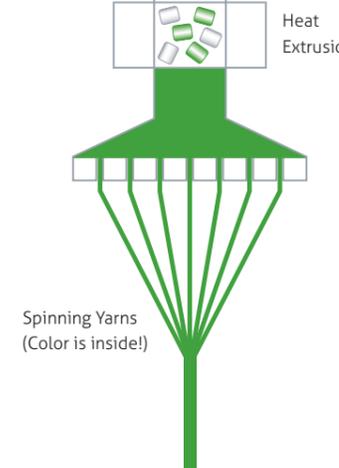


Raw stock rPET. Up to 95% recycled. GRS Certified.

Masterbatch Colors - in stock. Made in-house by e.dye, according to a recipe tied to 2,500 colors in the e.dye Color Bank.



Dosing Masterbatch and raw white PET



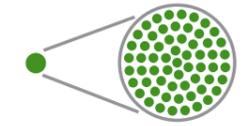
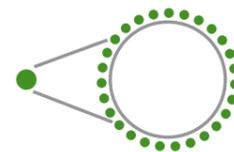
Spinning Yarns (Color is inside!)

This process eliminates water consumption and reduces chemical use, energy consumption and CO₂ emissions.

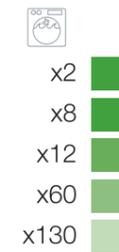
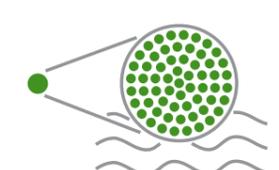
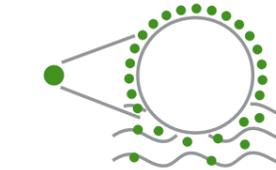
WHY IS e.dye BETTER?

Traditional Piece Dye
Color is outside - of the surface of the yarn filament.

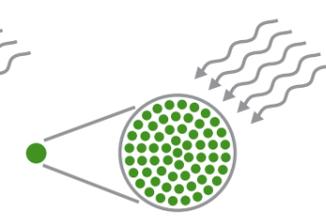
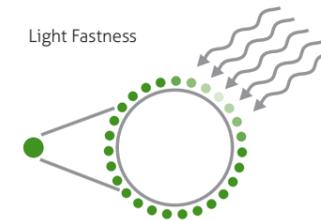
e.dye® Waterless Color System™
Color is inside - evenly dispersed throughout the entire yarn filament.



Wash Fastness



Light Fastness



RECYCLED POLYESTER

Recycled polyester is made from an already produced resource instead of exploiting fossil resources and has the same quality as virgin polyester fibre.

Recycled polyester can be produced in several ways; either mechanically from PET bottles or chemically from different polyester waste materials, for example production waste from the textile industry.

When using recycled materials it is important to secure traceability throughout the supply chain. Fristads work with transparent suppliers who can provide materials with relevant certification, for example Global Recycled Standard (GRS) certification, and be transparent regarding their material sources.

POLYESTER IN GENERAL

Polyester is a common fibre in the textile industry. Due to its durability and strength in combination with good abrasion resistance it is a great fibre for workwear.

Polyester is a synthetic fibre generally based on fossil resources, but it can also be made from biobased resources. Polyester is possible to recycle through chemical or mechanical methods.

Polyester can be laundered in high temperatures with maintained performance, which is of great importance for workwear.



- Very durable
- Strong material
- Good abrasion
- High launderability
- Recyclable



- Based on fossil resources
- Release of microplastics



PRIMALOFT® INSULATION



PrimaLoft® Silver Insulation – 100% PCR, (Post Consumer Recycled), has been designed entirely using post-consumer recycled materials to create a high performing, eco-friendly insulation.

The insulation consist of fibres finer than cashmere that create millions of air-trapping pockets that keep you warm when the temperatures drop, while a proprietary water-repellent finish keeps you comfortable even when conditions get wet. Lightweight and highly compressible, PrimaLoft® Silver Insulation – 100% PCR is an eco-friendly insulation that performs with a conscience.

MADE BY BOTTLE CHIPS

The 100% post-consumer recycled material is comprised of bottle chips that are reprocessed and spun into fibres finer and softer than cashmere, delivering uncompromised loft and warmth.

WATER-REPELLENT

A proprietary, water-repellent finish allows freedom, regardless of what conditions the weather has in store.

PACKABLE

Lightweight in nature and designed with packability in mind, PrimaLoft® Silver Insulation – 100% PCR is your peace-of-mind solution for performance, comfort and environmental responsibility.

DID YOU KNOW?

For each large-sized quilted jacket, 37 pet bottles have been repurposed. Approximately 20% of them have been used for the PrimaLoft padding.



All textile waste is gathered and reused as covers and stuffed animals.



ZERO WASTE

THIS WE DO

- We reuse all waste material from production
- All surplus material is utilised on site
- Surplus material from all Fristads Green products are turned into new products like covers, comfort pads etc.

An important part of creating a sustainable production is making sure that the amount of waste is minimized. At Fristads we initiated a zero-waste project in connection to the Fristads Green collection being launched in 2019.

When we launched the Fristads Green collection in the end of 2019 we also introduced a waste product called "Comfort pads". The comfort pads are made

of waste from the production of the Green products and are turned into pads that can be used in the Green garments for craftsmen.

The zero-waste project continue with new product developments and the ambition is to turn the waste fabric into new types of products that can be sold in the local areas around the manufacturer.



FRISTADS GREEN COLLECTION

GARMENTS WITH CARE FOR THE FUTURE

Fristads is the first company in the world to measure the environmental impact of clothes. Fristads Green is a concept of workwear where the entire manufacturing chain is characterized by environmental awareness and innovation to minimize the footprint on the environment.



Fristads Green products have a certified Environmental Product Declaration (EPD) giving information about the environmental performance, contents and recycling.

The garments are specially designed, featuring advanced folding that reduces sewing time and avoids unnecessary waste. The garments have a clean design involving minimal details and smart solutions, which saves energy in production and facilitates recycling of the material.

For our Green collection we employ a "zero waste" approach – which means that we reuse all waste material from production.

In order to avoid the use of plastic bags, garments are folded using a special folding technique. This also means they take up less space, allowing us to make optimum use of transport capacity.

All transport is by sea and road, which has significantly less environmental impact than air transport.

PROGRAMME-RELATED INFORMATION AND VERIFICATION

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable

| | |
|-------------------------------|---|
| Programme: | The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com |
| EPD registration number: | S-P-01761 |
| Published: | 2020-03-04 |
| Valid until: | 2025-03-04 |
| Product Category Rules: | PCR 2019:04 Jackets, coats and other similar outdoor garments. Version 1.01 |
| Product group classification: | UN CPC 282 |
| Reference year for data: | 2018-19 |
| Geographical scope: | Global |

| |
|---|
| Product category rules (PCR): Jackets, coats and other similar outdoor garments, PCR 2019:04, Version 1.01, UN CPC 282. |
| PCR review was conducted by: The Technical Committee of the International EPD® System. A full list of members available on www.environdec.com . The review panel may be contacted via info@environdec.com . Chair of the PCR review: Hüdai Kara, Metsims Sustainability Consulting. |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006: <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification |
| Third party verifier: Marcus Wendin Miljögiraff AB |
| Approved by: The International EPD® System |
| Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

REFERENCES

Anonymous. (2020a). Facility N for confectioning.

Anonymous. (2020e). Facility R for weaving, wet treatment and finishing.

Ecoinvent, 'Ecoinvent' <<https://www.ecoinvent.org/database/database.html>>

EPD International, 'EPD GREEN CRAFTSMAN JACKETS 4538 GRN AND JACKET 4555 STFP. EPD Registration Number S-P-01534.' (2019)

EPD International, 'General Programme Instructions of the International EPD® System Version 3.0' (2017) <www.environdec.com>

EPD International, 'PCR 2019:04 Jackets, coats and other similar outdoor garments: UN CPC 282. Product Category Rules According to ISO 14025. Version 1.01' (2019)

PRé Consultants, 'SimaPro 9.0' <<http://www.pre-sustainability.com/simapro>>

CONTACT INFORMATION:

| PARAMETER | UNIT |
|---------------------|---|
| EPD owner: | Fristads AB Prognosgatan 24 , 501 11 Borås Sweden CONTACT PERSON: Lene Jul lene.jul@fristads.com www.fristads.com |
| LCA author: | RISE AB, PO Box 104, SE 431 22 Mölndal, Sweden CONTACT PERSON: Sandra Roos www.swerea.se |
| Programme operator: | EPD International AB info@environdec.com |