EPD®

FRISTADS®

EPD – ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 14025 FOR:
GREEN TROUSERS 2688 GRT AND TROUSERS 2552 STFP
GREEN TROUSERS WOMAN 2689 GRT AND TROUSERS WOMAN 2554 STFP

GENERAL INFORMATION

OWNER OF THE EPD:
Fristads AB Prognosgatan 24 2, 501 11 Borås, Sweden
Contact person: Lene Jul, Product Management Director,
lene.jul@fristads.com
www.fristads.com

NAME AND LOCATION OF PRODUCTION SITE:
Madagascar for 2688 GRT and 2689 GRT.
Laos for 2552 STFP and 2554 STFP.

PROGRAMME: The International EPD® System www.environdec.com
PROGRAMME OPERATOR: EPD International AB
EPD REGISTRATION NUMBER: S-P-01701
PUBLICATION DATE: 2019-10-21
VALIDITY DATE: 2024-10-21
REVISION DATE: 2020-01-24
Layout updates
GEOGRAPHICAL SCOPE: Global
Prepared with the assistance of RISE IVF AB.

FRISTADS EPD – ENVIRONMENTAL PRODUCT DECLARATION 2019

A GREEN REVOLUTION

Fristads Green is much more than a new collection of high quality workwear for craftsmen. Its innovative solutions, smart functionality and outstanding performance are a result of a new concept where design and production are driven by EPD, a verifiable commitment to sustainability. The results are extraordinary – and with an environmental footprint that's smaller than ever, so are the consequences.

EPD – ENVIRONMENTAL PRODUCT DECLARATION
It's called an Environmental Product Declaration - or EPD for short – and its purpose is to show a product's accumulated environmental effect through its life cycle. It's already used in other areas of the textile industry, but with our Fristads Green collection, we're first to innovate and implement it in clothing.

FRISTADS EPD – ENVIRONMENTAL PRODUCT DECLARATION 2019

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

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.

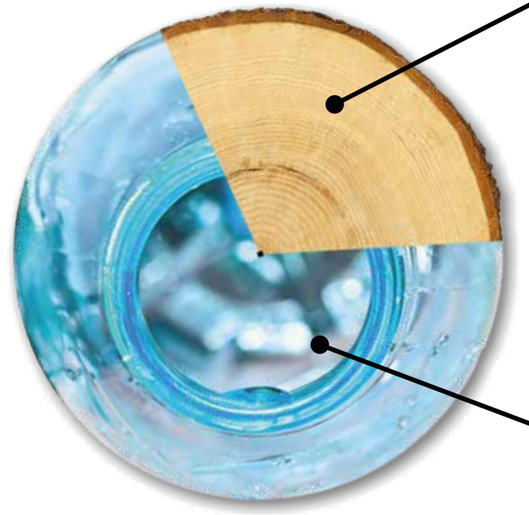
EPD®

FABRIC INFORMATION

TECAWORK™ ECOGREEN

To meet the demand for environmental friendly workwear, Fristads has developed a collection of garments made of comfortable and sustainable fabrics with a low environmental impact.

TECAWORK™
Ecogreen



35%
TENCEL™ Lyocell from sustainably sourced wood

65%
Polyester from recycled PET bottles

GOODBYE COTTON AND VIRGIN POLYESTER, HELLO TENCEL™ LYOCELL AND RECYCLED POLYESTER

The fabrics are made from 100% green fibers, a blend of TENCEL™ Lyocell fibers from sustainable sourced wood and mechanically recycled polyester fibers from PET bottles. TENCEL™ Lyocell is produced in a closed loop process where more than 99% of the solvent is recovered and reused. All TENCEL™ Lyocell fibers are harvested from natural forests and sustainably sourced plantations without the use of chemical pesticides.

COMFORTABLE WORKWEAR

When it comes to comfort, TENCEL™ Lyocell absorbs up to 50% more moisture and dissipates it quicker, making it cooler and drier. TENCEL™ Lyocell is also silky smooth to the skin compared to stiffer cotton.

95%

TENCEL™ LYOCELL REDUCES WATER USAGE

The water scarcity impact of TENCEL™ Lyocell fibers is reduced from 994 l/kg for cotton fiber to 46 l/kg for TENCEL™ Lyocell fiber.

POLYESTER UPCYCLING

With Tecawork™ Ecogreen, TenCate Protective Fabrics has achieved 100% polyester upcycling while creating fabrics that equal traditional poly-cotton blends in withstanding heavy usage and industrial laundering. Each strand of recycled polyester used in Tecawork™ Ecogreen can be traced back to its PET bottle origins, 100% guaranteed.

45%

RECYCLED POLYESTER REDUCES ENERGY CONSUMPTION

Mechanically recycled polyester reduces energy consumption by 45%, water consumption by nearly 20% and greenhouse gas emissions by over 30% in comparison to virgin polyester.

SUITABLE FOR INDUSTRIAL LAUNDRY

Tecawork™ Ecogreen fabrics and colours are developed and tested according to ISO 15797 to meet the most stringent laundering requirements at high temperatures (75°C). The fabrics are suitable for tumble drying as well as tunnel drying. Energy-efficient processes can be realized by shortening drying times and/or lowering drying temperatures. Tecawork™ Ecogreen fabrics will dry faster due to the use of TENCEL™ Lyocell fibers that absorb better and dissipate moisture quicker.

TROUSERS MADE OF 100% GREEN FIBRES

High washing demands – leasing laundry tested according to EN ISO 15797

OEKO-TEX® certified no harmful substances used

Made from 100% green fibers, a blend of TENCEL™ Lyoell fibers from sustainable sourced wood and mechanically recycled polyester, fibers from PET bottles.

Most of the zippers are made of recycled polyester

Buttons made of raw finished metal alloy, using a metal treatment method that reduce water consumption

Detailing made of recylced polyester

GREEN TROUSERS 2688 GRT

Article no 129927

Part of Fristads Green collection / 2 front pockets / Double crotch seam / 2 back pockets / 2 thigh pockets / Leg pocket with extra pockets / Loop for ruler inside leg pocket / Leg pocket with flap and velcro fastening, mobile phone pocket and extra pocket with flap and velcro fastening, D-ring under flap / CORDURA® reinforced leg ends / Adjustable leg length with 5 cm hem allowance / Leasing laundry-tested according to ISO 15797 / With EPD (Environmental Product Declaration) / OEKO-TEX® certified / RFID chip can be added as a VAS solution.

MATERIAL 65% recycled polyester, 35% lyocell. ***WEIGHT*** 260 g/m².
COLOUR 540 Dark Navy, 940 Black. ***SIZE*** C44-C66, D84-D120.

GREEN TROUSERS WOMAN 2689 GRT

Article no 130721

Part of Fristads Green collection / 2 front pockets / Double crotch seam / 2 back pockets / 2 thigh pockets / Leg pocket with extra pockets / Loop for ruler inside leg pocket / Leg pocket with flap and velcro fastening, mobile phone pocket and extra pocket with flap and velcro fastening, D-ring under flap / CORDURA® reinforced leg ends / Adjustable leg length with 5 cm hem allowance / Leasing laundry-tested accoding to ISO 15797 / With EPD (Environmental Product Declaration) / OEKO-TEX® certified / RFID chip can be added as a VAS solution.

MATERIAL 65% recycled polyester, 35% lyocell. ***WEIGHT*** 260 g/m².
COLOUR 540 Dark Navy, 940 Black. ***SIZE*** C34-C50.

GREEN TROUSERS 2688 GRT AND 2689 GRT

The Green trousers 2688 GRT and Green trousers woman 2689 GRT are both constructed from a fabric made of forest-based fibre (lyocell) and recycled polyester. The Trousers 2552 STFP and Trousers woman 2554 STFP are both constructed from a fabric made of cotton and polyester

GARMENT NAME	STYLE NO	DESCRIPTION
Green trousers 2688 GRT	129927	Trousers: Green collection, lyocell fibres
Trousers 2552 STFP	129484	Trousers: Comparison product
Green trousers woman 2689 GRT	130721	Trousers: Green collection, lyocell fibres
Trousers woman 2554 STFP	129483	Trousers: Comparison product

GREEN TROUSERS 2688 GRT

Art no 129927

GREEN TROUSERS WOMAN 2689 GRT

Art no 130721

TROUSERS 2552 STFP

Art no 129484

TROUSERS WOMAN 2554 STFP

Art no 129483

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® System[1].
The goal of the present LCA study has been to calculate environmental impact values for Fristads' Trousers 2688 GRT, Trousers 2552 STFP Trousers woman 2689 GRT and Trousers woman 2554 STFP 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 pair of trousers are 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 data[2] 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 down-stream 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 Ecoinvent[4] 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 past [5].

ADDITIONAL INFORMATION ABOUT THE LCA STUDY

TIME REPRESENTATIVENESS:

2018-2019

DATABASE(S) AND LCA SOFTWARE USED:

SimaPro version 9.0.0.48[6]
ecoinvent version 3.5[7]

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, Miljögiraff AB, Övre Hövik 25b,
SE-430 84 Göteborg, Sweden

[1] EPD International, 'General Programme Instructions for the International EPD® System Version 3.0' (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 2019:06. Trousers, Shorts and Slacks and Similar Garments: UN CPC 282. Product Category Rules According to ISO 14025. Version 1.01' (2019b).
[4] Ecoinvent, 'Ecoinvent' <https://www.ecoinvent.org/database/database.html>.
[5] EPD International, 'EPD GREEN CRAFTSMAN TROUSERS 2538 GRN AND TROUSERS 232 LUXE. EPD Registration Number S-P-01536.' (2019a) <http://www.environdec.com/en/Detail/epd710#.VVxlJ2cw-M8>.
[6] PRé Consultants, 'SimaPro 8.5' <http://www.pre-sustainability.com/simapro>.
[7] Ecoinvent, 'Ecoinvent' <https://www.ecoinvent.org/database/database.html>.

FRISTADS EPD – ENVIRONMENTAL PRODUCT DECLARATION 2019

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.

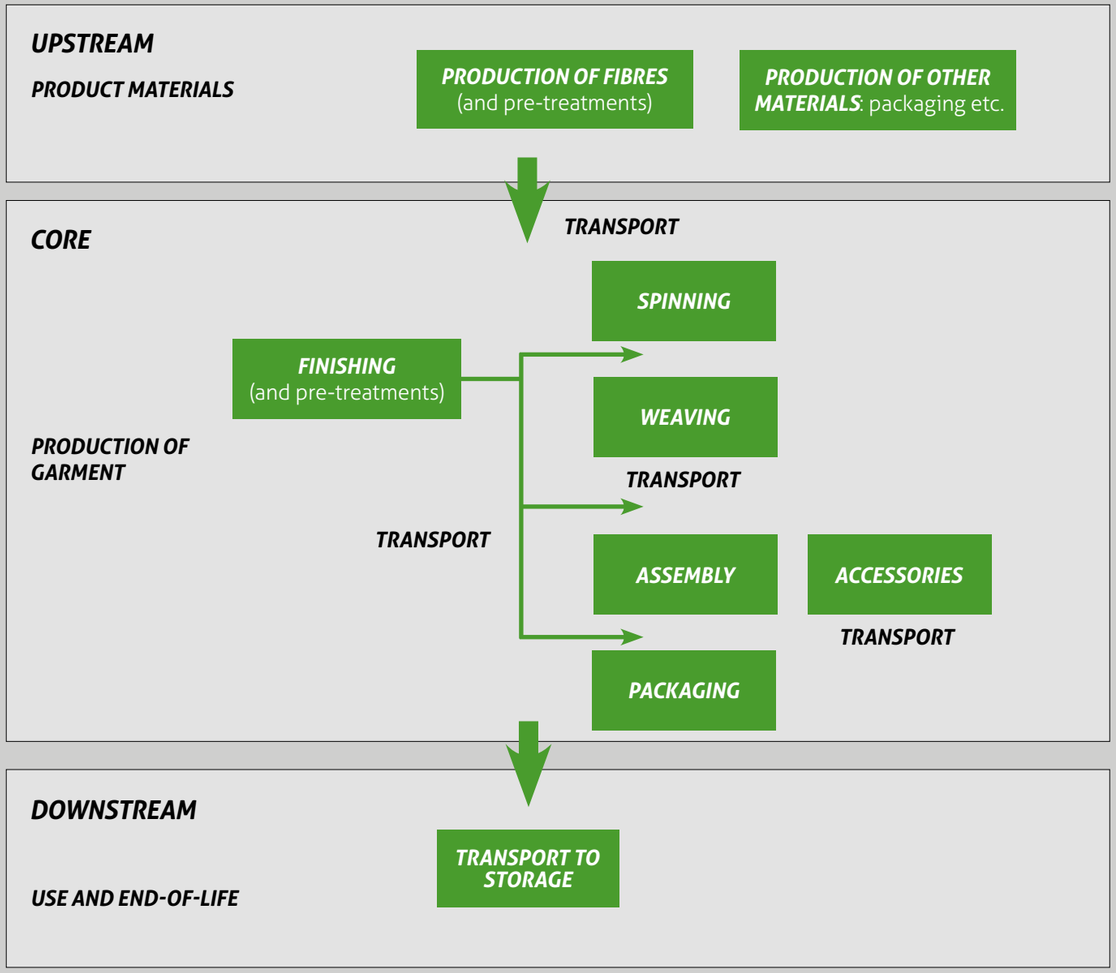


Figure 1. The system boundaries include upstream, core and downstream processes.

CONTENT DECLARATION

GREEN TROUSERS 2688 GRT

MATERIALS	UNIT	%	ENVIRONMENTAL / HAZARDOUS PROPERTIES
Main fabric GRT		92%	65% recycled polyester, 35% lyocell
Trims for pockets		3%	100% polyamide
Thread polyester		0.3%	100% polyester
Care and size labels		2%	100% polyester
Paper trims		2%	100% paper

TROUSERS 2552 STFP

MATERIALS	UNIT	%	ENVIRONMENTAL / HAZARDOUS PROPERTIES
Main fabric STFP		71%	65% polyester, 35% cotton
Trims for leg ends		3%	100% polyamide
Trims for pockets		13%	65% virgin polyester, 35% cotton
Thread polyester		0.2%	100% polyester
Care and size labels		2%	100% polyester
Paper trims		2%	100% paper

GREEN TROUSERS WOMAN 2689 GRT

MATERIALS	UNIT	%	ENVIRONMENTAL / HAZARDOUS PROPERTIES
Main fabric GRT		91%	65% polyester, 35% cotton
Trims for pockets and details		3%	100% polyamide
Thread polyester		0.3%	100% polyester
Care and size labels		2%	100% polyester
Paper trims		2%	100% paper

TROUSERS WOMAN 2554 STFP

MATERIALS	UNIT	%	ENVIRONMENTAL / HAZARDOUS PROPERTIES
Main fabric STFP		69%	65% recycled polyester, 35% lyocell
Trims for leg ends		3%	100% polyamide
Trims for pockets		14%	65% virgin polyester, 35% cotton
Thread polyester		0.3%	100% polyester
Care and size labels		2%	100% polyester
Paper trims		2%	100% paper

PRODUCT

Our garments are OEKO-TEX® certified at garment level and we have a well-established programme to monitor chemical safety compliance. OEKO-TEX® certification together with suppliers ensures that the level of substances are not exceeded, in accordance with the European Regulations on substances and preparations.

PACKAGING

Distribution packaging: Cardboard box

RECYCLED MATERIAL

Provenience of recycled materials (pre-consumer or post-consumer) in the product:
The polyester in the GRT fabric is recycled post-consumer waste. The claim is certified by third parties: Scientific Certification Systems (SCS Certification) and/or 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	TROUSERS	UPSTREAM	CORE	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	2688 GRT	3.61	4.44	8.06
			2552 STFP	5.67	8.80	14.46
			2689 GRT	3.37	4.15	7.52
			2554 STFP	5.17	7.77	12.94
	Biogenic	kg CO_2 eq.	2688 GRT	0.31	0.16	0.48
			2552 STFP	0.35	0.92	1.27
			2689 GRT	0.30	0.15	0.45
			2554 STFP	0.33	0.81	1.13
	Land use and land transformation	kg CO_2 eq.	2688 GRT	0.02	0.07	0.08
			2552 STFP	0.01	0.02	0.03
			2689 GRT	0.02	0.06	0.08
			2554 STFP	0.01	0.02	0.03
	TOTAL	kg CO_2 eq.	2688 GRT	3.94	4.67	8.62
			2552 STFP	6.03	9.73	15.77
			2689 GRT	3.69	4.37	8.05
			2554 STFP	5.51	8.60	14.11
Acidification potential (AP)		kg SO_2 eq.	2688 GRT	0.015	0.026	0.041
			2552 STFP	0.030	0.033	0.063
			2689 GRT	0.014	0.024	0.038
			2554 STFP	0.027	0.029	0.056
Eutrophication potential (EP)		kg PO_4^{3-} eq.	2688 GRT	0.005	0.005	0.010
			2552 STFP	0.013	0.018	0.031
			2689 GRT	0.005	0.005	0.010
			2554 STFP	0.012	0.016	0.028
Formation potential of tropospheric ozone (POCP)		kg NMVOC	2688 GRT	0.011	0.016	0.027
			2552 STFP	0.019	0.025	0.044
			2689 GRT	0.010	0.015	0.025
			2554 STFP	0.017	0.022	0.040
Water scarcity potential		m^3 eq.	2688 GRT	1.08	2.22	3.31
			2552 STFP	37.12	4.28	41.40
			2689 GRT	1.04	2.11	3.15
			2554 STFP	33.06	3.80	36.86

USE OF RESOURCES

PARAMETER		UNIT	TROUSERS	UPSTREAM	CORE	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	2688 GRT	6.24	8.78	15.02
			2552 STFP	24.35	3.81	28.16
			2689 GRT	5.93	8.22	14.14
			2554 STFP	21.77	3.42	25.19
	Used as raw materials	MJ, net calorific value	2688 GRT	0	0	0
			2552 STFP	0	0	0
			2689 GRT	0	0	0
			2554 STFP	0	0	0
	TOTAL	MJ, net calorific value	2688 GRT	6.24	8.78	15.02
			2552 STFP	24.35	3.81	28.16
			2689 GRT	5.93	8.22	14.14
			2554 STFP	21.77	3.42	25.19
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	2688 GRT	53.65	68.63	122.28
			2552 STFP	108.33	148.65	256.98
			2689 GRT	50.64	63.93	114.57
			2554 STFP	99.07	131.19	230.26
	Used as raw materials	MJ, net calorific value	2688 GRT	1.94	0.00	1.94
			2552 STFP	25.16	0.00	25.16
			2689 GRT	1.94	0.00	1.94
			2554 STFP	22.51	0.00	22.51
	TOTAL	MJ, net calorific value	2688 GRT	55.59	68.63	124.22
			2552 STFP	133.49	148.65	282.13
			2689 GRT	52.58	63.93	116.51
			2554 STFP	121.58	131.19	252.77
Secondary material		kg	2688 GRT	0.52	0.00	0.52
			2552 STFP	0	0	0
			2689 GRT	0.48	0.00	0.48
			2554 STFP	0	0	0
Renewable secondary fuels		MJ, net calorific value	All garments	0	0	0
			All garments	0	0	0
			2688 GRT	0.01	0.05	0.06
			2552 STFP	34.31	0.07	34.38
Non-renewable secondary fuels		MJ, net calorific value	2689 GRT	0.01	0.04	0.05
			2554 STFP	30.49	0.06	30.55
			2689 GRT	0	0	0
			232 LUXE	0	0	0
Net use of fresh water		m^3	2688 GRT	0.051	0.041	0.092
			2689 GRT	0.049	0.044	0.093
			232 LUXE	30.02	0.072	30.10

PRODUCT CHARACTERISTICS

The product characteristics are presented in Table 2.

TABLE 2. PRODUCT CHARACTERISTICS

CHARACTERISTIC	TEST METHOD	RESULTS GRT	RESULTS STFP
COMPOSITION	Regulation EU No 1007/2011	65% polyester, 35% lyocell	65% polyester, 35% cotton
WEAVE	ISO 3572	Twill 2/1	2/1 twill
MASS PER UNIT AREA	EN 12127	260 g/m²	260 g/m²
WIDTH	EN 1773	153 cm	145 cm
ABRASION STRENGTH	ISO 12947-2	45000 rubs	30000 rubs
TEAR STRENGTH	ISO 13937-2	Warp: 35 N Weft 30 N	Warp: 35 N Weft: 30 N
TENSILE STRENGTH	SO 13934-1	Warp: 1300 N Weft: 900 N	Warp: 1200 N Weft: 650 N
SEAM SLIPPAGE	ISO 13936-2	Warp: 1,1 mm Weft: 1,1 mm	Warp: 2 mm Weft: 2 mm
PILLING TEST (MARTINDALE) AFTER 5000 RUBS	EN ISO 12945-2	4	3,5
DIMENSIONAL CHANGE TO WASHING	EN ISO 6330		Warp: +/-2% Weft: +/-2%
	EN ISO 5077	Warp: ±2% Weft: ±2%	
PH OF WATER EXTRACT	EN ISO 3071	6	6
COLOUR FASTNESS TO ARTIFICIAL LIGHT: XENON ARC FADING LAMP TEST	EN ISO 105 B02	4	4
COLOUR FASTNESS TO WASHING	EN ISO 105 C06	Color change: 4 Color staining: Cotton 4 Polyester 4 Viscose 4	Color change: 4 Color staining: Cotton 4 Nylon 2-3 Polyester 3
ACID AND ALKALINE PERSPIRATION	EN ISO 105 E04	Alkaline and acid Color change: 4-5 Color staining: Cotton 4-5 Polyester 4-5	Alkaline and Acidic Color change: 4 Color staining: Cotton 4 Nylon 3 Polyester 4
DRY AND WET RUBBING	EN ISO 105 X12	Dry: 4 Wet: 2	Dry: 4 Wet: 2-3

WASTE PRODUCTION AND OUTPUT FLOWS

WASTE PRODUCTION

PARAMETER	UNIT	TROUSERS	UPSTREAM	CORE	TOTAL
Hazardous waste disposed	kg	2688 GRT	0.0016	0.0092	0.011
		2552 STFP	0	0	0
		2689 GRT	0.0014	0.0084	0.010
		2554 STFP	0	0	0
Non-hazardous waste disposed	kg	2688 GRT	0.030	0.075	0.105
		2552 STFP	0.058	0.228	0.286
		2689 GRT	0.029	0.069	0.098
		2554 STFP	0.055	0.200	0.255
Radioactive waste disposed	kg	All garments	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

The water savings (Water Scarcity Footprint) in Craftsman trousers 2688 GRT and 2689 GRT compared to Trousers 2552 STFP and Trousers woman 2554 STFP stems mainly from substituting cotton fibres in the upstream processes, which is illustrated in Figure 2.

The Global Warming Potential (GWP) of Craftsman trousers 2688 GRT and 2689 compared to Trousers 2552 STFP and Trousers woman 2554 STFP are shown in Figure 3. The lower climate impact stems from using less fossil fuels in the upstream as well as core processes.

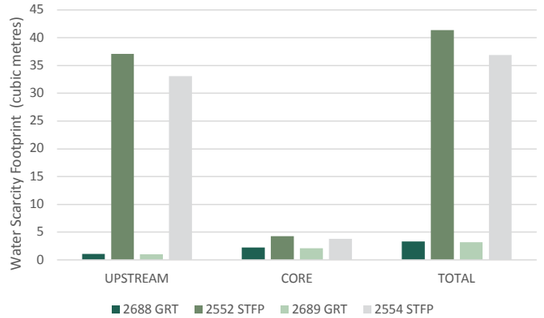


Figure 2. The Water Scarcity Footprint of Green Trousers 2688 GRT, Trousers 2552 STFP, Green Trousers woman 2689 GRT and Trousers woman 2554 STFP. Figures for one pair of trousers.

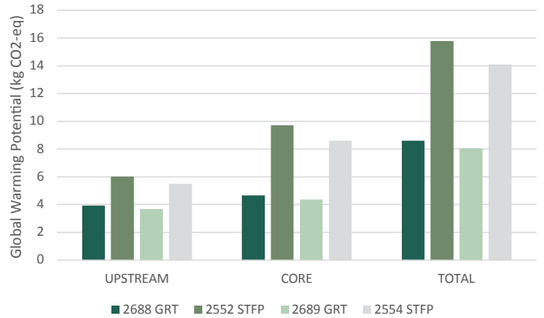


Figure 3. The Global Warming Potential of Green Trousers 2688 GRT, Trousers 2552 STFP, Green Trousers woman 2689 GRT and Trousers woman 2554 STFP. Figures for one pair of trousers.

[8] EPD International, 'EPD GREEN CRAFTSMAN TROUSERS 2538 GRN AND TROUSERS 232 LUXE. EPD Registration Number S-P-01536.' (2019a) <http://www.environdec.com/en/Detail/epd710#.VVxlJ2cw-M8>.
[9] EPD International, 'EPD GREEN CRAFTSMAN TROUSERS 2538 GRN AND TROUSERS 232 LUXE. EPD Registration Number S-P-01536.' (2019a) <http://www.environdec.com/en/Detail/epd710#.VVxlJ2cw-M8>.

FRISTADS GREEN COLLECTION

GARMENTS WITH CARE FOR THE FUTURE

Fristads Green is a concept of workwear where the entire manufacturing chain is characterised by environmental awareness and innovative solutions. Each garment has undergone a life-cycle analysis and comes with an Environmental Product Declaration (EPD).

The materials are made from 100% green fibers, a blend of TENCEL™ Lyoell fibers from sustainable sourced wood and mechanically recycled polyester, fibers from PET bottles. TENCEL™ Lyocell is produced in a closed loop process where more than 99% of the solvent is recovered and reused.

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.

We employ a "zero waste" approach – which means that we reuse all waste material from production. All surplus material is utilised on site and turned into "comfort pads" – a bonus product for elbows and knees.

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
EPD registration number:	S-P-01701
Published:	2019-10-21
Valid until:	2024-10-21
Product Category Rules:	PCR 2019:06. Trousers, Shorts and Slacks and Similar Garments. Version 1.01
Product group classification:	UN CPC 282
Reference year for data:	2017-18
Geographical scope:	Global

Product category rules (PCR): Trousers, shorts and slacks and similar garments, PCR 2019:06, 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: ☐ EPD process certification ☑ 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: ☐ Yes ☑ No

REFERENCES

Anonymous. (2018a). Facility B for weaving and sizing.

Anonymous. (2018d). Facility E for mélange yarn spinning.

Anonymous. (2018e). Facility F for staple fibre manufacturing.

Anonymous. (2019a). Facility I for confectioning.

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

EPD International, 'EPD GREEN CRAFTSMAN TROUSERS 2538 GRN AND TROUSERS 232 LUXE. EPD Registration Number S-P-01536.' (2019a)

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

EPD International, 'PCR 2019:06. Trousers, Shorts and Slacks and Similar Garments: UN CPC 282. Product Category Rules According to ISO 14025. Version 1.01' (2019b)

Facility J, PangRim Co., Ltd. - manufacturing plant for dyeing and finishing.

Facility L, TenCate Protective Fabrics - manufacturing plant for dyeing and finishing.

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 IVF AB, PO Box 104, SE 431 22 Mölndal, Sweden ***CONTACT PERSON:*** Sandra Roos www.swerea.se
Programme operator:	EPD International AB info@environdec.com