

bAwear[®]

S C O R E



USER GUIDE

2023

USER MANUAL

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1.0 GENERAL INFORMATION & GETTING STARTED

A. GENERAL INFORMATION & GETTING STARTED



Use the expert input file on a **Microsoft Excel** application.



The use of **Google Sheets** is not recommended.

1.1 Introduction

- This bAwear expert form gives you the option to provide primary data from the supply chain. If you do not have access to primary data, bAwear will use secondary data. This secondary data is selected from literature sources by bAwear. These data may not be representative of your product and the results of the impact calculation may deviate from the actual impact. [If you provide primary data, you are responsible for the accuracy of the data!](#)
- Wherever you provide data, please give them **per kilogram of product**. Example: If you provide data on yarn composition, you complete the data per kg of that specific yarn!
- If available, please insert an image of the product or a link to the product on your website.
- On the **right side of each section** there is space provided for additional remarks and comments. If the data you provide does not appear in one of the drop downs or you would like to mention extra information for bAwear, please make use of the space highlighted in this color.
- All options are accessible on the bottom toolbar of your file. **It is not important to fill in each section.** This depends on your requirements and the nature of the product being assessed.



- In the bAwear tool, a full stop (.) stands for a decimal place and a comma (,) is not used. For instance: 2 Euro 99 cents would be 2.99.
- The input file uses 4 colors to make it easy to navigate and fill details:

- Mandatory: You cannot proceed without filling these cells
- Field with dropdown menu
- Optional: You can leave these cells blank
- Do not fill or change!

1.2 Data Entry

Step 1: Ensure accurate entry of these details. It is preferable to provide your full name, include your country in the location field and use your work email address.

1. ORGANISATION INFORMATION	
Completed by:	
Name Organisation:	
Address Organisation:	
Email address:	

Step 2: Enter product code/ article number to make it easier to trace each product if there are multiple products. It could be a combination of words and numbers. There is **no word/alphabet limit**.

2. Item Groupnumber / Product ID (for internal reference only). 
--

Step 3: Pick from the drop-down menu.

3. Product description	
Product category	
Product	
If the product category and/or product is not specified in the pull down menus, please specify them in the fields below	
Product category	
Product	



Child: Between the age group of 2 to 12 years

Baby: Between the age group of 0 to 2 years

Men and Women: This includes teens and grown-ups falling in the age bracket of 13 and above.

Yarns & fabrics: In instances where there is a standalone textile or individual yarn for which the environmental impact needs to be assessed pick this category. This may not have been fashioned into a specific product for either men or women.

Technical fabrics: Specialized fabrics designed with advanced features and properties to cater to specific performance or functional requirements.

Miscellaneous: When you pick this option, give a short description in the additional comments section.

1.3 Help

For FAQ's check:

<https://www.notion.so/e00a0124f5f344adbf4bd4e9776bf37?v=7f95f8c789e8443d8b8404c85d9c2750>

For further queries contact: **support@bawear.eu**

1.4 Icons in the manual

	Not recommended
	Good to know: Tricks
	Approved action
	Action to be avoided

1.5 Acronyms and Abbreviations

kWh	Kilo watt Hour	Unit used for electricity
Kg	Kilograms	Unit used for weight
MJ	Milli Joules	Unit of energy

2.0 FIBRES AND YARNS

B. FIBRES AND YARNS

2.1 Conversion formulas

- 1 kg of coal = 25 MJ
- 1 litre of oil = 43 MJ
- 1 m3 gas = 38 MJ
- 1 kg wood = 15 MJ
- 1 kg of steam = 2.6 MJ

2.2 Data Entry

Step 1: Mention the total number of yarns the product is made up of. You can mention a maximum of 5 yarns.

Number of yarns

Step 2: Pick the fibers utilized in Yarn 1 from the drop-down list. You can include a total of five fibers. All fibers including natural, synthetic, and recycled are available on this list.

2.1 Fibers in yarn 1

Fiber 1

Fiber 2

Fiber 3

Fiber 4

Fiber 5

Acrylic Fiber

Aramid Fiber

Cotton (Bangladesh)

Cotton (China)

Cotton (India)

Cotton (USA)

Cotton (Global)

Cotton, organic (China)

Cotton, organic (India)

Cotton, organic (Turkey)

Cotton, organic (USA)

Cotton, organic (Global)

Recycled: Y/N

Total

0

Amount (in gram)

0

Town /Country spinner

Transport fibers to spinner

Distance (km)

0

Distance (nautical miles)

0

If recycled fibers

Fiber 1

Fiber 2

Fiber 3

Fiber 4

Fiber 5

% (grid energy)

or

Amount (kWh)

Energy renewable

% (renewable energy)

OR

Amount (kWh)

Utilities used in fiber production

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

amount

or kWh

amount

2.1 Fibers in yarn 1

Polyster fiber

Y

N

Total

0

Amount (in gram)

0

Town /Country spinner

Transport fibers to spinner

Distance (km)

0

Distance (nautical miles)

0

If recycled fibers

Energy grid

% (grid energy)

or

Amount (kWh)

Energy renewable

% (renewable energy)

OR

Amount (kWh)

Utilities used in fiber production

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

amount

or kWh

amount

Step 3: Enter ‘Y’ if the yarn is recycled and ‘N’ if not.

Step 4: Enter the amount of each fiber **in grams**.

For 100% cotton or 100% synthetic: Enter 1000

For 60/40 cotton/polyester: Enter 600 and 400

For 50/50 cotton/polyester: Enter 500 and 500 and so on...

2.1 Fibers in yarn 1		Fiber	Recycled: Y/N	Amount (in gram)	Town /Country spinner	Transport fibers to spinner	Distance (km)	or	Distance (nautical miles)
Fiber 1		Polyester fiber	Y	900			0		
Fiber 2		Cotton (India)	N				0		
Fiber 3							0		
Fiber 4							0		
Fiber 5							0		
			Total	900					



Do not leave the total in red.

Step 5: Make sure to check the **total to be green**.

2.1 Fibers in yarn 1		Fiber	Recycled: Y/N	Amount (in gram)	Town /Country spinner	Transport fibers to spinner	Distance (km)	or	Distance (nautical miles)
Fiber 1		Polyester fiber	Y	900			0		
Fiber 2		Cotton (India)	N	100			0		
Fiber 3							0		
Fiber 4							0		
Fiber 5							0		
			Total	1000					

Step 6: Specify the town or country where the process of spinning takes place.

2.1 Fibers in yarn 1		Fiber	Recycled: Y/N	Amount (in gram)	Town /Country spinner	Transport fibers to spinner	Distance (km)	or	Distance (nautical miles)
Fiber 1		Polyester fiber	Y	900			0		
Fiber 2		Cotton (India)	N	100			0		
Fiber 3							0		
Fiber 4							0		
Fiber 5							0		
			Total	1000					

Step 7: Select the mode of transport from the drop-down list. Truck sizes are indicated in tons, with the 'Lorry' option specifically designed for loads less than 3.5 tons. Explore various other truck options available for selection.

2.1 Fibers in yarn 1		Fiber	Recycled: Y/N	Amount (in gram)	Town /Country spinner	Transport fibers to spinner	Distance (km)	or	Distance (nautical miles)
Fiber 1		Polyester fiber	Y	900			0		
Fiber 2		Cotton (India)	N	100			0		
Fiber 3							0		
Fiber 4							0		
Fiber 5							0		
			Total	1000					

If recycled fibers		Energy grid	% (grid energy)	or	Amount (kWh)	Energy renewable	Amount (kWh)
Fiber 1							
Fiber 2							
Fiber 3							
Fiber 4							
Fiber 5							

Utilities used in fiber production		Grid	Give the actual number	or	kWh
Electricity (kWh)		%			amount
Electricity renewable (kWh)		%			amount
Heat (MJ)		Energy source	MJ		
Steam (kg)		Steam generation	kg		
Water (l)		Water source	liter		

Transport fibers to spinner
Barge
Container Ship
Airplane
Train
Lorry <3.5 t
Truck, 3.5 - 7.5 ton, Euro 4
Truck, 3.5 - 7.5 ton, Euro 5
Truck, 3.5 - 7.5 ton, Euro 6
Truck, 7.5 - 16 ton, Euro 4
Truck, 7.5 - 16 ton, Euro 5
Truck, 7.5 - 16 ton, Euro 6
Truck, 16 - 32 ton, Euro 4

Step 8: Enter the distance in nautical miles. Nautical miles are a unit of measurement used in air, marine and space navigation for measuring distances over water. They are often used because they provide a convenient way to measure distances on the earth's surface, particularly when navigating over large bodies

2.0 Fibers and yarns

of water where traditional units like kilometers might not be as practical. The input file automatically calculates the distance in kilometers.

2.1 Fibers in yarn 1		Fiber	Recycled: Y/N	Amount (in gram)	Town /Country spinner	Transport fibers to spinner	Distance (km)	or	Distance (nautical miles)
Fiber 1		Polyester fiber	Y	900		Airplane	926		500
Fiber 2		Cotton (India)	N	100			0		
Fiber 3							0		
Fiber 4							0		
Fiber 5							0		
		Total		1000					

Step 9: Follow this step only if you have a recycled fiber. Pick the country from the drop-down list.

2.1 Fibers in yarn 1		Fiber	Recycled: Y/N	Amount (in gram)	Town /Country spinner	Transport fibers to spinner	Distance (km)	or	Distance (nautical miles)
Fiber 1		Polyester fiber	Y	900		Airplane	926		500
Fiber 2		Cotton (India)	N	100			0		
Fiber 3							0		
Fiber 4							0		
Fiber 5							0		
		Total		1000					

If recycled fibers		Energy grid	% (grid energy)	or	Amount (kWh)	Energy renewable	% (renewable energy)	OR	Amount (kWh)
Fiber 1		Europe							
Fiber 2		Asia							
Fiber 3		Pacific							
Fiber 4		Africa							
Fiber 5		North America							
		South America							
		Afghanistan							
		Albania							
		Algeria							
		Andorra							
		Angola							
		Antigua and Barbuda							

Utilities used in fiber production		Grid	Give the actual number	or kWh	amount
Electricity (kWh)		Grid	90		amount
Electricity renewable (kWh)		Renewable	%		amount
Heat (MJ)		Energy source	90		
Steam (kg)		Steam generation	kg		
Water (l)		Water source	liter		

Step 10: Input either the percentage of grid energy or the quantity of grid energy in kilowatt-hours (kWh). It is not necessary to provide both values. If you have more information on the actual energy consumed per kilogram, only then input the 'amount' in kWh.

If recycled fibers		Energy grid	% (grid energy)	or	Amount (kWh)	Energy renewable	% (renewable energy)	OR	Amount (kWh)
Fiber 1		Asia	100						
Fiber 2									
Fiber 3									
Fiber 4									
Fiber 5									

Step 11: If the product utilizes a blend of grid energy and renewable energy, specify the type of renewable energy along with the corresponding percentage used. Repeat this process for other recycled fibers.

If recycled fibers		Energy grid	% (grid energy)	or	Amount (kWh)	Energy renewable	% (renewable energy)	OR	Amount (kWh)
Fiber 1		Asia	90			Solar	10		
Fiber 2									
Fiber 3									
Fiber 4									
Fiber 5									

Step 12: Provide either the percentage of grid energy or the quantity of grid electricity in kilowatt-hours (kWh). It is not necessary to input both values.

Utilities used in fiber production		Grid	Give the actual number	or kWh	amount
Electricity (kWh)		Grid	90		amount
Electricity renewable (kWh)		Renewable	%		amount
Heat (MJ)		Energy source	90		
Steam (kg)		Steam generation	kg		
Water (l)		Water source	liter		

Step 13: Check the units before entering values in the cells. When in doubt, always look at the comments on each cell. Use the following conversion values for heat which can be in the form of coal, oil, gas, or wood.

1 kg of coal = 25 MJ

1 litre of oil = 43 MJ

1 m³ gas = 38 MJ

1 kg wood = 15 MJ

Utilities used in fiber production		Give the actual number or kWh	
Electricity (kWh)	Grid	90	amount
Electricity renewable (kWh)	Renewable	%	amount
Heat (MJ)	Energy source	80	
Steam (kg)	Steam generation	10	
Water (l)	Water source	liter	

Step 14: Check the units before entering a value in the cells. When in doubt, always look at the comments on each cell. Use the following conversion value for steam:

1 kg of steam = 2.6 MJ

Utilities used in fiber production		Give the actual number or kWh	
Electricity (kWh)	Grid	90	amount
Electricity renewable (kWh)	Renewable	10	amount
Heat (MJ)	Energy source	2.6	
Steam (kg)	Steam generation	10	
Water (l)	Water source	liter	

Step 15: Similarly, input the value for water in liters.



Reiterate steps 1-15 for Yarn 2, and likewise, proceed with the same steps for Yarn 3, 4, and 5. If these steps do not apply to the product for which the environmental impact calculation is being performed, please leave them blank.

3.0 SPINNING

C. SPINNING

3.1 Introduction

- bAwear uses yarn count in Number metric (Nm). Use the space on the right side of the sheet to convert other yarn count values to Nm. Enter a value in the **cell highlighted** to get a value in Nm.

Yarn count: bAwear Score uses yarn count in Number metric (Nm)					
Use the conversion table to convert the yarn number to Nm					
Ne	15	=	25	Nm	
dtex	125	=	80	Nm	
Denier	80	=	113	Nm	

- Extra energy, heat and/or water might be used in twining also termed as plying, texturizing, mercerizing, and other processes to give yarns additional functional or aesthetic properties. Mention in the field below all the processes that apply or additional comments that you would like bAwear to know.

Your remarks / additional information

- Information in this section should be inputted for each yarn. A maximum of five yarn spinning details can be added.

3.2 Data Entry

Step 1: Mention the yarn count in Nm. Use the conversion table mentioned in section 3.1.

3.1 Yarn 1

Yarn count (Nm)

Spinning method

% of yarn 1 in final product?

Utilities used in spinning

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

or kWh

amount

Yarn finishing

Is yarn 1 bleached?

Is yarn 1 dyed?

Utilities used in yarn finishing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

or kWh

amount

Step 2: Pick the spinning method from the drop-down list.

3.1 Yarn 1

Yarn count (Nm)

34

Spinning method

No spinning
Open end spinning for weaving, combed yarn
Open end spinning for weaving, carded yarn
Ring spinning for weaving, combed yarn
Ring spinning for weaving, carded yarn
Open end spinning for knitting, combed yarn
Open end spinning for knitting, carded yarn
Ring spinning for knitting, combed yarn
Ring spinning for knitting, carded yarn
Mono-filament extrusion
Multi-filament extrusion

% of yarn 1 in final product?

Utilities used in spinning

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

or kWh

amount

Yarn finishing

Is yarn 1 bleached?

Is yarn 1 dyed?

Utilities used in yarn finishing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

or kWh

amount



Monofilament extrusion: Does not apply to natural fibers. Applies only to man-made/synthetic and recycled yarns. An example of yarn count is 120Nm.

Multifilament extrusion: Does not apply to natural fibers. Applies only to man-made/synthetic and recycled yarns with more than one filament. Usually written as 120Nm 42f where f stands for the number of filaments. However, the yarn count that needs to be entered is 120Nm for multi and mono filaments.

Any yarn count written as 34 Ch stands for combed hosiery and needs to be entered as a knitting yarn.

Step 3: Enter the percentage of yarn 1 in the final product.

3.1 Yarn 1

Yarn count (Nm)

34

Spinning method

Mono-filament extrusion

% of yarn 1 in final product?

Step 4: Pick the region where the electricity grid is used.

3.1 Yarn 1

Yarn count (Nm)

34

Spinning method

Mono-filament extrusion

% of yarn 1 in final product?

Utilities used in spinning

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Yarn finishing

Is yarn 1 bleached?

Utilities used in yarn finishing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Europe

Asia

Pacific

Africa

North America

South America

Afghanistan

Albania

Algeria

Andorra

Angola

Antigua and Barbuda

Give the actual number

or kWh

%

amount

Give the actual number

or kWh

%

amount

Step 5: Give the actual percentage of consumption of electricity or mention the amount of electricity consumption in kWh.

3.1 Yarn 1

Yarn count (Nm)

Spinning method

% of yarn 1 in final product?

Utilities used in spinning

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Asia

Renewable

Energy source

Steam generation

Water source

Give the actual number or kWh

Yarn finishing

Is yarn 1 bleached?

Is yarn 1 dyed?

Utilities used in yarn finishing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number or kWh

Step 6: If the yarn spinning process involves renewable energy consumption, indicate the percentage of renewable energy used and specify the type of renewable energy. If the product combines energy from the grid and a renewable source, ensure that their combined total equals 100%.

Utilities used in spinning

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Asia

Solar

Energy source

Steam generation

Water source

Give the actual number or kWh

Step 7: Input the actual numbers for heat, steam, and water. Utilize the conversion formula provided below to enter values in the specified units within the respective cells.

In addition,

1 kg of coal = 25 MJ

1 L of oil = 15 MJ

1 m³ of gas = 38 MJ

1 kg wood = 15 MJ

1 kg of steam = 2.6 MJ

Utilities used in spinning

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Asia

Solar

Energy source

Steam generation

Water source

Give the actual number or kWh

Step 8: As a next step, mention if the yarn is bleached or not. Pick ‘Y’ for yes and ‘N’ for No.

3.1 Yarn 1

Yarn count (Nm) Spinning method % of yarn 1 in final product?

Utilities used in spinning

Electricity (kWh) or kWh

Electricity renewable (kWh) amount

Heat (MJ)

Steam (kg)

Water (l)

Yarn finishing

Is yarn 1 bleached? Is yarn 1 dyed?

Utilities used in yarn finishing

Electricity (kWh) or kWh

Electricity renewable (kWh) amount

Heat (MJ)

Steam (kg)

Water (l)

Step 10: In cases of synthetic/ man-made and recycled yarns, they could be **dope dyed**. In such cases, pick ‘Y’ meaning that the yarn is dyed. Pick ‘N’ otherwise.

3.1 Yarn 1

Yarn count (Nm) Spinning method % of yarn 1 in final product?

Utilities used in spinning

Electricity (kWh) or kWh

Electricity renewable (kWh) amount

Heat (MJ)

Steam (kg)

Water (l)

Yarn finishing

Is yarn 1 bleached? Is yarn 1 dyed?

Utilities used in yarn finishing

Electricity (kWh) or kWh

Electricity renewable (kWh) amount

Heat (MJ)

Steam (kg)

Water (l)

Step 11: Repeat steps 4,5,6 and 7 however, keep in mind that the details that need to be entered are for the process of **yarn finishing**.

Utilities used in yarn finishing		Give the actual number or kWh	
Electricity (kWh)	Grid	%	amount
Electricity renewable (kWh)	Renewable	%	amount
Heat (MJ)	Energy source	MJ	
Steam (kg)	Steam generation	kg	
Water (l)	Water source	Liter	



Duplicate steps 1 to 11 for Yarn 2, and likewise, follow the same procedure for Yarn 3, 4, and 5. If these specific yarns are not applicable, kindly leave the corresponding fields blank.

4.0 FABRICS

D. FABRICS

4.1 Introduction

- A product can have multiple fabrics. For instance, a main fabric, a fabric for pocketing and more for complex cut & sew styles. Enter the total number of fabrics in the product.

4. FABRICS

Number of fabrics **0**

- Details in this section need to be entered per fabric. A maximum of 5 fabric details can be added. In cases of specialty fabrics or exceptions, mention in the field below all additional comments that you would like bAwear to know.

Your remarks / additional information

4.2 Data Entry

Step 1: For fabric 1, enter the amount of yarn 1 in grams.

4.1 Fabric 1		Amount in gram	Town /Country spinner	Transport yarn to fabric producer	Distance (km)	Distance (nautical miles)
Composition		900			0	
Yarn 1		10			0	
Yarn 2					0	
Yarn 3					0	
Yarn 4					0	
Yarn 5		0.00			0	

Construction fabric 1		Sizing warp yarns	% weft yarn	Yarn count weft (Nm)	Yarn count knit (Nm)
Type	Specified				

Utilities used		Grid	Give the actual number	or kWh
Electricity (kWh)			%	amount
Electricity renewable (kWh)		Renewable	%	amount
Heat (MJ)		Energy source	MJ	
Steam (kg)		Steam generation	kg	
Water (l)		Water source	liter	

Step 2: In cases, where there are 2 yarns, make sure the total adds up to a 1000 and turns green.

4.1 Fabric 1		Composition	Amount in gram	Town /Country spinner	Transport yarn to fabric producer	Distance (km)	Distance (nautical miles)
Yarn 1			900			0	
Yarn 2			100			0	
Yarn 3						0	
Yarn 4						0	
Yarn 5						0	
			1000				

Construction fabric 1		Specified	Sizing warp yarns	% weft yarn	Yarn count weft (Nm)	Yarn count knit (Nm)
Type						

Utilities used		Grid	Give the actual number	or kWh
Electricity (kWh)			%	amount
Electricity renewable (kWh)			%	amount
Heat (MJ)			MJ	
Steam (kg)			kg	
Water (l)			Liter	

Step 3: Next, in the cell provided, write down the town or country where the spinner is located.

4.1 Fabric 1		Composition	Amount in gram	Town /Country spinner	Transport yarn to fabric producer	Distance (km)	Distance (nautical miles)
Yarn 1			900			0	
Yarn 2			100			0	
Yarn 3						0	
Yarn 4						0	
Yarn 5						0	
			1000				

Step 4: Then, choose the mode of transportation from the drop-down list.

4.1 Fabric 1		Composition	Amount in gram	Town /Country spinner	Transport yarn to fabric producer	Distance (km)	Distance (nautical miles)
Yarn 1			900	China		0	
Yarn 2			100			0	
Yarn 3						0	
Yarn 4						0	
Yarn 5						0	
			1000				

Construction fabric 1		Specified	Sizing warp yarns	% weft yarn	Yarn count weft (Nm)	Yarn count knit (Nm)
Type						

Utilities used		Grid	Give the actual number	or kWh
Electricity (kWh)			MJ	amount
Electricity renewable (kWh)			kg	amount
Heat (MJ)			Liter	
Steam (kg)				
Water (l)				

Step 5: Specify the distance in nautical miles. The equivalent distance in kilometers will be automatically calculated.

4.1 Fabric 1		Composition	Amount in gram	Town /Country spinner	Transport yarn to fabric producer	Distance (km)	Distance (nautical miles)
Yarn 1			900	China	Container Ship	926	500
Yarn 2			100			0	
Yarn 3						0	
Yarn 4						0	
Yarn 5						0	
			1000				

Step 6: Pick one from the options provided for the construction type for fabric 1.

Knitting is a fabric construction method that involves the interloping of yarns to create a flexible and stretchable textile. Weaving is a textile construction method where two sets of yarns, the warp, and the weft, are interlaced to right angles to form a fabric. Braiding is a textile technique that involves intertwining multiple strands of yarns to create a strong, structured often decorative product. Non-woven fabrics are made by bonding or felting fibers together which have different properties than woven or knitted textiles.

4.1 Fabric 1		Composition	Amount in gram	Town /Country spinner	Transport yarn to fabric producer	Distance (km)	Distance (nautical miles)
Yarn 1		900		China	Container Ship	926	500
Yarn 2		100				0	
Yarn 3						0	
Yarn 4						0	
Yarn 5						0	
			1000				

Construction fabric 1		Specified	Sizing warp yarns	% weft yarn	Yarn count weft (Nm)	Yarn count knit (Nm)
Type	Knit					
Utilities used	Heat (MJ)		Grid	Give the actual number	or kWh	
	Steam (kg)		Renewable	%	amount	
	Water (l)		Energy source	MJ	amount	
			Steam generation	kg		
			Water source	Liter		

Step 7: Select the appropriate construction type for Fabric 1 from the provided options. For woven fabrics, it is mandatory to enter details for sizing warp yarns and the percentage of weft yarns. The system will automatically calculate the percentage of warp yarns as 100% minus the percentage of weft.

Construction fabric 1		Specified	Sizing warp yarns	% weft yarn	Yarn count weft (Nm)	Yarn count knit (Nm)
Type	Weave	Rapier		50		

Step 8: Select the count of the weft yarn. If you leave this blank, the average yarn number will be used. Do not make any changes in the yarn count for knit if your fabric is woven.

Construction fabric 1		Specified	Sizing warp yarns	% weft yarn	Yarn count weft (Nm)	Yarn count knit (Nm)
Type	Weave	Rapier		50	34	

Step 9: Keep in mind that the yarn count for knits might differ when the yarns are twined or plied.

When the yarn is plied: eg. 30/2 Ne = 15Ne = 25Nm

When there are synthetic yarns with multiple filaments: Eg. 120Nm 40f = 120 Nm. (Do not take the number of filaments into account)

When there are multiple yarns: Eg. 34Nm & 51Nm = take average = (34+51)/2 = 42.5

When there are yarns used differently for different construction: Eg. 3T Terry 34Nm & 34Nm & 17Nm = take weighted average = How much % of yarn is used = (40x34Nm + 40x34Nm + 20x17Nm)/100 = 30.6

Construction fabric 1		Specified	Sizing warp yarns	% weft yarn	Yarn count weft (Nm)	Yarn count knit (Nm)
Type	Knit	Flat bed			34	34

Step 9: Check the units before entering values in the cells. When in doubt, always look at the comments on each cell. Use the following conversion values for heat which can be in the form of coal, oil, gas, or wood.

1 kg of coal = 25 MJ

1 litre of oil = 43 MJ

1 m³ gas = 38 MJ

1 kg wood = 15 MJ

Utilities used		Give the actual number		or kWh	
Electricity (kWh)	Grid		%		amount
Electricity renewable (kWh)	Renewable		%		amount
Heat (MJ)	Energy source		MJ		
Steam (kg)	Steam generation		kg		
Water (l)	Water source		Liter		

Step 10: Check the units before entering a value in the cells. When in doubt, always look at the comments on each cell. Use the following conversion value for steam:

1 kg of steam = 2.6 MJ

Utilities used in fiber production		Give the actual number		or kWh	
Electricity (kWh)	Grid	90		amount	
Electricity renewable (kWh)	Renewable	10		amount	
Heat (MJ)	Energy source	2.6			
Steam (kg)	Steam generation		kg		
Water (l)	Water source		Liter		

Step 11: Similarly, input the value for water in liters.



Furthermore, follow steps 1 to 10 for the other two fabrics in the product.

5.0 FINISHING

E. FINISHING

5.1 Introduction

- Enter the total number of fabrics being used in the product in the area below.

5. FINISHING

Number of fabrics

0

- Enter details in this section per fabric. You can add a maximum of 3 fabric details. For specialty fabrics or exceptions, please provide additional comments in the field below for bAwear's reference. Details in this section need to be entered per fabric. A maximum of 3 fabric details can be added. In cases of specialty fabrics or exceptions, mention in the field below all additional comments that you would like bAwear to know.

Your remarks / additional information

5.2 Data Entry

Step 1: For fabric 1, enter the town or the country where the fabric producer is located.

5.1 Transport fabric from producer to textile finisher				
	Town/Country fabric producer	Transport fabric to textile finisher	Distance (km)	Distance (nautical miles)
Fabric 1	Bangladesh		0	
Fabric 2			0	
Fabric 3			0	

Step 2: Pick the mode of transport from producer to textile finisher. Pick one from the drop-down list.

5.1 Transport fabric from producer to textile finisher				
	Town/Country fabric producer	Transport fabric to textile finisher	Distance (km)	Distance (nautical miles)
Fabric 1	Bangladesh		0	
Fabric 2			0	
Fabric 3			0	

Barge

Container Ship

Airplane

Train

Lorry <3,5 t

Truck, 3.5 - 7.5 ton, Euro 4

Step 3: It is required to mention distance in nautical miles. The distance in km is then automatically calculated.

5.1 Transport fabric from producer to textile finisher

	Town/Country fabric producer	Transport fabric to textile finisher	Distance (km)	Distance (nautical miles)
Fabric 1	Bangladesh	Container Ship	0	500
Fabric 2			0	
Fabric 3			0	

Step 4: This step applies in cases where there are multiple modes of transport for a particular fabric.

5.1 Transport fabric from producer to textile finisher

	Town/Country fabric producer	Transport fabric to textile finisher	Distance (km)	Distance (nautical miles)
Fabric 1	Bangladesh	Container Ship	926	500
Fabric 2		Lorry <3,5 t	0	
Fabric 3			0	

Step 5: Repeat steps 1 to 4 of this section (“Finishing” section).

5.1 Transport fabric from producer to textile finisher

	Town/Country fabric producer	Transport fabric to textile finisher	Distance (km)	Distance (nautical miles)
Fabric 1	Bangladesh	Container Ship	926	500
Fabric 2	Pakistan	Lorry <3,5 t	185.2	100
Fabric 3		Container Ship	0	

Step 6: Pick a pre-treatment process that applies to fabric 1.

5.2 Fabric 1
Pretreatment fabric 1

Proces
1. Desizing batch
2. Desizing continuous
3. Scouring batch
4. Scouring continuous
5. Bleaching Batch
6. Bleaching continuous
7. Mercerizing (cellulose)
8. Dyeing
9. Fixation
10. Color depth dyeing

Specify drying method

Utilities used in pretreatment
Electricity (kWh)
Electricity renewable (kWh)
Heat (MJ)
Steam (kg)
Water (l)

Grid
Renewable
Energy source
Steam generation
Water source

Give the actual number or kWh
%
%
MJ
kg
Liter

Dyeing fabric 1

Proces
1. Dyeing
2. Fixation
3. Color depth dyeing

Specify dyeing method

Utilities used in dyeing
Electricity (kWh)
Electricity renewable (kWh)
Heat (MJ)
Steam (kg)
Water (l)

Grid
Renewable
Energy source
Steam generation
Water source

Give the actual number or kWh
%
%
MJ
kg
Liter

Printing fabric 1

Proces
1. Printing method
2. Dye class
3. Dyeing method
4. Fixation
5. Color depth printing

Utilities used in printing
Electricity (kWh)
Electricity renewable (kWh)
Heat (MJ)
Steam (kg)
Water (l)

Grid
Renewable
Energy source
Steam generation
Water source

Give the actual number or kWh
%
%
MJ
kg
Liter

Finishing fabric 1

Proces
1. Finishing
2. Fixation
3. Color depth printing

Specify

Utilities used in finishing
Electricity (kWh)
Electricity renewable (kWh)
Heat (MJ)
Steam (kg)
Water (l)

Grid
Renewable
Energy source
Steam generation
Water source

Give the actual number or kWh
%
%
MJ
kg
Liter

Step 7: Choose a drying method from the drop-down list. If you are uncertain and the method does not fall under the last 4 options, select option 1: Drying.

5.2 Fabric 1
Pretreatment fabric 1

Proces
1. Mercerizing (cellulose)
2. Dyeing
3. Fixation
4. Color depth dyeing
5. Color depth printing

Specify drying method
Drying
Cylinder Thermal Oil
Cylinder Steam Heated
Stenter Gas Fired
Stenter Thermal Oil

Utilities used in pretreatment
Electricity (kWh)
Electricity renewable (kWh)
Heat (MJ)
Steam (kg)
Water (l)

Grid
Renewable
Energy source
Steam generation
Water source

Give the actual number or kWh
%
%
MJ
kg
Liter

Step 8: In the same way mention if there are any other pre-treatment methods.

5.2 Fabric 1
Pretreatment fabric 1

Proces
1. Mercerizing (cellulose)
2. Dyeing
3. Fixation
4. Color depth dyeing
5. Color depth printing

Specify drying method
Drying

Utilities used in pretreatment
Electricity (kWh)
Electricity renewable (kWh)
Heat (MJ)
Steam (kg)
Water (l)

Grid
Renewable
Energy source
Steam generation
Water source

Give the actual number or kWh
%
%
MJ
kg
Liter

You can also just specify drying as one of the pre-treatment process. In this case it is mandatory to specify the type of drying.

5.2 Fabric 1
Pretreatment fabric 1

Proces
1. Mercerizing (cellulose)
2. Drying
3. Fixation
4. Color depth dyeing
5. Color depth printing

Specify drying method
Drying

Utilities used in pretreatment
Electricity (kWh)
Electricity renewable (kWh)
Heat (MJ)
Steam (kg)
Water (l)

Grid
Renewable
Energy source
Steam generation
Water source

Give the actual number or kWh
%
%
MJ
kg
Liter

5.2 Fabric 1
Pretreatment fabric 1

Process	Specify drying method	Utilities used in pretreatment	Give the actual number	or kWh
1. Mercerizing (cellulose)	Drying	Electricity (kWh)	%	amount
2. Drying		Electricity renewable (kWh)	%	amount
3. Desizing continuous		Heat (MJ)	MJ	
4.		Steam (kg)	kg	
5.		Water (l)	Liter	

Step 9: Enter details for utilities used in the pre-treatment process for fabric 1. In cases where grid and renewable energy is used as a combination, they need to **add up to a 100%**.

5.2 Fabric 1
Pretreatment fabric 1

Process	Specify drying method	Utilities used in pretreatment	Give the actual number	or kWh
1. Mercerizing (cellulose)	Drying	Electricity (kWh)	%	amount
2. Drying		Electricity renewable (kWh)	%	amount
3. Desizing continuous		Heat (MJ)	MJ	
4.		Steam (kg)	kg	
5.		Water (l)	Liter	

Step 7: Pick a fabric dyeing method from the list.



Continuous dyeing is an automated, high-speed process suitable for large-scale textile production, ensuring uniform color application with high precision. Normally a continuous dyeing range consists out of a foulard (application of chemicals), a steamer (reaction of the chemicals) a washing range with multiple compartments (removal of reaction products and excess chemicals) and a drying range (stenter or cylinder dryer). In contrast, **discontinuous dyeing** is a batch process, slower in speed, but offers flexibility for smaller runs and specialized color requirements. Examples of batch dyeing equipment are (air-) jet dyeing machine and jigger. Most yarn dyeing processes are also discontinuous processes. Continuous dyeing prioritizes efficiency and consistency, while discontinuous dyeing allows for more customization at the cost of lower production speed and potentially higher impact.

5.2 Fabric 1

Pretreatment fabric 1

Proces	Specify drying method	Utilities used in pretreatment	Give the actual number	or kWh
1. Mercerizing (cellulose)	Drying	Electricity (kWh)	%	amount
2. Drying		Electricity renewable (kWh)	%	amount
3. Desizing continuous		Heat (MJ)	MJ	
4.		Steam (kg)	kg	
5.		Water (l)	Liter	

Dyeing fabric 1

Proces	Specify dyeing method	Utilities used in dyeing	Give the actual number	or kWh
1. Dyeing method		Electricity (kWh)	%	amount
2. Dye class		Electricity renewable (kWh)	%	amount
3. Contin		Heat (MJ)	MJ	
4. Discontin		Steam (kg)	kg	
5. Semi-contin		Water (l)	Liter	

Printing fabric 1

Proces	Specify	Utilities used in printing	Give the actual number	or kWh
1. Printing method		Electricity (kWh)	%	amount
2. Dye class		Electricity renewable (kWh)	%	amount
3. Drying method		Heat (MJ)	MJ	
4. Fixation		Steam (kg)	kg	
5. Color depth printing		Water (l)	Liter	

Finishing fabric 1

Proces	Specify	Utilities used in finishing	Give the actual number	or kWh
1.		Electricity (kWh)	%	amount
2.		Electricity renewable (kWh)	%	amount
3.		Heat (MJ)	MJ	
4.		Steam (kg)	kg	
5.		Water (l)	Liter	

If you pick continuous, you are prompted with two options: (Pick one)

1. Pad steam
2. Thermosol

Dyeing fabric 1

Proces	Specify dyeing method	Utilities used in dyeing	Give the actual number	or kWh
1. Contin	Pad steam	Electricity (kWh)	%	amount
2. Dye class	Thermosol	Electricity renewable (kWh)	%	amount
3. Drying method		Heat (MJ)	MJ	
4. Fixation		Steam (kg)	kg	
5. Color depth dyeing		Water (l)	Liter	

If you pick continuous, you are prompted with four options: (Pick one)

1. Jigger
2. Jet
3. Air-jet
4. Winch

Dyeing fabric 1

Proces	Specify dyeing method	Utilities used in dyeing	Give the actual number	or kWh
1. Discontin	Jigger	Electricity (kWh)	%	amount
2. Dye class	Jet	Electricity renewable (kWh)	%	amount
3. Drying method	Air-jet	Heat (MJ)	MJ	
4. Fixation	Winch	Steam (kg)	kg	
5. Color depth dyeing		Water (l)	Liter	

For semi-continuous (Pick one)

Step 8: From the drop-down menu, pick a dye class that suits your product. The description of each dye class is given below:



Direct dyes: As the name suggests these dyes are known for their ability to bond directly with fibers of the fabric by van der Waals forces and hydrogen bonding. They require an electrolyte such as NaCl or Na₂SO₄ for high dye fiber substantivity. They are commonly applied to cellulosic fibers such as cotton. They are water soluble. After dyeing, the fabric is often rinsed to remove excess dye. While they offer simplicity in terms of application, they have some limitations in terms of colorfastness.

Reactive Dye: They present very good wash fastness because they bond via covalent bonding (strongest bond). This category at present dominates the global dye consumption for cellulosic.

VAT: It is a water insoluble dye. Hence it displays unsurpassed levels of fastness to various agents such as light and laundering.

Sulphur: It is toxic and banned in some countries. The dye is limited in shades. But it is a relatively cheap process.

Acid dyes: This class of dyes is easy to apply. They are present in a wide range of colors. They present good fastness properties through ionic bonds. In addition, also have a high fixation rate of 83-90%. They are suited for protein (wool and silk), polyamide and acrylics.

Disperse dyes: They are specifically designed to dye synthetic fabrics, particularly polyester and acetate. They have low solubility in water, so they are finely dispersed in a dispersing agent to create a dye bath. The process usually involves heating the dye bath to a high temperature to enhance the dye's solubility and facilitate its penetration into synthetic fibers. Once the dye molecules have diffused into the fibers, they become solid and color the material. After dyeing, the material is often subjected to a process such as washing and finishing to remove any excess dye and to enhance colorfastness. They provide vibrant and durable hues. These are also suited for CO₂ dyeing.

Basic/Cationic dyes: Mainly used for polyacrylic fibers. They present high dyeing efficiency and excellent fastness on PAN fibers.

Pigment: They consist of finely ground color particles that adhere to the fabric through a mechanical process. They are not soluble in water. During the dyeing process of this dye class, the color particles attach to the surface of the fibers through physical bonding. Later, the fabric is often treated with heat or chemicals to ensure the color adheres firmly.

Dyeing fabric 1

Process: 1. Semi-contin, 2. Dye class, 3. Dyeing method, 4. Reactive

Specify dyeing method

Utilities used in dyeing

Grid	Renewable	Energy source	Steam generation	Water source
Electricity (kWh)	Electricity renewable (kWh)	Heat (MJ)	Steam (kg)	Water (l)
Give the actual number	Give the actual number	Give the actual number	Give the actual number	Give the actual number
%	%	MJ	kg	Liter
amount	amount	amount	amount	amount

Utilities used in printing

Grid	Renewable	Energy source	Steam generation	Water source
Electricity (kWh)	Electricity renewable (kWh)	Heat (MJ)	Steam (kg)	Water (l)
Give the actual number	Give the actual number	Give the actual number	Give the actual number	Give the actual number
%	%	MJ	kg	Liter
amount	amount	amount	amount	amount

Printing fabric

1. Disperse / reactive, 2. Disperse / acid, 3. Vat, 4. Sulfur, 5. Acid, 6. Pigment, 7. Basic, 8. Other

Finishing fabric

Step 9: From the drop-down menu, pick a drying method.

Dyeing fabric 1

Proces

1. Semi-continu
2. Direct
3. Drying method
4. Fixation
 - Cilinder Thermal Oil
 - Cilinder Steam Heated
 - Stenter Gas Fired
 - Stenter Thermal Oil

Specify dyeing method

Utilities used in dyeing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number or kWh

%

%

MJ

kg

Liter

amount

amount

Printing fabric

Heat

Utilities used in printing

Give the actual number or kWh

Step 10: Enter the form in which the fixation of the dye took place for fabric 1.

Dyeing fabric 1

Proces

1. Semi-continu
2. Direct
3. Cilinder Steam Heated
4. Fixation
 - Color depth dyeing
 - Steam
 - Heat

Specify dyeing method

Utilities used in dyeing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number or kWh

%

%

MJ

kg

Liter

amount

amount

Printing fabric

Heat

Utilities used in printing

Give the actual number or kWh

Step 11: Indicate the depth of the color achieved on fabric 1.

Dyeing fabric 1

Proces

1. Semi-continu
2. Direct
3. Cilinder Steam Heated
4. Fixation
 - Color depth dyeing
 - Not coloured
 - White
 - Pale
 - Medium
 - Dark

Specify dyeing method

Utilities used in dyeing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number or kWh

%

%

MJ

kg

Liter

amount

amount

Printing fabric

Heat

Utilities used in printing

Give the actual number or kWh

Step 12: Specify the values/amount of all utilities used in dyeing. Make sure to check if the % of renewable and grid is adding up to a 100%. This applies in cases where there is a combination of grid and renewable energy being applied for dyeing.

Dyeing fabric 1

Proces

1. Semi-continu
2. Direct
3. Cilinder Steam Heated
4. Fixation
 - Color depth dyeing

Specify dyeing method

Utilities used in dyeing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number or kWh

%

%

MJ

kg

Liter

amount

amount

Printing fabric

Heat

Utilities used in printing

Give the actual number or kWh

Step 12: Pick the printing method that applies for fabric 1. Read the description about each of the options below:



Inkjet printing for textiles involves the application of ink droplets directly onto fabric surfaces, allowing for precise and high-resolution designs. **Transfer printing** for textiles entails the transfer of a pre-printed design from a carrier paper onto fabric through the application of heat and pressure. **Rotational screen printing** for textiles utilizes a rotating cylindrical screen to apply ink onto fabric surfaces, enabling efficient

and consistent pattern reproduction. This is a common method to **all over print (AOP)** textile materials. **Flat screen printing** for textiles involves the direct application of ink through a flat screen onto fabric, allowing for precise and versatile pattern designs. Textile **spraying** is a method where color or treatment is applied to fabric using a spray application, providing even coverage and versatile design possibilities.

Step 12: The same dye classes, drying, color depth options and fixation methods apply. Look at steps 9 to 11 and fill in details for printing fabric 1. Specify the values/amount of all utilities used in printing. Make sure to check if the % of renewable and grid is adding up to a 100%. This applies in cases where there is a combination of grid and renewable energy.

Step 13: Select one among the four options presented for finishing fabric 1. You can choose a maximum of 5 finishing processes for fabric 1.



Chemical finishing stands for the application of specific chemicals to alter the properties of the fabric, enhancing characteristics such as softness, durability or resistance to wrinkles or stains. Specify the type of chemical finish that applies to your product.

Coating involves applying a layer of polymers or resins onto fabric surface to enhance properties such as water resistance, durability or for thermal insulation. Specify the type of coating method that applies to your product.

Finishing fabric 1		Specify		Utilities used in finishing		Give the actual number or kWh	
Proces 1. Chemical_finishing 2. Coating 3. 4. 5.	 	Acrylic Poly urethane Styrene Butadiene PVC UV-curable coating Silicone Other	Electricity (kWh)	Grid	%	amount	
			Electricity renewable (kWh)	Renewable	%	amount	
			Heat (MJ)	Energy source	MJ		
			Steam (kg)	Steam generation	kg		
			Water (l)	Water source	Liter		

5.3 Fabric 2		Specify		Utilities used in pretreatment		Give the actual number or kWh	
Proces Pretreatment fabric 2 1. 2. 3. 4. 5.	 	Acrylic Poly urethane Styrene Butadiene PVC UV-curable coating Silicone Other	Electricity (kWh)		%	amount	
			Electricity renewable (kWh)		%	amount	
			Heat (MJ)		MJ		
			Steam (kg)		kg		
			Water (l)		Liter		

Lamination as a finishing process where layers of material, typically a film or adhesive, are bonded onto the fabric surface to enhance qualities like water resistance, strength, or a barrier against the external environment. Specify the type of lamination method that applies to your product.

Finishing fabric 1		Specify		Utilities used in finishing		Give the actual number or kWh	
Proces 1. Chemical_finishing 2. Lamination 3. 4. 5.	 	PTFE (eg. Goretex ®) Polyester (eg. Sympatex ®) Vinyl Silicone Polyurethane Other	Electricity (kWh)	Grid	%	amount	
			Electricity renewable (kWh)	Renewable	%	amount	
			Heat (MJ)	Energy source	MJ		
			Steam (kg)	Steam generation	kg		
			Water (l)	Water source	Liter		

5.3 Fabric 2		Specify		Utilities used in pretreatment		Give the actual number or kWh	
Proces Pretreatment fabric 2 1. 2. 3. 4. 5.	 	PTFE (eg. Goretex ®) Polyester (eg. Sympatex ®) Vinyl Silicone Polyurethane Other	Electricity (kWh)		%	amount	
			Electricity renewable (kWh)		%	amount	
			Heat (MJ)		MJ		
			Steam (kg)		kg		
			Water (l)		Liter		

Mechanical finishing in textiles on the other hand refers to the alteration of fabric properties through physical processes, such as brushing, calendaring, embossing, heat setting, sanforising, decatizing to name a few. Specify the most appropriate choice for your product.

Finishing fabric 1		Specify		Utilities used in finishing		Give the actual number or kWh	
Proces 1. Chemical_finishing 2. Mechanical_finishing 3. 4. 5.	 	Calendaring Embossing Heat setting Polyester Sanfor (crimp resistant) Decatizing (wool) Brushing / raising Other	Electricity (kWh)	Grid	%	amount	
			Electricity renewable (kWh)	Renewable	%	amount	
			Heat (MJ)	Energy source	MJ		
			Steam (kg)	Steam generation	kg		
			Water (l)	Water source	Liter		

5.3 Fabric 2		Specify		Utilities used in pretreatment		Give the actual number or kWh	
Proces Pretreatment fabric 2 1. 2. 3. 4. 5.	 	Calendaring Embossing Heat setting Polyester Sanfor (crimp resistant) Decatizing (wool) Brushing / raising Other	Electricity (kWh)		%	amount	
			Electricity renewable (kWh)		%	amount	
			Heat (MJ)		MJ		
			Steam (kg)		kg		
			Water (l)		Liter		

Step 14: Specify the values/amount of all utilities used in finishing fabric 1. Make sure to check if the % of renewable and grid is adding up to a 100%. This applies in cases where there is a combination of grid and renewable energy being applied for finishing.

Finishing fabric 1		Specify		Utilities used in finishing		Give the actual number or kWh	
Proces 1. Chemical_finishing 2. Mechanical_finishing 3. 4. 5.	 	Calendaring Embossing Heat setting Polyester Sanfor (crimp resistant) Decatizing (wool) Brushing / raising Other	Electricity (kWh)	Grid	%	amount	
			Electricity renewable (kWh)	Renewable	%	amount	
			Heat (MJ)	Energy source	MJ		
			Steam (kg)	Steam generation	kg		
			Water (l)	Water source	Liter		



As directed, replicate procedure from steps 1 to 14 for fabric 2 and fabric 3.

6.0 MANUFACTURING

F. MANUFACTURING

6.1 Introduction

- In cases of specialty fabrics or exceptions, mention in the field below all additional comments that you would like bAwear to know.

Your remarks / additional information

6.2 Data Entry

Step 1: Enter the town or the country where the textile finisher is located.

6.1 Transport fabric from textile finisher to manufacturer

	Town/Country textile finisher	Transport fabric to manufacturer	Distance (km)	Distance (nautical miles)
Fabric 1			0	
Fabric 2			0	
Fabric 3			0	

Step 2: Pick the mode of transport from textile finisher to manufacturer. Pick one from the drop-down list.

6.1 Transport fabric from textile finisher to manufacturer

	Town/Country textile finisher	Transport fabric to manufacturer	Distance (km)	Distance (nautical miles)
Fabric 1	Bangladesh	Container Ship	0	
Fabric 2			0	
Fabric 3			0	

6.2 Cutting waste and destination

Amount of cutting waste in %

7.0 Packaging and Transport

Step 3: As a next step, it is required to mention distance in nautical miles. The distance in km is then automatically calculated.

6.1 Transport fabric from textile finisher to manufacturer

	Town/Country textile finisher	Transport fabric to manufacturer	Distance (km)	Distance (nautical miles)
Fabric 1	Bangladesh	Container Ship	0	500
Fabric 2			0	
Fabric 3			0	

Step 4: This step requires the % of cutting waste from the manufacturing process.

6.2 Cutting waste and destination

Amount of cutting waste in %

20

Destination cutting waste

%

0

Step 5: Mention the % of waste re-used against it. Similarly, mention the % of waste recycled. This is followed by % of waste incinerated or landfilled.

6.2 Cutting waste and destination

Amount of cutting waste in %

20

Destination cutting waste

	%
Re-use	10
Recycling	20
Incineration	50
Landfill	10
	100

Step 6: Make sure to check if the total reached a 100 and turned green.

6.2 Cutting waste and destination

Amount of cutting waste in %

20

Destination cutting waste

	%
Re-use	10
Recycling	20
Incineration	50
Landfill	20
	100

Step 7: A maximum of 5 product finishing processes can be chosen. Among the list of options are:



Textile treatment processes encompass a variety of techniques to enhance the characteristics and appearance of fabrics. **Chemical bleaching** involves the strategic use of chemicals to alter the color of fabrics, while **decatizing** is a finishing method primarily applied to wool to enhance stability and reduce shrinkage. **Embroidery**, whether featuring a small or large logo, entails the meticulous stitching of designs onto fabric surfaces. The small ones are usually logos for branding while the large one could be on the front panel of the product. The **enzyme wash** technique employs enzymes to achieve a soft and worn-in aesthetic for fabrics. **Garment dyeing** is a process where finished garments receive color, providing a unique and vibrant appearance. **Ironing** is a straightforward method utilizing heat and pressure to eliminate wrinkles from fabrics. Most products in the industry are always ironed after manufacturing except for garment dyed products. **Laser finishing** employs advanced technology to create intricate patterns or distressing on fabrics with precision. **Mechanical treatment**, especially for jeans, involves processes like distressing and abrasion to achieve a vintage denim look. **Nano/plasma finishing** utilizes nanotechnology or plasma treatment to enhance fabric properties such as water repellency or wrinkle resistance. **Ozone** treatment is a sustainable approach using ozone gas for fabric bleaching without the need for chemicals. The **pebble wash** technique employs small, abrasive stones to create a distressed and textured appearance on knitted garments. **Screen printing**, whether large or small, involves the application of ink through a screen onto fabric, producing bold and detailed designs. **Softener wash** utilizes softening agents to impart a smooth and luxurious feel to fabrics. **Stone wash** is a process employing stones to achieve a softened and worn-in appearance, particularly for denim. **Transfer printing** methods include the application of designs onto fabric through heat and pressure, providing durable and vivid results, with the **heat seal** variation ensuring a lasting and vibrant transfer.

6.3 Product finishing processes

Process

1.

2.

3.

4.

5.

Utilities used in product finishing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

%

MJ

kg

Liter

or kWh

amount

amount

Step 8: Specify the values/amount of all utilities used in manufacturing of the product. Make sure to check if the % of renewable and grid is adding up to a 100%. This applies in cases where there is a combination of grid and renewable energy being applied for manufacturing.

6.3 Product finishing processes

Process

1.

2.

3.

4.

5.

Utilities used in product finishing

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

%

MJ

kg

Liter

or kWh

amount

amount

7.0 PACKAGING AND TRANSPORT

G. PACKAGING AND TRANSPORT

7.1 Introduction

- In cases of specialty fabrics or exceptions, mention in the field below all additional comments that you would like bAwear to know.

Your remarks / additional information

7.2 Data Entry

Step 1: Select the packaging material from the options given. A maximum of 3 can be chosen.

7.1 Packaging	Type of packaging	Amount in gram
	Cardboard Pallet PP Pallet wood Packaging film (HDPE) Packaging film (LDPE) Packaging film (PP) Paper	

7.2 Transport product from manufacturer	Product category

Step 2: Enter the weight of the material in gram.

7.1 Packaging	Type of packaging	Amount in gram
	Packaging film (PP)	50

Step 3: You do not have to enter any values. This is linked to the information entered on section ‘General’ and shows the product category of the product. Please check if the categories appearing are correct.

7.2 Transport product from manufacturer to final destination

		Town/Country final destination	Transport finished product to final destination	Distance (km)	Distance (nautical miles)
Ladies	Fleece			0	
0	0			0	
				0	

Step 4: Specify the location of destination of the product.

7.2 Transport product from manufacturer to final destination

		Town/Country final destination	Transport finished product to final destination	Distance (km)	Distance (nautical miles)
Ladies	Fleece			0	
0	0			0	
				0	

Step 5: Specify the mode of transport for the product to arrive at the destination.

7.2 Transport product from manufacturer to final destination

		Town/Country final destination	Transport finished product to final destination	Distance (km)	Distance (nautical miles)
Ladies	Fleece			0	
0	0			0	
				0	

Barge
 Container Ship
 Airplane
 Train
 Lorry <3,5 t
 Truck, 3.5 - 7.5 ton, Euro 4
 Truck, 3.5 - 7.5 ton, Euro 5
 Truck, 3.5 - 7.5 ton, Euro 6
 Truck, 7.5 - 16 ton, Euro 4
 Truck, 7.5 - 16 ton, Euro 5
 Truck, 7.5 - 16 ton, Euro 6
 Truck, 16 - 32 ton, Euro 4

Step 6: As a next step, it is required to mention distance in nautical miles. The distance in km is then automatically calculated.

7.2 Transport product from manufacturer to final destination

		Town/Country final destination	Transport finished product to final destination	Distance (km)	Distance (nautical miles)
Ladies	Fleece			926	500
0	0			0	
				0	

8.0 USE - CARE

H. USE - CARE

8.1 Introduction

- In cases of specialty fabrics or exceptions, mention in the field below all additional comments that you would like bAwear to know.

Your remarks / additional information

8.2 Data Entry

Step 1: Pick a type of laundry process from the drop-down menu.

8.1 Laundry

Type of laundry

Industrial_laundry
 Industrial_laundry
 Home_laundry

Washing machine

Washing temperature

°C

Moisture content after drying

%

Drying method

Ironing

Number of laundry cycles during the life time of the product

Utilities used in laundry

Electricity (kWh)

Electricity renewable (kWh)

Heat (MJ)

Steam (kg)

Water (l)

Grid

Renewable

Energy source

Steam generation

Water source

Give the actual number

%

%

MJ

kg

liter

or kWh

amount

amount

Step 2: Is the laundry machine front loader or top loader. This could be specific for a certain geographical location. Specify accordingly.

8.1 Laundry

Type of laundry: Home_laundry

Washing machine: Frontloader (dropdown menu)

Washing temperature: °C

Moisture content before drying: %

Moisture content after drying: %

Drying method: Ironing

Number of laundry cycles during the life time of the product:

Utilities used in laundry:

- Electricity (kWh): Grid, Renewable, Energy source, Steam generation, Water source
- Electricity renewable (kWh):
- Heat (MJ):
- Steam (kg):
- Water (l):

Give the actual number or kWh

amount amount

Step 3: Specify the temperature of the wash cycle in degree Celsius.

8.1 Laundry

Type of laundry: Home_laundry

Washing machine: Toploader

Washing temperature: °C

Moisture content before drying: %

Moisture content after drying: %

Drying method: Ironing

Number of laundry cycles during the life time of the product:

Utilities used in laundry:

- Electricity (kWh): Grid, Renewable, Energy source, Steam generation, Water source
- Electricity renewable (kWh):
- Heat (MJ):
- Steam (kg):
- Water (l):

Give the actual number or kWh

amount amount

Step 4: This cell asks for the moisture content in the product **before and after** de-watering. This includes centrifuge and pressing. Mention the value in %.

8.1 Laundry

Type of laundry: Home_laundry

Washing machine: Toploader

Washing temperature: 30 °C

Moisture content before drying: %

Moisture content after drying: %

Drying method: Ironing

Number of laundry cycles during the life time of the product:

Utilities used in laundry:

- Electricity (kWh): Grid, Renewable, Energy source, Steam generation, Water source
- Electricity renewable (kWh):
- Heat (MJ):
- Steam (kg):
- Water (l):

Give the actual number or kWh

amount amount

Step 5: From the list in the drop-down menu, pick a method used for drying the product.

8.1 Laundry

Type of laundry Home_laundry	Washing machine Toploader	Washing temperature 30 °C
Moisture content before drying %	Moisture content after drying %	Drying method Ironing
Number of laundry cycles during the life time of the product		
Utilities used in laundry		
Electricity (kWh)	Grid	
Electricity renewable (kWh)	Renewable	
Heat (MJ)	Energy source	
Steam (kg)	Steam generation	
Water (l)	Water source	

Line drying
Tumbler drying (condenser)
Tumbler drying (vented)
Tumbler drying (heat pump)
Tumble dryer (Ind-Gas)
Tumble dryer (Ind-Steam)
Press / Steam ironer (Ind)
Centrifuge / steam ironer (Ind)
Tunnel finisher (Ind)

amount
amount

Liter

Step 6: The ironing process for the product involves substantial electrical energy consumption, making it a crucial consideration in environmental impact calculations. Please indicate the applicability of this process to your product from the provided drop-down list.

8.1 Laundry

Type of laundry Home_laundry	Washing machine Toploader	Washing temperature 30 °C
Moisture content before drying %	Moisture content after drying %	Drying method Line drying
Number of laundry cycles during the life time of the product		Ironing Y N
Utilities used in laundry		
Electricity (kWh)	Grid	Give the actual number %
Electricity renewable (kWh)	Renewable	or kWh amount
Heat (MJ)	Energy source	amount
Steam (kg)	Steam generation	
Water (l)	Water source	

Step 7: The next value is not always known. It also depends on the behavior of the user. Make a realistic estimation. Otherwise, use the minimum amount of laundry cycles guaranteed for the product.

8.1 Laundry

Type of laundry Home_laundry	Washing machine Toploader	Washing temperature 30 °C
Moisture content before drying %	Moisture content after drying %	Drying method Line drying
Number of laundry cycles during the life time of the product		Ironing y
Utilities used in laundry		
Electricity (kWh)	Grid	Give the actual number %
Electricity renewable (kWh)	Renewable	or kWh amount
Heat (MJ)	Energy source	amount
Steam (kg)	Steam generation	
Water (l)	Water source	

Step 8: Specify the values/amount of all utilities used in the use and care of the product. Make sure to check if the % of renewable and grid is adding up to a 100%. This applies in cases where there is a combination of grid and renewable energy being applied for use and care.

Utilities used in laundry		Give the actual number		or kWh
Electricity (kWh)	Grid	%	amount	
Electricity renewable (kWh)	Renewable	%	amount	
Heat (MJ)	Energy source	MJ		
Steam (kg)	Steam generation	kg		
Water (l)	Water source	Liter		

Step 9: The next part of this section considers single journey only. Enter the location (town/country) of the user. This is the distance from industrial laundry to the user.

8.2 Transport product to industrial laundry (single journey)			
Town /Country textile user	Mode of transport to industrial laundry	Distance (km)	Distance (nautical miles)
		0	
		0	
		0	

Step 10: Specify the mode of transport. As a next step, it is required to mention distance in nautical miles. The distance in km is then automatically calculated.

8.2 Transport product to industrial laundry (single journey)			
Town /Country textile user	Mode of transport to industrial laundry	Distance (km)	Distance (nautical miles)
	Barge	0	
	Container Ship	0	
	Airplane	0	

9.0 END- OF- LIFE

9.1 Introduction

- Select the most probable route for the end – of – life of the product. This might be a combination of the options available. Specify carefully.
- In cases of specialty fabrics or exceptions, mention in the field below all additional comments that you would like bAwear to know.

Your remarks / additional information

9.2 Data Entry

Step 1: Indicate the percentage breakdown for product handling by specifying the amount to be recycled, reused, incinerated, and sent to the landfill. Reuse refers to portions suitable for scraps or being used as wiping cloth. Recycled denotes material eligibility for mechanical or chemical recycling. Incineration involves burning the product, and the final option is disposal in a landfill. Ensure the total adds up to 100%. Proceed to the next step.

9. 1 Disposal of the product

Select the most probable route for the end of life of the product.
This might be a combination of the options available.

Reuse (%)	Recycled (%)	Incinerated (%)	Sent to landfill (%)
10	20	50	0
Total			80

Step 2: Make sure to check the that the total cell has turned **green**.

9. 1 Disposal of the product

Select the most probable route for the end of life of the product.
This might be a combination of the options available.

Reuse (%)
10

Recycled (%)
20

Incinerated (%)
50

Sent to landfill (%)
20

Total
100

10.0 APPENDIX

10.1 List of materials in the system

A	Acrylic		P	PET fibres	
C	Cotton (China)			PET fibres recycled	
	Cotton (India)			PLA	
	Cotton (USA)			Polyamide 6 fibres	
	Cotton (Global)			Polyamide 6,6 fibres	
	Cotton Organic (India)			Polyester fibres	
	Cotton Organic (USA)			PP fibres	
	Cotton Organic (Global)			PVC fibres	
	Cotton Recycled		S	Sisal Brazil	
E	Econyl (Yarn)			Sisal Tanzania	
	Elastane fibre		V	Viscose fibre	
H	HDPE fibres			Viscose Asia	
	Hemp fibre			Viscose Austria	
J	Jute fibre			Viscose Lyocell	
K	Kenaf fibre		W	Wool (USA)	
L	LDPE fibre			Wool (Global)	
	Linen fibre			Wool recycled	
O	Other recycled fibres				

10.2 List of products in the system

Yarns & Fabrics

- ✓ Knitting Yarn Cotton
- ✓ Knitting Yarn Wool
- ✓ Knitting Yarn Acrylic
- ✓ Sewing Yarn (Cotton)
- ✓ Sewing Yarn (Polyester)
- ✓ Embroidery Yarn
- ✓ Denim
- ✓ Fleece
- ✓ Cotton - White
- ✓ Cotton - Coloured
- ✓ Polyester - White
- ✓ Polyester - Coloured
- ✓ Felt - Wool
- ✓ Felt - Polyester
- ✓ Fabric woven - General
- ✓ Fabric Knitted - General

Table Linen

- ✓ Napkin
- ✓ Table Cloth
- ✓ Table Runner

Bath Linen

- ✓ Towel
- ✓ Bath Sheet
- ✓ Wash Cloth
- ✓ Bath Robe
- ✓ Bath Mat

Home Textiles

- ✓ Kitchen Towel
- ✓ Dish Towel
- ✓ Microfiber Cloth

Interior Textiles

- ✓ Curtains
- ✓ Drapes
- ✓ Upholstery

Bed Linen

- ✓ Pillow Case
- ✓ Bottom Sheet
- ✓ Bottom Sheet Double
- ✓ Top Sheet
- ✓ Top Sheet Double
- ✓ Duvet Cover
- ✓ Duvet Cover Double
- ✓ Bed Runner

Men

- ✓ T-shirt
- ✓ Polo
- ✓ Business Shirt
- ✓ Casual Shirt
- ✓ Sweater
- ✓ Fleece
- ✓ Winter coat
- ✓ Jacket
- ✓ Pants (long)
- ✓ Underpants
- ✓ Business jacket
- ✓ Shorts
- ✓ Business suit
- ✓ Jeans
- ✓ Pyjama
- ✓ Thermic underwear

Ladies

- ✓ T-shirt
- ✓ Polo
- ✓ Blouse Polyester
- ✓ Blouse Cotton
- ✓ Sweater wool/acrylic
- ✓ Fleece
- ✓ Winter coat
- ✓ Jacket
- ✓ Dress woven
- ✓ Dress knitted
- ✓ Skirt
- ✓ Shorts
- ✓ Pants (long)
- ✓ Jeans
- ✓ Lingerie brief
- ✓ Lingerie bra
- ✓ Socks
- ✓ Pyjama
- ✓ Thermic underwear

Child

- ✓ T-shirt
- ✓ Polo
- ✓ Dress
- ✓ Skirt
- ✓ Sweater
- ✓ Fleece
- ✓ Winter coat
- ✓ Jacket
- ✓ Pants (long)
- ✓ Underpants
- ✓ Tights
- ✓ Shorts
- ✓ Jeans
- ✓ Pyjama
- ✓ Thermic underwear

Work wear

- ✓ Windstopper
- ✓ Overall
- ✓ Worker pants
- ✓ Parka
- ✓ Work Jacket
- ✓ Rain suit

Protective Wear 2

- ✓ Jacket/Parka (FR Inherent)
- ✓ Jacket/Parka (FR finished)
- ✓ Jacket/Parka (Hi-Vis)
- ✓ Jacket/Parka (Anti-static)
- ✓ Jacket/Parka (Chem. Res.)
- ✓ Sweater (FR Inherent)
- ✓ Sweater (FR finished)
- ✓ Sweater (Hi-Vis)
- ✓ Sweater (Anti-static)
- ✓ Sweater (Chem. Res.)
- ✓ T-shirt/Polo (FR Inherent)
- ✓ T-shirt/Polo (FR finished)
- ✓ T-shirt/Polo (Hi-Vis)
- ✓ T-shirt/Polo (Anti-static)
- ✓ T-shirt/Polo (Chem. Res.)

Protective Wear 1

- ✓ Softshell (FR Inherent)
- ✓ Softshell (FR finished)
- ✓ Softshell (Hi-Vis)
- ✓ Softshell (Anti-static)
- ✓ Softshell (Chem. Res.)
- ✓ Fleece vest (FR Inherent)
- ✓ Trouser (FR finished)
- ✓ Fleece vest (Hi-Vis)
- ✓ Fleece vest (Anti-static)
- ✓ Fleece vest (Chem. Res.)
- ✓ Trouser (FR Inherent)
- ✓ Overall (FR finished)
- ✓ Trouser (Hi-Vis)
- ✓ Trouser (Anti-static)
- ✓ Trouser (Chem. Res.)
- ✓ Overall (FR Inherent)
- ✓ Overall (Hi-Vis)
- ✓ Overall (Anti-static)
- ✓ Overall (Chem. Res.)
- ✓ Am. Overall (FR Inherent)
- ✓ Am. Overall (FR finished)
- ✓ Am. Overall (Hi-Vis)
- ✓ Am Overall (Anti-static)
- ✓ Am. Overall (Chem. Res.)

Sportswear

- ✓ Shirt Ladies
- ✓ Shirt men
- ✓ Shorts man
- ✓ Training suit
- ✓ Leggings
- ✓ Bikini
- ✓ Swinsuit
- ✓ Swim shorts
- ✓ Shorts ladies

Miscellaneous

- ✓ Oven Glove
- ✓ Pot Holder
- ✓ Apron
- ✓ Shawl
- ✓ Hat (Fleece)
- ✓ Hat (Knitted)
- ✓ Earmuffs
- ✓ Base-ball Cap
- ✓ Cap

Baby

- ✓ Romper
- ✓ Textile diaper
- ✓ Diaper pants
- ✓ Burp cloth
- ✓ Sleeping bag
- ✓ Pyjama
- ✓ Jogging trouser
- ✓ Blouse
- ✓ Legging (stretch)
- ✓ T-shirt
- ✓ Polo-shirt
- ✓ Dress
- ✓ Vest
- ✓ Sweater
- ✓ Jacket (Summer & Winter)

Technical
Fabrics

- ✓ Polycot 50-50

