Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

E Screen™ LOWGLARE™

from

Mermet USA

Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Licensee:	EPD North America (www.epdna.com)
Type of EPD:	EPD of multiple products, based on a representative product
EPD registration number:	EPD-IES-0029640:001
Version date:	2026-04-01
Validity date:	2031-03-31

E Screen™ LOWGLARE™ is not yet on the market – Results of this EPD shall be used with care as the LCI data is not yet based on 1 year of production which may result in increased uncertainty
An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com

GENERAL INFORMATION

Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	support@environdec.com

Product Category Rules (PCR)
CEN standard EN 15804 and ISO 21930 serve as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction products (EN 15804:A2) (v2.0.1)
PCR review was conducted by: The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. The review panel may be contacted via support@environdec.com. Rob Rouwette (chair), Noa Meron (co-chair)

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ **Individual EPD verification without a pre-verified LCA/EPD tool** Third-party verifier: James Mellentine, Thrive ESG Approved by: International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.
For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Mermet USA

Address: 5970 N Main Street Cowpens, SC, 29330

Contact: Nathan Wintermute nathan.wintermute@mermetusa.com

Address and contact information of the LCA practitioner commissioned by the EPD owner: Rose Maylen (rose@wapsustainability.com) and Isabel Oskwarek (isabel@wapsustainability.com)

Description of the organisation: Mermet USA is a manufacturer of premium solar screen fabrics since 1976. With 40 years of experience mastering the engineering and design of sun control textiles, Mermet USA's mission is to provide customers with shading solutions that enhance solar protection, energy savings, durability, aesthetics, and acoustical comfort.

PRODUCT INFORMATION

Product name: E Screen™ LOWGLARE™

Product identification: CSI division 12 24 13

UN CPC code: 281

Product description: The E Screen™ LOWGLARE™ screens are composed of fiberglass and vinyl plastisol with improved glare control. The product is comprised of a basket woven fabric which is intended to be used as a window shade covering.

Name and location of production site(s): Cowpens, South Carolina, USA

	E Screen™ LOWGLARE™
Width	122" (310cm)

Fire	NFPA 701-19 TM#1, California US Title 19 CAN/ULC-S109-14 Small & Large Flame Test
Bacterial & fungal	ASTM E2180 ASTM G21

Product Stage (A1-A3):
During manufacturing, bobbins of fiberglass yarn are conditioned to standard temperature and humidity after they arrive at the facility. Next the fiberglass yarn is coated with a layer of PVC plastisol that provides durability, color, and FR properties to the yarn. Yarns are wound onto individual bobbins. Metered bobbins are used to prepare a warp beam. Additional bobbins of weft yarn are woven in between the warp yarns on a loom to produce the desired pattern. The woven fabric is heated to set the yarns in place. Next the fabric is inspected for defects and cut into individual rolls wound onto a cardboard core tube. The rolls are wrapped in plastic film, packaged in cardboard shipping tube, and capped with tin caps for distribution.

The GWP-GHG value for the electricity dataset used during manufacturing is 0.388 kg CO_2-eq/kWh. A regional residual grid mix dataset was used. Details on the electricity mix used for manufacturing are as follows:

Source	Quantity [%]	GWP-GHG [kg CO2-eq/kWh]
Natural gas	45.0	0.388
Nuclear	41.7	
Hard Coal	12.9	
Heavy fuel oil	<1	
Lignite	<1	
Coal Gases	<1	

CONTENT DECLARATION

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/declared unit	Biogenic material, kg CO2eq/declared unit
Fiberglass	1.53E-01	0%	0%	0	0
Vinyl Plastisol	2.73E-01	0%	0%	0	0
TOTAL	4.26E-01	0%	0%	0	0

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/declared unit	Biogenic material, kg CO2eq/declared unit
Cardboard	1.20E-01	28%	5.16E-02	1.89E-01
Plastic Film	3.12E-03	1%	0	0
Tin	6.25E-03	1%	0	0
TOTAL	1.29E-01	30%	5.16E-02	1.89E-01

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

No substances in the product are on the Candidate List of Substances of Very High Concern (SVHC) which exceed the limits for registration with the European Chemicals Agency.

LCA INFORMATION

Declared unit: 1 m^2 (with a mass of 0.426 kg)

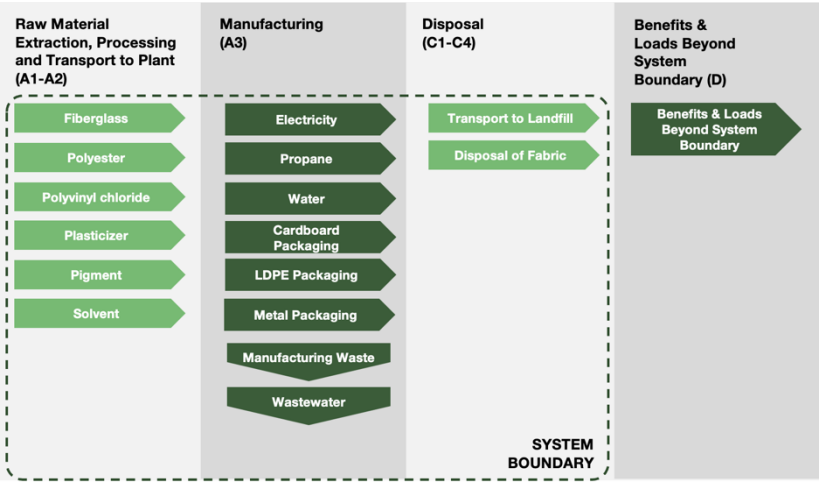
Time representativeness: 2021

Geographical scope: United States (A1-A3, C1-C4, D), Europe (A1, A2)

Database(s) and LCA software used: Sphera Managed LCA Content 2025.2, Sphera LCA for Experts 10.9.4.13

Description of system boundaries: Cradle-to-Gate with modules C1-C4 and module D

System boundary:
This LCA is a cradle-to-gate with options. The effect of infrastructure along the supply chain, as well as that of capital goods and other multi-use machines and tools has been excluded from the study. An overview of the system boundary is shown in the figure below, and a summary of the life cycle stages included in this study is presented in the table below.



Delivery and Installation (A4-A5):
Impacts associated with delivery and installation are outside of the selected system boundary.

Use Stage (B1-B7):
Impacts associated with use are outside of the selected system boundary.

End-of-Life (C1-C4):
In this stage, the product is transported to the end-of-life facility and disposed. The assumed end-of-life scenario for all products under study is waste to landfill.

The table below shows the parameters for the end-of-life scenario utilized in the model. All waste has been classified according to the PCR and regional standards.

End of Life Details	E Screen™ LOWGLARE™
Collected as mixed construction waste [kg]	0.426
Waste to Landfill [kg]	0.426
Distance to Landfill [km]	80

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	NA/EU	NA/EU	NA	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
Share of primary data	34%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	19%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	N/A			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Cut-Off Criteria:
Life cycle inventory (LCI) data shall include a minimum of 99% of total inflows per unit process and a minimum of 95% of total inflows per life-cycle stages. Cumulative excluded material inputs, energy inputs, and environmental impacts shall not exceed 5% based on total weight, energy use, or environmental impact of the declared unit. All available data shall be used, and cut-offs shall not be done to conceal or misrepresent any data. If less than 100% of inputs or outputs are accounted for in the available data, proxy data should be used to achieve 100% data completeness. No flows were intentionally omitted from the scope of the study.

Allocation:
General principles of allocation were based on ISO 14040/44. There are no products other than the product under study that are produced as part of the specific manufacturing processes under study. There are, however, other products produced at the manufacturing facility. To derive a per-unit value for manufacturing inputs such as electricity, thermal energy and water, allocation based on total production by area was adopted.

As a default, secondary MLC datasets use a physical basis for allocation. Of relevance to the defined system boundary is the method in which recycled materials were handled. Throughout the study recycled materials were accounted for via the cut-off method. Under this method, impacts and benefits associated with the previous life of a raw material from recycled stock are excluded from the system boundary. Additionally, impacts and benefits associated with secondary functions of materials at end of life are also excluded (i.e., production into a third life or energy generation from the incineration plant). The study does include the impacts associated with reprocessing and preparation of recycled materials that are part of the bill of materials of the products under study.

Data Sources:
Primary data were used where available, including A2 transport data. When primary data does not exist, secondary data for raw material production are obtained from the MLC database.

Data Quality:
The EPD covers E Screen™ LOWGLARE™ to be manufactured in 2026. Primary data was collected directly from the manufacturer, while background data was sourced from Sphera MLC Database CUP 2025.1.

The quality of the data has been assessed according to EN 15804:2012+A2:2019, Annex E, and EN 15941. Using the semi-quantitative evaluation criteria for data quality (DQR) proposed by the European Commission in its Environmental Footprint Guide, the following results were obtained:

- Temporal representativeness (TiR): Very good.
- Geographical representativeness (GeR): Fair.
- Technological representativeness (TeR): Good.

Overall, the data quality is rated between “good” and “very good.” No datasets assessed were rated “very poor.” The assessed datasets together represent more than 80% of the results of each declared environmental impact indicator, ensuring that the EPD is based on sufficiently robust and reliable data.

Process	Source type	Source	Reference year	Data category	Contribution to A1-A3 GWP-GHG (Uncut/Cut)	Share of primary data
Extraction and production of raw materials	Database	Sphera MLC 2025.2	2006-2024	Secondary data	49%/45%	0%
Transportation of raw materials	Collected data	EPD owner	2025	Primary data	2%/2%	100%
Generation of electricity used in manufacturing of product	Database	Sphera MLC 2025.2	2021	Secondary data	32%/29%	100%
Other manufacturing inputs including natural gas, water, and waste	Database	Sphera MLC 2025.2	2021	Secondary data	9%/8%	0%
Extraction and production of packaging materials	Database	Sphera MLC 2025.2	2021	Secondary data	5%/5%	0%
Cutting	Database	Sphera MLC 2025.2	2021	Secondary data	2%/11%	0%
Total share of primary data, of GWP-GHG results for A1-A3 (Contribution * Share of primary data) (Uncut/Cut)						**34%/31%**

Geographic Coverage:

The geographical scope of the manufacturing portion of the life cycle is North America. The geographical scope of the raw material acquisition is North America and Europe. Product end of life is within North America.

Time Coverage:
This temporal scope is production during calendar year 2021.

Technological Coverage:
The technological scope is the specific technology the company uses in manufacturing their product.

ENVIRONMENTAL PERFORMANCE

The environmental performance results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

LCA results for E Screen™ LOW GLARE™ - Uncut Fabric

Mandatory impact category indicators according to EN 15804

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
IPCC							
GWPi	kg CO_2 eq.	3.30E+00	0.00E+00	2.80E-03	0.00E+00	9.41E-03	-1.19E-04
GWPe	kg CO_2 eq.	3.28E+00	0.00E+00	2.79E-03	0.00E+00	9.44E-03	-1.19E-04
TRACI							
AP	kg SO2 eq	5.17E-02	0.00E+00	7.94E-06	0.00E+00	4.82E-05	-1.16E-07
EPfw	kg P eq	1.03E-05	0.00E+00	2.28E-09	0.00E+00	5.67E-06	-1.47E-11
EPm	kg N eq	3.47E-03	0.00E+00	7.17E-06	0.00E+00	2.41E-05	-5.48E-08
EP	kg N eq	5.93E-04	0.00E+00	6.79E-07	0.00E+00	7.57E-05	-1.01E-08
ODP	kg CFC 11 eq	5.02E-11	0.00E+00	7.91E-16	0.00E+00	2.87E-14	-7.98E-16
SFP	kg O3 eq	1.63E-01	0.00E+00	1.78E-04	0.00E+00	8.63E-04	-1.97E-06
EN 15804+A2 (EF 3.1)							
GWP, total	kg CO2 eq	3.30E+00	0.00E+00	2.81E-03	0.00E+00	9.42E-03	-1.20E-04
GWP, fossil	kg CO2 eq	3.27E+00	0.00E+00	2.79E-03	0.00E+00	9.42E-03	-1.19E-04
GWP, biogenic	kg CO2 eq	2.39E-02	0.00E+00	1.05E-05	0.00E+00	-1.05E-05	-1.10E-07
GWP, land use	kg CO2 eq	1.31E-03	0.00E+00	1.48E-06	0.00E+00	6.22E-06	-1.70E-07
ODP	kg CFC 11 eq	4.69E-11	0.00E+00	6.61E-16	0.00E+00	2.42E-14	-6.78E-16
AP	Mole of H+ eq	6.68E-02	0.00E+00	8.62E-06	0.00E+00	5.59E-05	-1.33E-07
EPf	kg P eq	2.15E-05	0.00E+00	5.06E-09	0.00E+00	1.11E-05	-3.26E-11
EPm	kg N eq	2.07E-03	0.00E+00	4.19E-06	0.00E+00	1.39E-05	-3.28E-08
EPt	Mole of N eq	2.23E-02	0.00E+00	4.58E-05	0.00E+00	1.52E-04	-3.60E-07
POCP	kg NMVOC eq	9.51E-03	0.00E+00	8.27E-06	0.00E+00	4.25E-05	-9.64E-08
ADP-elements	kg Sb eq	9.17E-02	0.00E+00	4.30E-10	0.00E+00	1.11E-09	-1.44E-11
ADP-fossil fuel	MJ	5.85E+01	0.00E+00	3.60E-02	0.00E+00	1.43E-01	-1.93E-03
WDP	m3 world equiv.	7.33E-01	0.00E+00	3.94E-05	0.00E+00	4.12E-04	-1.96E-05
PM	Disease incidences	5.10E-06	0.00E+00	9.55E-11	0.00E+00	6.35E-10	-1.27E-12
IRP	kBq U235 eq	4.35E-01	0.00E+00	1.04E-05	0.00E+00	1.45E-04	-1.30E-05
ETP	CTUe	2.33E+01	0.00E+00	2.60E-02	0.00E+00	6.26E-01	-2.84E-04
HTP-c	CTUh	8.16E-10	0.00E+00	4.79E-13	0.00E+00	1.76E-12	-1.55E-14
HTP-nc	CTUh	3.08E-08	0.00E+00	1.31E-11	0.00E+00	1.03E-10	-1.91E-13
SQP	Pt	1.28E+01	0.00E+00	5.33E-03	0.00E+00	1.04E-02	-1.75E-04
Acronyms	GWPi = Global Warming Potential (100 years, incl. biogenic CO2); GWPe – Global Warming Potential (100 years, excl. biogenic CO2); AP = Adicification potential of soil and water; EPfw = Eutrophication potential – Freshwater; EPm = Eutrophication potential – Marine; EP = Eutrophication potential (calculated used TRACI 2.1); ODP – Depletion of stratospheric ozone layer; SFP = Smog Formation Potential; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption; PM = Potential incidence of disease due to PM emissions; IRP = Potential Human exposure efficiency relative to U235; ETP-fw = Potential Comparative Toxic Unit for ecosystems; HTP-c = Potential Comparative Toxic Unit for humans; HTP-nc = Potential Comparative Toxic Unit for humans; SQP = Potential soil quality index						

Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	3.29E+00	0.00E+00	2.80E-03	0.00E+00	9.45E-03	-1.20E-04

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Carbon emissions and removals

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
BCRP	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEP	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK	kg CO2	2.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK	kg CO2	2.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acronyms	BCRP = Biogenic Carbon Removal from Product; BCEP = Biogenic Carbon Emission from Product; BCRK = Biogenic Carbon Removal from Packaging; BCEK = Biogenic Carbon Emission from Packaging; BCEW = Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes; CCE = Calcination Carbon Emissions; CCR = Carbonation Carbon Removals; CWNR = Carbon Emissions from Combustion of Waste from Non-Renewable Sources Used in Production Processes						

Resource use indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	4.50E+00	0.00E+00	1.50E-03	0.00E+00	2.03E-02	-4.73E-04
PERM	MJ	1.98E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	6.47E+00	0.00E+00	1.50E-03	0.00E+00	2.03E-02	-4.73E-04
PENRE	MJ	5.68E+01	0.00E+00	3.60E-02	0.00E+00	1.43E-01	-1.93E-03
PENRM	MJ	1.62E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	5.85E+01	0.00E+00	3.60E-02	0.00E+00	1.43E-01	-1.93E-03
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	1.81E-02	0.00E+00	1.62E-06	0.00E+00	1.55E-05	-5.90E-07
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water						

Waste indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
HWD	kg	1.04E-08	0.00E+00	5.97E-12	0.00E+00	3.41E-11	-1.14E-12
NHWD	kg	1.62E+00	0.00E+00	3.68E-06	0.00E+00	4.24E-01	-5.49E-07
RWD	kg	5.21E-03	0.00E+00	1.24E-07	0.00E+00	1.57E-06	-1.57E-07
HLRW	kg	6.21E-06	0.00E+00	1.47E-10	0.00E+00	1.78E-09	-1.87E-10
ILLRW	kg	5.21E-03	0.00E+00	1.23E-07	0.00E+00	1.57E-06	-1.57E-07
Acronyms	HWD = Disposed-of hazardous waste; NHWD = disposed-of non-hazardous waste; RWD = Radioactive waste disposed; HLRW = High-level radioactive waste, conditioned, to final repository; ILLRW = Intermediate- and low-level radioactive waste, conditioned, to final repository						

Output flow indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	kg	1.95E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	7.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	3.55E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acronyms	CRU = Components for reuse; MR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						

ADDITIONAL ENVIRONMENTAL INFORMATION

EXTRAPOLATION OF RESULTS

Some E Screen™ LOWGLARE™ products are cut to size for the customer if the standard size does not fit the customer's windows. An average 10% cutting scrap rate was used, informed by Mermet customers, and a 100% scrap to landfill scenario was assumed. Additional electricity is needed for cutting.

The following section of this EPD contains conversion factors that can be used to calculate the results for cut products. These conversion factors are intended to be applied directly via multiplication to each impact category result and for each life cycle module presented in the results tables above for cut E Screen™ LOWGLARE™ uncut. In the following tables, the "X" indicates multiplication and was included to visually differentiate results from extrapolation factors.

Extrapolation of LCA results for E Screen™ LOWGLARE™ - Cut

Mandatory impact category indicators according to EN 15804

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
IPCC							
GWPi	kg CO_2 eq.	X 1.198	-	X 1	-	X 1	X 1.077
GWPe	kg CO_2 eq.	X 1.19	-	X 1	-	X 1	X 1.077
TRACI							
AP	kg SO2 eq	X 1.085	-	X 1	-	X 1	X 1.077
EPfw	kg P eq	X 1.142	-	X 1	-	X 1	X 1.077
EPm	kg N eq	X 1.131	-	X 1	-	X 1	X 1.077
EP	kg N eq	X 1.153	-	X 1	-	X 1	X 1.077
ODP	kg CFC 11 eq	X 1.141	-	X 1	-	X 1	X 1.077
SFP	kg O3 eq	X 1.118	-	X 1	-	X 1	X 1.077
EN 15804+A2 (EF 3.1)							
GWP, total	kg CO2 eq	X 1.194	-	X 1	-	X 1	X 1.077
GWP, fossil	kg CO2 eq	X 1.19	-	X 1	-	X 1	X 1.077
GWP, biogenic	kg CO2 eq	X 1.105	-	X 1	-	X 1	X 1.077
GWP, land use	kg CO2 eq	X 1.595	-	X 1	-	X 1	X 1.077
ODP	kg CFC 11 eq	X 1.135	-	X 1	-	X 1	X 1.077
AP	Mole of H+ eq	X 1.085	-	X 1	-	X 1	X 1.077
EPf	kg P eq	X 1.139	-	X 1	-	X 1	X 1.077
EPm	kg N eq	X 1.131	-	X 1	-	X 1	X 1.077
EPt	Mole of N eq	X 1.132	-	X 1	-	X 1	X 1.077
POCP	kg NMVOC eq	X 1.111	-	X 1	-	X 1	X 1.077
ADP-elements	kg Sb eq	X 1.077	-	X 1	-	X 1	X 1.077
ADP-fossil fuel	MJ	X 1.181	-	X 1	-	X 1	X 1.077
Water	m3 world equiv.	X 1.181	-	X 1	-	X 1	X 1.077
PM	Disease incidences	X 1.078	-	X 1	-	X 1	X 1.077
IRP	kBq U235 eq	X 1.19	-	X 1	-	X 1	X 1.077
ETP	CTUe	X 1.127	-	X 1	-	X 1	X 1.077
HTP-c	CTUh	X 1.137	-	X 1	-	X 1	X 1.077
HTP-nc	CTUh	X 1.1	-	X 1	-	X 1	X 1.077
SQP	Pt	X 1.121	-	X 1	-	X 1	X 1.077
Acronyms	GWPi = Global Warming Potential (100 years, incl. biogenic CO2); GWPe – Global Warming Potential (100 years, excl. biogenic CO2); AP = Adicification potential of soil and water; EPfw = Eutrophication potential – Freshwater; EPm = Eutrophication potential – Marine; EP = Eutrophication potential (calculated used TRACI 2.1); ODP – Depletion of stratospheric ozone layer; SFP = Smog Formation Potential; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption; PM = Potential incidence of disease due to PM emissions; IRP = Potential Human exposure efficiency relative to U235; ETP-fw = Potential Comparative Toxic Unit for ecosystems; HTP-c = Potential						

	Comparative Toxic Unit for humans; HTP-nc = Potential Comparative Toxic Unit for humans; SQP = Potential soil quality index

Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG[2]	kg CO_2 eq.	X 1.19	-	X 1	-	X 1	X 1.077

Carbon emissions and removals

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
BCRP	kg CO2	-	-	-	-	-	-
BCEP	kg CO2	-	-	-	-	-	-
BCRK	kg CO2	X 1.077	-	-	-	-	-
BCEK	kg CO2	X 1.077	-	-	-	-	-
BCEW	kg CO2	-	-	-	-	-	-
CCE	kg CO2	-	-	-	-	-	-
CCR	kg CO2	-	-	-	-	-	-
CWNR	kg CO2	-	-	-	-	-	-
Acronyms	BCRP = Biogenic Carbon Removal from Product; BCEP = Biogenic Carbon Emission from Product; BCRK = Biogenic Carbon Removal from Packaging; BCEK = Biogenic Carbon Emission from Packaging; BCEW = Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes; CCE = Calcination Carbon Emissions; CCR = Carbonation Carbon Removals; CWNR = Carbon Emissions from Combustion of Waste from Non-Renewable Sources Used in Production Processes						

Resource use indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	X 1.468	-	X 1	-	X 1	X 1.077
PERM	MJ	X 1.077	-	-	-	-	-
PERT	MJ	X 1.349	-	X 1	-	X 1	X 1.077
PENRE	MJ	X 1.184	-	X 1	-	X 1	X 1.077
PENRM	MJ	X 1.077	-	-	-	-	-
PENRT	MJ	X 1.181	-	X 1	-	X 1	X 1.077
SM	kg	-	-	-	-	-	-
RSF	MJ	-	-	-	-	-	-
RE	MJ	-	-	-	-	-	-
NRSF	MJ	-	-	-	-	-	-
FW	m^3	X 1.205	-	X 1	-	X 1	X 1.077
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water						

Waste indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
HWD	kg	X 1.422	-	X 1	-	X 1	X 1.077
NHWD	kg	X 1.107	-	X 1	-	X 1	X 1.077
RWD	kg	X 1.191	-	X 1	-	X 1	X 1.077
HLRW	kg	X 1.191	-	X 1	-	X 1	X 1.077
ILLRW	kg	X 1.191	-	X 1	-	X 1	X 1.077
Acronyms	HWD = Disposed-of hazardous waste; NHWD = disposed-of non-hazardous waste; RWD = Radioactive waste disposed; HLRW = High-level radioactive waste, conditioned, to final repository; ILLRW = Intermediate- and low-level radioactive waste, conditioned, to final repository						

Output flow indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
CRU	kg	-	-	-	-	-	-
MR	kg	X 1.077	-	-	-	-	-
MER	kg	-	-	-	-	-	-
EEE	MJ	X 1.077	-	-	-	-	-

[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

EET	MJ	X 1.077	-	-	-	-	-
Acronyms	CRU = Components for reuse; MR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						

ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
GPI	General Programme Instructions
ISO	International Organization for Standardization
CEN	European Committee for Standardization
CPC	Central product classification
SVHC	Substances of Very High Concern
ND	Not Declared
NA	North America
LCI	Life Cycle Inventory

REFERENCES

a) CEN. (2019). EN 15804+A2: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. European Committee for Standardization.
b) CEN. (2024). *EN 15941:2024, Sustainability of construction works - Data quality for environmental assessment of products and construction work - Selection and use of data.*
c) EPD International. (2025). *Construction Products PCR 2019:14, v2.0.1.*
d) EPD International. (2025). *General Programme Instructions for the International EPD® System, v5.0.1.* www.environdec.com.
e) EPD International. (2025). *PCR 2022:04 Fabrics Version 1.0.3.* EPD International.
f) Green Story Inc. (2019, May). *Comparative Life Cycle Assessment (LCA) of second-hand clothing vs new clothing.* Retrieved from https://cf-assets-tup.thredup.com/about/pwa/thredUP-Clothing-Lifecycle-Study.pdf
g) IPCC. (2021). *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.* [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press. In Press.
h) ISO. (2006). *ISO 14025: Environmental labels and declarations - Type III environmental declarations - Principles and procedures.* Geneva: International Organization for Standardization.
i) ISO. (2006). *ISO 14040/Amd 1:2020: Environmental management - Life cycle assessment - Principles and framework.* Geneva: International Organization for Standardization.
j) ISO. (2006). *ISO 14044/Amd 1:2017/Amd 2:2020: Environmental Management - Life cycle assessment - Requirements and Guidelines.* Geneva: International Organization for Standardization.
k) ISO. (2017). *ISO 21930: Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services.* Geneva: International Organization for Standardization.
l) Sphera. (2025). *Managed LCA Content (MLC) LCA Databases Modeling Principles 2025.*
m) US EPA. (2012). *TRACI: The Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts. Version 2.1 - User Guide*. Retrieved from https://nepis.epa.gov/Adobe/PDF/P100HN53.pdf
n) WAP Sustainability. (2023). Mermet LCA Report 2023 Sun Shade EPDs.

o) WAP Sustainability. (2026) *Mermet USA GreenScreen Evolve®, GreenScreen Revive®, and E Screen™ LOWGLARE™LCA Report*

VERSION HISTORY

Original Version of the EPD, 2026-04-01

EPD
INTERNATIONAL EPD SYSTEM
www.environdec.com