



## Statement of Verification

BREG EN EPD No: 000752

Issue: 01

This is to verify that the Environmental Product Declaration provided by:

### Komfort Partitioning Limited

are in accordance with the requirements of:

**EN 15804:2012+A2:2019**

and

BRE Global Scheme Document SD207

This declaration is for:

1 m<sup>2</sup> of Komfort SG Polar 30 Screens single glazed (12.8 mm) with the total weight of 30.87 kg/m<sup>2</sup>

### Company Address

Komfort Partitioning Limited,  
Unit 501, Bentley Road South,  
Wednesbury,  
West Midlands,  
WS10 8LQ



  
Signed for BRE Global Limited

Hayley Thomson  
Operator

06 January 2026  
Date of this Issue

06 January 2026  
Date of First Issue

05 January 2031  
Expiry Date



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# Environmental Product Declaration

EPD Number: 000752

## General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE 2025 Product Category Rules (PN 514 Rev 3.2) for Type III environmental product declaration of construction products to EN 15804:2012+A2:2019.
Commissioner of LCA study	LCA consultant/Tool
Komfort Partitioning Limited, Unit 501, Bentley Road South, Wednesbury, West Midlands, WS10 8LQ	Bala Subramanian/BRE LINA A2
Declared/Functional Unit	Applicability/Coverage
1 m <sup>2</sup> of Komfort SG Polar 30 Screens single glazed (12.8 mm) with the total weight of 30.87 kg/m <sup>2</sup>	Other (please specify). Product specific
EPD Type	Background database
Cradle to Gate with options	Ecoinvent 3.8
Demonstration of Verification	
CEN standard EN 15804 serves as the core PCR <sup>a</sup>	
Independent verification of the declaration and data according to EN ISO 14025:2010 <input checked="" type="checkbox"/> Internal <input type="checkbox"/> External	
(Where appropriate <sup>b</sup> ) Third party verifier: Jiacheng (Francis) Yu	
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)	
Comparability	
Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A2:2019 for further guidance	



## Information modules covered

Product			Construction		Use stage							End-of-life				Benefits and loads beyond the system boundary
					Related to the building fabric					Related to the building						
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, Recovery and/or Recycling potential
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

Note: Ticks indicate the Information Modules declared.

### Manufacturing site(s)

Komfort Partitioning Limited,  
Unit 501,  
Bentley Road South,  
Wednesbury,  
West Midlands,  
WS10 8LQ

### Construction Product:

#### Product Description

Polar 30 is Komfort’s slim 30mm wide single glazed system. Available in either straight, faceted or curved, this system can be used with a wide range of flexible glass configurations to enhance any design. The frameless bubble jointed glazing and slim trackwork creates the appearance of floating glass, allowing an abundance of light to fill the space to naturally brighten any room.

The document is based on an average module size of 5.0m (W) x 2.9m (H) using 12.8mm laminate glass including head, abutment and base track. The system can be glazed with various glass thicknesses, based on the desired performance. These are 10 & 12mm toughened, 10.8, 12.8, 14.8 annealed laminate, 13.5mm toughened laminate. The document will be based on use of a standard 12.8mm laminate glass product. To calculate the bespoke system impacts please contact Komfort Partitioning technical team.

In the manufacturing unit, the aluminium profiles lengths are painted and sent to the construction site, along with the gaskets. They are then cut to the correct length on site for installation. The Polar 30 screen is then surveyed for the glass which is then sent straight to site from the glass processors. During installation, insulation maybe added if a deflection head is required, and hardware if doors are required to complete the system.



## Technical Information

Property	Polar 30
<b>Dimensions</b>	
Height	Up to 3000mm
Track width	30mm
Track height	32mm
Fire ratings	N/A
Acoustics	Up to 40dB (Rw)
Structure	Up to BS 6180 – 0.74kN
Deflection head	+/- 25mm
Door options	Timber doors, single glazed doors, Sonik doors
Doorframe options	Aluminium doorframe
Glass type options	Toughened – 10, 12mm Toughened Lam. – 13.5mm Acoustic Lam. – 10.8, 12.8, 14.8mm
Weight (exc. nominal head & base) *	Toughened glass: 10mm = 25kg/m <sup>2</sup> 12mm = 30kg/m <sup>2</sup>  Toughened Lam.: 13.5mm = 34kg/m <sup>2</sup>  Acoustic lam. glass: 10.8mm = 27kg/m <sup>2</sup> 12.8mm = 32kg/m <sup>2</sup> 14.8mm = 37kg/m <sup>2</sup>

Note: Please contact Komfort technical team for more information or visit <https://www.komfort.com/products/polar-30/>



### Main Product Contents

The calculated percentages in the composition table are based on a screen measuring 1000 mm (W) x 1000 mm (H), as used in the Komfort manufacturing facility. Aluminium is cut to the required size, while gaskets which are sent out either loose or in the original cardboard boxes/tubes and the glass is delivered straight to site from various glass processors. For more information, please contact Komfort Partitioning’s technical team for further information

Material/Chemical Input	Polar 30
Aluminium	6-10%
Glass	87-92%
Others	<5%

### Manufacturing Process

The process for manufacturing and assembling Komfort polar 30 screens involves multiple stages that integrate a complex supply chain and detailed production workflow.

#### Supply Chain:

- Aluminium Profiles:** Aluminium profiles are sourced from suppliers. These form the basic structural components of the screens.
- Powder Coating:** Powder coating materials are procured to provide a durable finish to the aluminium components.
- Accessories:** Gaskets are procured from the supplier.

#### Manufacturing and Assembly Process:

- Profile Finishing:** The aluminium profiles undergo finishing processes to ensure they meet quality and dimensional specifications.
- Powder Coating:** The finished profiles are then powder-coated to provide a protective and aesthetic surface finish.

3. **Screen Assembly:** The powder-coated profiles, along with the gaskets which are sent out either loose or in the original cardboard boxes/tubes, are sent to site for installation.
4. **Production Wastages:** Any waste materials generated during the production process are recycled which is managed appropriately to minimise environmental impact.

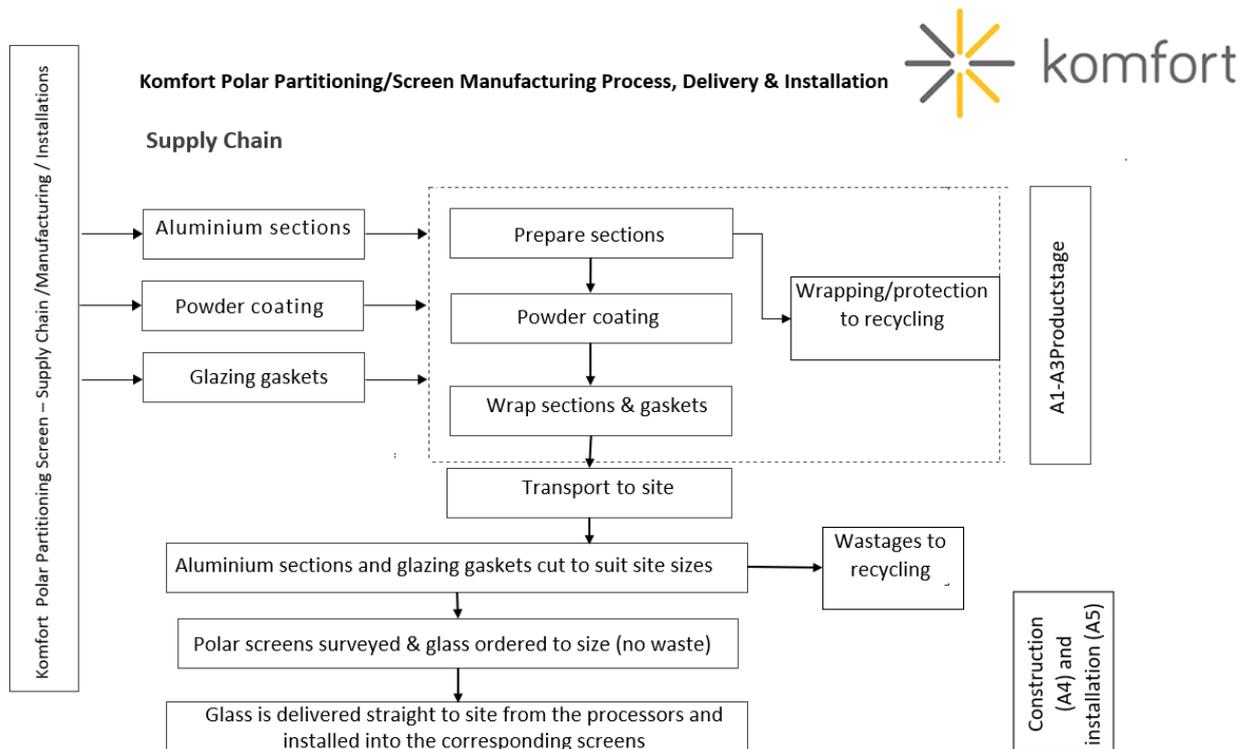
**Transportation and Installation:**

1. **Transport to Site:** The painted track and gaskets are transported from the manufacturing facility to the installation site.
2. **Screen Assembly and Installation:** On-site, the track and gaskets are cut to suit and installed into their designated locations, ensuring they are secure and functional.
3. **Glass survey, transportation:** Once the trackwork has been installed the glass is then surveyed, ordered and transported directly to site from the glass processors for installation.

**End-of-Life Management:**

1. **Disassembly, Transport, Disposal:** At the end of their lifecycle, the screens are disassembled. The components are then transported for disposal or recycling, ensuring compliance with environmental regulations.

**Process flow diagram**



**Construction Installation**

Screens are installed in to prepared opening on site. All trackwork and gaskets are cut to suit the openings on site. Any waste is either removed from site and taken back to the manufacturing facility or deposited on site in the correct recycling bin. Once the frames are fitted, the site surveyed glass is then installed and secured using the correct gaskets.

*Note: Please contact Komfort Partitioning's technical team for more information*



## End of Life

At the end of their lifecycle, the screens are disassembled manually using hand tools. The components are then transported for disposal or recycling, ensuring compliance with environmental regulations. The energy required to dismantle the screens are not included in the analysis.



## Life Cycle Assessment Calculation Rules

### Declared unit description

1 m<sup>2</sup> of Komfort SG Polar 30 Screens single glazed (12.8 mm) with the total weight of 30.87 kg/m<sup>2</sup>

Note: The declared unit is one square metre.

The LCA is calculated on the basis of a screen of width 5.0m and height 2.9m, using 12.8mm laminate glass, including head and base track and wall abutments

### System boundary

This is a Cradle-to-Gate with Options EPD, reporting the production stages A1 to A3, construction stages A4-A5, and end-of-life stages C1-C4 and D in accordance with EN 15804:2012+A2:2019 and BRE 2025 Product Category Rules (PN 514 Rev 3.2).

### Data sources, quality and allocation

The datasets are derived from Ecoinvent v3.8, and the LCA tool used was BRE LINA A2. The LCA analysis was conducted for 1 m<sup>2</sup> of Komfort SG Polar 30 Screens single glazed with the weight of 30.87 kg/m<sup>2</sup>, including the total amount of aluminium, glass, and ancillary materials used to manufacture these products over a period of year (from 01/01/2024 to 31/12/2024). The total production percentage of the Komfort SG Polar 30 Screens single glazed screen at Komfort production factory is 13.1%. In addition to the Komfort SG Polar 30 Screens, other products are manufactured. Therefore, the allocation of electricity, fuel, waste, water consumption, and discharge are required. This allocation has been done according to the provisions of BRE PCR PN514 and EN 15804, using the mass production quantity. Site wide values for energy, water and wastewater have been taken from bills. Figures for the raw materials and packaging were from actual usages. Upon data review, it was noted that the mass balance is within the range. Secondary data has been obtained for all other upstream and downstream processes that are beyond the control of the manufacturer (i.e. raw material production) from the ecoinvent 3.8 database. All ecoinvent datasets are complete within the context used and conform to the system boundary and the criteria for the exclusion of inputs and outputs, according to the requirements specified in EN 15804:2012+A2:2019.

ISO14044 guidance. Quality Level	Geographical representativeness	Technical representativeness	Time representativeness
Very Good	Data from area under study.	Data from processes and products under study. Same state of technology applied as defined in goal and scope (i.e., identical technology).	There is approximately less than 3 years between the Ecoinvent LCI reference year, and the time period for which the LCA was undertaken.

Note: The above data quality exercise has been referenced from EN 15804+A2, Table E.1 – Data quality level and Criteria of the UN Environment Global Guidance on LCA data base development.

Specific UK and European datasets have been selected from the ecoinvent LCI for this LCA. Manufacturer uses the national grid electricity and natural gas for production, so therefore the location-based approach has been used for the LCA modelling (Ecoinvent 3.8). The reference year for the electricity and Natural gas dataset is 2022. The GWP carbon footprint for using 1 kWh of UK electricity, consumption mix is 0.239 kgCO<sub>2</sub>e/kWh and for using 1 kWh of UK natural gas, at industrial furnace is 0.232 kgCO<sub>2</sub>eq. The quality level of time representativeness is also Very Good as the background LCI datasets are based on ecoinvent v3.8 which was compiled in 2021. Therefore, there is less than 5 years between the ecoinvent LCI reference year and the time period for which the LCA was undertaken.



### **Cut-off criteria**

All raw materials and energy input to the manufacturing process have been included, except for direct emissions to air, water, and soil, which are not measured. The inventory process in this LCA includes all data related to raw material, packaging material and consumable items and manufacture has confirmed that no ancillary materials used for the production. The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.



## LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO <sub>2</sub> eq	kg CFC11 eq	mol H <sup>+</sup> eq	kg (PO <sub>4</sub> ) <sup>3-</sup> eq			
Product stage	Raw material supply	A1	4.93E+01	4.88E+01	3.33E-01	6.31E-02	4.36E-06	4.39E-01	1.21E-02
	Transport	A2	1.31E+00	1.31E+00	8.51E-04	6.19E-04	2.92E-07	1.19E-02	8.15E-05
	Manufacturing	A3	9.76E+00	8.46E+00	1.29E+00	2.26E-03	7.04E-07	8.62E-03	3.80E-04
	Total (Consumption grid)	A1-3	6.03E+01	5.86E+01	1.63E+00	6.60E-02	5.35E-06	4.60E-01	1.25E-02
Construction process stage	Transport	A4	2.05E+00	2.05E+00	1.75E-03	8.06E-04	4.75E-07	8.33E-03	1.32E-04
	Construction	A5	8.97E+00	8.88E+00	8.07E-02	8.93E-03	4.75E-07	5.27E-02	2.94E-03
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	2.57E-01	2.57E-01	2.19E-04	1.01E-04	5.94E-08	1.04E-03	1.65E-05
	Waste processing	C3	7.18E-01	7.12E-01	4.13E-03	1.16E-03	5.31E-08	3.14E-03	1.81E-04
	Disposal	C4	1.14E-01	1.13E-01	1.04E-03	1.07E-04	3.70E-08	1.00E-03	1.41E-05
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-7.37E+01	-7.33E+01	-2.43E-01	-8.64E-02	-4.15E-06	-5.15E-01	-2.45E-02

GWP-total = Global warming potential, total;  
 GWP-fossil = Global warming potential, fossil;  
 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; and  
 EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment



## LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts			EP-marine	EP-terrestrial	POCP	ADP-mineral & metal	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m <sup>3</sup> world eq deprived	disease incidence
Product stage	Raw material supply	A1	6.81E-02	7.80E-01	2.09E-01	5.07E-04	5.81E+02	1.74E+01	5.83E-06
	Transport	A2	3.15E-03	3.47E-02	9.68E-03	4.30E-06	1.92E+01	8.23E-02	9.93E-08
	Manufacturing	A3	3.01E-03	3.12E-02	8.91E-03	1.32E-05	1.67E+02	3.20E+00	6.09E-08
	Total (Consumption grid)	A1-3	7.42E-02	8.46E-01	2.27E-01	5.24E-04	7.67E+02	2.07E+01	5.99E-06
Construction process stage	Transport	A4	2.51E-03	2.74E-02	8.40E-03	7.14E-06	3.10E+01	1.40E-01	1.77E-07
	Construction	A5	9.39E-03	9.87E-02	3.08E-02	2.20E-04	1.01E+02	3.05E+00	7.33E-07
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.14E-04	3.43E-03	1.05E-03	8.92E-07	3.88E+00	1.75E-02	2.21E-08
	Waste processing	C3	6.16E-04	6.74E-03	1.92E-03	2.77E-05	5.73E+00	1.19E-01	5.00E-08
	Disposal	C4	3.51E-04	3.83E-03	1.10E-03	3.64E-07	2.76E+00	1.27E-01	2.08E-08
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-9.56E-02	-1.00E+00	-2.82E-01	-6.23E-04	-9.14E+02	-1.86E+01	-5.36E-06

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;  
 EP-terrestrial = Eutrophication potential, accumulated exceedance;  
 POCP = Formation potential of tropospheric ozone;  
 ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;

ADP-fossil = Depletion potential of the stratospheric ozone layer;  
 WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and  
 PM = Particulate matter.



## LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

			Parameters describing environmental impacts				
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U <sup>235</sup> eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	3.67E+00	1.15E+03	4.88E-08	7.04E-07	1.87E+02
	Transport	A2	9.54E-02	1.49E+01	5.67E-10	1.46E-08	1.16E+01
	Manufacturing	A3	1.74E+00	2.99E+01	1.58E-09	2.20E-08	1.92E+01
	Total (Consumption grid)	A1-3	5.50E+00	1.20E+03	5.09E-08	7.41E-07	2.18E+02
Construction process stage	Transport	A4	1.60E-01	2.42E+01	7.84E-10	2.54E-08	2.13E+01
	Construction	A5	6.74E-01	2.64E+02	1.73E-07	2.07E-07	4.69E+01
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.99E-02	3.03E+00	9.80E-11	3.17E-09	2.66E+00
	Waste processing	C3	5.08E-02	1.49E+01	4.68E-10	1.88E-08	5.29E+00
	Disposal	C4	1.21E-02	7.63E+01	8.31E-11	1.20E-09	6.90E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-7.88E+00	-1.40E+03	-7.73E-08	-3.13E-06	-1.71E+02

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; and  
 SQP = Potential soil quality index.



## LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

			Parameters describing resource use, primary energy					
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	4.35E+01	0.00E+00	4.35E+01	5.64E+02	1.30E+01	5.77E+02
	Transport	A2	2.20E-01	0.00E+00	2.20E-01	1.70E+01	0.00E+00	1.70E+01
	Manufacturing	A3	-2.06E+00	1.35E+01	1.14E+01	1.84E+02	4.41E+00	1.89E+02
	Total (Consumption grid)	A1-3	4.17E+01	1.35E+01	5.52E+01	7.66E+02	1.74E+01	7.83E+02
Construction process stage	Transport	A4	4.37E-01	0.00E+00	4.37E-01	3.05E+01	0.00E+00	3.05E+01
	Construction	A5	2.03E+01	2.35E-01	2.06E+01	9.76E+01	3.51E+00	1.01E+02
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	5.46E-02	0.00E+00	5.46E-02	3.81E+00	0.00E+00	3.81E+00
	Waste processing	C3	5.18E-01	0.00E+00	5.18E-01	4.53E+00	0.00E+00	4.53E+00
	Disposal	C4	3.65E-02	0.00E+00	3.65E-02	2.71E+00	0.00E+00	2.71E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.80E+01	0.00E+00	-6.80E+01	-8.97E+02	0.00E+00	-8.97E+02

PERE = Use of renewable primary energy excluding renewable primary energy 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 resource



## LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

			Parameters describing resource use, secondary materials and fuels, use of water			
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m <sup>3</sup>
Product stage	Raw material supply	A1	6.60E-01	0.00E+00	0.00E+00	4.23E-01
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	2.04E-03
	Manufacturing	A3	1.05E-02	4.33E-05	0.00E+00	8.27E-02
	Total (Consumption grid)	A1-3	6.70E-01	4.33E-05	0.00E+00	5.08E-01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	3.46E-03
	Construction	A5	8.71E-01	7.53E-07	0.00E+00	8.87E-02
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	4.32E-04
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.92E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	2.98E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-4.67E-01

SM = Use of secondary material;  
RSF = Use of renewable secondary fuels;

NRSF = Use of non-renewable secondary fuels;  
FW = Net use of fresh water



## LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing waste categories			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	4.10E+00	6.06E+01	1.88E-03
	Transport	A2	1.97E-02	3.11E-01	7.09E+00
	Manufacturing	A3	9.63E-02	2.48E+00	7.25E-04
	Total (Consumption grid)	A1-3	4.22E+00	6.34E+01	7.09E+00
Construction process stage	Transport	A4	3.42E-02	6.08E-01	2.10E-04
	Construction	A5	7.41E+00	1.44E+01	8.34E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	4.28E-03	7.59E-02	2.62E-05
	Waste processing	C3	5.54E-02	1.78E+00	2.04E-05
	Disposal	C4	6.18E-03	1.02E+00	1.69E-05
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-8.92E+00	-1.08E+02	-1.81E-04

HWD = Hazardous waste disposed;  
 NHWD = Non-hazardous waste disposed;  
 RWD = Radioactive waste disposed



## LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing output flows – at end of life								
			CRU	MFR	MER	EE	Biogenic carbon (product)	Biogenic carbon (packaging)
			kg	kg	kg	MJ per energy carrier	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	3.91E-03	7.31E-06	0.00E+00	0.00E+00	0.00E+00
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	3.28E-01	5.87E-07	4.03E-02	7.52E-02	0.00E+00
	Total (Consumption grid)	A1-3	0.00E+00	3.32E-01	7.90E-06	4.03E-02	7.52E-02	0.00E+00
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	5.77E-03	1.37E-07	7.01E-04	1.31E-03	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	-2.87E-03	-1.75E-05	-2.91E+00	0.00E+00	0.00E+00

CRU = Components for reuse;  
MFR = Materials for recycling

MER = Materials for energy recovery;  
EE = Exported Energy

## Scenarios and additional technical information

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
A4 – Transport to the building site	Transported from Leeds to sites across the UK. Based on a worst case of 400km		
	Fuel type / Vehicle type	km	400
	Capacity utilisation (incl. empty returns)	%	29%
	Fuel consumption	l/km	0.165
	Weight per m <sup>2</sup> of transported products	kg/m <sup>2</sup>	30.87
A5 – Installation in the building	The finished Polar 30 screens are transported to the commercial building. Professional installers assemble and fit the screens into place. The track and gaskets are cut to suit the opening with the waste recycled but the glass is made to the correct size of the site opening with no waste.		
Installation wastage	1.74%		
Packaging waste	Plastic wrap (kg) - landfill	kg	0.104
C1 to C4 End of life,	At the end of their lifecycle, the Komfort polar are disassembled by using the heavy machines. The materials which are used during the product installation like a glazing media and the sealant will be associated with the product during the end of life. Therefore, the product waste is then transported for final disposal or recycling, ensuring compliance with environmental regulations. The energy required to dismantle the Komfort polar 30 are not included in the analysis.		
	Its assumed that 100% of the product is recovered at end of life		
C2 – Transportation to waste processing facility	50km by road has been modelled for module C2 as a typical distance from the demolition site to the disposal unit. However, end-users of the EPD can use this information to calculate the impacts of a bespoke transport distance for module C2 if required.		
	Road transport		Road transport
C3 – Pre-processing	Once the waste Polar 30 reached the waste processing facility, they will be separated from the other wastages and sent to the recycling. The sorting and separation activity is not included in the pre-processing analysis. The Polar 30 are made up of 90% of glass and 8% of aluminium, which have significant potential for recycling and reuse in other systems. An industrial average end-of-life data has been used according to BRE 2025 Product Category Rules (PN 514 Rev 3.2). This data indicates that 95% of aluminium waste will be recycled and 61% of glazing will be recycled.		
Komfort Polar 30 screens	Aluminium waste - 95% recycling	kg	2.23
	Glass waste – 61% recycling	kg	16.78
C4 – Disposal	Unrecovered waste sent to landfill i.e., 5% of aluminium waste to landfill and 39% of glass waste sent to landfill, 100% powder coating waste sent to landfill		
Komfort Polar 30 screens	Aluminium waste – 5% landfill	kg	0.12
	Glass waste – 31% landfill	kg	10.73
	Powder coat waste to landfill	kg	0.84

### Scenarios and additional technical information

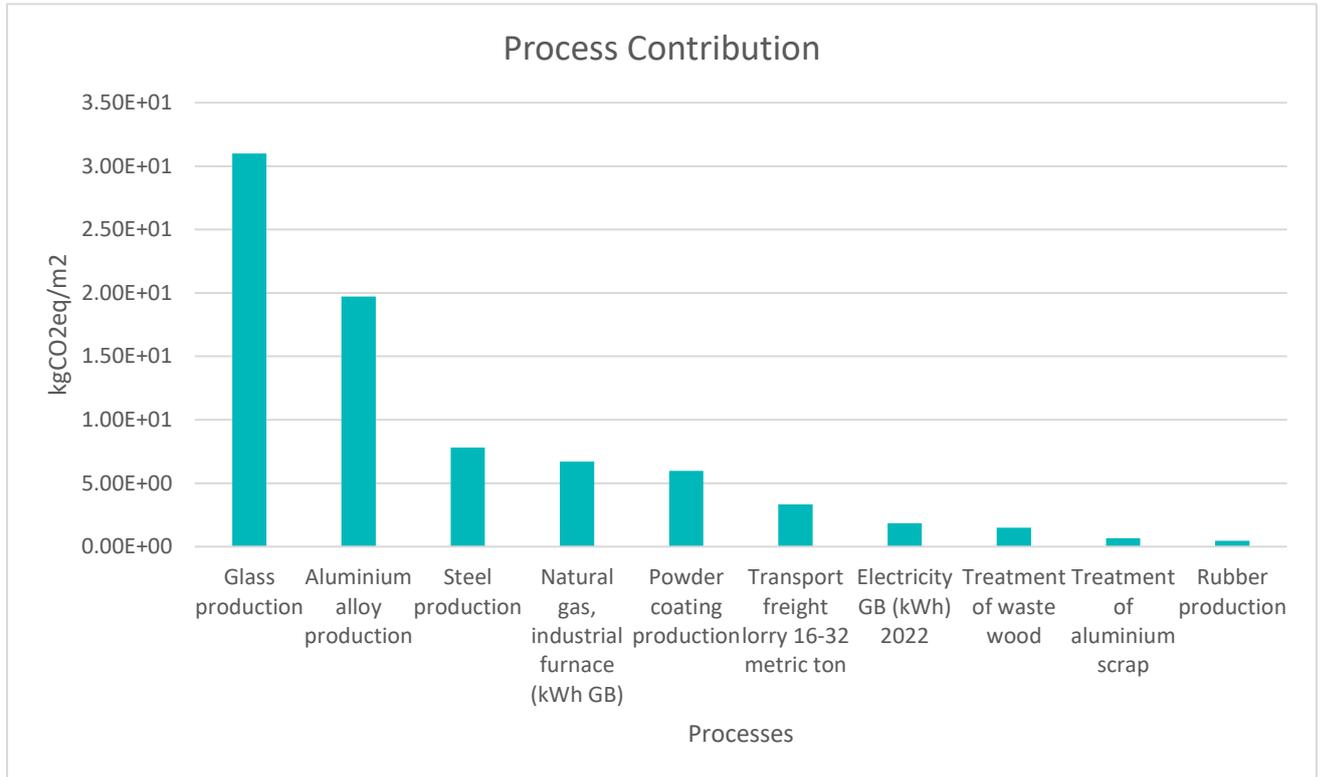
Scenario	Parameter	Units	Results
	Gasket waste to landfill	kg	0.17
Module D	<p>Benefit and load have been calculated for the virgin aluminium and glass. When calculating the benefits of recycling steel at the end of life, the pre-existing recycled content has been excluded, and the benefits have been calculated only for the virgin inputs. Aluminium can be recycled indefinitely without losing its properties, making it a highly sustainable material. Recycled glass can be used as a replacement for virgin glass fibres. The waste rubber will be incinerated in the UK, so the UK electricity dataset have been selected. The dataset used to calculate the avoided impacts of electricity consumption in a future system was 'Electricity, medium voltage {GB} market for   Alloc Def, U'.</p> <p>According to BRE PCR EN15804 V3.2,            Aluminium recycling percentage = 95%, Secondary materials - 25.90% therefore, secondary materials = <math>2.23 \times 25.90\% = 0.5785</math> kg            virgin materials = 1.66 kg            Glass recycling percentage = 61%            No secondary materials in ecoinvent 3.8 glass dataset, therefore, benefits for recycling glass calculated for 100% of the virgin materials = 16.78 kg            100% of the Gasket waste to incineration = 0.17kg            It is assumed as 100% yield during the recycling process.</p>		
	Products Recycled Content (post-consumer)	kg	0.5785
	Virgin Aluminium Recovered for recycling	kg	1.66
	Virgin Glass Recovered for recycling	kg	16.78
	Gaskets recovered for energy	kg	0.17

### Interpretation of results:

The bulk of the environmental impacts and primary energy demand are attributed to the manufacturing phase of Komfort Polar 30 screen products, covered by information modules A1-A3 of EN15804:2012+A2:2019. Komfort Polar 30 screen have been taken as a representative to interpret the results. The bar chart illustrates the global warming potential (GWP) contributions of various processes involved in producing Komfort Polar 30 Screens, measured in kg CO<sub>2</sub>-equivalent. The highest contributor is glass production (A1), indicating significant emissions from energy use during manufacturing. This is followed by the production of aluminium (A1) and steel (A1), highlighting the environmental impact of raw material sourcing. Other processes, such as natural gas (A3), coating powder production (A1), and freight



transport (A2), contribute comparatively less. Overall, the chart emphasizes that material production is the dominant source of emissions for this product





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