Statement of Verification

BREG EN EPD No: 000842 Issue: 01

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

General All-Purpose Plastics Limited

are in accordance with the requirements of:

EN 15804:2012+A2:2019

and

BRE Global Scheme Document SD207

This declaration is for:
1 kg extruded cellular unplasticized white PVC (PVC UE) profiles.

Company Address

General All-Purpose Plastics Limited
Partnership Way
Shadsworth Business Park
Blackburn
BB12QP
United Kingdom

Signed for BRE Global Limited — Hayley Thomson, Operator

Date of this Issue	Date of First Issue	Expiry Date
01 September 2026	01 September 2026	31 August 2031

BRE Global Ltd., Garston, Watford WD25 9XX
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: Enquiries@breglobal.com

Environmental Product Declaration

EPD Number: 000842

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2025 Product Category Rules for Type III environmental product declaration of construction products to EN 15804+A2 PN 514 Rev 3.2
Commissioner of LCA study	**LCA consultant/Tool**
General All-Purpose Plastics Limited Partnership Way Shadsworth Business Park Blackburn BB12QP United Kingdom	LCA Consultant: Raghavi Mugundan Tool: BRE LINA A2
Declared/Functional Unit	**Applicability/Coverage**
1 kg extruded cellular unplasticized white PVC (PVC-UE) profiles.	Product Average.
EPD Type	**Background database**
Cradle-to-Gate + Module C & D with options (A4)	Ecoinvent 3.8

Demonstration of Verification
CEN standard EN 15804 serves as the core PCR [a]
Independent verification of the declaration and data according to EN ISO 14025:2010 ☒Internal ☐ External
(Where appropriate [b])Third party verifier: Kim Allbury
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
☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☑	☑	☑	☑		☑

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Hoemline Building Product
Unit 40, 41, 42 Aberaman Industrial Estate, Aberaman,
Aberdare, CF44 6DA

Construction Product:

Product Description

Homeline products are a range of cellular PVC-U (PVC-UE) profiles designed for roofline and interior applications. Each product consists of:

- A closed-cell cellular PVC-U core (for lightweight strength).
- An outer weather-resistant, impact-modified PVC-U skin (for durability and protection against environmental factors).

The range includes:

- Roofline boards: fascias, soffits, and matching accessories.
- Cladding profiles: for external wall coverings.
- Internal trims: skirtings, architraves, window boards, and trims.

For more information please visit: https://www.gap.uk.com/about-gap/brochure-download/homeline

All products are manufactured using the same process and materials, available in various sizes, thicknesses, and shapes. They are manufactured in accordance with BS7619:2021 – Extruded cellular unplasticized white PVC (PVC-UE) profiles and are also covered by BBA certificates.

However, this EPD only measured the impacts of 1 kg extruded cellular unplasticized white PVC (PVC-UE) profiles.

Technical Information

Property	Value, Unit
Density of Homeline products	425 to 500 Kg/m3
Thermal movement	The coefficient of linear expansion under test conditions is 5 x 10-5 per degree Celsius
Water resistance	Unaffected by moisture
Chemical stability	Resistant to most acids and alkalis but can be damaged by solvents
Colourfastness	Colourfastness assessed according to BS7619:2021 - pass

For more information please visit: Homeline Specification and Installation Guide (page 22), available in the brochure download area of the company website. https://www.gap.uk.com/about-gap/brochure-download/homeline

Main Product Contents

Material/Chemical Input	%
PVC resin	78%
Recycled Cellular PVC (internal scrap)	4%
Calcium carbonate	9%

Material/Chemical Input	%
Additives	9%

Manufacturing Process

The cellular products are manufactured by co-extruding a high-impact calcium/zinc PVC-U skin compound onto a foamable calcium/zinc PVC-U core compound, and cooling and forming to section. Cellular PVC-UE is formed during the process by the evolution of gas present in the foamable PVC-U compound.

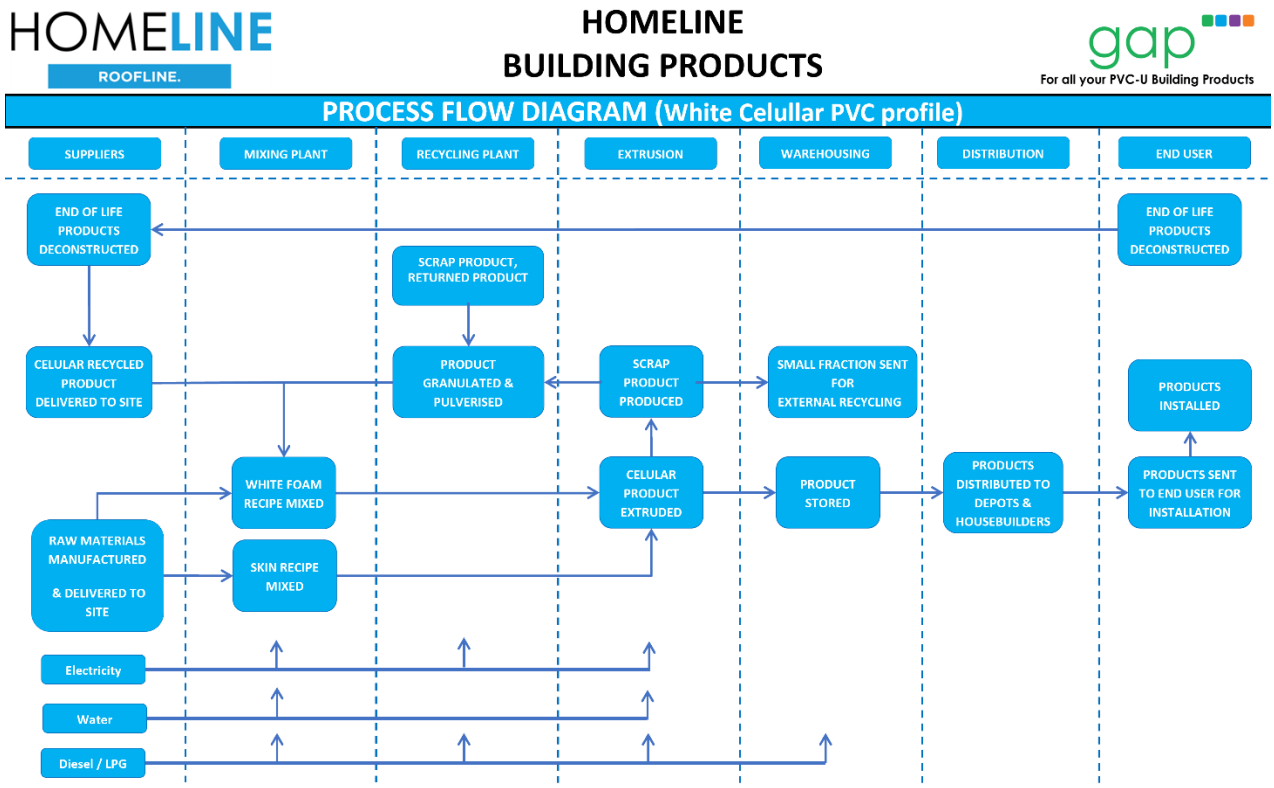
These products are in multiple designs and sizes to allow variation of finished required for the applications such as roofline, cladding or internal trims.

A protective, polyethylene film is applied to the outer face of the extrusion before the board is cut to length.

Scrap PVC material (inert) generated during the production process is internally recycled and reused.

Electricity from the UK national grid is used to power machinery and plant, while diesel and liquefied petroleum gas (LPG) are used to power forklift trucks for internal transport within the manufacturing facility.

Process flow diagram



End of Life

At end of life, the product is manually dismantled using standard hand tools.

When the PVC profile reaches the end of life, it is assumed to be 100% incinerated with energy recovery. This end-of-life scenario is based on the industry average scenario for single-ply PVC roof membranes, in accordance with BRE 2025 PCR PN514 Rev. 3.2.

Life Cycle Assessment Calculation Rules

Declared unit description

1 kg extruded cellular unplasticized white PVC (PVC-UE) profiles.

System boundary

This is a Cradle-to-Gate with Module C & D, reporting all production life cycle stages of modules includes the Product Stage (A1 - A3), transport of the finished product to site (A4) and End-of-life (C1 - C4), and Benefits and Loads beyond the System Boundary (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

Specific primary data derived from General All-Purpose Plastics have been modelled using LINA A2 software for the period 1st September 2024 to 31st August 2025. The LCA study is based on a declared unit of 1 kg extruded cellular unplasticized white PVC (PVC-UE) profiles. In accordance with the requirements of EN15804, the most current available data have been used. Secondary data have been obtained for all remaining upstream and downstream processes that are beyond the control of the manufacturer 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 EN15804+A2:2019. The White Cellular PVC profile are not the only products manufactured at the Homeline Building Product site. An allocation by mass of the site process data has therefore been carried out to determine the correct quantities of energy, water, waste, and packaging attributable to the White Cellular PVC profile production, this represents 45% of the site's total production. The mass balance for the White Cellular PVC profile was within tolerance, and no uplift of the input materials was required to cover production output and waste. However, it should be noted that a precise input material quantity for this specific product could not be obtained. Instead, it has been calculated by summing the measured production output and measured wastage. Individual input material quantities are then derived based on the product composition percentages. These composition percentages are defined by the product formulation, with the recipe securely stored within General All-Purpose Plastics computerized mixing plant system.

Where specific datasets were unavailable, proxy datasets were applied. The dataset "unspecified organic chemical" was used as a proxy to represent the blowing agent, as no dataset was available within the database that accurately reflects the specific formulation of the material.

Scrap generated during manufacturing and reused internally within the same product system is treated as closed-loop recycling and is therefore modelled as a zero-burden input in Module A1. The internally recycled scrap is not considered a secondary material input. All impacts associated with its grinding and reprocessing are accounted for in Module A3 through the plant energy and fuel consumption data, thereby avoiding double counting.

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 less than 3 years between the Ecoinvent v3.8 (2021) LCI reference year, and the time-period for which the LCA was undertaken.

The quality level of geography, time and technological representativeness is Very Good as specific UK datasets have been selected from the ecoinvent LCI, and the background LCI datasets are from ecoinvent v3.8 which was compiled in 2021. Therefore, the most appropriate LCA data have been used. Location-based approach has been used for electricity in both modelling and results.

The GWP of the electricity dataset used for this EPD is: 1 kWh UK electricity = 2.39E-01 kgCO2eq (Electricity GB (kWh) market for electricity, medium voltage).
The GWP of the natural gas dataset used for this EPD is: 1 kWh UK natural gas = 2.32E-01 kgCO2eq (Natural gas, at industrial furnace kWh, GB).

Data quality has been assessed in accordance with Table E.2 of EN 15804+A2, Annex E. The Life Cycle Assessment (LCA) has been carried out in accordance with EN 15804+A2, applying the cut-off approach as defined within the standard. Characterisation factors have been applied in line with Annex C (Table C.1) of EN 15804+A2.

Cut-off criteria

No inputs or outputs have been excluded. All raw materials and packaging inputs, along with their transport, process energy, general energy and water use, production and non-production waste, have been included where appropriate, except for direct emissions to air, water, and soil, which are not measured.

Where precise input material quantities for this specific product were not available, they were estimated by summing measured production output and recorded wastage. Individual material inputs were then derived based on product composition percentages defined in the formulation.

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_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	1.88E+00	1.86E+00	1.90E-02	1.41E-03	9.66E-07	9.22E-03	6.25E-04
	Transport	A2	1.07E-01	1.07E-01	1.07E-04	4.41E-05	2.45E-08	4.43E-04	7.55E-06
	Manufacturing	A3	2.81E-01	2.50E-01	2.93E-02	2.42E-04	1.59E-08	8.06E-04	4.73E-05
	Total (Consumption grid)	A1-3	2.26E+00	2.21E+00	4.84E-02	1.69E-03	1.01E-06	1.05E-02	6.80E-04
Construction process stage	Transport	A4	8.32E-03	8.31E-03	7.08E-06	3.26E-06	1.92E-09	3.37E-05	5.35E-07
100% incineration with energy recovery									
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	8.32E-03	8.31E-03	7.08E-06	3.26E-06	1.92E-09	3.37E-05	5.35E-07
	Waste processing	C3	2.11E+00	2.11E+00	4.56E-03	2.92E-04	6.65E-08	1.57E-03	9.23E-05
	Disposal	C4	0.00E+00	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	-5.76E-01	-5.68E-01	-7.42E-03	-6.01E-04	-4.01E-08	-3.30E-03	-3.13E-04

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& metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	1.48E-03	1.41E-02	5.09E-03	3.26E-05	4.57E+01	1.53E+00	6.54E-08
	Transport	A2	1.34E-04	1.47E-03	4.49E-04	3.66E-07	1.61E+00	7.80E-03	9.43E-09
	Manufacturing	A3	2.32E-04	2.23E-03	7.36E-04	1.43E-06	6.68E+00	8.49E-02	7.67E-09
	Total (Consumption grid)	A1 -3	1.85E-03	1.77E-02	6.28E-03	3.44E-05	5.40E+01	1.62E+00	8.25E-08
Construction process stage	Transport	A4	1.02E-05	1.11E-04	3.40E-05	2.89E-08	1.26E-01	5.65E-04	7.17E-10
100% incineration with energy recovery									
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	1.02E-05	1.11E-04	3.40E-05	2.89E-08	1.26E-01	5.65E-04	7.17E-10
	Waste processing	C3	4.55E-04	4.17E-03	1.16E-03	2.26E-06	3.26E+00	3.98E+00	1.25E-08
	Disposal	C4	0.00E+00	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	-4.82E-04	-4.78E-03	-1.34E-03	-3.35E-07	-8.97E+00	-2.39E-01	-2.31E-08

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^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	2.71E-01	3.02E+01	1.54E-09	3.92E-08	4.73E+00
	Transport	A2	8.55E-03	1.27E+00	4.20E-11	1.33E-09	1.16E+00
	Manufacturing	A3	1.37E-01	2.98E+00	9.31E-11	1.98E-09	1.83E+00
	Total (Consumption grid)	A1-3	4.17E-01	3.45E+01	1.67E-09	4.25E-08	7.72E+00
Construction process stage	Transport	A4	6.46E-04	9.81E-02	3.18E-12	1.03E-10	8.63E-02
100% incineration with energy recovery							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	6.46E-04	9.81E-02	3.18E-12	1.03E-10	8.63E-02
	Waste processing	C3	2.21E-02	1.18E+02	4.27E-10	3.28E-08	1.85E+00
	Disposal	C4	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	-1.45E-01	-8.21E+00	-1.35E-10	-4.23E-09	-2.73E+00

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	2.23E+00	0.00E+00	2.23E+00	2.68E+01	1.88E+01	4.56E+01
	Transport	A2	2.50E-02	0.00E+00	2.50E-02	1.59E+00	0.00E+00	1.59E+00
	Manufacturing	A3	7.79E-01	2.61E-01	1.04E+00	5.94E+00	1.91E+00	7.85E+00
	Total (Consumption grid)	A1-3	3.04E+00	2.61E-01	3.30E+00	3.43E+01	2.07E+01	5.50E+01
Construction process stage	Transport	A4	1.77E-03	0.00E+00	1.77E-03	1.23E-01	0.00E+00	1.23E-01
100% incineration with energy recovery								
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	1.77E-03	0.00E+00	1.77E-03	1.23E-01	0.00E+00	1.23E-01
	Waste processing	C3	2.99E-01	0.00E+00	2.99E-01	-1.83E+01	2.15E+01	3.23E+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	-1.32E+00	0.00E+00	-1.32E+00	-9.01E+00	0.00E+00	-9.01E+00

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^3
Product stage	Raw material supply	A1	0.00E+00	0.00E+00	0.00E+00	6.00E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.93E-04
	Manufacturing	A3	9.30E-04	3.36E-06	0.00E+00	2.65E-03
	Total (Consumption grid)	A1-3	9.30E-04	3.36E-06	0.00E+00	6.29E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	1.40E-05
100% incineration with energy recovery						
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	1.40E-05
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	9.28E-02
	Disposal	C4	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	0.00E+00	0.00E+00	-5.94E-03

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	1.24E-01	2.98E+00	8.90E-05
	Transport	A2	1.74E-03	3.09E-02	1.07E-05
	Manufacturing	A3	9.43E-03	2.40E-01	3.66E-05
	Total (Consumption grid)	A1-3	1.35E-01	3.25E+00	1.36E-04
Construction process stage	Transport	A4	1.38E-04	2.46E-03	8.50E-07
100% incineration with energy recovery					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.38E-04	2.46E-03	8.50E-07
	Waste processing	C3	5.52E-01	1.35E+00	1.61E-05
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.68E-02	-1.95E+00	-4.40E-05

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	0.00E+00	0.00E+00	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	1.23E-02	2.49E-08	2.68E-03	0.00E+00	0.00E+00
	Total (Consumption grid)	A1-3	0.00E+00	1.23E-02	2.49E-08	2.68E-03	0.00E+00	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
100% incineration with energy recovery								
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	1.00E+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	0.00E+00	0.00E+00	0.00E+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 site	A generic transport to site distance of 50 km has been selected as a reasonable average. End-users of the EPD can use this information to calculate a bespoke transport to site distance if required, i.e. divide the module A4 impacts by 50 and multiply them by a chosen distance.		
	Distance	km	50
	Transportation	Road transport	Lorry, 16 – 32 metric ton
C1 - Deconstruction	At end of life, the product is taken apart manually, with dismantling carried out using standard hand tools 100% recovery rate for the product during the deconstruction process. As no Verified end-of-life data is available, the end-of-life scenarios for PVC profile is based on the industrial scenario for Window frame, PVC, according to BRE EN15804 A2 PCR 3.2. i.e 100% incineration with energy recovery		
C2 Transport	50km by road has been modelled for module C2 as a typical distance from the demolition site to the recycling plant. However, end users of the EPD can use this information to calculate the impacts of bespoke transport distance for module C2 if required.		
	Distance: Deconstruction unit to pre-processing unit	km	50
	Transportation	Road transport	Lorry, 16 – 32 metric ton
C3 – Waste processing	Although cellular PVC can be granulated or pulverised and recycled for use in new production, no verified data is available for this end-of-life pre-processing stage. Therefore, the industrial end-of-life scenario for PVC window frames, as defined in the BRE EN 15804+A2 PCR 3.2, has been applied, assuming 100% incineration with energy recovery.		
	100% of waste to energy-recovery incineration	Kg/ declared unit	1
C4 - Disposal	As no Verified end-of-life data is available, the end-of-life scenarios for PVC profile is based on the industrial scenario for Window frame, PVC, according to BRE EN15804 A2 PCR 3.2. i.e 100% incineration with energy recovery. Under this scenario, none of the waste is sent to landfill.		
Module D	The benefits of Module D include the energy credits from incineration of plastic at end-of-life are accounted for in Module D energy recovery calculation. Recovered energy is assumed to substitute the average regional electricity and/or heat mix. It is assumed that the plastic will be incinerated in the UK, so the UK electricity dataset has 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'. This process is energy-efficient, with 37.4% of the combustion heat recovered after incineration. The efficiency rate of 37.4% has been calculated by taking the weighted average of the number of waste incineration plants available in the UK. According to the Environmental Agency's 2013 article on "CHP Ready Guidance for Combustion and Energy from Waste Power Plants" in the UK, EFW plants have an efficiency of 33%, and CHP plants have an efficiency of 55%. Additionally, according to Azapagic, A., & Jeswani, H. K. (2016), there are currently 25 MSW incinerators with energy recovery in the UK. It is assumed that 20 plants generate heat and power at 33%, while 5 plants generate electricity at 55%. Therefore, a weighted average calculation is used to determine the efficiency, which is calculated at 37.5%.		

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
	Recovered for energy	Kg/ declared unit	1

Interpretation

The bulk of the environmental impacts and primary energy demand are attributed to the product stage, covered by information modules A1–A3 of EN 15804:2012+A2:2019. The graph below (Figure 1) indicates that the principal environmental hotspots for 1 kg of White Cellular PVC are raw material supply (A1) and waste processing at end of life (C3). Raw material supply contributes around 49.23% of the total GWP, while C3 is the largest single contributor at approximately 55.26%. This higher contribution from C3 is mainly due to emissions generated during end-of-life waste processing, particularly incineration of PVC. Manufacturing (A3) contributes a smaller share, and transport stages have only minor impacts.

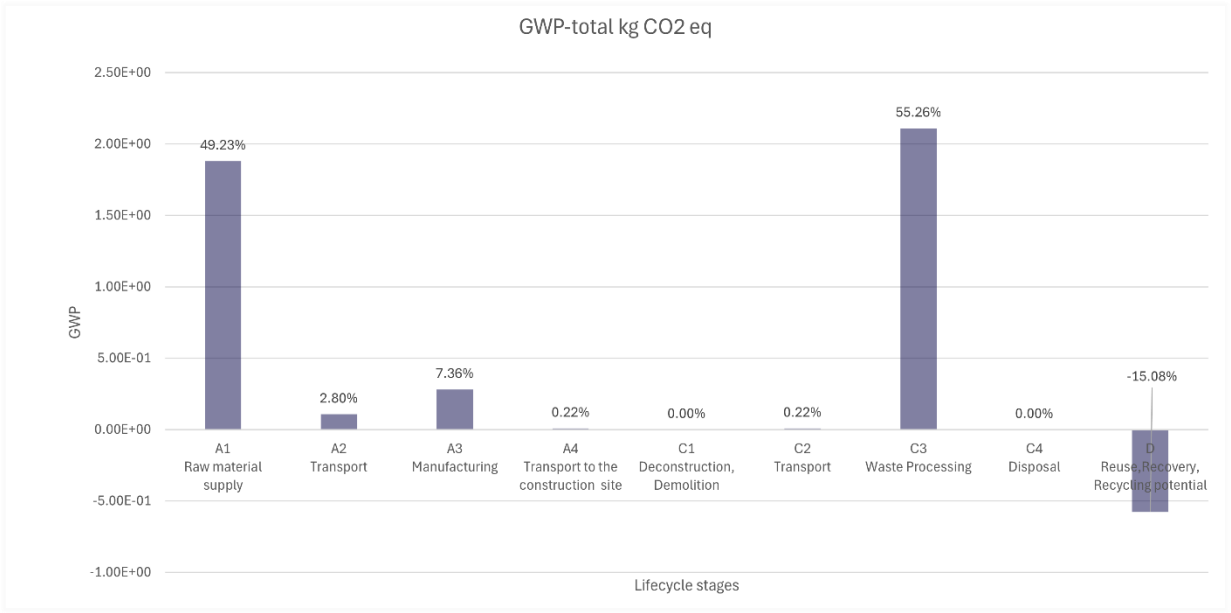


Figure 1

Figure 2 (graph below) complements this analysis by showing the contribution of the main material groups to the environmental indicators. On average, the product composition comprises PVC resin (75–95%), calcium carbonate (0–10%), and additives (0–10%). The results indicate that PVC resin is the dominant contributor across almost all environmental impact indicators, reflecting both its high proportion in the formulation and its relatively higher environmental burden. Additives are the second most significant contributor, while calcium carbonate contributes comparatively little to the overall impacts.

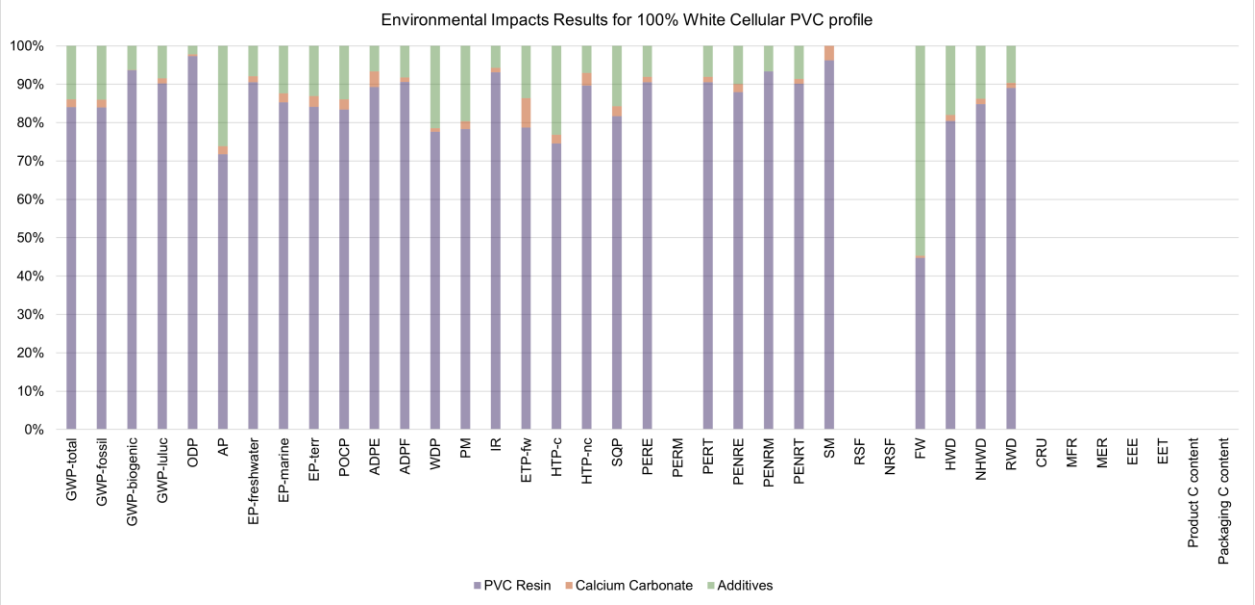


Figure 2

Individual product calculations:

The LCA results presented in this EPD are based on a functional unit of 1 kg of extruded cellular unplasticized white PVC (PVC-UE) profiles. The most commonly used indicator when assessing carbon impact during the design of a scheme is Global Warming Potential (GWP), expressed in kilograms of CO_2 equivalent (kg CO_2 eq.). The GWP value reported in the LCA Results table for modules A1–A3 is 2.26 kg CO_2 eq. per kg of product (as defined in the declared/functional unit).

End users of this EPD may calculate the environmental impacts of a complete extruded cellular unplasticized white PVC (PVC-UE) system by multiplying the results by the total weight of the system according to its specific components. The product range comprises cellular PVC-U (PVC-UE) profiles designed for roofline and interior applications, including:

- Roofline boards such as fascias, soffits, and matching accessories
- Cladding profiles for external wall applications
- Internal trims including skirtings, architraves, window boards, and trims

For additional products, variations, and corresponding weights, please contact GAP (Homeline | Give your home a facelift)

References

BSI. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. BS EN 15804:2012+A1:2013. London, BSI, 2013.

BSI. Environmental labels and declarations – Type III Environmental declarations – Principles and procedures. BS EN ISO 14025:2010 (exactly identical to ISO 14025:2006). London, BSI, 2010.

BSI. Environmental management – Life cycle assessment – Principles and framework.
BS EN ISO 14040:2006. London, BSI, 2006.

BSI. Environmental management – Life cycle assessment – requirements and guidelines.
BS EN ISO 14044:2006. London, BSI, 2006.

BS 7619:2021 Extruded cellular unplasticized white PVC (PVC-UE) profiles

Homeline Specification and Installation Guide (page 22), available in the brochure download area of the company website. https://www.gap.uk.com/about-gap/brochure-download/homeline