Statement of Verification

BREG EN EPD No: 000789 Issue: 01

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

Ambar Kelly Limited

are in accordance with the requirements of:

EN 15804:2012+A2:2019

and

BRE Global Scheme Document SD207

This declaration is for:
1m2 of RiserSafe® with an average weight of 116kg

Company Address

Ambar Kelly Limited
Unit 4a, Bridgefields
Welwyn Garden City
Hertfordshire
AL7 1RX

Ambar Kelly

Signed for BRE Global Limited — Hayley Thomson, Operator

01 May 2026	01 May 2026	30 April 2031
Date of this Issue	Date of First Issue	Expiry Date

BRE Global Verified EPD

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ECO PLATFORM EPD VERIFIED

Environmental Product Declaration

EPD Number: 000789

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**
Ambar Kelly Limited Unit 4a, Bridgefields Welwyn Garden City Hertfordshire AL7 1RX	Rachael Groves/BRE LINA A2
Declared/Functional Unit	**Applicability/Coverage**
1m2 of RiserSafe® with an average weight of 116kg.	Product Average.
EPD Type	**Background database**
Cradle to Gate with Module C and D	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: Bala Subramanian
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)

Ambar Kelly Limited,
Unit 4a Bridgefields
Welwyn Garden City
Hertfordshire
AL7 1RX

Construction Product:

Product Description

RiserSafe® is a permanent, prefabricated, steel modular riser flooring system, installed into the structural floor slab by the construction supply chain. Units are bespoke manufactured offsite according to project-specific requirements and accommodate the vertical routing of mechanical, electrical and plumbing services in a building.

This LCA is for 1m2 of RiserSafe® with an average weight of 116kg/m2. RiserSafe® is manufactured in a variety of sizes and depths to suit project-specific requirements; however, all variants follow the same manufacturing process and material composition.

Note: As RiserSafe® is a bespoke product manufactured to project-specific requirements, no specific product size is defined within this EPD. The assessment is based on the declared unit,1 m² of prefabricated steel modular riser flooring system (RiserSafe®), with results (environmental impacts) normalised based on the average weight per square metre. The average weight of 116 kg per m² is derived from production data and reflects the variation in weight per m² across different unit configurations, averaged over the reporting period (01/06/2023 – 31/05/2024).

Technical Information

Property	Value, Unit, Standard, Finish
Safe Working Load (Uniformly Distributed Load)	2.5 kN/m2
UKCA Factory Production Control and Welding to Execution Class 2 for Structural Components for Steel Structures	BS EN 1090-1:2009+A1:2011
Non-combustible	BS EN 13501-2:2023 Class A1
Fire Resistance – 90mins RE	BS EN 1363-1:2012
Fire Resistance – 120mins REI with a compound	BS EN 1363-1:2012 & BS EN 1363-1:2020
Material Grade & Finish – Durbar	BS EN 10025-2: 2019 S275JR+AR Shot Blasted & Red Oxide Primed (26—30 µm thick)

Property	Value, Unit, Standard, Finish
Material Grade & Finish – Zintec	BS EN 10152:2017 DC01+ZV
Material Grade & Finish – Rectangular Hollow Section	BS EN 10219-1:2006 S235JRH Shot Blasted & Red Oxide Primed (26—30 µm thick)
Material Grade & Finish – Mild Steel Sheet	BS EN 10025-2:2019 S275JR+AR

Note: Data Sheet : https://www.ambar-kelly.com/file-uploads/CF31_Ambar_Kelly_RiserSafe_Technical_Data_Sheet_Rev_15_10.11.25.pdf Please visit www.ambar-kelly.com and head to downloads section for more details.

Main Product Contents

Material/Chemical Input	%
Tread Plate	49.94
Zintec - Coated Steel Sheet	29.03
Rectangular Hollow Section	13.4
Mild Steel Sheet	5.44
Other	2.19

Manufacturing Process

Raw materials are delivered directly to the manufacturing facility.

Stock Component Fabrication:

Zintec-coated steel sheet is either laser cut and pressed into specific profiles or guillotine cut and pressed into simpler shapes.
Mild steel sheet is laser cut into the required components. Some components are further processed by press forming or welding to create final stock items.
Rectangular Hollow Section (RHS) steel beams are cut to length on a band saw as required.

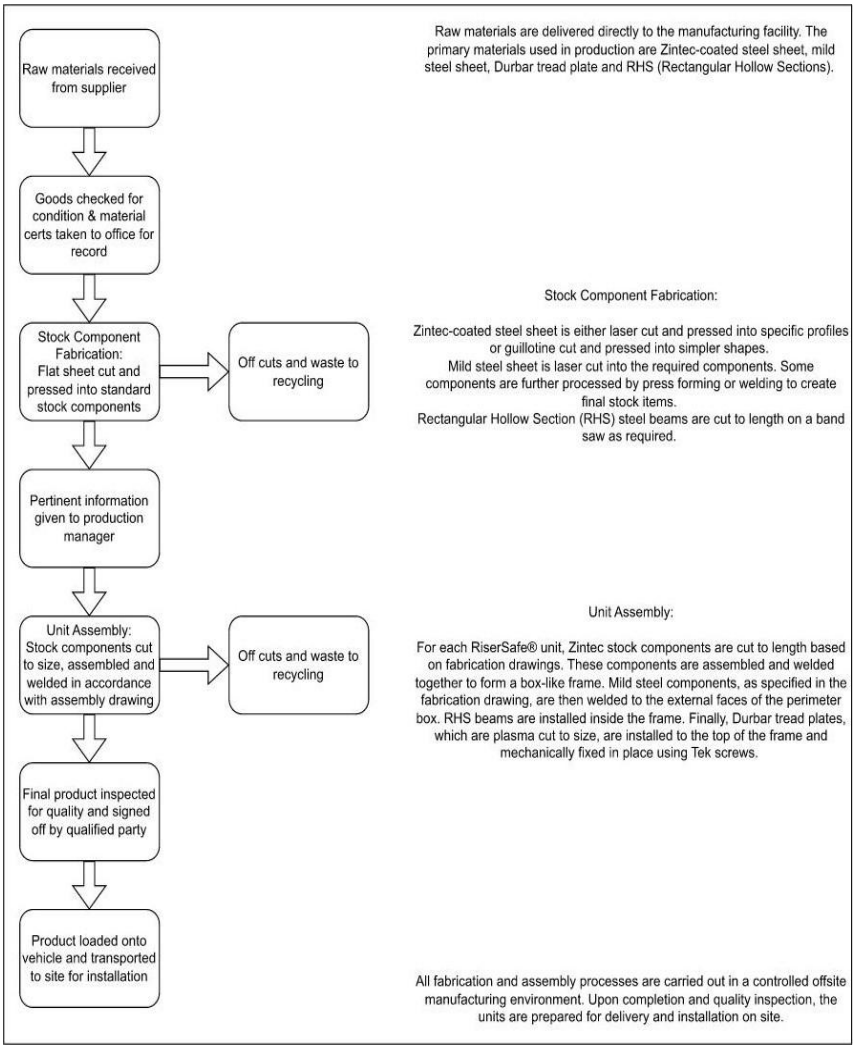
Unit Assembly:

For each RiserSafe® unit, Zintec stock components are cut to length based on fabrication drawings. These components are assembled and welded together to form a box-like frame. Mild steel components, as specified in the fabrication drawing, are then welded to the external faces of the perimeter box. RHS beams are installed inside the frame. Finally, Durbar tread plates that are plasma cut to size, are installed to the top of the frame and mechanically fixed in place using Tek screws.

All fabrication and assembly processes are carried out in a controlled offsite manufacturing environment. Upon completion and quality inspection, the units are prepared for delivery, loaded onto the transport vehicle via diesel forklift truck.

There is no packaging associated with RiserSafe® and production waste in the form of all steel offcuts are recycled. Electricity used during the production process is from grid.

Process flow diagram



Construction Installation

Once at site, it will be offloaded using the on-site crane (it is assumed the crane is powered by site-based grid electricity) and directly placed at the appropriate point/floor level by the concrete or steel frame contractor on site. Once the unit is in the correct position, the frame contractor will carry out the concrete pour, and the unit is cast into the structural slab. When the MEP installation team are ready to install mechanical and electrical services, the temporary cover plates covering the pre-cut penetrations in the Durbar floor plate, are unscrewed using a Tek screw gun and removed by hand. The temporary Durbar cover plates are returned to the manufacturing site for re-use.

End of Life

RiserSafe® units will remain in place until the demolition of the building. At the end of use, it is assumed that RiserSafe® units will be dismantled during building deconstruction. The demolition strategy for both the building and the RiserSafe® units will vary significantly from one location to another, influenced by factors such as construction methods and local geography. Nonetheless, it is reasonable to infer that the energy required to dismantle the RiserSafe® units, in comparison with the total energy expended on demolition, will be minimal. It is therefore assumed that they will be manually deconstructed or removed using power tools used for building deconstruction.

The end-of-life scenario is taken from industrial average's according to BRE's PCR PN514 v3.2. For Floor decking steel (shallow profiled), 95% of steel is recycled and 5% is landfilled.

Life Cycle Assessment Calculation Rules

Declared / Functional unit description

1m2 of RiserSafe® with an average weight of 116kg

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) 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 Ambar Kelly Limited production process in Unit 4a, Bridgefields Welwyn Garden City, Hertfordshire and it has been modelled using BRE LINA A2 and the Ecoinvent 3.8 database. In accordance with the requirements of EN 15804:2012+A2:2019, the most current available data has been used. The manufacturer specific data from Ambar Kelly Limited covers a period of one year (01/06/2023 – 31/05/2024).

The LCA study includes 1m2 of RiserSafe® with an average weight of 116kg/m2. The RiserSafe® accounts for the 100% of the site's total production. All water consumption and production waste were allocated to the product using 100% mass allocation based on actual site data, in accordance with BRE 2025 PCR PN514 Rev 3.2 and EN 15804:2012+A2:2019. Raw materials, packaging outputs, and non-production waste were allocated based on actual usage figure. Grid electricity was pro-rata and averaged based on last 3 years due to gaps unavailable data for the study period. Diesel fuel figures were obtained from invoices.

The mass balance is within the range. i.e. total inputs are higher than outputs by 4.16%. And it is within tolerance.

Where specific datasets were not available, appropriate proxy datasets were applied. In particular, the steel billet dataset was used as a representative proxy for upstream steel production due to the absence of a dataset explicitly representing cold formed RHS sections within ecoinvent v3.8. The cold forming process was not explicitly modelled, as its contribution to overall environmental impacts is considered minor relative to primary steel production

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

Specific datasets have been selected from the Ecoinvent LCI for this LCA. For energy and fuels, manufacturer uses the UK grid electricity for production processes and space heating, therefore location-based approach for the UK grid dataset has been used for the LCA modelling (Ecoinvent 3.8). The GWP carbon footprint for using 1 kWh of electricity, UK consumption mix was used for electricity with an emission factor of 0.239kgCO2e/kWh. 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 3 years between the Ecoinvent LCI reference year and the time period for which the LCA was undertaken. Data quality has been assessed using Table E.2 from EN 15804+A2, Annex E. Additionally, the LCA method applied follows the Cut-off approach in EN 15804+A2, and the characterisation factors are based on Table C.1 of the EN 15804 standard.

Cut-off criteria

All stages of the manufacturing process have been included. All relevant inputs and outputs have been considered, including raw materials, transport, energy use, water consumption, and waste generation. Direct emissions to air, water, and soil were not measured and are therefore not included.

Transport impacts for the steel screws are excluded, as the supplier is adjacent to the manufacturing site and materials are collected manually. Transportation impacts are therefore considered negligible.

Packaging is not applicable to the product. Consequently, no packaging materials or associated environmental flows are included in the study.

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	3.29E+02	3.28E+02	9.27E-01	2.76E-01	1.73E-05	2.40E+00	1.56E-01
	Transport	A2	1.18E+01	1.18E+01	9.36E-03	5.05E-03	2.69E-06	7.75E-02	7.50E-04
	Manufacturing	A3	3.24E+01	2.25E+01	9.19E+00	2.35E-02	1.99E-06	8.04E-02	5.14E-03
	Total (Consumption grid)	A1-3	3.73E+02	3.62E+02	1.01E+01	3.04E-01	2.20E-05	2.56E+00	1.61E-01
95% Recycled & 5% Landfill									
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	9.65E-01	9.64E-01	8.22E-04	3.79E-04	2.23E-07	3.91E-03	6.21E-05
	Waste processing	C3	6.35E+00	6.34E+00	2.24E-03	6.33E-04	1.36E-06	6.59E-02	1.96E-04
	Disposal	C4	3.06E-02	3.05E-02	3.03E-05	2.88E-05	1.24E-08	2.87E-04	2.80E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.18E+02	-1.18E+02	3.71E-01	-3.35E-02	-4.73E-06	-4.30E-01	-4.68E-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& 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	3.76E-01	7.51E+00	1.48E+00	6.49E-03	3.55E+03	1.48E+02	3.58E-05
	Transport	A2	2.15E-02	2.36E-01	6.82E-02	4.19E-05	1.76E+02	7.74E-01	9.64E-07
	Manufacturing	A3	4.61E-02	2.81E-01	7.62E-02	1.19E-04	5.27E+02	8.21E+00	1.10E-06
	Total (Consumption grid)	A1-3	4.43E-01	8.03E+00	1.62E+00	6.65E-03	4.25E+03	1.57E+02	3.79E-05
95% Recycled & 5% Landfill									
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	1.18E-03	1.29E-02	3.94E-03	3.35E-06	1.46E+01	6.56E-02	8.32E-08
	Waste processing	C3	2.92E-02	3.20E-01	8.80E-02	3.26E-06	8.70E+01	2.01E-01	1.77E-06
	Disposal	C4	9.98E-05	1.09E-03	3.18E-04	6.97E-08	8.53E-01	3.91E-02	5.78E-09
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.02E-01	-1.08E+00	-5.95E-01	-8.92E-05	-1.20E+03	-8.49E+00	-7.92E-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^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	1.79E+01	1.11E+04	2.46E-06	1.11E-05	1.15E+03
	Transport	A2	8.98E-01	1.36E+02	5.05E-09	1.40E-07	1.12E+02
	Manufacturing	A3	1.58E+01	3.35E+02	3.42E-08	2.16E-07	1.82E+02
	Total (Consumption grid)	A1-3	3.46E+01	1.16E+04	2.50E-06	1.15E-05	1.44E+03
95% Recycled & 5% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	7.49E-02	1.14E+01	3.68E-10	1.19E-08	1.00E+01
	Waste processing	C3	3.92E-01	5.09E+01	1.97E-09	3.69E-08	1.11E+01
	Disposal	C4	3.79E-03	5.39E-01	1.37E-11	3.54E-10	1.79E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-2.12E+00	-3.54E+03	-6.33E-07	-2.43E-06	-2.34E+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	3.09E+02	0.00E+00	3.09E+02	3.58E+03	0.00E+00	3.58E+03
	Transport	A2	2.41E+00	0.00E+00	2.41E+00	1.71E+02	0.00E+00	1.71E+02
	Manufacturing	A3	3.79E+01	7.86E+01	1.17E+02	6.11E+02	4.96E+01	6.61E+02
	Total (Consumption grid)	A1-3	3.49E+02	7.86E+01	4.28E+02	4.36E+03	4.96E+01	4.41E+03
95% Recycled & 5% Landfill								
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	2.05E-01	0.00E+00	2.05E-01	1.43E+01	0.00E+00	1.43E+01
	Waste processing	C3	4.88E-01	0.00E+00	4.88E-01	8.53E+01	0.00E+00	8.53E+01
	Disposal	C4	7.27E-03	0.00E+00	7.27E-03	8.37E-01	0.00E+00	8.37E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-2.46E+01	0.00E+00	-2.46E+01	-1.19E+03	0.00E+00	-1.19E+03

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	5.33E+01	2.69E-03	0.00E+00	3.70E+00
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.92E-02
	Manufacturing	A3	1.15E+00	3.74E-04	0.00E+00	2.67E-01
	Total (Consumption grid)	A1-3	5.44E+01	3.06E-03	0.00E+00	3.98E+00
95% Recycled & 5% Landfill						
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	1.62E-03
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	4.96E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	9.14E-04
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-2.06E-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	1.19E+02	5.80E+02	7.96E-03
	Transport	A2	1.99E-01	3.39E+00	1.18E-03
	Manufacturing	A3	1.09E+00	2.33E+01	4.00E-03
	Total (Consumption grid)	A1-3	1.20E+02	6.06E+02	1.31E-02
95% Recycled & 5% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.61E-02	2.85E-01	9.86E-05
	Waste processing	C3	1.15E-01	8.02E-01	6.01E-04
	Disposal	C4	8.87E-04	1.25E-02	5.59E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.09E+01	-2.25E+02	-1.27E-03

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	2.95E-03	5.84E-05	2.76E-01	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	6.50E-03	2.79E-06	2.99E-01	0.00E+00	0.00E+00
	Total (Consumption grid)	A1-3	0.00E+00	9.45E-03	6.12E-05	1.27E-01	4.48E-01	0.00E+00
95% Recycled & 5% Landfill								
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	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
C1 – Deconstruction	RiserSafe® units remain in place for the lifetime of the building and are removed only during demolition. Although demolition strategies may vary depending on project-specific conditions, deconstruction of RiserSafe® is assumed to be carried out manually, without the use of power tools. The energy required to dismantle the product is therefore considered very low and negligible. Consequently, no significant environmental impacts are assigned to Module C1. As it is entirely made of steel, 100% of the product is recovered from the deconstruction unit.		
C2 - Transport	50km by road has been modelled for module C2 as a typical distance from the demolition site to the recycling/ landfill 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.		
	Distance	km	50
C3 – Waste Processing	There are no pre-processing activities that the steel component of the product undergoes before being sent to recycling centres. The BRE PCR industry-average end-of-life scenario for floor decking (shallow profiled, steel), as referenced in Appendix D of BRE's PCR PN514 v3.2 (best suits the product), confirms that 95% is recycled while 5% is landfilled. Quantity of end-of-life product for recycling per declared/functional unit can be calculated as 110.2 kg/m2 (116 kg/m2 x 95%).		
	Recovered for recycling	kg	110.2
C4- Disposal	For steel, the industry-average end-of-life scenario defined in Appendix D of BRE PCR PN514 v3.2 for floor decking (shallow profiled, steel) is considered representative of the product. Under this scenario, 5% of the material is assumed to be sent to landfill. Quantity of end-of-life product sent to landfill per declared/functional unit is therefore calculated as 5.8 kg/m² (116 kg/m² × 5%).		
	Steel waste to landfill	kg	5.8
Module D	According to BRE's PCR PN514 v3.2, industry-average end-of-life scenario for floor decking (shallow profiled, steel), 95% of reinforced steel is recycled and 5% is landfilled. "Benefits and loads beyond the system boundary" (module D) accounts for the environmental benefits and loads resulting from net steel scrap that is used as raw material in the EAF and that is collected for recycling at end of life. These benefits and loads are calculated by excluding the pre-existing recycled steel that is used in the primary process. In the pre-processing stage (Module C3), 110.2 kg/m² of steel is assumed to be recycled (116 kg/m² × 95%). As the product comprises multiple steel components represented by different datasets, SM content varies by steel grade. The aggregated pre-existing scrap content is obtained by summing the SM mass of each steel component, calculated based on the 95% recycled fraction and the dataset-specific SM percentage. The SM percentages applied are derived from the corresponding ecoinvent v3.8 datasets (e.g., 37.8% for galvanised steel sheet, 28.3% for steel billet, and 37.6% for low-alloyed steel sheet). The total aggregated pre-existing scrap content amounts to 40.13 kg/m², this quantity is deducted from the total recycled steel mass110.2 kg/m² and only 70.07 kg/m² of net steel is considered for Module D recycling benefits. The dataset used to calculate the benefits of steel recycling was 'Pig iron {RER}I pig iron production I EN15804, S'.		
	Products Recycled Content (post-consumer)	kg	40.13
	Recovered for recycling	kg	110.2

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
	Recovered for re-use	kg	70.07

Summary, comments and additional information

Interpretation

The results presented below are for 1 m² of RiserSafe®, with an average weight of 116 kg. The GWP total for this declared unit is reported in the results tables. The graph in Figure 1 shows that the total GWP value is highest in the Product Stage, i.e. raw material supply (Module A1), which is predominantly influenced by steel production, as confirmed by the process contribution analysis shown in Figure 2. Other life cycle stages defined in EN 15804:2012+A2:2019, including transportation of raw materials (A2), manufacturing (A3), and end-of-life processes (C1–C4), contribute comparatively smaller shares to the total impact.

Figure 2 presents the GWP contribution by process and highlights hot-rolled steel production as the primary environmental hotspot, while other processes contribute relatively minor shares. Figure 1 also shows that the high recyclability of steel contributes to reducing impacts through Module D, providing an environmental credit at the end of life.

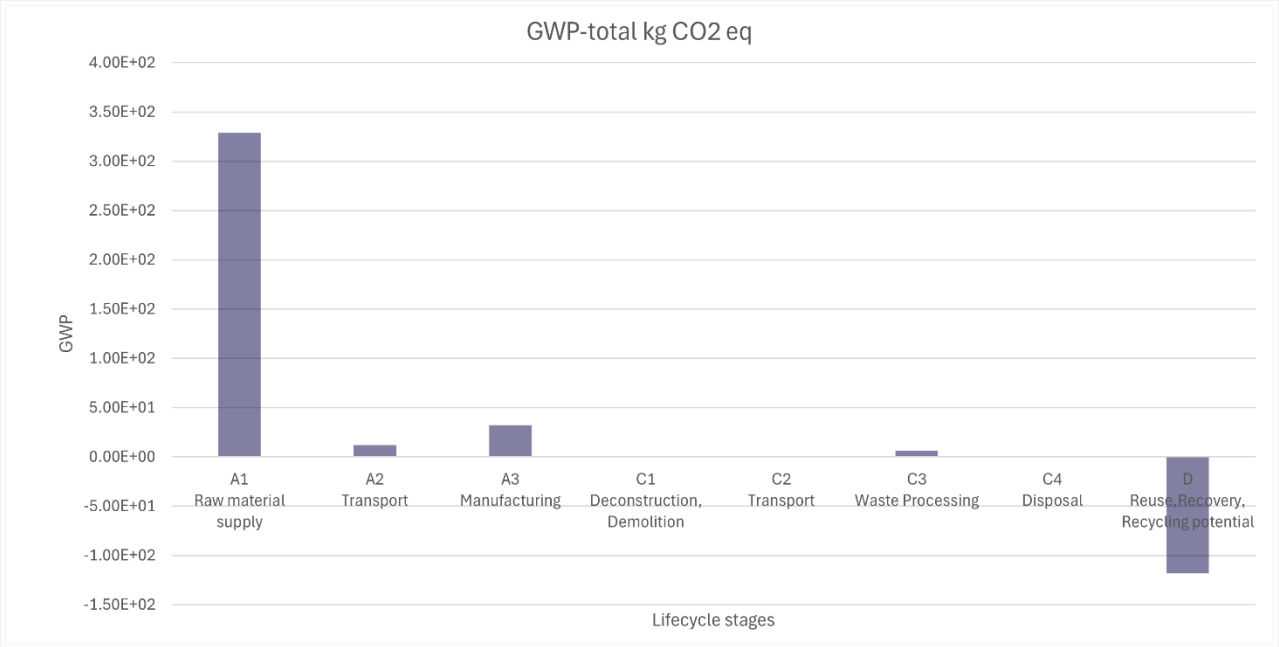


Figure 1. GWP total of 1 m² of RiserSafe® (116 kg/m²) by life cycle modules

Figure 2. GWP total of 1 m² of RiserSafe® (116 kg/m²) by process contribution

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