

# ENVIRONMENTAL PRODUCT DECLARATION

## IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Raised Access Flooring Panel RMG600+  
Kingspan Data and Flooring



**EPD HUB, HUB-0315**

Publishing date 1<sup>st</sup> March 2023, last updated date 1<sup>st</sup> March 2023, valid until 1<sup>st</sup> September 2024

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Kingspan Data and Flooring
Address	Burma Drive - Marfleet - Hull HU9 5SG - UK
Contact details	Debra Smith, debra.smith@kingspan.com
Website	www.kingspan.com/gb/en/business-groups/kingspan-data-and-flooring/

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Design-phase and sister EPD
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Anastasia Sipari, One Click LCA
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	E.A as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

Product name	Raised Access Flooring Panel RMG600+
Place of production	Hull, United Kingdom
Period for data	Calendar year 2021
Averaging in EPD	No averaging

### ENVIRONMENTAL DATA SUMMARY

Declared unit	One raised access floor panel RMG600+
Declared unit mass	11 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	9,18E0
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	-3,04E0
Secondary material, inputs (%)	69.6
Secondary material, outputs (%)	70.4
Total energy use, A1-A3 (kWh)	44.4
Total water use, A1-A3 (m <sup>3</sup> e)	0.546

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

Kingspan Data and Flooring is the world's largest supplier of raised access flooring. A track record of more than 50 years' experience in manufacturing, design, installation, and standard setting has won Kingspan Access Floors its market leading position. We are part of the €6 Billion turnover Kingspan Group, a global leader in high-performance insulation, building fabric and solar-integrated building envelopes: delivering high-efficiency, low-cost and low-carbon building solutions across a broad range of market sectors. Fast changing business needs call for workspaces that can adapt quickly to new demands. Raised access floors have proven themselves as the most cost-effective way of creating flexible space, allowing safe, convenient and flexible distribution of services below the solid raised floor platform. Whether the requirement is for a standard raised floor, air-plenum floor or for factory-bonded finishes Kingspan Data and Flooring's product range is designed to meet every likely specification, including PSA MOB, the European Standard EN 12825.

The range encompasses galvanised woodcore, static control and natural finish systems. All deliver speedy installation, high performance and easy accessibility to the service void. At Kingspan Data and Flooring we like to set the pace and set the standard, with ISO 14001:2015 accreditation for our Environmental Management Systems, for example. We are serious about the importance of sustainable timber sourcing and the positive impact reducing deforestation can have on eco-systems. To demonstrate just how much we care about good forest management, we were the first raised access flooring company in the world to obtain the Forest Stewardship Council's (FSC) Chain of Custody certification in 2007, which we have maintained to this day. We are ISO 9001:2015 accredited for both manufacturing and installation operations. Our highly automated factory in Hull is ISO50001:2018 and ISO14001:2015 accredited and can produce more than 200,000 floor panels per week – all designed and manufactured

to the latest industry standards and backed up by our industry-leading in-house product testing and technical support facilities.

We have installed countless problem-free floors in offices, dealing rooms, call centres, computer rooms, retail and gallery spaces throughout the globe – all witness to the durability and functionality of Kingspan Access Floors' installations. A track record featuring many landmark and time critical projects

### PRODUCT DESCRIPTION

This EPD represents a lower embodied carbon, raised access floor panel RMG600+ manufactured at Kingspan Data and Flooring facility in United Kingdom, Hull.

The RMG600+ panel is based on a 600 x 600mm square module made of a high-performance, high-density 31mm particle chipboard core in a galvanised steel envelope. Particle board includes 62% of post consumer recycled material and 38% of pre-consumer recycled material. The galvanised-steel shell comprises a top sheet that is wrapped around and laminated to the core, then mechanically-stitched to the bottom steel sheet for greater strength and to provide full electrical continuity and static dispersion of the system where required. **The steel is made from electric arc furnace steel which has a lower embodied carbon than traditional steel making methods. Recycled content of steel is 90%.** The steel shell thickness can be 0.4mm x 0.4mm or 0.5mm x 0.5mm for the both top and bottom layers. The steel thickness of product analysed in this EPD is 0.5mm x 0.5mm.

The RMG600+ is designed for general office use and this unique wrap-around construction makes panel removal and replacement easy whilst also improving panel edge strength. The RMG600+ panel is engineered to fine dimensional tolerances for modular control and independently-tested in accordance with the PSA MOB PF2 PS/SPU Specification to Medium Grade. No reference service life is specified in this cradle-to-gate EPD. RMG600 panels carry a 25-year warranty.

Further information can be found at [www.kingspan.com/gb/en/business-groups/kingspan-data-and-flooring/](http://www.kingspan.com/gb/en/business-groups/kingspan-data-and-flooring/)

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	27	Global
Minerals	-	-
Fossil materials	<1	EU
Bio-based materials	73	EU

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	3.36
Biogenic carbon content in packaging, kg C	0.02

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	One raised access floor panel RMG600+
Mass per declared unit	11 kg

### SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).



# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

### MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

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The product is made of particle board encapsulated in a galvanised steel

sheet. The materials are transported to Kingspan Data and Flooring production facility in Hull (UK), where the main manufacturing processes include trimming of particle board and steel sheet, encapsulation of the board in the steel sheet and finally, finishing. The manufacturing process requires electricity and fuels for the different equipment as well as heating. Certain ancillary materials are also included. The study considers the losses of raw materials occurring during the manufacturing process. The finished product is packaged in polypropylene straps to hold the panels before being sent to the installation site on a wooden pallet. Pedestals for the panels are excluded from the study as there has been a separate EPD completed for these products. Manufacture is covered by the sites ISO 9001:2015 certified quality management system, its ISO 14001:2015-certified environmental management system and ISO 50001:2018 certified energy management system.

Metal waste and chipboard waste generated during the manufacturing stage is segregated and recycled. The chipboard can also be used for energy recovery in an onsite biomass to generate heat for the factory.

Panels are transported to the construction site on wooden pallets, that can be reused. Polyester strapping is used to retain panels in place; typical use is approximately 5g of strapping per panel.

### TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Modules A4 and A5 are not covered by the scope of the study.

### PRODUCT USE AND MAINTENANCE (B1-B7)

Modules B1-B7 are not covered by the scope of the study.

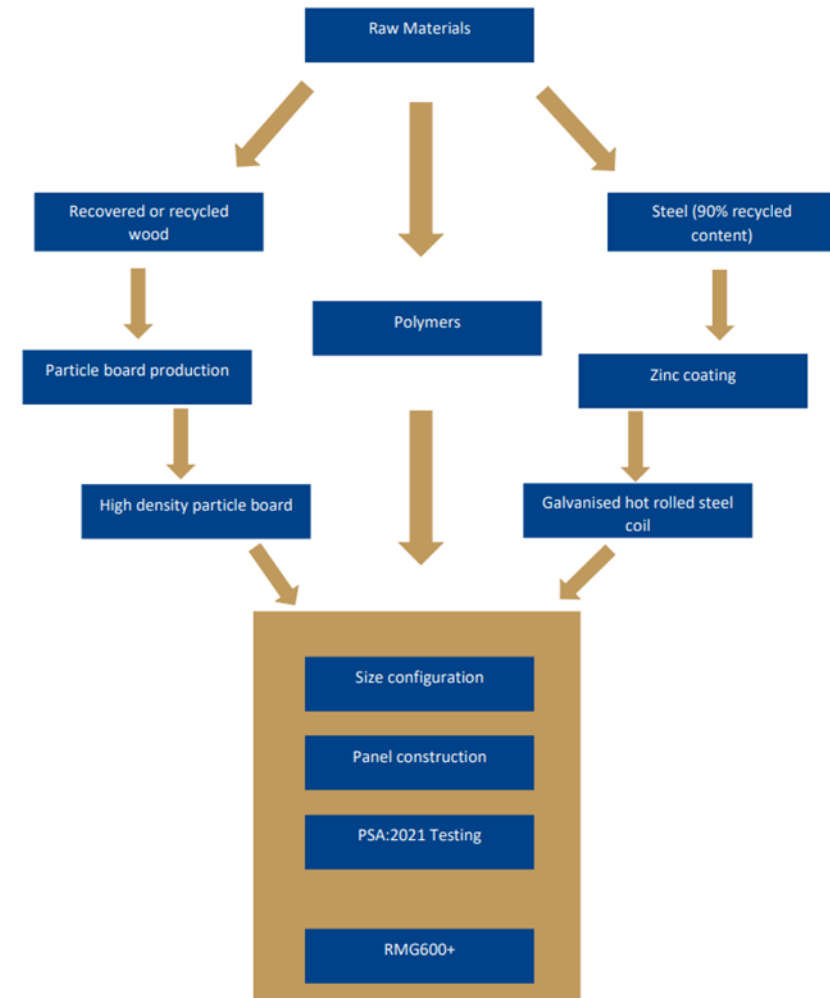
Air, soil, and water impacts during the use phase have not been studied.

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**PRODUCT END OF LIFE (C1-C4, D)**

Energy consumption is not considered for the process of panel deconstruction from the building, as the process is manual. It is assumed that 70% of the product is collected separately and transported to the waste treatment centre and 30% is delivered to landfill with mixed waste. This assumption is based on “EU construction and demolition waste protocol the set a goal for construction waste recycling to be 70% by 2020. It should be noted that the product is more than 99% recyclable, so if it is collected separately, no streams will end up in landfill. Transportation distance to treatment is assumed as 200 km and to the landfill 50 km the transportation method is assumed to be lorry (C2). Steel is recycled and particle board is incinerated with energy recovery in module C3. Module C3 covers also burdens of packaging waste handling. Loads of landfilled product (30%) are reported in module C4. The benefits and loads of product and packaging material recycling are included in Module D.

**MANUFACTURING PROCESS**



# LIFE-CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

## AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable

This EPD is product and factory specific and does not contain average calculations.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent and One Click LCA databases were used as sources of environmental data. Biogenic carbon calculation of the product is following EN 16449:2014 Wood and wood-based products.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-4.17E0	8.76E-1	2.61E-1	-3.04E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	2.84E-1	8.77E0	3.73E0	-1.02E0
GWP – fossil	kg CO <sub>2</sub> e	8.15E+0	8.75E-1	1.63E-1	9.18E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	2.84E-1	1.35E-1	3.07E-2	-1.02E0
GWP – biogenic	kg CO <sub>2</sub> e	-1.23E1	5.23E-4	9.75E-2	-1.22E1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.52E-4	8.63E0	3.70E0	1.39E-3
GWP – LULUC	kg CO <sub>2</sub> e	1.74E-2	4.7E-4	1.86E-4	1.81E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.01E-4	7.59E-5	1.49E-5	-1.22E-3
Ozone depletion pot.	kg CFC-11e	9.32E-7	1.86E-7	1.97E-8	1.14E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	6.46E-8	1.42E-8	9.82E-9	-5.52E-8
Acidification potential	mol H <sup>+</sup> e	5.33E-1	5.88E-3	1E-3	5.39E-1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.16E-3	1.56E-3	2.66E-4	-6.84E-3
EP-freshwater <sup>2)</sup>	kg Pe	5.48E-4	9.8E-6	9.41E-6	5.68E-4	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	2.38E-6	4.7E-6	6.09E-7	-5.24E-5
EP-marine	kg Ne	2.62E-2	1.5E-3	3.44E-4	2.8E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	3.45E-4	5.77E-4	1.6E-4	-9.54E-4
EP-terrestrial	mol Ne	2.25E0	1.66E-2	3.81E-3	2.27E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	3.81E-3	6.27E-3	9.87E-4	-1.11E-2
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	4.02E-2	4.9E-3	1.07E-3	4.61E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.17E-3	1.59E-3	3.41E-4	-3.92E-3
ADP-minerals & metals <sup>4)</sup>	kg Sbe	7.56E-2	1.89E-5	2.57E-6	7.56E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	7.69E-6	3.97E-6	3.17E-7	-7.96E-6
ADP-fossil resources	MJ	1.23E2	1.28E1	2.53E0	1.39E2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	4.29E0	1.45E0	7.34E-1	-1.12E1
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	6.45E0	5.54E-2	3.59E-2	6.54E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.38E-2	-5.3E-2	3.29E-2	-2.47E-1

## ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3.91E-6	5.77E-8	3.89E-8	4E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.98E-8	1.77E-8	5.06E-9	-7.28E-8
Ionizing radiation <sup>6)</sup>	kBq U235e	4.76E-1	5.48E-2	4.45E-3	5.35E-1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.87E-2	4.8E-3	2.9E-3	-7.87E-2
Ecotoxicity (freshwater)	CTUe	5.49E2	1.08E1	5.75E0	5.66E2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	3.31E0	4.35E0	6.75E-1	-3.7E1
Human toxicity. cancer	CTUh	5.64E-8	3.75E-10	3.31E-10	5.71E-8	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	9.6E-11	3.04E-10	1.85E-11	-2.34E-9
Human tox. non-cancer	CTUh	1.6E-6	1.12E-8	5.04E-9	1.61E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	3.74E-9	1.6E-8	7.14E-10	4.18E-8
SQP <sup>7)</sup>	-	3.15E1	1.06E1	3.36E-1	4.24E1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	3.57E0	3.76E-1	2.35E0	-1.53E0



### USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	1.64E1	2.18E-1	4.87E0	2.15E1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	6.05E-2	1.3E-1	1.17E-2	-2.78E0
Renew. PER as material	MJ	1.71E1	0E0	5.88E-1	1.77E1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-1.26E1	-5.14E0	0E0
Total use of renew. PER	MJ	3.36E1	2.18E-1	5.46E0	3.92E1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	6.05E-2	-1.25E1	-5.13E0	-2.78E0
Non-re. PER as energy	MJ	1.23E2	1.28E1	2.3E0	1.38E2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	4.29E0	1.45E0	7.34E-1	-1.12E1
Non-re. PER as material	MJ	0E0	0E0	2.37E-1	2.37E-1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-2.37E-1	0E0	0E0
Total use of non-re. PER	MJ	1.23E2	1.28E1	2.53E0	1.39E2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	4.29E0	1.22E0	7.34E-1	-1.12E1
Secondary materials	kg	7.66E0	0E0	4.53E-5	2.8E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	1.6E-1
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m <sup>3</sup>	4.04E-1	2.42E-3	1.39E-1	0.546	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	7.32E-4	1.74E-3	8.19E-4	-4.28E-3

8) PER = Primary energy resources.

### END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1.09E0	1.95E-2	1.14E-2	1.12E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	4.35E-3	0E0	1.22E-3	-2.04E-1
Non-hazardous waste	kg	4.15E1	9.71E-1	1.57E-1	4.26E1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	2.99E-1	0E0	3.3E0	-2.3E0
Radioactive waste	kg	3.54E-4	8.44E-5	4.92E-6	4.43E-4	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	2.94E-5	0E0	4.47E-6	-4.4E-5

### END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	9.99E-2	9.99E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	2.1E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	5.64E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	9.19E0	0E0	0E0

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	7.97E0	8.66E-1	1.59E-1	8.99E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	2.82E-1	1.32E-1	1.41E-1	-9.91E-1
Ozone depletion Pot.	kg CFC <sub>11</sub> e	9.46E-7	1.48E-7	1.41E-8	1.11E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	5.14E-8	1.2E-8	7.82E-9	-5.25E-8
Acidification	kg SO <sub>2</sub> e	3.83E-1	4.48E-3	7.17E-4	3.88E-1	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	5.7E-4	1.04E-3	1.58E-4	-5.89E-3
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	7.7E-2	7.94E-4	2.88E-4	7.81E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	1.17E-4	8.87E-4	6.25E-3	-1.97E-3
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	2.44E-3	1.66E-4	3.77E-5	2.65E-3	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	3.75E-5	3.2E-5	4.14E-5	-4.37E-4
ADP-elements	kg Sbe	7.56E-2	1.89E-5	2.57E-6	7.56E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	7.69E-6	3.97E-6	3.17E-7	-7.96E-6
ADP-fossil	MJ	1.23E2	1.28E1	2.53E0	1.39E2	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	4.29E0	1.45E0	7.34E-1	-1.12E1

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliance with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online  
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Elma Avdyli as an authorized verifier acting for EPD Hub Limited  
01.03.2023



## ANNEX 1. CONVERSION FACTORS FOR PANEL WITH STEEL SHELL THICKNESS 0.4MM X 0.4MM

To calculate results for panel with steel shell thickness 0.4mm x 0.4mm please multiply result of studied product with conversion factor.  
 Example  $A1, GWP\text{-total} -4.17E*1.12=-4.65$

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	1.12	1.04	1.00	1.15		0.51	1.00	1.00	0.91
GWP – fossil	kg CO <sub>2</sub> e	0.94	1.04	1.00	0.95		0.51	0.92	0.96	0.91
GWP – biogenic	kg CO <sub>2</sub> e	1.00	1.01	1.00	1.00		0.70	1.00	1.00	0.78
GWP – LULUC	kg CO <sub>2</sub> e	0.96	1.03	1.00	0.96		0.43	0.83	0.98	0.98

## ANNEX 2. SUMMARY OF PRODUCT PROPERTIES

### PHYSICAL PROPERTIES OF THE PRODUCT

STEEL THICKNESS	DIMENSIONS	NOMINAL	MASS
0.4 mm	600mm x 600mm x 31mm	720 kg/m <sup>3</sup>	10.34 kg
0.5 mm	600mm x 600mm x 31mm	720 kg/m <sup>3</sup>	11.00 kg

### PRODUCT RAW MATERIAL COMPOSITION

PRODUCT AND PACKAGING MATERIAL	WEIGHT KG.		POST- CONSUME R %	RENEWABLE %
	04 MM	05 MM		
Particle Board	8	8	62	100
Galvanised Steel	2.34	3.00	90	-
Adhesive	<0.1	<0.1	-	-
<b>TOTAL product weight</b>	<b>10.34</b>	<b>11.09</b>		
Wooden pallet packaging	0.037	0.037	-	100
Plastic strapping	0.05	0.05	100	-
<b>TOTAL packaging weight</b>	<b>0.087</b>	<b>0.087</b>		

### PRODUCT RAW MATERIAL MAIN COMPOSITION

RAW MATERIAL CATEGORY	AMOUNT, MASS- %	
	0,4 MM	0,5 MM
Metals	23	27
Minerals	-	-
Fossil materials	<1	<1
Bio-based materials	77	73