

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 14025 AND EN 15804



RMF ECO RANGE RECYCLED RAISED FLOOR PANELS

Declaration number: S-P-02586 (V2.0)
Issued on 2021-01-20, Valid until 2026-01-18 (Updated 2021-02-17)

The environmental impacts of this product have been assessed from cradle to gate and at end of life.
This Environmental Product Declaration has been verified by an independent third party.
The EPD owner has the sole ownership, liability, and responsibility for the EPD

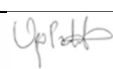
Introduction

This EPD provides environmental performance indicators for raised flooring panels repurposed by RMF Installation & Services Ltd. from raised flooring panels removed from buildings. This is a cradle-to-gate with options EPD in accordance with the requirements of EN15804, covering modules A1 - A3,C and D defined in that standard.

The EPD is based on a life cycle assessment (LCA) study which used data covering a 12-month period from 1/09/2019 to 31/08/2020 characterising operations at RMF's facility in Leamington Spa, Warwickshire, UK. Background data was taken from the ecoinvent database (v3.6).

The EPD presents details of the LCA, a description of the product life cycle it covers, values for the environmental indicators specified by EN15804 (+A2) and a brief explanation of those results. The original version was updated in February 2021 to include indicators specified by EN 15804 (+A1).

The declared unit is an area of 600mm x 600mm of raised flooring panel.

Raised flooring panel EPD	
EPD programme	The International EPD® System
EPD programme operator	EPD International AB - Box 210 60 - SE-100 31 Stockholm - Sweden www.environdec.com
EPD owner	RMF Installation & Services Ltd Hangar One, Harbury Lane, Leamington Spa, Warwickshire, CV33 9SA, UK rmf-services.co.uk
Product names	"RMF Eco Range" raised flooring panels; "RMF E-coated" raised flooring panels
CPC code	42190
Declared unit	600mm x 600mm of raised flooring panel
System boundaries	Cradle-to-gate with modules C & D
Declaration No	S-P-02586
Date of publication	2021-01-20
EPD valid until	2026-01-18
Procedure for data follow-up during EPD validity	involves third party Verifier: yes ☐ no ☒
EPD geographical scope	United Kingdom
EPD based on	The CEN standard EN 15804 serves as the core PCR
Product Category Rules	The International EPD® System's PCR 2019:14 Construction products, Version 1.1 - 2020-09-14
PCR review conducted by	The Technical Committee of the International EPD® System Chair: Claudia Peña; contact via info@environdec.com
Verification	Independent verification of this EPD and data, according to ISO 14025/2006: ☐ internal certification ☒ external verification
Third party verifier	Ugo Pretato - Recognised Individual Verifier Studio Fieschi & Soci S.r.l., Italy 
Accredited or approved by	The International EPD® System
LCA conducted by	EuGeos Limited, UK +44 (0)1625 434423 www.eugeos.co.uk 

The EPD owner 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. For further information about comparability, see EN 15804 and ISO 14025.

Our Story

RMF Installation and Services Limited was founded in 1989 as a raised flooring refurbishment operation. We have since grown to be a major contractor in the supply and installation of raised floors throughout Europe with a multi-million-pound turnover.

We are award winning specialists in the supply and installation of new and recycled raised access flooring. We have a fully warranted second user ECO-Range product which is always in stock and is suitable for CAT B fit out projects. We are the UK's largest raised floor recycling business and leading the way in raised floor reclamation, we are proud to form part of the circular economy.

We contract on a national basis with our team of dedicated contracts managers and installation colleagues, ensuring the same attention to detail from small projects to large alike.

We pride ourselves on forming successful long-term partnerships by delivering a friendly and efficient service, collaborative and non-adversarial approach to projects, this is testament to our on-going and award-winning company development and initiatives.

RMF work in collaboration with carefully sourced like-minded suppliers, we use materials which can be recycled or reconditioned, which are produced in an energy efficient manner and produce or create minimal harmful waste when disposed of.

Further information about RMF's environmental management activities can be found in our environmental statement, available online:

https://www.rmfi-services.co.uk/_userfiles/pages/files/hs_environmental_statement_2019.pdf

Contact

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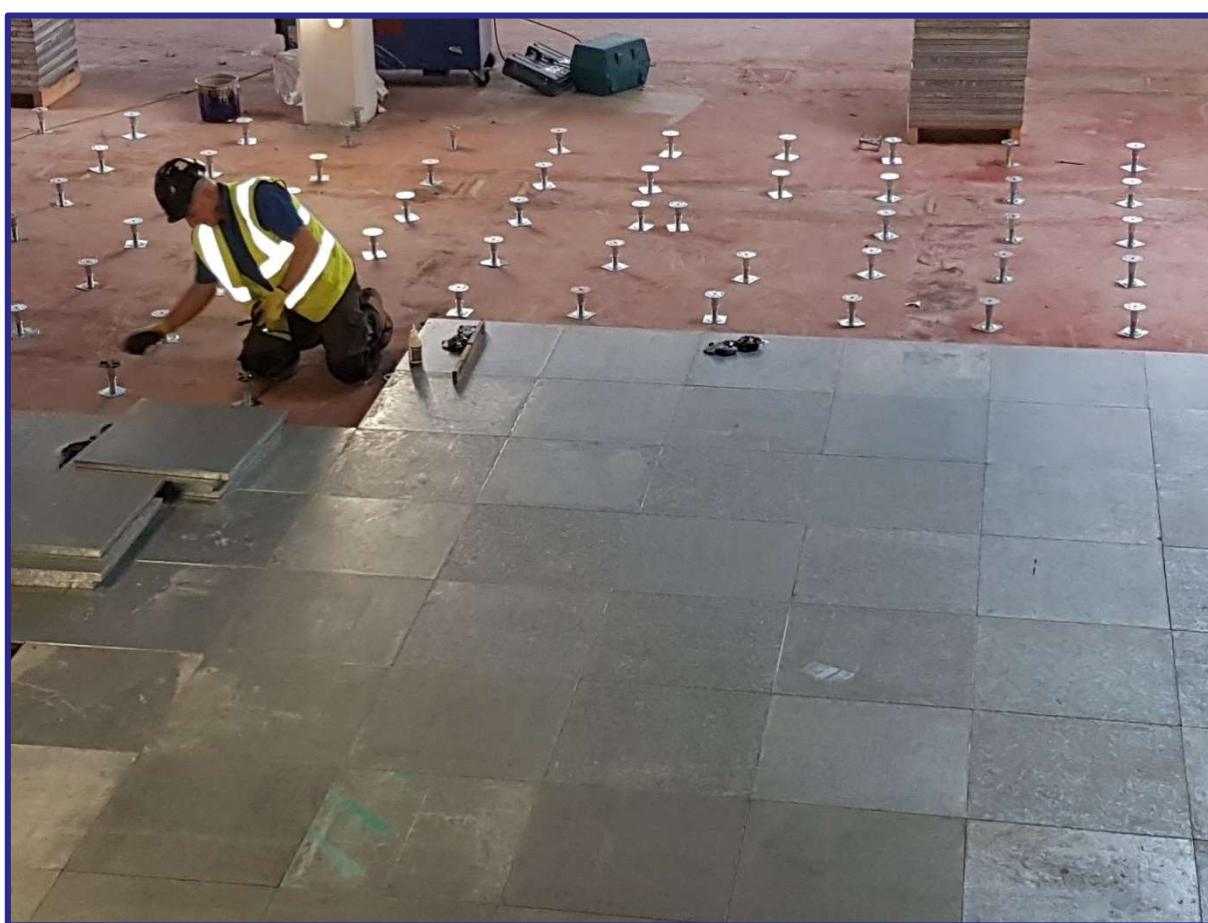
Email: info@rmfi-services.co.uk

Product information

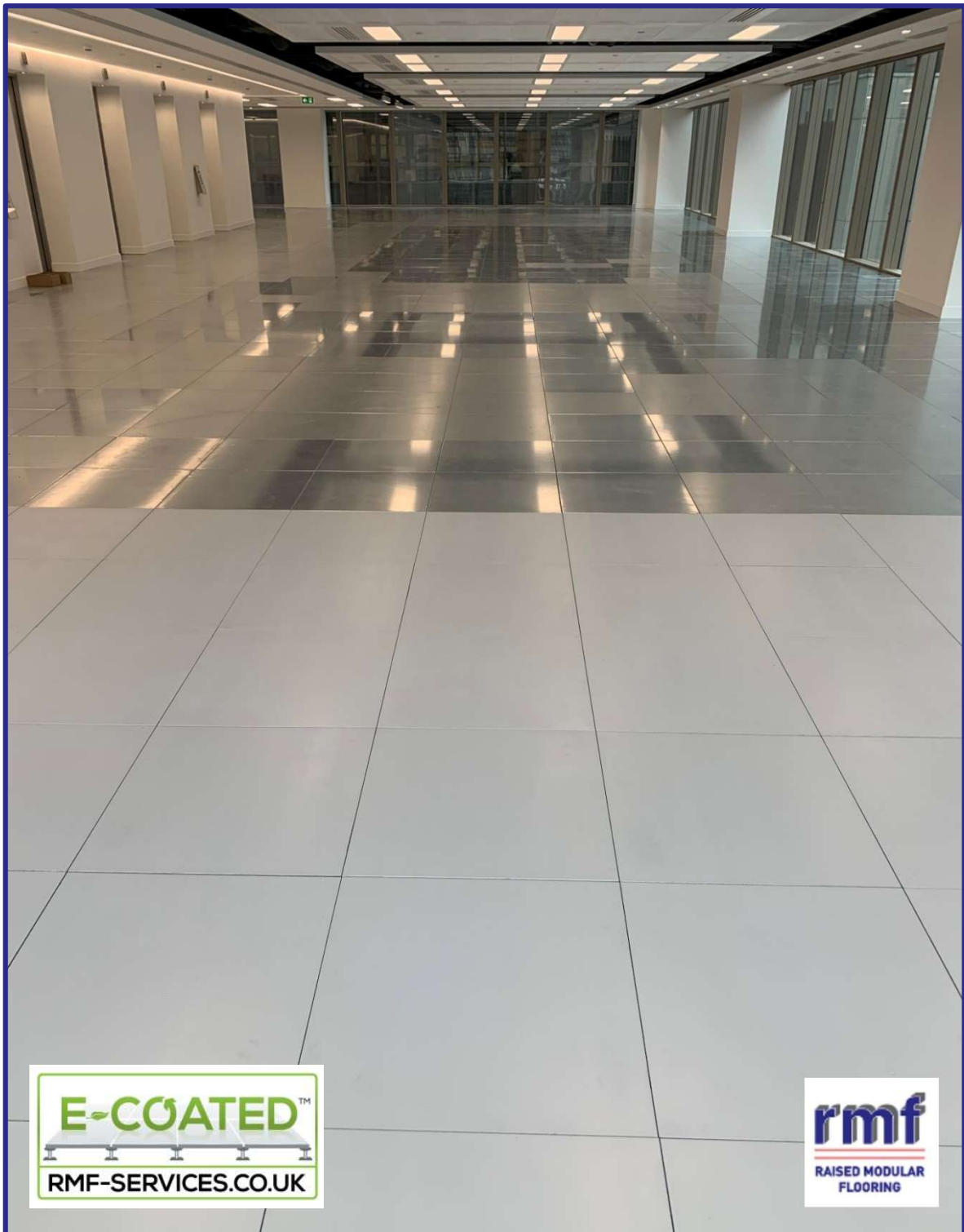
This EPD applies to RMF's "Eco Range" and "E-Coated" raised flooring panels.

"Eco Range" panels are uncoated, and suitable for use where a further floor covering will be applied. "E-coated" panels are coated by application of a water-based low VOC paint. Both "ECO" and "E-Coated" panels meet the PSA MOB standard for "medium grade" applications, and both are produced by the reclamation of flooring panels that have been used and then removed from buildings in the course of demolition or building refurbishment. The two panel types are pictured below.

Raised flooring panels are classified CPC 42190 under the UN CPC classification system v2.1.



RMF Eco Range (bare steel finish) installation suitable for carpet overlay



RMF E-Coated installation (grey tiles in forefront of picture) which are also suitable for carpet overlay or left uncovered. The RMF E-Coated panels pictured above were installed into a CAT A area and into a grid of new tiles that show a non consistent / patchwork type finish.

Manufacturing

RMF reclaims raised access floor panels removed from buildings in refurbishment and demolition projects in the UK. These are collected from the project and transported by road to RMF's facility in Leamington. The manufacture of RMF's raised flooring panels then involves the following steps:

- Sorting and checking of received panels
- Panel cleaning, for example to remove residues of floor-covering adhesives
- For the e-coated panels, painting and drying of the paint

Packaging & transportation

RMF's finished panels are packed on pallets and transported by road or road and sea to the point of installation in a building. The pallets are made from reclaimed panels unfit for re-use, with additional wooden material as required.

Product use and maintenance

Panels should be installed by trained personnel. Once installed, access floor panels are passive, and no energy or materials are required for their day-to-day use.

To avoid damage and loss, it is important that panels are removed and replaced by lifting and lowering in the horizontal plane; raising/pivoting from one side should be avoided if possible. Adjustments and repairs to damaged or worn panels should be undertaken promptly; moving worn panels from high traffic areas to more remote positions can extend service life.

Cleaning should avoid use of excessive amounts of water and avoid interfering with the static control properties of any vinyl floor coverings present on panel surfaces. Care should be taken during all cleaning and maintenance activities because live electrical supply cables (415v) and expensive fibre optics are normally present in the floor void.

For additional information about cleaning and maintenance of RMF Eco Range and E-coated floor panels, refer to our operation and maintenance manual.

End-of-life

In this study, it is assumed that 10% of raised flooring panels are re-used at the end of their lives, somewhat higher than the current re-use rate estimated by RMF, with the other 90% sent to landfill disposal. In this EPD, it is assumed that these reclaimed panels will be disposed of to landfill when they are removed from a building in future.

As wastes RMF's raised flooring panels fall under European Waste Catalogue (EWC) code 17-02-01 for chipboard and EWC code 17-04-05 for steel parts; as items made of wood and metal, they may in some instances be classified under EWC code 17-09-04.

Reference service life

RMF raised access floor panels carry a 25-year conditional warranty.
No reference service life is specified for use in the LCA underpinning this EPD.

Contents declaration

The material composition of RMF's raised flooring panels, including packaging is shown below:

Material	% of mass per declared functional unit	
	Uncoated panel	Coated panel
Chipboard	70 - 75	69 - 74
Steel	25-29	25-29
Zinc	<1	<1
Wood in packaging	<1	<1
Acrylic resin	0	0.3 - 0.5
Inert inorganic additives	0	0.2 - 0.4

Packaging, which is made from floor panels not fit for re-use, contains approximately 0.1kg biogenic carbon per declared unit. Each panel contains approximately 3kg biogenic carbon.

No substance included in the Candidate List of Substances of Very High Concern for authorisation under the REACH Regulations is present in the protection materials, either above the threshold for registration with the European Chemicals Agency or above 0.1% (wt/wt).

Technical data

RMF's flooring panels are designed for use in raised access floor installations meeting the PSA MOB standard. The bulk density of panels supplied by RMF varies according to the material combination used by the original manufacturer; 1030 kgm⁻³ is typical, and applied in this EPD where required.

Residual risks and emergencies

There are no residual risks associated with the normal day-to-day use of RMF's raised flooring panels provided that they are used and maintained in line with RMF's operation and maintenance manual for raised access floors.

Further product information

Detailed product information and datasheets can be found

- **on our website:** rmf-services.co.uk
- **or by contacting:** Simon Middleton on 01926 425289
- **or by email:** info@rmf-services.co.uk

Environmental performance-related information

LCA information

This section of the EPD records key features of the LCA on which it is based.

Scope

This EPD covers the production stage (modules A1-A3) and end-of-life management (C & D) - see below; as permitted by EN 15804, modules A1-A3 are declared in aggregated form.

Product stage			Construction process stage		Use stage							End of life stage				Benefits & loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste treatment	Disposal	Reuse- recovery- recycling- potential
A 1	A 2	A 3	A 4	A 5	B1	B2	B3	B4	B5	B6	B7	C 1	C 2	C 3	C 4	D
Modules declared X: included in LCA; ND: module not declared; NR: module not relevant																
X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography																
UK	UK	UK	-	-	-	-	-	-	-	-	-	UK	UK	UK	UK	UK
Specific data used																
>90%			-		-	-	-	-	-	-	-	-	-	-	-	-

Declared unit

The declared unit is an area of 600mm x 600mm of raised flooring panel.

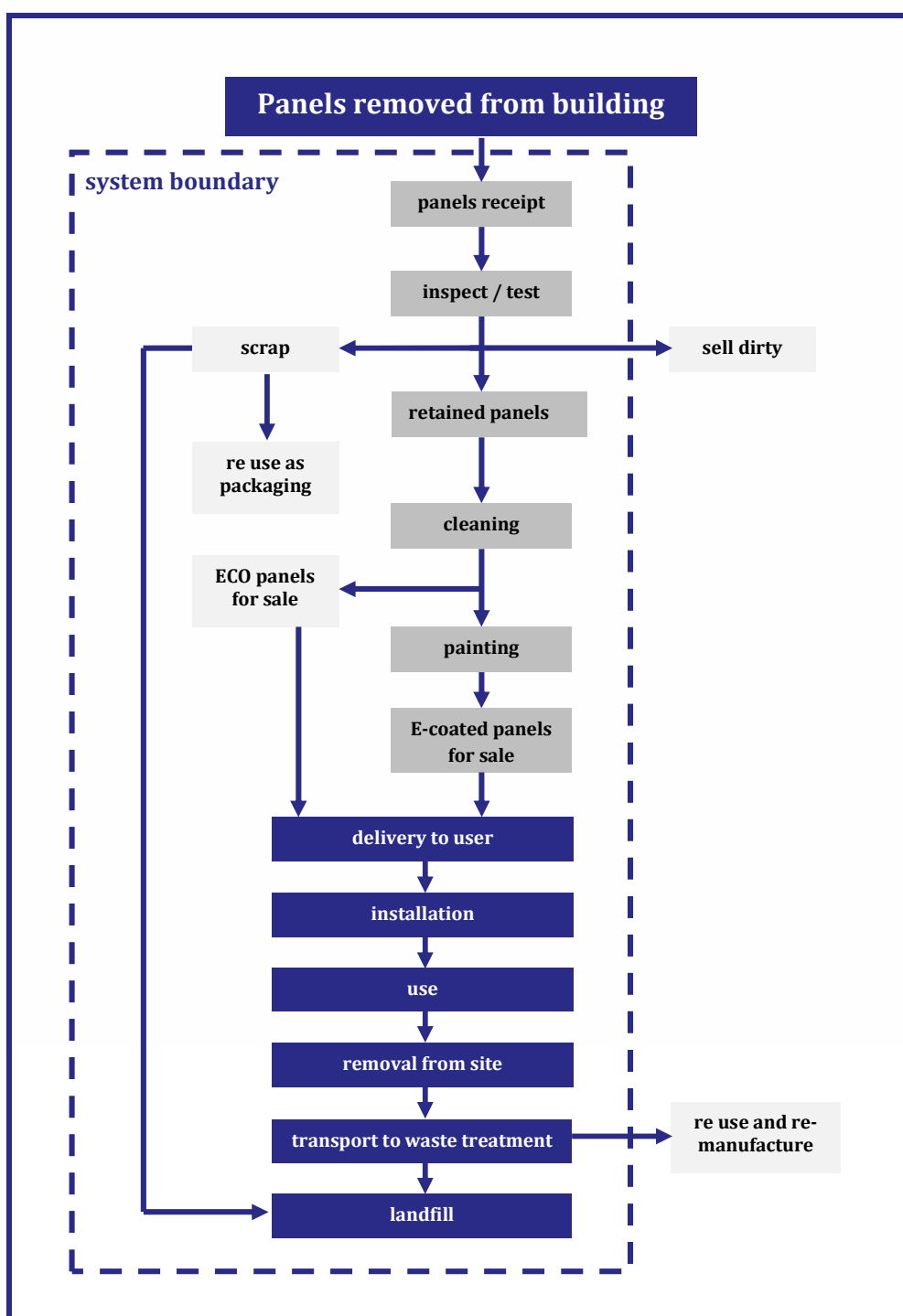
System boundaries

The system boundary of the EPD is defined using the modular approach set out in EN 15804.

The system includes production of all raw materials and component and transport of those materials to the manufacturing site; in this case, the system boundary is at the point where uninstalled panels from previous floor systems come into RMF's control. The system also includes the production of fuels and energy carriers and their delivery to manufacturing sites; the treatment of all wastes.

The upstream processing of recycled material inputs that have passed the end-of-waste state is outside the system boundary.

The product life cycle covered by this EPD is illustrated below.



Cut-off criteria

The collected data covered all raw materials, consumables and packaging materials; associated transport to the RMF's premises; process energy and water use; direct production wastes; emissions to air and water.

According to EN 15804 and the PCR, flows can be omitted (cut off) from a core process in the LCA up to a maximum of 1% of the total mass of material inputs or 1% of the total energy content of fuels and energy carriers.

Data sources and data quality

Data characterising RMF score processes (see above figure) were collected for a contiguous 12-month period between 01/09/2019 and 31/08/2020. Data for the operation of the painting process was scaled to 12 months from dedicated measurements over a shorter time period.

The data have been updated within the last 5 years. These data were checked to ensure that sufficient materials and water are included within the inputs to account for all products, wastes and emissions.

Background data

Background (generic) data were taken from the ecoinvent database (v3.6); this fulfils the EN15804 requirement that generic data used in the LCA have been updated within the last 10 years.

Data quality has been reviewed for processes that contribute significantly to the overall LCA.

Other data were judged fit for purpose. No environmental impact potential stemming from proxy data exceeds 10% for any impact category.

Allocation

In the background data, the ecoinvent default allocation is applied to all processes except those in which secondary materials are used, where the "cut-off" allocation is applied. This ensures that secondary materials are free of upstream burdens that arise prior to their reaching the "end of waste" state, in accordance with Section 6.3.4.2 of EN 15804.

Assumptions and estimates

Inputs to and outputs from the system are accounted for over a 100-year time period; long-term emissions are therefore omitted from the impact assessment stage of the LCA.

The "primary energy used as material" indicators (PERM; PENRM) are calculated using - as characterisation factors - published values for constituent materials which can yield energy on combustion, where available, and from published calorific values where PE(N)RM values are not available. Calculations of PENRM and PERM are based on PENRM and PERM for chipboard of 1.7 and 9.6 MJ/kg respectively, and NCV of 14MJ/kg for wood used in product packaging. "Primary energy as fuel" indicators (PENRE, PERE) are calculated as the total primary energy demand minus primary energy used as material.

Transport to waste treatment at the end of life is characterised using a scenario (Module C2). The relevant parameters are shown in the table below. Because RMF panels are produced entirely from used panels, all used RMF panels are not recovered for reuse, and a negligible number recycled for the material content, the proportion of recycled content used in product manufacture is much higher than the end-of-life recycling rate. This leads to the Module D calculation yielding a large net negative flow of secondary materials across the system boundary. This outweighs any energy recovery and would lead to negative potential benefits resulting from the Module D calculation (i.e. imply that there is an environmental burden associated with recycling). Indicator values of 0 are therefore recorded in Module D for RMF raised access floor panels, to avoid confusion or the suggestion that further recycling should not be undertaken.

Parameter	Quantity (unit)
Vehicle type	Lorry
Vehicle load capacity	10t
Fuel type and consumption	Diesel, 0.1 (l/km)
Volume capacity utilisation factor	1
Capacity utilisation (including empty returns)	33%
Distance to site	50 (km)
Bulk density of transported products	1030 (kg/m ³)

LCA result interpretation

Transport of panels to RMF's facility is found to be the most significant source of environmental impacts for these reclaimed access floor panels; the accounting conventions applied in this LCA, which follows EN15804, assign none of the burdens of original panel production to these re-used panels.

Because of the nature of RMF's activities, the indicator values obtained for net freshwater use, water (user) deprivation potential, ADPMM and ODP are driven by data characterising activities in the background system. The quality of the generic data underpinning the indicator values for those categories is relatively low and the indicator values should be treated as approximations and used with caution.

Note that the PERM and PENRM values include the feedstock energy associated with the original panels, to provide EPD users with an indication of the energy available should the panels be burned as fuel in, for example, a waste-to-energy plant.

Environmental indicators

This EPD contains environmental information about RMF's uncoated and E-coated raised flooring panels in the form of quantitative indicator values for a number of parameters, which encompass calculated environmental impact potentials, resource and energy use, and waste generation.

The parameters are listed below along with the abbreviations used for them in the tables of indicator values that follow.

Parameter	Abbreviation	Units
Environmental impacts		

Climate change – GWP fossil	GWP-fossil	kg CO ₂ eq
Climate change – GWP biogenic	GWP-biogenic	kg CO ₂ eq
Climate change – GWP land transformation	GWP-luluc	kg CO ₂ eq
Climate change – GWP total	GWP-total	kg CO₂ eq
Climate change – GWP fossil & land transformation ¹	GWP-GHG	kg CO ₂ eq
Acidification potential	AP	mol H ⁺ eq
Eutrophication – freshwater ²	EP-freshwater	kg P eq & kg PO ₄ ³⁻ eq
Eutrophication – marine	EP-marine	kg N eq
Eutrophication – terrestrial	EP-terrestrial	mol N eq
Photochemical ozone formation	POFP	kg NMVOC eq
Ozone depletion	ODP	kg CFC-11 eq
Depletion of abiotic resources – minerals & metals ³	ADPMM	kg Sb eq
Depletion of abiotic resources – fossil fuels ³	ADPFF	MJ, ncv
Water (user) deprivation potential ³	WDP	m ³ world-eq deprived
Resource use		
Renewable primary energy as energy carrier	PERE	MJ
Renewable primary energy resources as material utilisation	PERM	MJ
Total renewable primary energy use (sum of the two parameters above)	PERT	MJ
Non-renewable primary energy as energy carrier	PENRE	MJ
Non-renewable primary energy resources as material utilization	PENRM	MJ
Total non-renewable primary energy use (sum of the two parameters above)	PENRT	MJ
Use of secondary material	SM	kg
Use of renewable secondary fuels	RSF	MJ
Use of non-renewable secondary fuels	NRSF	MJ
Net use of fresh water	FW	m ³
Wastes		
Hazardous waste disposed	HWD	kg
Non-hazardous waste disposed	NHWD	kg
Radioactive waste disposed	TRWD	kg
Output flows		
Components for re-use	CFR	kg
Materials for recycling	MFR	kg
Materials for energy recovery	MER	kg
Exported energy	EE	MJ

- 1 - GWP-GHG includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is closely comparable to the GWP indicator originally defined in EN15804:2012+A1:2013
- 2 - To obtain results in kg PO₄³⁻ eq, multiply results in kg P eq by 3.065
- 3 - The results of this environmental impact indicator shall be used with care because either the uncertainties associated with the results are high or there is limited experience with the indicator

Environmental indicator results - Uncoated raised flooring panels

Environmental indicator results for all declared modules are shown in the following tables for the declared unit of an area of 600mm x 600mm of uncoated raised flooring panel; the A1 - A3 modules are shown on an aggregated basis.

UNCOATED RAISED FLOORING PANELS							
ENVIRONMENTAL IMPACTS	Unit	A1 - A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq	5.43E-01	0.00E+00	1.12E-01	0.00E+00	1.66E-01	0.00E+00
GWP-biogenic	kg CO ₂ eq	-1.15E-01	0.00E+00	-1.46E-05	0.00E+00	5.45E-01	0.00E+00
GWP-luluc	kg CO ₂ eq	3.00E-04	0.00E+00	5.12E-05	0.00E+00	5.18E-05	0.00E+00
GWP-total	kg CO ₂ eq	4.29E-01	0.00E+00	1.12E-01	0.00E+00	7.11E-01	0.00E+00
GWP-GHG	kg CO ₂ eq	5.43E-01	0.00E+00	1.11E-01	0.00E+00	6.96E-01	0.00E+00
AP	mol H ⁺ eq	2.08E-03	0.00E+00	5.20E-04	0.00E+00	4.30E-04	0.00E+00
EP-freshwater	kg P eq	7.55E-05	0.00E+00	1.08E-05	0.00E+00	2.05E-05	0.00E+00
	kg PO ₄ ³⁻ eq	2.31E-04	0.00E+00	3.31E-05	0.00E+00	6.30E-05	0.00E+00
EP-marine	kg N eq	3.30E-04	0.00E+00	1.70E-04	0.00E+00	1.65E-02	0.00E+00
EP-terrestrial	mol N eq	3.74E-03	0.00E+00	1.81E-03	0.00E+00	9.30E-04	0.00E+00
POFP	kg NMVOC eq	1.37E-03	0.00E+00	5.20E-04	0.00E+00	5.20E-04	0.00E+00
ODP	kg CFC-11 eq	1.88E-07	0.00E+00	2.36E-08	0.00E+00	2.87E-08	0.00E+00
ADPMM	kg Sb eq	1.05E-05	0.00E+00	3.89E-06	0.00E+00	9.37E-07	0.00E+00
ADPFF	MJ, ncv	1.33E+01	0.00E+00	1.66E+00	0.00E+00	2.21E+00	0.00E+00
WDP	m ³ world-eq deprived	1.02E+01	0.00E+00	5.59E-01	0.00E+00	1.20E+00	0.00E+00

UNCOATED RAISED FLOORING PANELS							
RESOURCE USE	Unit	A1 - A3	C1	C2	C3	C4	D
PERE	MJ	1.91E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERM	MJ	7.51E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	7.70E+01	0.00E+00	2.12E-02	0.00E+00	3.97E-02	0.00E+00
PENRE	MJ	1.45E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRM	MJ	1.32E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	2.77E+01	0.00E+00	1.68E+00	0.00E+00	2.26E+00	0.00E+00
SM	kg	1.00E+01	0.00E+00	7.80E-04	0.00E+00	8.50E-04	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	1.99E-03	0.00E+00	7.84E-05	0.00E+00	2.08E-03	0.00E+00
WASTES	Unit	A1 - A3	C1	C2	C3	C4	D
HWD	kg	1.38E-02	0.00E+00	2.46E-03	0.00E+00	3.88E-03	0.00E+00
NHWD	kg	5.99E-01	0.00E+00	1.12E-01	0.00E+00	9.64E+00	0.00E+00
TRWD	kg	1.00E-04	0.00E+00	1.07E-05	0.00E+00	1.32E-05	0.00E+00
OUTPUT FLOWS	Unit	A1 - A3	C1	C2	C3	C4	D
CFR	kg	0.00E+00	0.00E+00	0.00E+00	1.00E+00	0.00E+00	0.00E+00
MFR	kg	7.19E-03	0.00E+00	6.40E-04	0.00E+00	7.80E-04	0.00E+00
MER	kg	1.10E-01	0.00E+00	5.20E-06	0.00E+00	9.51E-06	0.00E+00
EE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Environmental indicator results – RMF E-Coated raised flooring panels

Environmental indicator results for all declared modules are shown in the following tables for the declared unit of an area of 600mm x 600mm of painted raised flooring panel; the A1 - A3 modules are shown on an aggregated basis.

RMF E-COATED RAISED FLOORING PANELS							
ENVIRONMENTAL IMPACTS	Unit	A1 - A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq	7.13E-01	0.00E+00	1.12E-01	0.00E+00	1.66E-01	0.00E+00
GWP-biogenic	kg CO ₂ eq	-1.14E-01	0.00E+00	-1.46E-05	0.00E+00	5.45E-01	0.00E+00
GWP-luluc	kg CO ₂ eq	3.20E-04	0.00E+00	5.12E-05	0.00E+00	5.18E-05	0.00E+00
GWP-total	kg CO ₂ eq	6.00E-01	0.00E+00	1.12E-01	0.00E+00	7.11E-01	0.00E+00
GWP-GHG	kg CO ₂ eq	7.09E-01	0.00E+00	1.11E-01	0.00E+00	6.96E-01	0.00E+00
AP	mol H ⁺ eq	2.45E-03	0.00E+00	5.20E-04	0.00E+00	4.30E-04	0.00E+00
EP-freshwater	kg P eq	1.00E-04	0.00E+00	1.08E-05	0.00E+00	2.05E-05	0.00E+00
	kg PO ₄ ³⁻ eq	3.07E-04	0.00E+00	3.31E-05	0.00E+00	6.30E-05	0.00E+00
EP-marine	kg N eq	4.10E-04	0.00E+00	1.70E-04	0.00E+00	1.65E-02	0.00E+00
EP-terrestrial	mol N eq	4.57E-03	0.00E+00	1.81E-03	0.00E+00	9.30E-04	0.00E+00
POFP	kg NMVOC eq	1.62E-03	0.00E+00	5.20E-04	0.00E+00	5.20E-04	0.00E+00
ODP	kg CFC-11 eq	2.06E-07	0.00E+00	2.36E-08	0.00E+00	2.87E-08	0.00E+00
ADPMM	kg Sb eq	1.14E-05	0.00E+00	3.89E-06	0.00E+00	9.37E-07	0.00E+00
ADPFF	MJ, ncv	1.55E+01	0.00E+00	1.66E+00	0.00E+00	2.21E+00	0.00E+00
WDP	m ³ world-eq deprived	1.17E+01	0.00E+00	5.59E-01	0.00E+00	1.20E+00	0.00E+00

RMF E-COATED RAISED FLOORING PANELS							
RESOURCE USE	Unit	A1 - A3	C1	C2	C3	C4	D
PERE	MJ	1.96E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERM	MJ	7.51E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	7.70E+01	0.00E+00	2.12E-02	0.00E+00	3.97E-02	0.00E+00
PENRE	MJ	1.75E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRM	MJ	1.32E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.07E+01	0.00E+00	1.68E+00	0.00E+00	2.26E+00	0.00E+00
SM	kg	1.00E+01	0.00E+00	7.80E-04	0.00E+00	8.50E-04	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	2.32E-03	0.00E+00	7.84E-05	0.00E+00	2.08E-03	0.00E+00
WASTES	Unit	A1 - A3	C1	C2	C3	C4	D
HWD	kg	1.83E-02	0.00E+00	2.46E-03	0.00E+00	3.88E-03	0.00E+00
NHWD	kg	7.43E-01	0.00E+00	1.12E-01	0.00E+00	9.64E+00	0.00E+00
TRWD	kg	1.20E-04	0.00E+00	1.07E-05	0.00E+00	1.32E-05	0.00E+00
OUTPUT FLOWS	Unit	A1 - A3	C1	C2	C3	C4	D
CFR	kg	2.50E-03	0.00E+00	0.00E+00	1.00E+00	0.00E+00	0.00E+00
MFR	kg	1.07E-01	0.00E+00	6.40E-04	0.00E+00	7.80E-04	0.00E+00
MER	kg	1.10E-01	0.00E+00	5.20E-06	0.00E+00	9.51E-06	0.00E+00
EE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Additional environmental information

Environmental Impacts Indicators as per EN 15804+A1:2013

For information, indicator values calculated using the methods prescribed in the earlier version of EN 15804 (EN 15804+A1:2013), are provided in the tables below for the declared unit of an area of 600mm x 600mm of panel; modules A1 - A3 are shown on an aggregated basis.

UNCOATED RAISED FLOORING PANELS							
ENVIRONMENTAL IMPACTS	Unit	A1 - A3	C1	C2	C3	C4	D
GWP	kg CO ₂ eq	5.36E-01	0.00E+00	1.11E-01	0.00E+00	4.36E-01	0.00E+00
ODP	kg CFC11-eq	1.53E-07	0.00E+00	1.88E-08	0.00E+00	2.29E-08	0.00E+00
AP	kg SO ₂ -eq	1.76E-03	0.00E+00	4.10E-04	0.00E+00	5.00E-04	0.00E+00
EP	kg PO ₄ ³⁻ -eq	4.10E-04	0.00E+00	9.78E-05	0.00E+00	2.53E-02	0.00E+00
POCP	kg ethene-eq	1.00E-04	0.00E+00	1.52E-05	0.00E+00	1.20E-04	0.00E+00
ADPE	kg Sb-eq	1.05E-05	0.00E+00	3.89E-06	0.00E+00	9.37E-07	0.00E+00
ADPF	MJ	1.33E+01	0.00E+00	1.66E+00	0.00E+00	2.21E+00	0.00E+00
RMF E-COATED RAISED FLOORING PANELS							
ENVIRONMENTAL IMPACTS	Unit	A1 - A3	C1	C2	C3	C4	D
GWP	kg CO ₂ eq	7.04E-01	0.00E+00	1.11E-01	0.00E+00	4.36E-01	0.00E+00
ODP	kg CFC11-eq	1.70E-07	0.00E+00	1.88E-08	0.00E+00	2.29E-08	0.00E+00
AP	kg SO ₂ -eq	2.08E-03	0.00E+00	4.10E-04	0.00E+00	5.00E-04	0.00E+00
EP	kg PO ₄ ³⁻ -eq	5.30E-04	0.00E+00	9.78E-05	0.00E+00	2.53E-02	0.00E+00
POCP	kg ethene-eq	1.20E-04	0.00E+00	1.52E-05	0.00E+00	1.20E-04	0.00E+00
ADPE	kg Sb-eq	1.14E-05	0.00E+00	3.89E-06	0.00E+00	9.37E-07	0.00E+00
ADPF	MJ	1.55E+01	0.00E+00	1.66E+00	0.00E+00	2.21E+00	0.00E+00

Global warming potential (GWP) - Depletion potential of the stratospheric ozone layer (ODP) - Acidification potential of land and water (AP) - Eutrophication potential (EP) - Formation potential of tropospheric ozone photochemical oxidants (POCP) - Abiotic depletion potential for non-fossil resources (ADPE) - Abiotic depletion potential for fossil resources (ADPF)

References

ecoinvent database (v3.6) - www.ecoinvent.ch

EN 15804:2012 + A2:2019 -Sustainability of construction works-Environmental Product Declarations - Core rules for the product category of construction products

EN 15804:2012 + A1:2013 -Sustainability of construction works-Environmental Product Declarations - Core rules for the product category of construction products

General Program Instructions, Version 3.01, 2019-09-18 - The International EPD® System - EPD International AB

ISO 14001:2015 - Environmental management systems – Requirements with guidance for use

ISO 14025:2009-11 - Environmental labels and declarations - Type III environmental declarations - Principles and procedures

PCR 2019:14 - Construction products, version 1.1, 2020-09-14- The International EPD® System - EPD International AB

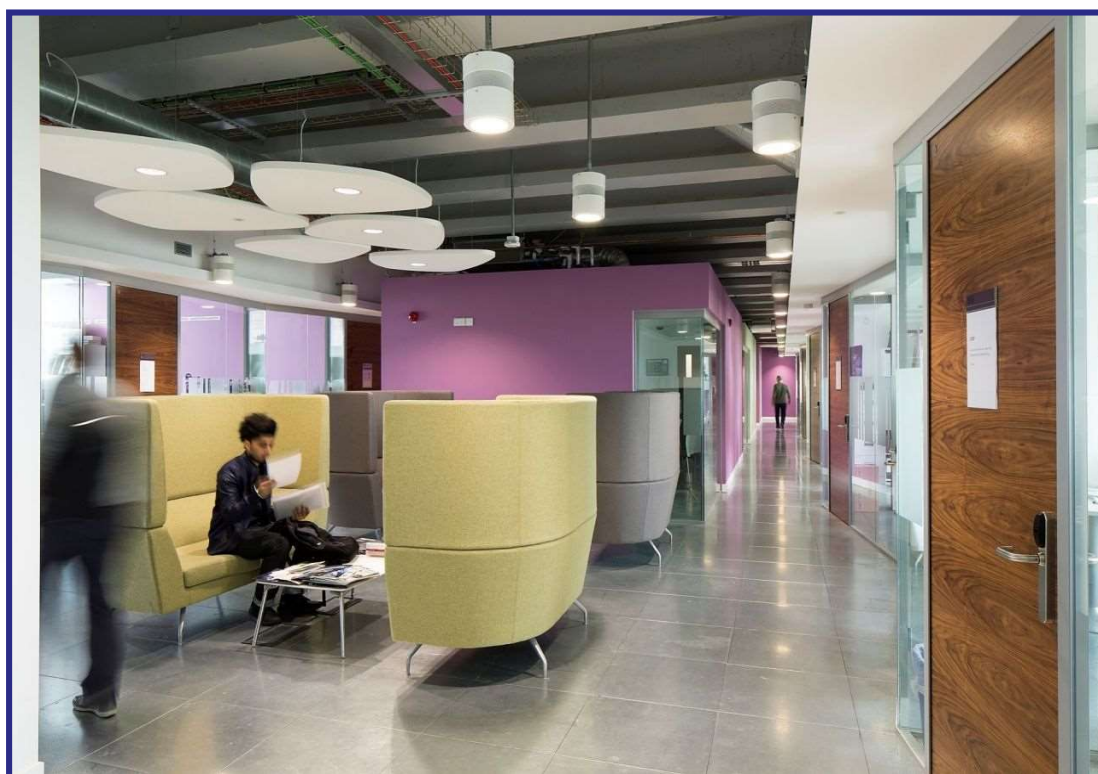
Raised flooring panels LCA(2020) - Report for RMF Installation & Services Ltd - EuGeos Limited

Glossary

The International EPD® System: a programme for Type III environmental declarations, maintaining a system to verify and register EPDs as well as keeping a library of EPDs and PCRs in accordance with ISO 14025. (www.environdec.com)

Life cycle assessment (LCA): LCA studies the environmental aspects and quantifies the potential impacts (positive or negative) of a product (or service) throughout its entire life. ISO standards ISO 14040 and ISO 14044 set out conventions for conducting LCA.

REACH Regulation: REACH is the European Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals. It entered into force in 2007, replacing the former legislative framework for chemicals in the EU.



RMF Eco Range complete installation pictured in use at the University of Brighton a project of 10,000 m²