

Statement of Verification

BREG EN EPD No.: 000464

Issue 01

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

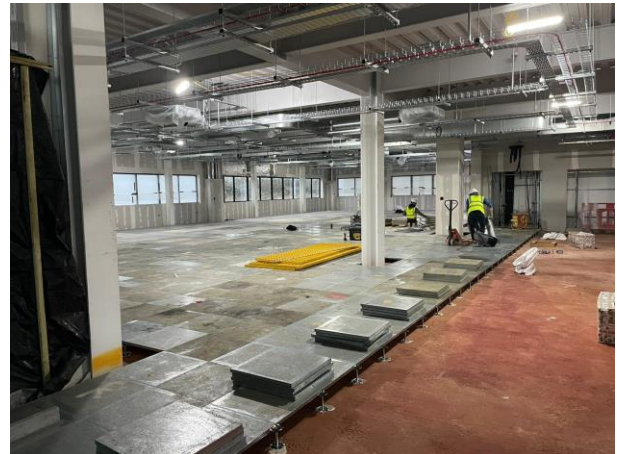


is in accordance with the requirements of:
EN 15804:2012+A1:2013
and
BRE Global Scheme Document SD207

This declaration is for:
1m2 of raised flooring panel

Company Address

London Raised Floors
91 Brick Lane
London
E1 6QL



Signed for BRE Global Ltd

Emma Baker
Operator

29 September 2022
Date of this Issue

29 September 2022
Date of First Issue

28 September 2027
Expiry Date



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Environmental Product Declaration

EPD Number: 000464

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2013 Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012+A1:2013
Commissioner of LCA study	LCA consultant/Tool
London Raised Floors 91 Brick Lane London E1 6QL	LCA consultant: Bala Subramanian Tool: BRE LINA v2.0
Declared/Functional Unit	Applicability/Coverage
1m ² of raised flooring panel	Product Average.
EPD Type	Background database
Cradle to Gate	ecoinvent
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 <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	
(Where appropriate ^b)Third party verifier: Pat Hermon	
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+A1:2013. 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+A1:2013 for further guidance	

Information modules covered

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

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

London Raised Floors
91 Brick Lane
London
E1 6QL

Construction Product:

Product Description

London raised floors (LRF) "Eco Range" panels are "Medium Grade" original manufactured specification with the dimensions of 600 x 600 x 31mm and the weight of the floor panels is 12 kg/m². Generally, a raised access flooring system is an elevated floor that is laid above a sub floor, often a concrete floor slab, in order to leave an open space or void between. The space created between the two floors is used to house cabling and pipework required to distribute services around a building.

LRF panels are Eco Range panels are recovered from the buildings after the demolition or building refurbishment, the reclaimed raised access floor panels will undergo independent testing in accordance with the performance specification PSA MOB. All panels are offered back into the interior office market, installed as a system onto all steel pedestals and fully warranted by LRF (in the exact same way as we would warrant a new system) so there is no risk to the client to utilise the eco range over and above selecting new panels.

Technical Information

Flooring panels are designed for use in raised access floor installations meeting the PSA MOB standard, therefore Reclaimed raised access floor panels have been indicatively load tested in accordance with the performance specification MOB PF2 PS/SPU

Type of Testing	Area of testing
T8.00 – 25mm point load of 3.0kN	Centre of Panel
T11.0 – Safety factory 25mm point load 9.0kN	T8.00 centre of panel edge and diagonal positions
Failure Loads	11.67kN



Main Product Contents

Access flooring panels are usually manufactured from a chipboard core that is encased in steel, and these components can be re-used at the end of their life.

Material/Chemical Input	%
Chip board	70-75%
Steel	25-29%
Zinc	<1%

Manufacturing Process

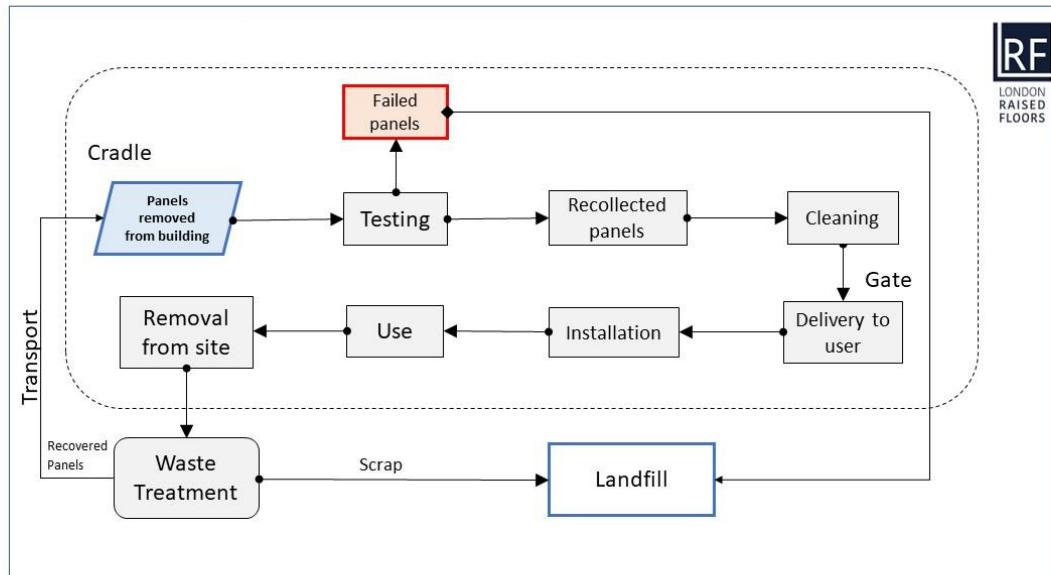
LRF reclaims raised access floor panels removed from buildings in refurbishment and demolition projects in the UK.

These are collected from the project and transported by road to LRF's storage facility. The manufacture of LRF's raised flooring panels then involves the following steps:

- Sorting and checking of received panels
- Panel cleaning

The final panels from LRF are shipped on pallets and delivered by land, air, or sea to the location of installation in a building.

Process flow diagram



Construction Installation

Raised floor systems can be designed and installed as gravity systems, also known as loose lay, where the floor panels are laid to rest loosely on the pedestal head. This makes them easy to remove in order to access the void below. In some cases, where greater security is required, they can be fixed onto the pedestal head, known as lock-down or screw-down.

Life Cycle Assessment Calculation Rules

Declared / Functional unit description

Declared unit: 1m² of raising floor panels

System boundary

This is a cradle-to-gate study that follows the modular design defined in EN 15804:2012+A1:2013.

Data sources, quality and allocation

This is a cradle-to-gate LCA study that follows the modular design defined in EN 15804:2012+A1:2013. Datasets are derived from Ecoinvent v3.2 (2015) and the LCA tool used was BRE LINA v2.0. The LCA models and reports the production stage modules, A1 to A3. In this case, the system boundary is defined by the removal of previously installed floor panels, therefore the amount of recovered panels from the demolition/ refurbishment site over the period of one year (01/01/2021- 31/12/2021) is substituted as a raw material input. No ancillary materials are used, only consumables such as electricity, water usage, packaging materials are included. In addition, the transportation distance from demolition site to storage unit also included. The only exceptions are direct emissions to water and soil, which are not measured.

LRF site produces only raised floor panels, therefore no allocation was required. The quantity used in the data collection for this EPD is therefore an average value, based on the total quantity of raised floor panels produces

during the data collection period (01/01/2021 - 31/12/2021). The original data collection form has been used while doing an LCA analysis, there was a no uplift in the given data. LRF have confirmed that the quantity of wastewater to sewer was not monitored during the data collection period. Therefore a 5% natural loss on the water consumption quantity has been assumed.

Specific European and Irish datasets have been selected from the Ecoinvent LCI for this LCA. The quality level of geographical and technical representativeness is therefore Very Good. The quality level of time representativeness is Fair as the background LCI datasets are based on Ecoinvent v3.2 which was compiled in 2015. Therefore, there is approximately 5-6 years between the Ecoinvent LCI reference year and the time period for which the LCA was undertaken.

Cut-off criteria

All the raw materials, process energy, general energy, water use/discharge and production waste have been included. Direct emissions to air, water, and soil are not measured.

LCA Results

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

Parameters describing environmental impacts

			GWP	ODP	AP	EP	POCP	ADPE	ADPF
			kg CO ₂ equiv.	kg CFC 11 equiv.	kg SO ₂ equiv.	kg (PO ₄) ³⁻ equiv.	kg C ₂ H ₄ equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	A2	3.14E-01	5.62E-08	1.03E-03	2.78E-04	1.75E-04	1.09E-06	4.67E+00
	Manufacturing	A3	-2.82E+00	1.66E-07	1.10E-02	4.25E-03	1.89E-03	4.44E-06	3.41E+01
	Total (of product stage)	A1-3	-2.51E+00	2.22E-07	1.20E-02	4.53E-03	2.06E-03	5.54E-06	3.88E+01

GWP = Global Warming Potential;
ODP = Ozone Depletion Potential;
AP = Acidification Potential for Soil and Water;
EP = Eutrophication Potential;

POCP = Formation potential of tropospheric Ozone;
ADPE = Abiotic Depletion Potential – Elements;
ADPF = Abiotic Depletion Potential – Fossil Fuels;

Parameters describing resource use, primary energy

			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
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	6.59E-02	2.88E-07	6.59E-02	4.65E+00	0.00E+00	4.65E+00
	Manufacturing	A3	6.13E+01	7.00E-06	6.13E+01	4.08E+01	0.00E+00	4.08E+01
	Total (of product stage)	A1-3	6.13E+01	7.28E-06	6.13E+01	4.54E+01	0.00E+00	4.54E+01

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

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	1.20E+01	0.00E+00	0.00E+00	0.00E+00
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.06E-03
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	-5.95E-02
	Total (of product stage)	A1-3	1.20E+01	0.00E+00	0.00E+00	-5.84E-02

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)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	0.00E+00	0.00E+00	0.00E+00
	Transport	A2	2.29E-03	1.78E-01	3.17E-05
	Manufacturing	A3	2.99E-02	2.47E-01	1.83E-04
	Total (of product stage)	A1-3	3.22E-02	4.25E-01	2.15E-04

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

Other environmental information describing output flows – at end of life						
			CRU	MFR	MER	EE
			kg	kg	kg	MJ per energy carrier
Product stage	Raw material supply	A1	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
	Manufacturing	A3	2.25E+00	0.00E+00	0.00E+00	0.00E+00
	Total (of product stage)	A1-3	2.25E+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

Interpretation of results

LRF's processes the raised access floor panels in the storage areas, therefore most of the impacts are from the storage section.

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.

Pre-Consultants by. SimaPro 9 LCA Software 2021. <http://www.pre-sustainability.com>

Ecoinvent Centre. Swiss Centre for Life Cycle Inventories. <http://www.ecoinvent.org>