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Environmental Product Declaration

Specific EPD

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021

ERAR System ER 01 AL40 type ECO

PRZEDSIĘBIORSTWO PRODUKCYJNO-HANDLOWE ERAR SPÓŁKA Z O.O.

Programme
EPD Square | www.epdsquare.com

Programme operator
EPD Square, s.r.o.

EPD Registration number
SQ 00-035

Publication date
02.07.2025

Valid until
01.07.2030

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General information

Product
ERAR System ER 01 AL40 type ECO

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Registration number
SQ 00-035

Publication date
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Valid until date
01.07.2030

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Place of production
Ul. Przemyslowa 8A 06-230 Różan, Poland

Product Category Rules (PCR)
EPD Square PCR v1.0, 2024

Declared/Functional unit
1 m^2

Mass per DU
26,5 kg

UN CPC code
42190

Geographical scope
Poland, Europe

Year of study
2024

Comparability
EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in the context of the building.

EPD author
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Verification type
Independent verification of the declaration and data, according to ISO14025:2006
Internal: ☐
External: ☒

Verified by
Afzal khan Peerukhan

The owner of the declaration shall be liable for the underlying information and evidence.
EPD Square shall not be liable with respect to manufacturer, life cycle assessment data and evidence.

System boundaries

This EPD covers the cradle to gate with options scope with the following modules: A1 (Raw material supply), A2 (Transport) and A3 (Manufacturing), A4 (Transport), A5 (Assembly) as well as C1 (Deconstruction), C2 (Transport at end-of-life), C3 (Waste processing) and C4 (Disposal). In addition, module D is included.

Modules declared and geographical scope

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x
Geography	EU	EU	Pl	Pl	Pl	-	-	-	-	-	-	-	Pl	Pl	Pl	Pl	Pl

EU: Europe; Pl: Poland
Modules not declared = MND

Description of organization

ERAR combines the power of modern architecture with aesthetics and shares its values with the world since 1964. Starting with the production of ceiling systems with integrated LED, and raised access floors, ERAR is a global interior fit-out manufacturer aimed to provide bespoke solutions to its customers.

ERAR is one of the leading companies in the industry with a successful history and vision to be the leader in the sector. Through its product variety and application methods, ERAR has been continuously adapting to the changing requirements of modern architecture. Since the day it was founded, ERAR has been increasing its strength day by day and reinforcing its position as the expert in the sector.

As a pioneer in environmental labelling (EPD) in the building materials industry in Poland. ERAR factory is ISO 14001 certified, while ERAR factory is FSC certified. In addition to the environmental labelling of the products, ERAR also documents its products' effects on indoor air quality and emissions with VOC tests. Since 2014, ERAR has been actively involved in the Sustainability and Environmental Labelling of Construction Materials commissions of the relevant NGOs, and the Green Building Certification systems commissions, and organizes continuous training and awareness-raising events for its employees and business partners on these issues.

Product information

Product name
ERAR System ER 01 AL40 type ECO

Product description
ERAR Raised Access Flooring Systems produced by ERAR have been designed to provide the space required for data, power, air conditioning, fire and security infrastructures that have become a necessity for all commercial spaces. ERAR Raised Access Flooring Systems enable a fast and cost-free intervention to the space formed under finishing level with their modular structure and thus render the space functional. It consists of 60 x 60 cm panels freely laying on pedestals, stringers and braces which form the substructure. Panel core can be chipboard according to project requirements.

Product application
ERAR Raised Access Flooring Systems produced by ERAR have been designed to provide the space required for data, power, air conditioning, fire and security infrastructures that have become a necessity for all commercial spaces.

Technical specification
EN 12825: 2001 Raised access floors

Product standards
The products are produced according to EN 12825 Raised access floors and EN 13964: 2014 Suspended ceilings - Requirements and test methods.

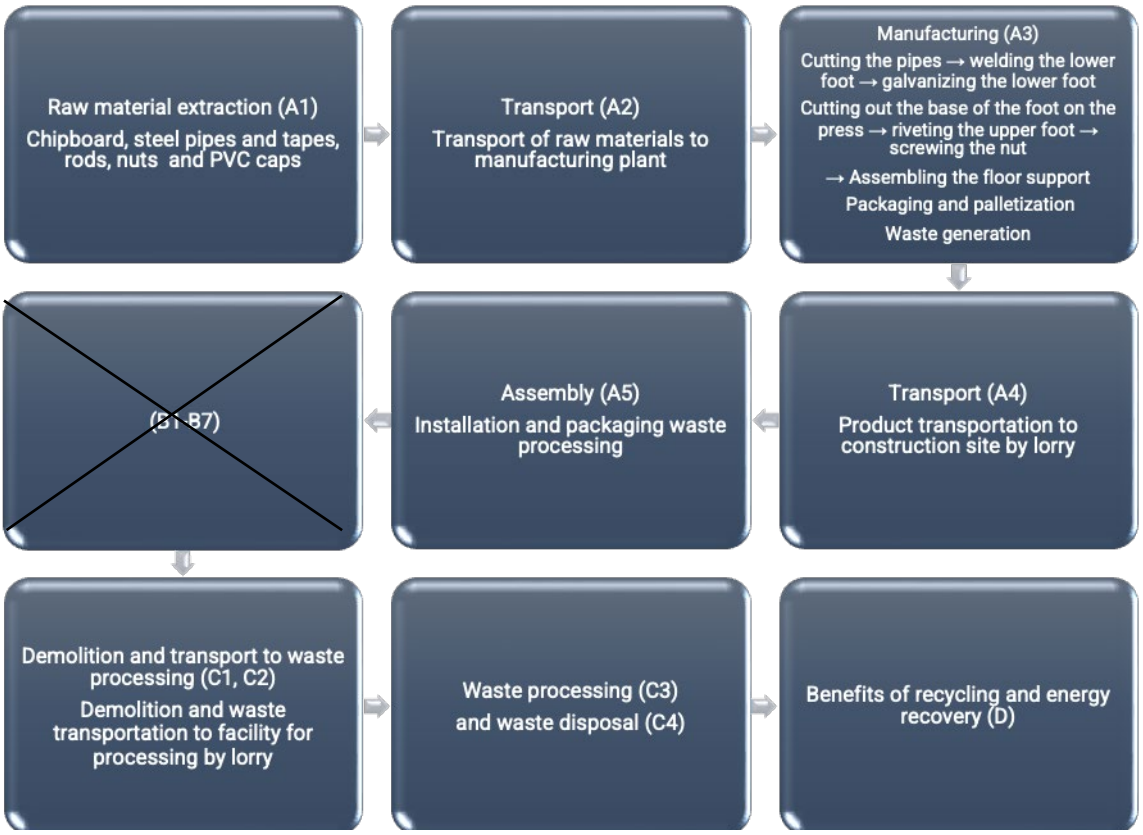
Geographical scope
Poland, Europe

Product contents information

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%	Biogenic carbon kg C
Particleboard	25,300	-	91,6 %;	11,38 kg C
Steel pipe	0,270	-	-	
Steel tape	0,658	-	-	
Rod and nut	0,216	-	-	
PVC cap	0,033	-	-	
Aluminium special foil	0,020	-	-	
TOTAL	26,50	-	87,5 %;	11,38 kg C
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**		**Biogenic carbon kg C/kg**
P tape	0,037	0,14 %		-
Wooden pallets	0,375	1,39 %		0,169 kg C
TOTAL	0,413	1,53 %		0,169 kg C

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

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 that is 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, estimations, and assumptions

Allocation is based on annual production rate and made with high accuracy and precision. The values for 1 m^2 of the products which are used within this study are calculated by considering the total product weight per annual production. In the production plant, several kinds of products are produced; since the production processes of these products are similar, the annual production percentages are taken into consideration for allocation. According to the ratio of the annual production of the declared product to the total annual production at the factory, the annual total energy consumption, packaging materials and the generated waste per the declared product are allocated. Subsequently, the produced products' output is fixed to 1 m^2 and the corresponding amount of product is used in the calculations.

Database(s) and LCA software

This EPD has been created using One Click LCA EPD Generator. Ecoinvent v3.10.1 and One Click LCA databases were used as sources of environmental data. The period for data collection represents 2024.

LCA scenarios and additional technical information

A1 Raw material extraction

This module includes the extraction and processing of all raw materials and packaging which occur upstream to the manufacturing site. Especially raw material source for: Chipboard, steel pipes and tapes, rod, nuts, PVC caps and aluminium special foil.

A2 Transport

The considered transportation impacts include exhaust emissions resulting from transportation of all raw materials from suppliers to production plant as well as the environmental impacts of production of the used fuel. The transportation distances and methods were provided by manufacturer. Module includes road transport (truck EURO6, 16-32 t, consumption 35 l / 100 km).

A3 Manufacturing

The environmental impacts considered for the production stage cover the manufacturing of the production materials and fuels used by machines. The environmental impacts of this stage have been calculated using the most recent data in regard to what applied in the factory. The data is from the year 2024. The study considers the losses of main raw materials occurring during the manufacturing process. A mass-based allocation is applied to split the environmental burdens of the site among the finished products. The waste materials (wood waste and steel scrap) will be transferred to the landfill.

Manufacturing energy scenario

Electricity data source and quality	Electricity, Poland, residual mix, 2023
Electricity kg CO2e / MJ	0,93 kg CO_2e / MJ
Energy data source and quality	Heat and power co-generation, natural gas, combined cycle power plant, 400MW electrical (Reference product: heat, district or industrial, natural gas)
Heating kg CO2e / MJ	0,0295 kg CO_2e / MJ

A4 Transport

Transportation impacts occurred from final products delivery to construction site cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The transportation distance is defined according to PCR. Average distance of transportation from production plant to building site is assumed as 239,75 km and the transportation method is assumed to be lorry with a capacity of 16-32t. Vehicle capacity utilization volume factor is assumed to be 1. Empty returns are considered. Transportation does not cause losses as the product is packaged properly.

Transportation scenario (A4)

Vehicle type used for transport	truck EURO6, 16-32t
Distance to the construction site	239,75 km
Capacity utilization factor	1

A5 Assembly

Installation processes and end of life of the packaging materials are considered in the study. The losses associated with the installation of the raised floor system are less than 1% and therefore not included in the overall assessment. For the installation of 1 m^2 of the product 1,279 kWh of electricity is needed. Transportation of waste packaging is accounted in A5. It is assumed that 32% of the wooden pallets are recycled, 30% are incinerated at the nearest municipal incineration plant and 38% are landfilled. Packaging wastes from wood and plastic are included in the analysis. Plastic waste is estimated to be landfilled.

C1 Disassembly

Electricity consumption for deconstruction is estimated to be 0,0001 kWh/m^2. It is assumed that 100% of waste is collected.

C2 Transport

Transportation distance to the closest disposal area is estimated as 50 km and the transportation method is assumed as lorry (16-32 tonne; EURO 6) which is the most common.

C3 Waste processing

The modelling includes recycling and incineration rates based on EUROSTAT data. 26% of chipboards are recycled and 50% are incinerated for use as secondary fuel. 85% of the steel is considered for recycling. 34% of PVC is also considered for recycling and 41% for incineration. End of life of aluminium foil (100%) is estimated to be recycled.

C4 Disposal

It is assumed that 24% of chipboards are taken to landfill for final disposal, 15% of the steel is considered for landfill and 25% of PVC is also considered for landfill.

End of Life (C1, C3, C4)

	Value	Unit
Collected separately	26,5	kg
Reuse	-	kg
Recycling	7,581	kg
Incineration	12,663	kg
Landfill	6,250	kg

Module D

Module considers the benefits of recycling and energy recovery which replace district heat and electricity.

Additional environmental information

Declared unit is 1 m^2 of the raised floor system. If it is necessary to quantify the results to a product weight of 1 kg, the conversion factor is 0,0377.

LCA results

Core environmental impact indicators – EN 15804+A2

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	-2,18E+01	1,23E+00	1,77E+00	8,38E-05	4,64E-01	2,69E+01	8,48E+00	-1,55E+00
GWP-fossil	kg CO2 eq.	1,39E+01	1,22E+00	1,15E+00	8,38E-05	4,64E-01	2,94E-01	7,09E-02	-1,71E+00
GWP-biogenic	kg CO2 eq.	-3,57E+01	0,00E+00	6,21E-01	0,00E+00	0,00E+00	2,66E+01	8,48E+00	1,63E-01
GWP-LULUC	kg CO2 eq.	3,90E-02	4,40E-04	2,03E-05	0,00E+00	2,07E-04	2,20E-04	4,43E-05	-4,04E-04
ODP	kg CFC11 eq.	3,47E-07	2,44E-08	2,50E-10	0,00E+00	6,82E-09	3,39E-09	1,79E-09	-7,16E-09
AP	mol H^+ eq.	7,38E-02	2,55E-03	3,19E-03	2,43E-07	1,58E-03	2,55E-03	4,89E-04	-6,22E-03
EP-freshwater	kg P eq.	3,44E-03	8,25E-05	6,03E-04	4,69E-08	3,61E-05	1,40E-04	5,27E-05	-7,59E-04
EP-marine	kg N eq.	1,80E-02	6,12E-04	6,24E-04	4,22E-08	5,18E-04	1,19E-03	2,23E-03	-1,17E-03
EP-terrestrial	mol N eq.	2,10E-01	6,60E-03	6,26E-03	4,62E-07	5,63E-03	1,15E-02	2,01E-03	-1,27E-02
POCP	kg NMVOC eq.	9,17E-02	4,24E-03	1,70E-03	1,24E-07	2,31E-03	2,95E-03	8,17E-04	-4,64E-03
ADP-M&M	kg Sb eq.	8,13E-05	4,08E-06	4,21E-08	1,04E-19	1,32E-06	2,12E-06	1,54E-07	-1,64E-05
ADP-fossil	MJ	2,43E+02	1,72E+01	1,01E+01	7,77E-04	6,71E+00	3,12E+00	1,53E+00	-1,65E+01
WDP	m^3	1,89E+01	8,56E-02	6,38E-03	0,00E+00	3,30E-02	4,80E-01	7,29E-03	-3,14E-01

GWP-total: Global Warming Potential; GWP-fossil: Global Warming Potential fossil fuels; 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; EP-freshwater: Eutrophication potential, fraction of nutrients reaching freshwater end compartment; See "additional requirements" for indicator given as PO4 eq. EP-marine: Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-terrestrial: Eutrophication potential, Accumulated Exceedance; POCP: Formation potential of tropospheric ozone; ADP-M&M: Abiotic depletion potential for non-fossil resources (minerals and metals); ADP-fossil: Abiotic depletion potential for fossil resources; WDP: Water deprivation potential, deprivation weighted water consumption

Additional (optional) environmental impact indicators – EN 15804+A2

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	1,36E-06	9,02E-08	2,98E-08	2,22E-12	4,54E-08	2,77E-08	1,11E-08	-8,85E-08
IRP	kBq U235 eq.	1,29E+00	2,22E-02	5,16E-04	0,00E+00	5,81E-03	3,30E-02	1,49E-03	2,39E-02
ETP-fw	CTUe	7,04E+01	2,29E+00	9,13E-02	0,00E+00	9,61E-01	3,08E+00	7,24E-01	-4,34E+00
HTP-c	CTUh	1,04E-07	2,06E-10	1,35E-11	3,40E-16	7,69E-11	4,07E-10	2,09E-11	-3,19E-10
HTP-nc	CTUh	1,45E-07	1,09E-08	4,78E-10	3,40E-16	4,33E-09	2,65E-08	1,63E-09	-1,48E-08
SQP	Dimensionless	1,01E+03	1,04E+01	1,90E-01	0,00E+00	6,47E+00	1,29E+00	3,57E+00	-6,51E+00

PM: Particulate matter emissions; IRP: Ionising radiation, human health; ETP-fw: Ecotoxicity (freshwater); ETP-c: Human toxicity, cancer effects; HTP-nc: Human toxicity, non-cancer effects; SQP: Land use related impacts / soil quality

Use of Natural Resources

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
RPEE	MJ	-1,04E+02	3,02E-01	-4,70E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,89E+01
RPEM	MJ	2,92E+02	0,00E+00	-5,44E+00	0,00E+00	0,00E+00	-2,18E+02	-6,88E+01	2,29E+01
TPE	MJ	1,88E+02	3,02E-01	-1,01E+01	5,65E-05	9,21E-02	-4,32E+02	-1,72E+02	9,18E+01
NRPE	MJ	2,11E+02	1,72E+01	5,93E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,65E+01
NRPM	MJ	3,14E+01	0,00E+00	-1,58E+00	0,00E+00	0,00E+00	-2,27E+01	-7,16E+00	1,45E+01
TRPE	MJ	2,42E+02	1,72E+01	4,35E+00	5,71E-04	6,71E+00	-2,03E+01	-5,95E+00	-1,97E+00
SM	kg	3,92E+00	8,00E-03	1,10E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,01E-01
RSF	MJ	3,29E+01	1,01E-04	6,62E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,56E-04
NRSF	MJ	4,08E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
W	m^3	3,92E+00	2,35E-03	-4,91E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-4,91E-03

RPEE: Renewable primary energy resources used as energy carrier; RPEM: Renewable primary energy resources used as raw materials; TPE: Total use of renewable primary energy resources; NRPE: Non-renewable primary energy resources used as energy carrier; NRPM: Non-renewable primary energy resources used as materials; TRPE: Total use of non-renewable primary energy resources; SM: Use of secondary materials; RSF: Use of renewable secondary fuels; NRSF: Use of non-renewable secondary fuels; W: Use of net fresh water

End of life – Waste

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HW	KG	6,27E-01	2,50E-02	1,26E-01	9,70E-06	1,14E-02	9,50E-02	2,65E-03	-5,47E-01
NHW	KG	2,16E+01	5,29E-01	8,99E-01	0,00E+00	2,11E-01	1,33E+01	3,02E+01	-4,79E+00
RW	KG	4,84E-04	5,52E-06	1,03E-05	7,95E-10	1,42E-06	8,45E-06	3,65E-07	6,36E-06

HW: Hazardous waste disposed; NHW: Non-hazardous waste disposed; RW: Radioactive waste disposed

End of life – Output flows

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
CR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MR	kg	0,00E+00	0,00E+00	1,20E-01	0,00E+00	0,00E+00	7,58E+00	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,27E+01	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	2,50E-01	0,00E+00	0,00E+00	3,09E+01	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	3,50E-01	0,00E+00	0,00E+00	4,26E+01	0,00E+00	0,00E+00

CR: Components for reuse; MR: Materials for recycling; MER: Materials for energy recovery; EEE: Exported electric energy; ETE: Exported thermal energy

Information describing biogenic carbon content at factory gate

Biogenic carbon content	Value	Unit
Biogenic carbon content in product	11,38	kg C
Biogenic carbon content in the accompanying packaging	0,169	kg C

Specific data (GWP-GHG) and data variation for A1-A3

Specific data and data variation	Value-%
Specific data	78,06 %
Variation - product	-
Variation - site	-

Hazardous substances

☒ The product does not contain any REACH SVHC substances in amounts greater than 0,1 %.

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Bibliography

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Environmental labels and declarations – General principles

ISO 14025:2010
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ISO 14040:2006
Environmental management — Life cycle assessment — Principles and frameworks

ISO 14044:2006
Environmental management - Life cycle assessment - Requirements and guidelines

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

EPD Square PCR v.1.0, 2024

EPD Square, General Programme Instructions v.1, 2024

Ecoinvent database v3.10.1 (2025) and One Click LCA database

Annex

Environmental impacts – GWP-GHG

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP - GHG	kg CO2e	1,39E+01	1,23E+00	1,15E+00	8,38E-05	4,64E-01	2,94E-01	7,10E-02	-1,71E+00

GWP- GHG: Global Warming Potential, greenhouse gases