ENVIRONMENTAL PRODUCT DECLARATION

EPD Ref. No. 2024-0053 - 1

DECORATIVE ACOUSTIC WALL PANELS
SOLID WOOD

In accordance with EN 15804+A2

OWNER OF THE EPD:

Pol-Kres Edwood Sp. z o.o.
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Declared unit (DU): 1 m^2

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1. GENERAL INFORMATION

This Environmental Product Declaration (EPD) is developed in accordance with the European standard EN 15804 and ISO 14025. It contains the information on the impacts of the declared construction materials on the environment.
EPDs may not be comparable if they do not comply with the EN 15804 standard and if the core systems are not based on the same database.

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Program operator	CERTBUD Sp. z o.o. ul. Mokotowska 46 lok. 8, 00-543 Warszawa e-mail: biuro@certyfikacja-certbud.pl www.certyfikacja-certbud.pl
Declared products	Decorative acoustic wall panels: - lacquered - oiled
Declaration reference numer	EPD Ref. No.: 2024-0053-1
PCR	PCR in accordance with EN 15804+A2:2020
Date of issue	22-04-2024
Validity date	22-04-2029
Declared unit	1 m^2
Life cycle analysis (LCA)	Modules A1-A3, C1-C4, D
Reference Service Life	Depending of application type, up to 50 years
Reason for performing LCA	Business-to-business
Representativeness	Polish product, 2023

2. VERIFICATION

This Environmental Product Declaration (EPD) has been verified in accordance with ISO14025 and is valid for 5 years from the date of issue if the underlying data have not changed significantly.

CEN EN 15804 standard serves as the main PCR document.
Independent verification corresponding to ISO 14025:2010 ☐ Internal ☒ External
Third party verifier: Monika Kotkiewicz, CERTBUD Sp. z o.o.
External verification of EPD: Monika Kotkiewicz, CERTBUD Sp. z o. o. Input data verification, LCA: Krzysztof Bałkowiec, TBF Systemy Jakości Verification of LCA: Monika Kotkiewicz, CERTBUD Sp. z o. o.

Note: CERTBUD Sp. z o. o. is a notified body (No. 2310) of the European Commission and Member States designated for the tasks specified in the Regulation (EU) No 305/2011 of the European Parliament and of the Council laying down harmonised conditions for the marketing of construction products. In addition, CERTBUD Sp. z o.o. is a unit accredited by the Polish Centre for Accreditation - in the field of certification of construction products (accreditation number AC 158). CERTBUD Sp. z o.o. acts as an independent, third-party verification organization (17065/17025 certified).

CERTBUD Sp. z o.o. ZAKŁAD CERTYFIKACJI CERTBUD

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3. MANUFACTURER

Pol-Kres Edwood Sp. z o.o. is family based company specializing especially in oak processing since 1999, localized in Biała Podlaska, Poland.

Pol-Kres Edwood sp. z o.o. is one of the leading European manufacturer of hardwood solid wood edge glued panels. Company works on 4 independent facilities (sawmill, finger-joint panels, solid wood edge panels, solid wood surfaced furniture components). Pol-Kres Edwood sp. z o.o. is known form highly repetitive quality and deliveries on time. Thaks to this Edwood has convinced lots of customers at more than 28 markets, including West and Central Europe, Baltic countries, Scandinavia, South Korea, Japan, Israel, Malaysia and USA.

Constant investments in the expansion of facilities, modernization of technological lines and improvement of production processes increase the added value of the products manufactured by the company. The comprehensive nature of the production process enables quality and cost control in each link of the chain, and guarantees short and reliable lead times.

Social responsibility is an important aspect for Pol-Kres Edwood sp. z o.o. Since the beginning of the plant's existence, company has attached great importance to environmental and health and safety aspects, supports lots of social, sports and cultural initiatives on a local and national scale.

The company's portfolio consists mainly of products made of 100% solid wood, including:

- Table tops, table legs, furniture panels, cut to size panels;
- Stair components: threats, posts, spindles, handrails, risers, stringers;
- Cut to size, surfaces (S4S) furniture components;
- Window scantlings, door frames;
- Decorative acoustic wall panels
- DIN+ Oak pellets 6mm
- 5-axis CNC services.

The products are available in various colors
and types of raw material, including:

- Oak;
- Smoked oak;
- Ash
- Thermo ash;
- Beech
- Thermo Beech;
- European Walnut;
- American Black Walnut;
- Thermo pine;
- Maple.

4. DESCRIPTION AND CLASSIFICATION OF PRODUCTS

Ready-made wall panels with solid wood lamellas are an increasingly popular interior design element used both in homes and in commercial and public buildings. Panels manufactured by Pol-Kres Edwood sp. z o. o. with a base made of the highest quality PET felt with solid wood lamellas connected lengthwise using fingerjoint technology, are an innovative product for decorating walls and ceilings.

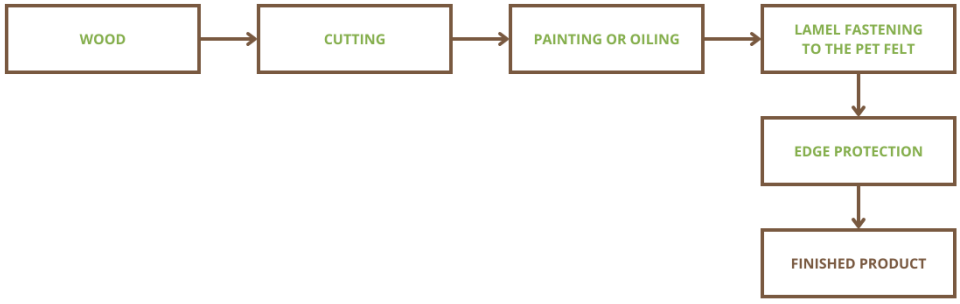


Figure 4.1: Production scheme

Lamellas are finishing with the highest quality oils - protect and emphasize the natural beauty of solid wood. Decorative acoustic panels are available in various colors with 21mm thick and 43mm wide lamellas (the number of pieces may depending on customer requirements) and sizes:

- 600mm x 2400mm;
- 600mm x 3000mm;
- individual for special customer order.

5. LIFE CYCLE ASSESSMENT (LCA) - RULES

5.1. DECLARED UNIT (DU)

The declaration refers do declared unit – 1 m^2 of the decorative acoustic wall panel manufactured by Pol-Kres Edwood sp. z o.o.

5.2. ALLOCATION

The allocation rules used for this EPD are based on EN 15804+A2. Wall panels are manufacture in one of Pol-Kres Edwood sp. z o.o. production plants, in Biała Podlaska, Łomaska 92, Poland. Allocation was done on product mass basis.

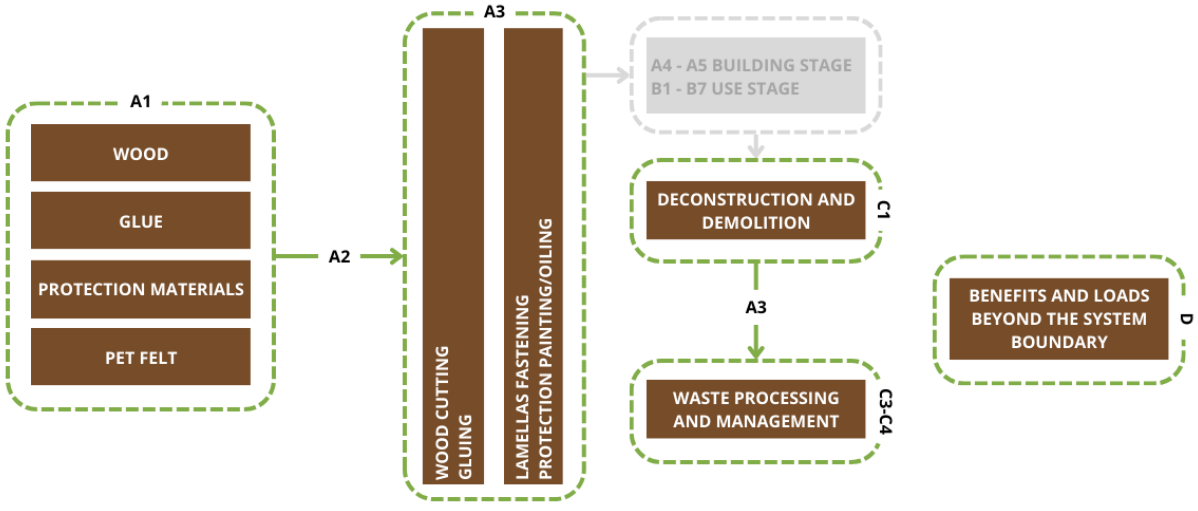
5.3. BIOGENIC CARBON CONTENT

The content of biogenic carbon in the product is determined quantitatively and results from the carbon dioxide removed from the atmosphere through the photosynthesis reaction. It is assumed that 50% of the dry mass of wood is carbon, 44% oxygen and hydrogen. Each kilogram of stored biogenic carbon is approximately 3.67 kg of CO_2 effectively removed from the atmosphere.

Biogenic carbon content	Unit
CO_2 equivalent	$^{44}/_{12}$
Biogenic carbon content in product	$\approx 4{,}3\ ^{kg\ C}/_{m^2}$

5.4. SYSTEM BOUNDARY

The system limits for the environmental characteristics of decorative acoustic wall panels are shown in figure 5.1. Data used in LCA calculation were declared by manufacturer and reflected the actual status of the year 2023.



Legend:

---------- module defined ---------- module not declared

Figure 5.2: System boundary

This Environmental Product Declaration includes a life cycle assessment (LCA) for the Cradle-to-Gate with modules C1-C4, D, according to EN 15804+A2.
Impacts from the one production plant Pol-Kres Edwood Sp. z o. o. global line were inventoried and 0.51% were allocated to the production of decorative wall panels.
All-important parameters from collected production data, i.e. all materials used by recipe, electricity consumed, internal fuel consumption and thermal energy, direct production waste, and the results of all available emission measurements were included in the calculations. In accordance with EN 15804, machinery and equipment (capital assets) needed for and during production, as well as the transportation of production facility employees, were not included.
The sum of processes and impacts omitted from the calculations does not exceed 5% of all impact categories according to EN 15804+A2.

5.4.1. A1 – RAW MATERIALS SUPPLY

This module takes into account the extraction and processing of all raw materials, as well as Energy consumption. The extraction and consumption of raw materials refers to specific mass shares in the production process per unit of declared product. Raw materials for the production of components of acoustic wall panels come from Polish and foreign suppliers.

5.4.2. A2 – TRANSPORT TO THE PRODUCTION SITE

Raw materials are transported to the production plant prom Polish and foreign suppliers. Distances from the place of obtaining raw materials to the production plant are individual for each raw material. The means of transport were diversified depending on the method of delivery of raw materials. The adopted model includes road transport (average values) for each raw material. For calculation purposes European fuel averages are applied in module A2.

5.4.3. A3 – PRODUCTION

Module A3 covers all production-related process – including the production of decorative wall panels components, their packaging and internal transport.
A schematic of the production line for acoustic wall panels at Pol-Kres Edwood is shown in Fig.4.1.
This module takes into account energy consumption and wastages generated in the production plant, as well as losses generated in the production process.

5.4.4. C1-C2 – DEMOLITION AND TRANSPORT

The end of life stage commence with demolition. C1 module covers object's deconstruction within selective waste collection at deconstruction location (tab. 5.1.).
C2 module is the beginning of waste treatment and describe waste transport. It was assumed that waste transport carried out to waste management plant and landfill (tab. 5.1.). For calculation purposes European fuel averages are applied.

5.4.5. C3-C4 – WASTE PROCESSING AND MANAGEMENT

For the purpose of life cycle analysis, scenarios were developed for modules C3 and C4. It was assumed that 75% of waste concrete and 95% scrap would undergo recycling and remaining 25% of waste concrete and 5% of waste steel will end up on a landfill, calculated in accordance with the steel scrap approach developed by World Steel Association. The remaining waste is directed to a landfill in the form of mixed construction and demolition waste (tab.5.1.).

Table 5.1: The end-of-life stage assumption

Module	Assumption
C1	• 10 l/h • 5 h of work
C2	• 50 km to the landfill • 50 km to the waste management plant
C3	• 100% wood – energy recovery • 15% felt – recycling • 19% felt – energy recovery
C4	• 66% felt - landfilling

5.4.6. D – LOADS AND BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDRY

Module D describe the environmental benefits and loads of reuse and recovery or recycling of wood and felt at the end of life cycle.
In the adapted scenario, 100% of waste wood and 19% of waste felt is thermally transformed as biomass and alternative fuel (RDF) in energy recovery process. Moreover 15% of felt waste is recycled and then used as new fibers for the production of textile materials.

DATA COLLECTION PERIOD	The data regarding the production of products refer to period from 01.01.2023r. to 31.12.2023r.
DATA QUALITY	The values determined to calculate the LCA originate from verified Pol-Kres Edwood Sp. z o.o. inventory data. The LCA analysis uses data prepared based on actual consumption at the production site. The details collected are no more than two years old.
CALCULATION RULES	The impacts of the representative Pol-Kres Edwood products were aggregated using weighted average. The weighted average method was used according to the percentage of each product in wall panels based on the relations to whole production quantity. Impacts were calculated for all decorative acoustic wall panels and are shown in Tables 6.3, 6.4. The LCA analysis was conducted in accordance with the EN 15804+A2.
BACKGROUND DATA	The main source of general and auxiliary data is the Ecoinvent 3.9 database.

6. LIFE CYCLE ASSESSMENT (LCA) - RESULTS

Life cycle assessment (LCA) of this environmental declaration covers A1-A3 modules with modules C1-C4 and D („cradle to gate" with modules). Tabel 6.1. shows the LCA modules considerated in calculating the environmental impact categories for the products covered by this declaration.

Table 6.1: Modules defined and not defined

Product stage			Construction process stage		Use stage							End of life stage				
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use stage	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse, recovery, recycling potential
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

X – modules definded
MND – modules not declared

Indicators describing environmental impact of product can be categorized as general environmental impacts, additional impacts and environmental aspects related to resources. The abbreviations and its explanations used to describe the environmental impact of decorative acoustic panels are shown below (tab. 6.2).
The tables 6.3, 6.4 present the results of the LCA analysis for Pol-Kres Edwood sp. z o.o. products.

Tabel 6.2: Abbreviations and its explanations used in LCA analysis

ENVIRONMENTAL IMPACT INDICATORS	
GWP-total	Global Warming Potential – total
GWP-fossil	Greenhouse potential - fossil
GWP-biogenic	Greenhouse potential - biogenic
GWP-luluc	Global warming potential - land use and land use change
ODP	Stratospheric ozone depletion potential
AP	Soil and water acidification potential

EP-freshwater	Eutrophication potential - freshwater
EP-marine	Eutrophication potential - seawater
EP-terrestrial	Eutrophication potential - terrestrial
POCP	Potential for photochemical ozone synthesis
ADP-minerals &metals	Potential for depletion of abiotic resources - non-fossil resources
ADP-fossil	Abiotic depletion potential – fossil fuels
WDP	Water deprivation potential

ADDITIONAL ENVIRONAMENTAL IMPACTS INDICATORS

PM	Particulate matter
IRP	Potential human exposure efficiency relative to U235
ETP-fw	Potential comparative toxic unit for ecosystems
HTP-c	Potential comparative toxic unit for humans (cancer effects)
HTP-nc	Potential comparative toxic unit for humans (non-cancer effects)
SQP	Potential soil quality index

ENVIRONMENTAL ASPECTS RELATED TO RESOURCE INDICATORS

PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials
PERM	Use of renewable primary energy resources used as raw materials
PERT	Total use of renewable primary energy resources
PEN-RE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
RE	Use of non-renewable primary energy resources used as raw materials
PENRT	Total use of non-renewable primary energy resources
SM	Use of secondary material
RSF	Use of renewable secondary fuels
NRSF	Use of non-renewable secondary fuels
FW	Use of net fresh water

ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES INDICATORS

HWD	Hazardous waste disposed

NHWD	Non-hazardous waste disposed
RWD	Radioactive waste disposed
CRU	Components for reuse
MFR	Materials for recycling
MER	Materials for energy recovery
EEE	Exported electrical energy
EET	Exported thermal energy

Table 6.3: Decorative wall panels oil protected LCA analysis results

Results per m²: decorative wall panels oil protected										
ENVIRONMENTAL IMPACTS										
PARAMETER	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-total	eq. kg CO2	-2.98E+00	6.31E-01	3.82E+00	1.47E+00	3.60E-02	5.68E-02	9.61E-01	1.19E+00	-4.73E+01
GWP-fossil	eq. kg CO2	6.62E+00	6.31E-01	3.80E+00	1.11E+01	3.60E-02	5.68E-02	4.37E-01	5.40E-03	-4.71E+01
GWP-biogenic	eq. kg CO2	-9.63E+00	5.32E-04	2.06E-02	-9.60E+00	7.79E-06	4.35E-05	5.24E-01	1.19E+00	-2.53E-01
GWP-luluc	eq. kg CO2	1.85E-02	3.10E-04	1.16E-03	1.99E-02	4.05E-06	2.77E-05	1.91E-05	6.08E-07	-1.44E-02
ODP	eq. kg CFC 11	9.22E-08	1.37E-08	1.93E-08	1.25E-07	5.72E-10	1.29E-09	3.63E-09	8.61E-11	-2.25E-07
AP	mol H+	4.19E-02	1.35E-03	2.80E-02	7.13E-02	3.34E-04	1.41E-04	1.57E-03	5.01E-05	-3.48E-01
EP-freshwater	eq. kg P	1.84E-03	4.51E-05	4.58E-03	6.47E-03	1.10E-06	4.19E-06	9.23E-06	1.67E-07	-5.71E-02
EP-marine	eq. kg N	8.53E-03	3.39E-04	3.96E-03	1.28E-02	1.55E-04	3.83E-05	1.17E-03	2.32E-05	-4.91E-02
EP-terrestrial	eq. mol N	9.02E-02	3.44E-03	3.47E-02	1.28E-01	1.68E-03	3.93E-04	7.88E-03	2.52E-04	-4.31E-01
POCP	eq. kq NMVOC	3.37E-02	2.10E-03	1.01E-02	4.59E-02	4.98E-04	2.29E-04	1.92E-03	4.86E-04	-1.24E-01
ADP-minerals & metals	eq. kg Sb.	2.83E-05	2.15E-06	1.54E-05	4.59E-05	1.29E-08	1.63E-07	1.95E-07	1.94E-09	-1.92E-04
ADP-fossil	MJ	1.71E+02	9.00E+00	4.39E+01	2.23E+02	4.75E-01	8.68E-01	9.07E-01	7.12E-02	-5.38E+02
WDP	eq. m3	2.70E+00	4.48E-02	8.25E-01	3.57E+00	1.17E-03	4.46E-03	5.86E-02	1.77E-04	-1.03E+01
ADDITIONAL IMPACTS										
PM	Disease incidence	9.58E-07	4.39E-08	5.07E-08	1.05E-06	9.30E-09	5.62E-09	5.71E-09	1.40E-09	-6.18E-07
IRP	eq. kBq U235	5.54E-01	1.32E-02	1.25E-01	6.93E-01	2.24E-04	1.09E-03	9.45E-04	3.38E-05	-1.56E+00
ETP-fw	CTUe	2.90E+01	4.47E+00	1.28E+01	4.63E+01	2.25E-01	4.14E-01	4.93E-01	4.78E-02	-1.54E+02
HTTP-c	CTUh	3.11E-09	2.84E-10	1.62E-09	5.01E-09	1.10E-11	2.54E-11	4.03E-11	1.67E-12	-2.00E-08
HTTP-nc	CTUh	6.26E-08	6.26E-09	7.46E-08	1.43E-07	7.74E-11	6.20E-10	5.25E-10	1.93E-09	-9.28E-07
SQP	dimensionless	1.43E+03	5.05E+00	9.55E+00	1.45E+03	3.16E-02	8.74E-01	1.08E-01	2.80E-01	-1.18E+02

ENVIRONMENTAL ACPECTS RELATED TO RESOURCE										
PERE	MJ	2.48E+02	1.49E-01	4.14E+00	2.52E+02	2.68E-03	1.26E-02	1.62E-02	4.04E-04	-5.15E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.48E+02	1.49E-01	4.14E+00	2.52E+02	2.68E-03	1.26E-02	1.62E-02	4.04E-04	-5.15E+01
PEN-RE	MJ	1.55E+02	8.22E+00	4.35E+01	2.07E+02	4.31E-01	7.93E-01	8.67E-01	6.47E-02	-5.35E+02
PENRM	MJ	1.52E+01	7.79E-01	3.70E-01	1.63E+01	4.33E-02	7.53E-02	3.99E-02	6.50E-03	-3.84E+00
PENRT	MJ	1.71E+02	9.00E+00	4.39E+01	2.24E+02	4.75E-01	8.68E-01	9.07E-01	7.12E-02	-5.38E+02
SM	MJ	5.26E-01	1.04E-02	2.39E-01	7.75E-01	2.74E-04	8.69E-04	9.58E-04	4.14E-05	-2.91E+00
RSF	MJ	1.16E-01	3.03E-03	1.33E-01	2.52E-01	3.02E-05	2.12E-04	1.32E-04	4.59E-06	-1.66E+00
NRSF	MJ	3.44E-01	9.02E-03	4.60E-01	8.13E-01	8.18E-05	4.39E-04	5.35E-04	1.24E-05	-5.72E+00
FW	m3	4.09E-02	1.10E-03	1.16E-01	1.58E-01	2.54E-05	1.16E-04	7.75E-04	3.82E-06	-1.43E+00
ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES										
HWD	kg	2.63E-01	8.21E-03	1.30E-01	4.01E-01	3.94E-04	8.14E-04	2.05E-02	5.95E-05	-1.61E+00
NHWD	kg	9.51E-01	4.04E-01	1.47E-01	1.50E+00	2.92E-04	7.47E-02	2.44E-02	4.40E-05	-1.80E+00
RWD	kg	1.39E-04	3.21E-06	3.08E-05	1.73E-04	5.16E-08	2.63E-07	2.41E-07	7.80E-09	-3.83E-04
CRU	kg	3.60E-21	-3.83E-22	3.75E-21	6.97E-21	-3.62E-24	-1.65E-23	-2.08E-23	-5.69E-25	-4.73E-20
MFR	kg	2.15E-01	9.41E-03	2.28E-01	4.52E-01	2.26E-04	7.48E-04	5.38E-04	3.41E-05	-2.83E+00
MER	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	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 6.4: Decorative wall panels lacquer protected LCA analysis results

Results per m²: decorative wall panels lacquer protected										
ENVIRONMENTAL IMPACTS										
PARAMETER	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-total	eq. kg CO2	-1.85E+00	7.89E-01	3.82E+00	2.76E+00	3.60E-02	5.68E-02	9.61E-01	1.19E+00	-4.73E+01
GWP-fossil	eq. kg CO2	7.76E+00	7.88E-01	3.80E+00	1.23E+01	3.60E-02	5.68E-02	4.37E-01	5.40E-03	-4.71E+01
GWP-biogenic	eq. kg CO2	-9.63E+00	6.64E-04	2.06E-02	-9.61E+00	7.79E-06	4.35E-05	5.24E-01	1.19E+00	-2.53E-01
GWP-luluc	eq. kg CO2	1.91E-02	4.02E-04	1.16E-03	2.06E-02	4.05E-06	2.77E-05	1.91E-05	6.08E-07	-1.44E-02
ODP	eq. kg CFC 11	1.57E-07	1.72E-08	1.93E-08	1.94E-07	5.72E-10	1.29E-09	3.63E-09	8.61E-11	-2.25E-07
AP	mol H+	3.91E-02	1.69E-03	2.80E-02	6.88E-02	3.34E-04	1.41E-04	1.57E-03	5.01E-05	-3.48E-01
EP-freshwater	eq. kg P	2.05E-03	5.84E-05	4.58E-03	6.69E-03	1.10E-06	4.19E-06	9.23E-06	1.67E-07	-5.71E-02
EP-marine	eq. kg N	9.45E-03	4.16E-04	3.96E-03	1.38E-02	1.55E-04	3.83E-05	1.17E-03	2.32E-05	-4.91E-02
EP-terrestrial	eq. mol N	1.01E-01	4.22E-03	3.47E-02	1.39E-01	1.68E-03	3.93E-04	7.88E-03	2.52E-04	-4.31E-01
POCP	eq. kq NMVOC	2.08E-01	2.59E-03	1.01E-02	2.20E-01	4.98E-04	2.29E-04	1.92E-03	4.86E-04	-1.24E-01
ADP-minerals & metals	eq. kg Sb.	3.86E-05	2.86E-06	1.54E-05	5.69E-05	1.29E-08	1.63E-07	1.95E-07	1.94E-09	-1.92E-04
ADP-fossil	MJ	2.18E+02	1.12E+01	4.39E+01	2.73E+02	4.75E-01	8.68E-01	9.07E-01	7.12E-02	-5.38E+02
WDP	eq. m3	3.02E+00	5.75E-02	8.25E-01	3.90E+00	1.17E-03	4.46E-03	5.86E-02	1.77E-04	-1.03E+01
ADDITIONAL IMPACTS										
PM	Disease incidence	9.88E-07	5.23E-08	5.07E-08	1.09E-06	9.30E-09	5.62E-09	5.71E-09	1.40E-09	-6.18E-07
IRP	eq. kBq U235	5.77E-01	1.76E-02	1.25E-01	7.20E-01	2.24E-04	1.09E-03	9.45E-04	3.38E-05	-1.56E+00
ETP-fw	CTUe	3.90E+01	5.64E+00	1.28E+01	5.74E+01	2.25E-01	4.14E-01	4.93E-01	4.78E-02	-1.54E+02
HTTP-c	CTUh	4.30E-09	3.64E-10	1.62E-09	6.28E-09	1.10E-11	2.54E-11	4.03E-11	1.67E-12	-2.00E-08
HTTP-nc	CTUh	8.42E-08	7.81E-09	7.46E-08	1.67E-07	7.74E-11	6.20E-10	5.25E-10	1.93E-09	-9.28E-07
SQP	dimensionless	1.43E+03	5.97E+00	9.55E+00	1.45E+03	3.16E-02	8.74E-01	1.08E-01	2.80E-01	-1.18E+02

ENVIRONMENTAL ACPECTS RELATED TO RESOURCE										
PERE	MJ	2.48E+02	1.97E-01	4.14E+00	2.52E+02	2.68E-03	1.26E-02	1.62E-02	4.04E-04	-5.15E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.48E+02	1.97E-01	4.14E+00	2.52E+02	2.68E-03	1.26E-02	1.62E-02	4.04E-04	-5.15E+01
PEN-RE	MJ	1.99E+02	1.03E+01	4.35E+01	2.52E+02	4.31E-01	7.93E-01	8.67E-01	6.47E-02	-5.35E+02
PENRM	MJ	1.96E+01	9.68E-01	3.70E-01	2.09E+01	4.33E-02	7.53E-02	3.99E-02	6.50E-03	-3.84E+00
PENRT	MJ	2.18E+02	1.12E+01	4.39E+01	2.73E+02	4.75E-01	8.68E-01	9.07E-01	7.12E-02	-5.38E+02
SM	MJ	5.67E-01	1.38E-02	2.39E-01	8.19E-01	2.74E-04	8.69E-04	9.58E-04	4.14E-05	-2.91E+00
RSF	MJ	1.17E-01	4.16E-03	1.33E-01	2.54E-01	3.02E-05	2.12E-04	1.32E-04	4.59E-06	-1.66E+00
NRSF	MJ	1.88E-01	1.40E-02	4.60E-01	6.62E-01	8.18E-05	4.39E-04	5.35E-04	1.24E-05	-5.72E+00
FW	m3	4.82E-02	1.41E-03	1.16E-01	1.65E-01	2.54E-05	1.16E-04	7.75E-04	3.82E-06	-1.43E+00
ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES										
HWD	kg	2.42E-01	1.04E-02	1.30E-01	3.83E-01	3.94E-04	8.14E-04	2.05E-02	5.95E-05	-1.61E+00
NHWD	kg	7.26E-01	4.72E-01	1.47E-01	1.35E+00	2.92E-04	7.47E-02	2.44E-02	4.40E-05	-1.80E+00
RWD	kg	1.44E-04	4.29E-06	3.08E-05	1.80E-04	5.16E-08	2.63E-07	2.41E-07	7.80E-09	-3.83E-04
CRU	kg	3.27E-21	-5.09E-22	3.75E-21	6.51E-21	-3.62E-24	-1.65E-23	-2.08E-23	-5.69E-25	-4.73E-20
MFR	kg	2.21E-01	1.25E-02	2.28E-01	4.61E-01	2.26E-04	7.48E-04	5.38E-04	3.41E-05	-2.83E+00
MER	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	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

7. REFERENCES

- PN-EN 15804+A2:2020 Sustainability of construction works -- Environmental product declarations -- Core rules for the product category of construction products;
- ISO 14025:2006 Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures
- ISO 14044:2006 Environmental management -- Life cycle assessment -- Requirements and guidelines
- ISO 14067:2018 Greenhouse gases -- Carbon footprint of products -- Requirements and guidelines for quantification
- PN-EN 15942:2012 Sustainability of construction works -- Environmental product declarations -- Communication format business-to-business
- EN 16485:2014 Round and sawn timber -- Environmental Product Declarations -- Product category rules for wood and wood-based products for use in construction
- EN 16449:2014 Wood and wood-based products -- Calculation of the biogenic carbon content of wood and conversion to carbon dioxide
- EPA "Textiles: Material – Specific Data" (2023)
- Günther B., Gebauer K., Barkowski R., Rosenthal M., Bues C.-T. „Caloric value of selected wood species and wood products" (2012)
- Klojzy-Kaczmarczyk B., Staszczak J. „Szacowanie masy frakcji energetycznych w odpadach komunalnych wytwarzanych na obszarach o różnym charakterze zabudowy" (2017)
- Ecoinvent 3.9 database

„CERTBUD" Sp. z o.o.
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Tel. 535 733 933, 535 833 933, 881 616 887

CERTYFICATE No. EPD-2024-0053-1
of TYPE III ENVIRONMENTAL DECLARATION

Product:

DECORATIVE ACOUSTIC WALL PANELS

- painted
- oiled

Manufacturer:

Pol-Kres Edwood Sp. z o.o.
Łomaska 86
21-500 Biała Podlaska
Poland

confirms the correctness of the data included in the development of the Type III Environmental Declaration and accordance with the requirements of the standard:

PN-EN 15804+A2:2020-03

Sustainability of construction works --
Environmental product declarations --
Core rules for the product category of construction products

This certificate, issued for the first time on 22/04/2024 and is valid for 5 years or until amendment of mentioned Environmental Declaration .

Director of the Certification Department
CERTBUD Sp. z o.o.

Kamil PAWŁOWSKI

Warsaw, 22/04/2024 r.