



SCALAMID



Issuance date: 07.01.2020
Validity date: 07.01.2025



SCALAMID
decorative finishing panels



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Basic information

This declaration is the type III Environmental Product Declaration (EPD) based on EN 15804:2012+A2:2019 and verified according to ISO 14025 by an external auditor. It contains the information on the impacts of the declared construction materials on the environment. Their aspects were verified by the independent body according to ISO 14025. Basically, a comparison or evaluation of EPD data is possible only if all the compared data were created according to EN 15804:2012+A2:2019 (see point 5.3 of the standard).

Life cycle analysis (LCA): A1-A3, C2, C3, C4 and D modules in accordance with EN 15804:2012+A2:2019 (Cradle to Gate with options)

The year of preparing the EPD: 2020

Product standard: PN-EN 12467

Service Life: 50 years

PCR: ITB-PCR A (PCR based on EN 15804)

Declared unit: 1 m²

Reasons for performing LCA: B2B

Representativeness: Polish product

MANUFACTURER

POZ BRUK Sp. z o. o. Sp. j. is a Polish manufacturer of broad range of construction products with nearly 35 years of experience in the production of concrete prefabricated elements. The company established in 1985, gradually transformed from a workshop into manufacturing company possessing machine parks in 5 factories in central, north-western and western Poland.



Fig. 1. A view of the POZ BRUK Sp. z o.o. Sp. j. production hall in Sobota (Poland).

PRODUCT DESCRIPTION

SCALAMID is a decorative finishing panels based on mineral raw materials and natural fibres (Table 1), offered in the form of boards in a wide range of dimensions, patterns, colours and structures. Flexibility of the material allows to use SCALAMID on flat surfaces such as facades, internal walls or floors as well as rounded architectural elements.

SCALAMID product is composed of portland cement, mineral binder (filler), natural reinforcing fibre, synthetic reinforcing fibre, UV-cured double layer of water-borne acrylic dispersion on top side and polyethylene-wax layer on bottom side.

Table 1. Composition of SCALAMIDE decorative finishing panels

Component	% by weight, dry mass
Portland cement	up to 75.0%
Inert filler (limestone, wollastonite, silica)	up to 20.0%
Cellulose	up to 4.0 %
PVA	up to 1.8%
others	up to 0.3%

Table 2. SCALAMID decorative finishing panels dimensions

SCALAMID boards weight	Thickness, mm	Production size: 1250 x 3220 mm	Maximum size: 1200 x 3200 mm
	6 mm	44.7 kg/board	42.6 kg/board
	8 mm	59.6 kg/board	56.8 kg/board
	10 mm	74.6 kg/board	71.0 kg/board
	12 mm	89.5 kg/board	85.2 kg/board

TECHNICAL PROPERTIES

Selected parameters of the SCALAMID decorative finishing panels and the classification are presented in Table 3.

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Table 3. Technical characteristics of the SCALAMID decorative finishing panels

Parameter		Reference	Value
Density (dry)	Dry form	PN-EN 12467	$\geq 1.75 \text{ g/cm}^3$
Bending strength	\perp	PN-EN 12467	30.0 N/mm^2
	//	PN-EN 12467	22.0 N/mm^2
Elastic modulus		PN-EN 12467	$12\,000 \text{ N/mm}^2$
Tensile strength at humidity	30–95%	–	1.0 mm/m
Porosity	0-100%	–	$> 18 \%$
Durability		PN-EN 12467	A category
Strength		PN-EN 12467	5 class
Fire resistance		PN-EN 12467	A1
Water impermeability		PN-EN 12467	✓
Warm water resistance		PN-EN 12467	✓
Bath resistance		PN-EN 12467	✓
Freeze-thaw resistance		PN-EN 12467	✓
Coefficient of thermal expansion		α	$< 0.01 \text{ mm/mK}$
Thermal conductivity		λ	0.6 W/mK

Features of the SCALAMID decorative finishing panels:



Resistance to external factors
(UV radiation, extreme
temperatures)



Resistance to fungi, bacteria,
insects, pests



Thermal and acoustic
insulation



Large panel dimensions max
 $3200 \times 1200 \text{ mm}$



Without heavy metal based on
stabilizers



Resistant to chemicals and
detergents

APPLICATIONS

SCALAMID panels can be used as:

- decorative finishing of the external part of the building as a facade panel (temperature of the use from -40°C to $+60^\circ\text{C}$)

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- decorative finishing of interior walls in residential buildings (bathrooms, kitchens, living rooms, halls), offices, hotels and others
- floor panels (click system) optionally in combination with underfloor heating

LIFE CYCLE ASSESSMENT (LCA) – general rules applied

Allocation

The allocation rules used for this EPD are based on general ITB PCR A. Production of the SCALAMID decorative finishing panels is a line process in one factory of POZ BRUK Sp. z o.o. Sp. j. in Sobota (Poland). Allocation was done on product mass basis. All impacts from raw materials extraction are allocated in A1 module of the LCA. 100% of impacts from line production of POZ BRUK Sp. z o.o. Sp. j. were inventoried and 3% were allocated to the SCALAMID decorative finishing panels production. Utilization of packaging material was not taken into consideration. Module A2 includes transport of raw materials such as cement, wollastonite, PVA fibres, additives and ancillary materials from their suppliers to POZ BRUK Sp. z o.o. Sp. j. in Sobota. Municipal wastes of factory were allocated to module A3. Energy supply was inventoried for whole factory and 3% was allocated to the SCALAMID decorative finishing panels production. Emissions in the factory are measured and were allocated to module A3.

System limits

The life cycle analysis of the declared products covers “Product Stage”, A1-A3, C2, C3, C4 and D modules (Cradle to Gate with options) accordance with EN 15804:2012+A2:2019 and ITB PCR A. The details of systems limits are provided in product technical report. All materials and energy consumption inventoried in factory and were included in calculation. In the assessment, all significant parameters from gathered production data are considered, i.e. all material used per formulation, utilized thermal energy, internal fuel and electric power consumption, direct production waste, and all available emission measurements. It can be assumed that the total sum of omitted processes does not exceed 5% of all impact categories. In accordance with EN 15804:2012+A2:2019, machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees.

A1 and A2 Modules: Raw materials supply and transport

Cement, lime stone and additives come from Polish suppliers while wollastonite, PVA fibres, microsilica, cellulose, polymers, coatings and ancillary materials come from foreign suppliers. Data on transport of the different products to the manufacturing plants is collected and modelled for factory by assessor. Means of transport include trucks. For calculation purposes Polish and European fuel averages are applied.

A3: Production

Raw materials such as wollastonite, cement, cellulose, PVA fibres, microsilica and lime stone are mixed and pressed using a high pressure hydraulic press Hatschek. Subsequently, obtained panels undergo both sides grounding followed by finishing of top sides with a double layer of acrylic dispersion and UV treatment while bottom sides of the boards are coated with polyethylene wax. The production process of SCALAMID decorative finishing panels is presented in Fig. 2.

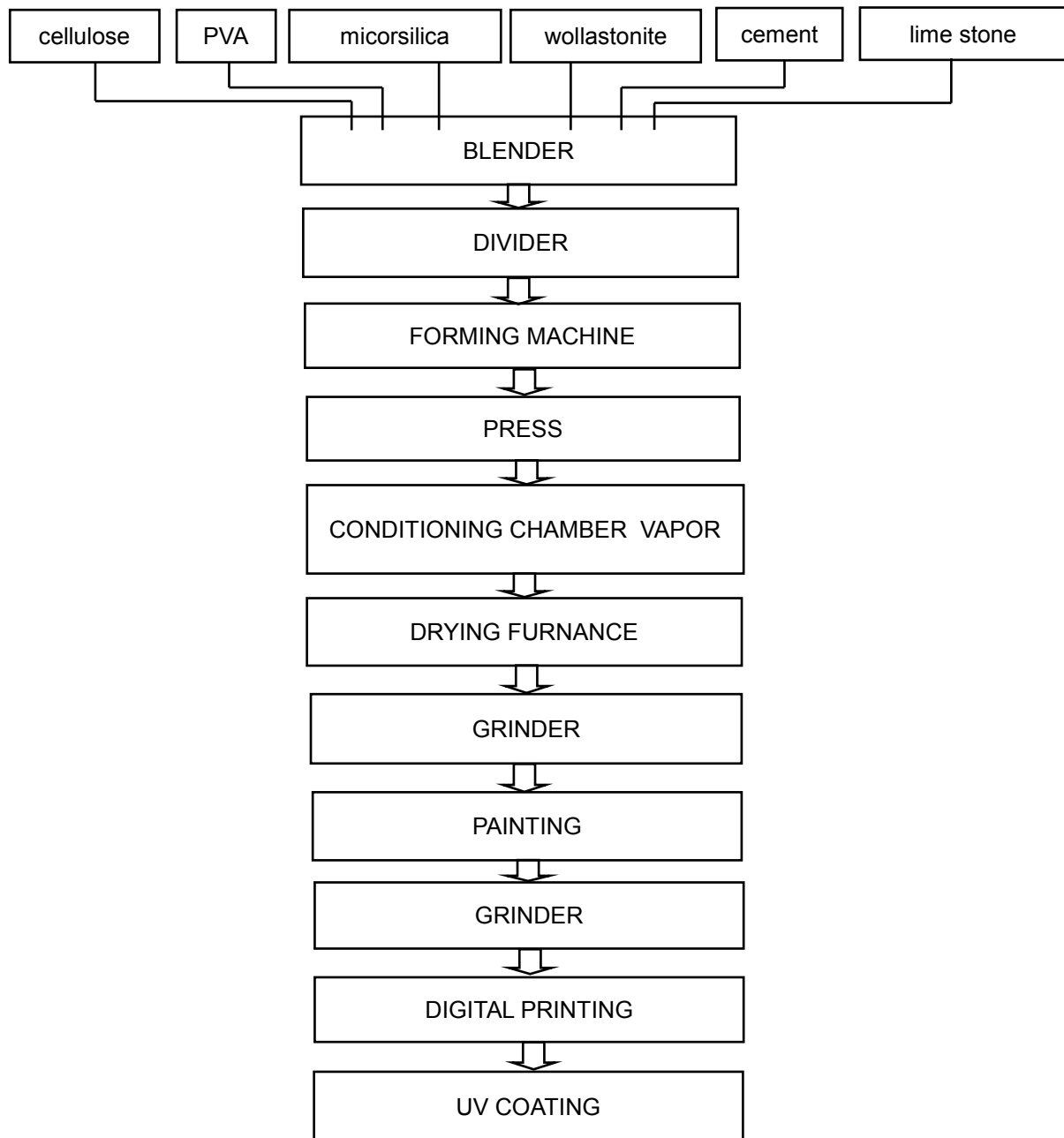


Fig. 2. A scheme of manufacturing of the SCALAMID decorative finishing panels by POZ BRUK Sp. z o.o. Sp.j. in factory in Sobota (Poland).

End of life scenarios

It is assumed that at the end of life the transport distance from the product deconstruction place to waste processing (C2) is 50 km on > 16 t loaded lorry with 75% capacity utilization and fuel consumption of 35 L per 100 km. Materials recovered from dismantled products are recycled and landfilled according to the Polish treatment practice of industrial waste what is presented in Table 4. Recovered panel’s material can be used as aggregates for road foundation or ballast. The reuse, recovery and recycling stage is considered beyond the system boundaries (D).

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Table 4. End of life scenario for the SCALAMID decorative finishing panels

Material	Material recovery	Recycling	Landfilling
SCALAMID	98%	95%	5%

Data collection period

The data for manufacture of the declared products refer to period between 01.01.2018 – 31.12.2018 (1 year). The life cycle assessments were prepared for Poland as reference area.

Data quality

The values determined to calculate the LCA originate from verified POZ BRUK Sp. z o.o. Sp. j. inventory data.

Assumptions and estimates

The impacts of the representative the SCALAMID decorative finishing panels were aggregated using weighted average. Impacts were inventoried and calculated for all products of the SCALAMID decorative finishing panels.

Calculation rules

LCA was done in accordance with ITB PCR A document.

Databases

The data for the processes come from the following databases: Ecoinvent v.3.5, specific EPDs, ELCD, ÖKOBAUDAT, Ullmann's, ITB-Data. Specific data quality analysis was a part of external ISO 14001 audit. Characterization factors are CML ver. 4.2 based on EN 15804.

LIFE CYCLE ASSESSMENT (LCA) – Results

Declared unit

The declaration refers to declared unit (DU) – 1 m² of the SCALAMID decorative finishing panels manufactured by POZ BRUK Sp. z o.o. Sp.j.

Table 5. System boundaries for the environmental characteristic of the SCALAMID decorative finishing panels manufactured by POZ BRUK Sp. z o.o. Sp. j.

Environmental assessment information (MA – Module assessed, MNA – Module not assessed, INA – Indicator Not Assessed)																
Product stage			Construction process		Use stage							End of life			Benefits and loads beyond the system boundary	
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MA	MA	MA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MND	MA	MA	MA	MA

SCALAMID decorative finishing panels
thickness 6 mm

Environmental impacts: (DU) 1 m ² (11.1 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Global warming potential	kg CO ₂ eq.	7.30E+00	9.25E-01	1.20E-01	6.33E-02	3.64E-02	6.04E-03	-1.11E-01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	1.77E-08	0.00E+00	0.00E+00	0.00E+00	6.28E-09	1.44E-09	-1.91E-08
Acidification potential of soil and water	kg SO ₂ eq.	1.36E-02	1.73E-02	2.15E-04	8.32E-03	2.73E-04	4.07E-05	-6.91E-04
Formation potential of tropospheric ozone	kg Ethene eq.	1.25E-03	3.43E-04	0.00E+00	6.06E-04	1.17E-05	2.50E-06	-3.87E-05
Eutrophication potential	kg (PO ₄) ³⁻ eq.	2.19E-03	2.43E-03	1.96E-05	1.47E-03	6.35E-05	7.86E-06	-1.68E-04
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	2.06E-04	0.00E+00	4.43E-07	0.00E+00	5.59E-08	6.12E-08	-1.29E-06
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	1.50E+01	1.99E+00	1.32E-03	5.96E-01	5.02E-01	1.23E-01	-1.93E+00
Environmental aspects on resource use: (DU) 1 m ² (11.1 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	5.55E+00	1.40E-01	5.28E-05	4.17E-02	6.10E-03	2.62E-03	-5.96E-02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	3.98E+01	2.09E+00	1.39E-03	6.26E-01	5.32E-01	1.28E-01	-1.98E+00
Use of secondary material	kg	2.48E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	4.13E+00	1.05E-01	0.00E+00	3.13E-02	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	3.21E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m ³	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 m ² (11.1 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Hazardous waste disposed	kg	3.37E-02	3.45E-03	0.00E+00	1.90E-08	1.37E-06	2.40E-07	-4.13E-06
Non-hazardous waste disposed	kg	3.43E-02	3.20E+00	9.98E-03	1.76E-05	5.97E-04	4.93E-01	-4.26E+00
Radioactive waste disposed	kg	7.47E-04	0.00E+00	0.00E+00	0.00E+00	3.50E-06	8.08E-07	-1.22E-05
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	3.76E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	INA	INA	INA	INA	INA	INA	INA

SCALAMID decorative finishing panels
thickness 8 mm

Environmental impacts: (DU) 1 m ² (18.5 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Global warming potential	kg CO ₂ eq.	9.73E+00	1.23E+00	1.60E-01	8.44E-02	4.85E-02	8.05E-03	-1.48E-01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	2.36E-08	0.00E+00	0.00E+00	0.00E+00	8.37E-09	1.92E-09	-2.54E-08
Acidification potential of soil and water	kg SO ₂ eq.	1.82E-02	2.30E-02	2.86E-04	1.11E-02	3.64E-04	5.42E-05	-9.21E-04
Formation potential of tropospheric ozone	kg Ethene eq.	1.66E-03	4.57E-04	0.00E+00	8.08E-04	1.56E-05	3.33E-06	-5.16E-05
Eutrophication potential	kg (PO ₄) ³⁻ eq.	2.92E-03	3.24E-03	2.61E-05	1.96E-03	8.46E-05	1.05E-05	-2.24E-04
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	2.75E-04	0.00E+00	5.91E-07	0.00E+00	7.45E-08	8.16E-08	-1.72E-06
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	2.00E+01	2.66E+00	1.76E-03	7.95E-01	6.69E-01	1.64E-01	-2.57E+00
Environmental aspects on resource use: (DU) 1 m ² (18.5 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	7.40E+00	1.86E-01	7.04E-05	5.56E-02	8.13E-03	3.49E-03	-7.95E-02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	5.30E+01	2.79E+00	1.85E-03	8.35E-01	7.09E-01	1.71E-01	-2.64E+00
Use of secondary material	kg	3.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	5.50E+00	1.39E-01	0.00E+00	4.17E-02	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	4.28E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m ³	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 m ² (18.5 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Hazardous waste disposed	kg	4.50E-02	4.60E-03	0.00E+00	2.53E-08	1.83E-06	3.20E-07	-5.51E-06
Non-hazardous waste disposed	kg	4.58E-02	4.27E+00	1.33E-02	2.35E-05	7.96E-04	6.57E-01	-5.68E+00
Radioactive waste disposed	kg	9.96E-04	0.00E+00	0.00E+00	0.00E+00	4.67E-06	1.08E-06	-1.63E-05
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	5.01E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	INA	INA	INA	INA	INA	INA	INA

SCALAMID decorative finishing panels
thickness 10 mm

Environmental impacts: (DU) 1 m ² (14.8 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Global warming potential	kg CO ₂ eq.	1.22E+01	1.54E+00	2.00E-01	1.06E-01	6.08E-02	1.01E-02	-1.85E-01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	2.96E-08	0.00E+00	0.00E+00	0.00E+00	1.05E-08	2.40E-09	-3.18E-08
Acidification potential of soil and water	kg SO ₂ eq.	2.27E-02	2.88E-02	3.58E-04	1.39E-02	4.56E-04	6.79E-05	-1.15E-03
Formation potential of tropospheric ozone	kg Ethene eq.	2.08E-03	5.72E-04	0.00E+00	1.01E-03	1.95E-05	4.17E-06	-6.47E-05
Eutrophication potential	kg (PO ₄) ³⁻ eq.	3.65E-03	4.06E-03	3.27E-05	2.45E-03	1.06E-04	1.31E-05	-2.81E-04
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	3.44E-04	0.00E+00	7.40E-07	0.00E+00	9.33E-08	1.02E-07	-2.16E-06
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	2.50E+01	3.33E+00	2.21E-03	9.95E-01	8.37E-01	2.05E-01	-3.22E+00
Environmental aspects on resource use: (DU) 1 m ² (14.8 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	9.26E+00	2.33E-01	8.82E-05	6.97E-02	1.02E-02	4.37E-03	-9.95E-02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	6.64E+01	3.49E+00	2.32E-03	1.05E+00	8.88E-01	2.14E-01	-3.30E+00
Use of secondary material	kg	4.14E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	6.88E+00	1.75E-01	0.00E+00	5.23E-02	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	5.36E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m ³	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 m ² (14.8 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Hazardous waste disposed	kg	5.63E-02	5.76E-03	0.00E+00	3.17E-08	2.29E-06	4.01E-07	-6.90E-06
Non-hazardous waste disposed	kg	5.73E-02	5.34E+00	1.67E-02	2.94E-05	9.96E-04	8.22E-01	-7.11E+00
Radioactive waste disposed	kg	1.25E-03	0.00E+00	0.00E+00	0.00E+00	5.84E-06	1.35E-06	-2.04E-05
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	6.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	INA	INA	INA	INA	INA	INA	INA

SCALAMID decorative finishing panels
thickness 12 mm

Environmental impacts: (DU) 1 m ² (22.2 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Global warming potential	kg CO ₂ eq.	1.46E+01	1.85E+00	2.40E-01	1.27E-01	7.29E-02	1.21E-02	-2.22E-01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	3.55E-08	0.00E+00	0.00E+00	0.00E+00	1.26E-08	2.88E-09	-3.82E-08
Acidification potential of soil and water	kg SO ₂ eq.	2.73E-02	3.46E-02	4.30E-04	1.66E-02	5.47E-04	8.14E-05	-1.38E-03
Formation potential of tropospheric ozone	kg Ethene eq.	2.50E-03	6.86E-04	0.00E+00	1.21E-03	2.34E-05	5.00E-06	-7.76E-05
Eutrophication potential	kg (PO ₄) ³⁻ eq.	4.38E-03	4.87E-03	3.92E-05	2.94E-03	1.27E-04	1.57E-05	-3.37E-04
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	4.13E-04	0.00E+00	8.88E-07	0.00E+00	1.12E-07	1.23E-07	-2.59E-06
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	3.00E+01	3.99E+00	2.65E-03	1.19E+00	1.00E+00	2.46E-01	-3.86E+00
Environmental aspects on resource use: (DU) 1 m ² (22.2 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.11E+01	2.79E-01	1.06E-04	8.36E-02	1.22E-02	5.24E-03	-1.19E-01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	7.97E+01	4.19E+00	2.78E-03	1.25E+00	1.07E+00	2.57E-01	-3.96E+00
Use of secondary material	kg	4.96E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	8.26E+00	2.10E-01	0.00E+00	6.27E-02	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	6.43E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m ³	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 m ² (22.2 kg)								
Indicator	Unit	A1	A2	A3	C2	C3	C4	D
Hazardous waste disposed	kg	6.76E-02	6.90E-03	0.00E+00	3.80E-08	2.75E-06	4.81E-07	-8.28E-06
Non-hazardous waste disposed	kg	6.88E-02	6.41E+00	2.00E-02	3.53E-05	1.20E-03	9.87E-01	-8.53E+00
Radioactive waste disposed	kg	1.50E-03	0.00E+00	0.00E+00	0.00E+00	7.01E-06	1.62E-06	-2.45E-05
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	7.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	INA	INA	INA	INA	INA	INA	INA

Environmental Product Declaration Type III ITB No. 102/2020

Verification

The process of verification of this EPD is in accordance with ISO 14025 and ISO 21930. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years, if the underlying data have not changed significantly.

The basis for LCA analysis was EN 15804:2012+A2:2019 and ITB PCR A
Independent verification corresponding to ISO 14025 (subclause 8.1.3.) <input checked="" type="checkbox"/> external <input type="checkbox"/> internal
External verification of EPD: Ph.D. Eng. Halina Prejzner LCA, LCI audit and input data verification: Ph.D. Eng. Justyna Tomaszewska, j.tomaszewska@itb.pl Verification of LCA: Ph.D. Eng. Michał Piasecki, m.piasecki@itb.pl

Normative references

- ITB PCR A General Product Category Rules for Construction Products
- ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services
- ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines
- ISO 15686-1:2011 Buildings and constructed assets – Service life planning – Part 1: General principles and framework
- ISO 15686-8:2008 Buildings and constructed assets – Service life planning – Part 8: Reference service life and service-life estimation
- EN 15804:2012+A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
- PN-EN 15942:2012 Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- KOBIZE Wskaźniki emisyjności CO₂, SO₂, NO_x, CO i pyłu całkowitego dla energii elektrycznej, grudzień 2017
- PN-EN 14782:2008 - Samonośne blachy metalowe do pokryć dachowych, okładzin zewnętrznych i wewnętrznych – Charakterystyka wyrobu i wymagania
- PN-EN 12467+A2:2018-06 Płyty płaskie włóknisto-cementowe – Właściwości wyrobu i metody badań

p.o. KIEROWNIKA
Zakładu Fizyki Ciepłej, Akustyki i Środowiska

dr Barbara Pietruszka





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CERTIFICATE No 102/2020 of TYPE III ENVIRONMENTAL DECLARATION

Product:

SCALAMID decorative finishing panels

Manufacturer:

POZ BRUK Sp. z o.o. Sp.j.

Sobota, Poznańska 43, 62-090 Rokietnica, Poland

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

EN 15804:2012+A2:2019

Sustainability of construction works.

Environmental product declarations.

Core rules for the product category of construction products.

This certificate, issued for the first time on 7th January 2020 is valid for 5 years
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics
and Environment Department

A blue ink signature of Barbara Pietruszka.

Barbara Pietruszka, PhD



Deputy Director
for Research and Innovation

A blue ink signature of Krzysztof Kuczyński.

Krzysztof Kuczyński, PhD

Warsaw, January 2020