



# Dremex sanitary and kitchen products

bathtubes, shower trays,  
wash basins, sinks



ISSUANCE DATE

VALIDITY DATE

10/04/2024

10/04/2029

01

Basic information

**This declaration is a Type III Environmental Product Declaration (EPD) based on the EN 15804 standard and verified according to ISO 14025 by an independent auditor.**

It contains information about the environmental impact of the declared construction materials. These aspects have been verified by an independent body in accordance with ISO 14025. In principle, a comparison or evaluation of EPD data is only possible if all data to be compared have been created in accordance with EN 15804 (see section 5.3 of the standard).

EPD OWNER	<b>Przedsiębiorstwo Wielobranżowe Dremex Sp. z o.o.</b> ul. Pod Borem 15, 36-060 Głogów Małopolski www.dremex.com.pl
PROGRAMME OWNER	<b>Instytut Techniki Budowlanej (ITB)</b> ul. Filtrowa 1, 00 - 611 Warszawa, Polska e-mail: energia@itb.pl, www.itb.pl
LCA ANALYSIS	A1 - A3, A4, C1 - C4 and D according to EN 15804 (cradle to grave with options)
YEAR OF EPD DEVELOPMENT	2024
DECLARED SERVICE LIFE	20 YEARS
PCR	ITB-PCR A document (based on PN-EN 15804)
DECLARED UNIT	1 kg of product
REASON FOR IMPLEMENTATION	B2B
REPRESENTATIVENESS	Polish products, 2022-2023

ITB cooperates with other operators of EPD programmes through the ECO-PLATFORM, (<http://www.eco-platform.org/>) in order to coordinate efforts to support industrial sectors while reducing verification efforts in different countries.

# 02

## Manufacturer

**Dremex is one of the largest manufacturers of synthetic marble washbasins in Europe. The company operates 4 production lines, with a total capacity of 900 000 products per year.**

The company has implemented and applies a quality management system that complies with the requirements of EN ISO 9001:2015. Products range includes countertops, shower trays, washbasins, bathtubs and sinks in a variety of models, shapes, sizes, colours and materials.

The manufacturing plant of Dremex products is located in Głogów Małopolski. The manufacturing plant's electricity demand is covered in part by renewable energy.



*Fig. 1 Visualisation of the production facility*

# 03

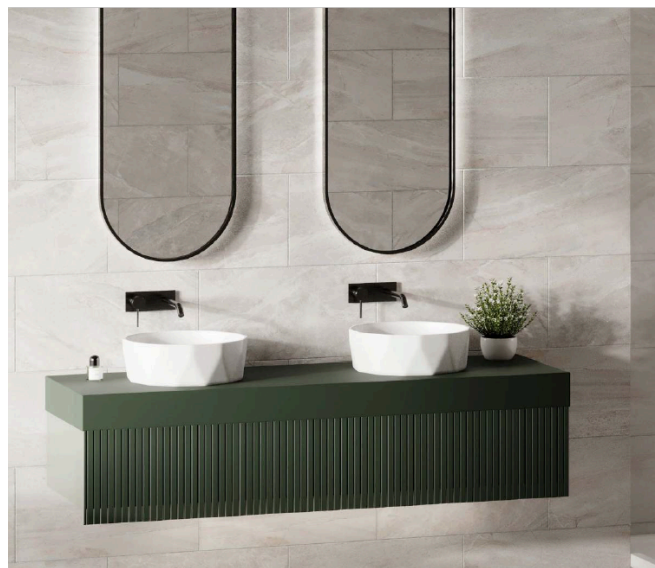
## Products description and application

This declaration covers sanitary and kitchen products, which are made in three material options:

- gelcoat products - bathtubs, shower trays, washbasins,
- solid-surface products - shower trays, washbasins,
- granite (quartz) products - washbasins, sinks.

### Washbasins

The product range includes oval, square and rectangular wash basins of various sizes and depths, with the possibility of manufacturing a product in any shape at the customer's request. Available product types include countertop, overhead and double wash basins. The surfaces of the wash basins are resistant to washing, scrubbing, damage and scratching.



### Shower trays

The product range includes square and semicircular shower trays. They are manufactured using the same technology as the wash basins, which guarantees many years of use without losing their elegant appearance and durability. The surfaces of the shower trays are highly resistant to mechanical damage and chemicals, while retaining their anti-slip properties. They can be manufactured in any colour, texture and size on request.



## Bathtubs

The product range includes free-standing bathtubs, which are offered in two types:

- made of Solid Surface material, where the basic variant is white,
- covered with gelcoat, where the customer can choose from a range of colours.

Other types of bathtubs are also available on special request. Thanks to the use of synthetic marble (gelcoat), the product is solid and durable, as well as resistant to mechanical damage.



## Sinks

The manufacturer offers quartz sinks: single-chamber, one-and-a-half-chamber, double-double, corner, suspended or overlay sinks. The sinks are made from a combination of resin and pigments. The high proportion of quartz gives the products smoothness and a natural, stone-like appearance. The epoxy resin ensures high durability. The products are impact-, scratch- and heat-resistant.





Products	Composition	Content
GELCOAT PRODUCTS	DOLOMITE MEAL	75-81%
	POLYESTER RESIN WITH PET CONTENT	17-23%
	GELCOAT	0-5%
	HARDENER	<0.5%
SOLID-SURFACE PRODUCTS	ATH	67-73%
	POLYESTER RESIN	27-33%
	HARDENER	<0.5%
GRANITE PRODUCTS	QUARTZ FILLERS	74-80%
	POLYESTER RESIN	20-26%
	HARDENER	<0.5%

# 04

## Life cycle assessment (LCA) - general principles

### Declared unit

The declared unit of product is 1 kg of DREMEX sanitary and kitchen products manufactured in 3 materials variants: gelcoat, solid-surface and granite.

### Allocation

The allocation in this study was made in accordance with ITB PCR A guidelines. The production and storage of the products covered in this declaration takes place at the DREMEX production site at 15 Pod Borem Street in Głogów Małopolski. Input data and emissions were collected for the production facility. All inputs from raw material extraction are allocated in module A1. Production of products is based on raw and recycled materials. 100% of the receipts from the production lines have been inventoried and allocated to the production of products. Module A2 contains the transport of raw materials from Polish distributors to the factory in Głogów Małopolski. The utilities for the entire production process were inventoried and included in module A3.

### System boundaries

The life cycle analysis of the declared products includes the production stage (modules A1 - A3) and modules A4, C1-C4+D ("from cradle to grave with options") according to EN 15804 and ITB PCR A.

### System limits

100% of input materials and 100% of media consumption were inventoried at the Głogów Małopolski production plant. All relevant parameters from the collected production data are included in the assessment, i.e. all materials used in production, electricity, water and hard coal consumption and emissions.

### Modules A1 and A2 Extraction and transport of raw materials

Raw materials for production such as resins, mineral fillers and hardeners are transported from Poland. Module A1 shows the production impact of raw materials further used in the production of sanitary and kitchen products. Data on the transport of raw materials is recorded by the plant.

The means of transport include trucks. For the calculation of module A2, global fuel averages were used.

### **Module A3 Production**

The production process is illustrated in the diagram on page 9. Once the raw materials have been delivered, the dosing and mixing of the ingredients required for production takes place. In the next step, the pouring process takes place. The products are then de-moulded and the product is processed. Once this is completed, the products are subjected to quality control and then steamed using cardboard packaging. The finished products are stored in the plant, from where transport to customers takes place. Electricity is consumed in the process. In addition, water and hard coal are consumed in the plant for domestic purposes. The electricity requirement for lighting is covered by energy produced by a photovoltaic installation.

### **Module A4 Transport**

Transport to the construction site takes place from the plant in Głogów Małopolski. The finished products are packed in cardboard packaging and placed in trucks. The average transport distance is calculated in proportion to the weight transported to individual customers. The largest order recipients are located in Belgium, France, Poland and Sweden. The fuel used is diesel. The average transport distance is 1522 km by road and 4 km by sea.

### **Module C1 Deconstruction and demolition**

The deconstruction of sanitary and kitchen products was assumed to be done manually. Therefore, no contribution was reported in this category and the module is equal to 0.

### **Module C2 Transport**

It is assumed that the end-of-life product will be transported by truck to the nearest waste treatment facility (truck, diesel) within a 100 km distance.

### **Module C3 Waste treatment**

It was assumed that 89% of the products would be recovered and recycled.

### **Module C4 Disposal**

It has been assumed that 11% of the products will be sent to landfill at the end of operation.

### **Module D External impacts beyond system boundaries**

To obtain the net result of recycled material from the product system, the contribution of the recycled material building up the product is subtracted from the material to be recycled at the



end of life. Module D shows the burdens and benefits of recycling the remaining net recycled material. Benefits are assessed at the point of functional equivalence, i.e. where there is a substitution of virgin raw material.

### **Data collection period**

The input data for the calculation of declared products is for the period from October 2022 to September 2023. The life cycle assessment was prepared for Poland as a reference area.

### **Data quality**

The data for the calculation of modules A1-A4 came from verified LCI inventory data from the plant. In accordance with Annex E of EN 15804 + A2, a data quality assessment was carried out. For technical representativeness, processes with a quality level of "very good" represent 99% of the values for the climate change indicators. For geographical and temporal representativeness, a process evaluation level of "very good" was obtained.

### **Assumptions and estimates**

The impacts of the representative products were aggregated using a weighted average. The results obtained for the representative products can be related proportionally to all DREMEX sanitary and kitchen products.

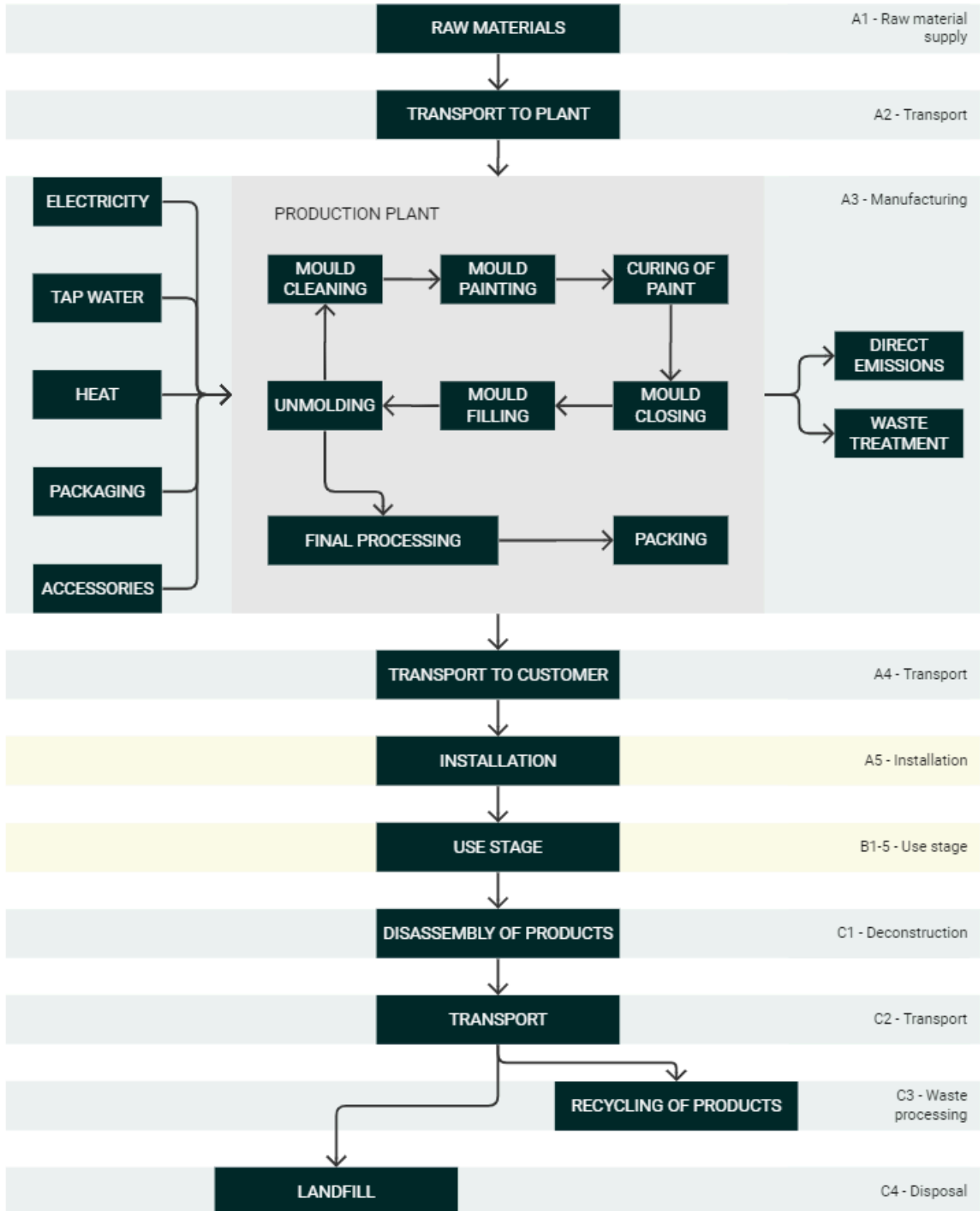
### **Calculation principles**

The LCA was carried out in accordance with EN 15804+A2 and the ITB document PCR A (v1.6, 2023).

### **Databases**

The data for the calculations came from Ecoinvent v. 3.6. Ecoinvent v. 3.8 and from databases available in Bionova OneClickLCA software. The GWP fossil indicator for polyester resins was assumed based on manufacturer-specific data. Emission factors for electricity have been supplemented with actual KOBIZE data. The characterisation factors are CML ver. 4.2 based on EN 15804+A2.

### Production scheme



# 05

## Life cycle assessment (LCA) - Results

The declared unit is 1 kg of sanitary and kitchen products manufactured by DREMEX. The following indicates which LCA assessment modules were included in the assessment (**MA** - module assessed, **MNA** - module not assessed).

Information on system boundaries																
Product stage			Construction stage		Use stage							End of life				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction and installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction / demolition	Transport	Waste processing	Disposal	Potential for reuse, recovery or recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MA	MA	MA	MA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MA	MA	MA	MA	MA



## Results for gelcoat products

### Environmental impacts

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GLOBAL WARMING POTENTIAL - TOTAL	kg CO2 eq.	9.94E-01	3.88E-02	5.55E-01	1.59E+00	1.39E-01	0.00E+00	9.10E-03	2.94E-03	2.94E-03	3.63E-04
GLOBAL WARMING POTENTIAL - FOSSIL	kg CO2 eq.	9.84E-01	3.87E-02	5.44E-01	1.57E+00	1.39E-01	0.00E+00	9.09E-03	2.94E-03	2.94E-03	3.63E-04
GLOBAL WARMING POTENTIAL - BIOGENIC	kg CO2 eq.	9.96E-03	2.81E-05	5.45E-03	1.54E-02	1.00E-04	0.00E+00	6.60E-06	5.38E-07	5.38E-07	6.65E-08
GLOBAL WARMING POTENTIAL - LULAC	kg CO2 eq.	8.06E-04	1.17E-05	5.48E-03	6.30E-03	4.19E-05	0.00E+00	2.74E-06	2.92E-07	2.92E-07	3.61E-08
DEPLETION POTENTIAL OF THE STRATOSPHERIC OZONE LAYER	kg CFC 11 eq.	1.01E-07	9.11E-09	1.44E-08	1.24E-07	3.26E-08	0.00E+00	2.14E-09	6.28E-10	6.28E-10	7.76E-11
ACIDIFICATION POTENTIAL	mol H+ eq.	4.12E-03	1.63E-04	3.63E-03	7.91E-03	5.95E-04	0.00E+00	3.82E-05	3.05E-05	3.05E-05	3.77E-06
EUTROPHICATION AQUATIC FRESHWATER	kg Pe	2.49E-05	3.15E-07	5.41E-05	7.93E-05	1.13E-06	0.00E+00	7.39E-08	9.73E-09	9.73E-09	1.20E-09
EUTROPHICATION AQUATIC MARINE	kg N eq.	7.29E-04	4.90E-05	3.61E-04	1.14E-03	1.79E-04	0.00E+00	1.15E-05	1.35E-05	1.35E-05	1.67E-06
EUTROPHICATION AQUATIC TERRESTRIAL	kg N eq.	8.00E-03	5.42E-04	3.96E-03	1.25E-02	1.97E-03	0.00E+00	1.27E-04	1.48E-04	1.48E-04	1.83E-05
FORMULATION POTENTIAL OF TROPOSPHERIC OZONE	kg NMVOC eq.	3.06E-03	1.74E-04	2.09E-03	5.33E-03	6.32E-04	0.00E+00	4.08E-05	4.07E-05	4.07E-05	5.04E-06
ABIOTIC DEPLETION POTENTIAL FOR NON-FOSSIL RESOURCES	kg Sb eq.	8.11E-06	6.61E-07	4.44E-07	9.22E-06	2.36E-06	0.00E+00	1.55E-07	1.47E-09	1.47E-09	1.81E-10
ABIOTIC DEPLETION POTENTIAL FOR FOSSIL RESOURCES	MJ	1.60E+01	6.03E-01	5.83E+00	2.24E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	3.95E-02	4.88E-03
WATER USE	m <sup>3</sup>	5.68E-01	2.24E-03	5.36E-02	6.24E-01	8.01E-03	0.00E+00	5.26E-04	1.06E-04	1.06E-04	1.31E-05



### Environmental aspects related to resource use

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
RENEWABLE PRIMARY ENERGY AS AN ENERGY CARRIER	MJ	8.00E-01	7.59E-03	6.54E-01	1.46E+00	2.71E-02	0.00E+00	1.78E-03	2.26E-04	2.79E-05	-1.13E+00
RENEWABLE PRIMARY ENERGY FOR MATERIAL USE	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	0.00E+00
COMPLETELY RENEWABLE PRIMARY ENERGY	MJ	8.00E-01	7.59E-03	6.54E-01	1.46E+00	2.71E-02	0.00E+00	1.78E-03	2.26E-04	2.79E-05	-1.13E+00
NON-RENEWABLE PRIMARY ENERGY AS AN ENERGY SOURCE	MJ	1.34E+01	6.03E-01	3.09E+00	1.71E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03	-2.14E+01
NON-RENEWABLE PRIMARY ENERGY AS MATERIA USE	MJ	7.49E+00	0.00E+00	3.11E+00	1.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
COMPLETELY NON-RENEWABLE PRIMARY ENERGY	MJ	2.09E+01	6.03E-01	6.19E+00	2.77E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03	-2.14E+01
USE OF SECONDARY RAW MATERIALS	MJ	1.03E-01	0.00E+00	6.05E-04	1.04E-01	0.00E+00	0.00E+00	0.00E+00	1.55E-05	1.91E-06	-3.51E-03
RENEWABLE SECONDARY FUELS	MJ	6.65E-05	0.00E+00	1.35E-05	8.00E-05	0.00E+00	0.00E+00	0.00E+00	5.05E-08	6.25E-09	-6.88E-04
NON-RENEWABLE SECONDARY FUELS	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	0.00E+00
USE OF FRESH WATER RESOURCES	MJ	1.41E-02	1.25E-04	1.40E-03	1.56E-02	4.48E-04	0.00E+00	2.94E-05	2.40E-06	2.97E-07	-8.41E-03



**Other environmental information describing the waste categories**

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
HAZARDOUS WASTE DESTINED FOR LANDFILL	kg	4.46E-02	5.86E-04	4.98E-02	9.49E-02	2.10E-03	0.00E+00	1.37E-04	0.00E+00	6.54E-06	-6.20E-02
NON-HAZARDOUS WASTE DESTINED FOR DISPOSAL	kg	1.11E+00	6.48E-02	1.91E+00	3.08E+00	2.31E-01	0.00E+00	1.52E-02	0.00E+00	4.59E-05	-1.55E+00
RADIOACTIVE WASTE FOR DISPOSAL	kg	2.76E-05	4.14E-06	4.51E-06	3.62E-05	1.48E-05	0.00E+00	9.70E-07	0.00E+00	3.44E-08	-3.05E-05
COMPONENTS TO BE REUSED	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	0.00E+00
MATERIALS TO BE RECYCLED	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	0.00E+00
MATERIALS DESTINED FOR ENERGY RECOVERY	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	0.00E+00
ELECTRICITY EXPORTED	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	0.00E+00



## Results for solid-surface products

### Environmental impacts

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GLOBAL WARMING POTENTIAL - TOTAL	kg CO2 eq.	2.50E+00	3.91E-02	5.18E-01	3.06E+00	1.39E-01	0.00E+00	9.10E-03	2.94E-03	3.63E-04	-1.66E+00
GLOBAL WARMING POTENTIAL - FOSSIL	kg CO2 eq.	2.50E+00	3.90E-02	5.13E-01	3.05E+00	1.39E-01	0.00E+00	9.09E-03	2.94E-03	3.63E-04	-1.63E+00
GLOBAL WARMING POTENTIAL - BIOGENIC	kg CO2 eq.	3.20E-03	2.84E-05	2.56E-03	5.79E-03	1.00E-04	0.00E+00	6.60E-06	5.38E-07	6.65E-08	-3.66E-02
GLOBAL WARMING POTENTIAL - LULAC	kg CO2 eq.	1.35E-03	1.18E-05	2.56E-03	3.92E-03	4.19E-05	0.00E+00	2.74E-06	2.92E-07	3.61E-08	-1.50E-03
DEPLETION POTENTIAL OF THE STRATOSPHERIC OZONE LAYER	kg CFC 11 eq.	2.44E-07	9.18E-09	9.41E-09	2.63E-07	3.26E-08	0.00E+00	2.14E-09	6.28E-10	7.76E-11	-1.46E-07
ACIDIFICATION POTENTIAL	mol H+ eq.	1.35E-02	1.64E-04	3.41E-03	1.70E-02	5.95E-04	0.00E+00	3.82E-05	3.05E-05	3.77E-06	-5.66E-03
EUTROPHICATION AQUATIC FRESHWATER	kg Pe	5.94E-05	3.18E-07	4.78E-05	1.08E-04	1.13E-06	0.00E+00	7.39E-08	9.73E-09	1.20E-09	-3.89E-05
EUTROPHICATION AQUATIC MARINE	kg N eq.	2.08E-03	4.94E-05	3.12E-04	2.44E-03	1.79E-04	0.00E+00	1.15E-05	1.35E-05	1.67E-06	-1.01E-03
EUTROPHICATION AQUATIC TERRESTRIAL	kg N eq.	2.31E-02	5.46E-04	3.49E-03	2.72E-02	1.97E-03	0.00E+00	1.27E-04	1.48E-04	1.83E-05	-1.20E-02
FORMULATION POTENTIAL OF TROPOSPHERIC OZONE	kg NMVOC eq.	8.25E-03	1.76E-04	1.88E-03	1.03E-02	6.32E-04	0.00E+00	4.08E-05	4.07E-05	5.04E-06	-3.38E-03
ABIOTIC DEPLETION POTENTIAL FOR NON-FOSSIL RESOURCES	kg Sb eq.	1.67E-05	6.66E-07	2.98E-07	1.76E-05	2.36E-06	0.00E+00	1.55E-07	1.47E-09	1.81E-10	-1.42E-05
ABIOTIC DEPLETION POTENTIAL FOR FOSSIL RESOURCES	MJ	3.62E+01	6.07E-01	5.31E+00	4.21E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03	-2.35E+01
WATER USE	m <sup>3</sup>	1.25E+00	2.26E-03	3.62E-02	1.29E+00	8.01E-03	0.00E+00	5.26E-04	1.06E-04	1.31E-05	-3.36E-01



### Environmental aspects related to resource use

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
RENEWABLE PRIMARY ENERGY AS AN ENERGY CARRIER	MJ	1.43E+00	7.65E-03	4.45E-01	1.88E+00	2.71E-02	0.00E+00	1.78E-03	2.26E-04	2.79E-05	-1.24E+00
RENEWABLE PRIMARY ENERGY FOR MATERIAL USE	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	0.00E+00
COMPLETELY RENEWABLE PRIMARY ENERGY	MJ	1.43E+00	7.65E-03	4.45E-01	1.88E+00	2.71E-02	0.00E+00	1.78E-03	2.26E-04	2.79E-05	-1.24E+00
NON-RENEWABLE PRIMARY ENERGY AS AN ENERGY SOURCE	MJ	3.08E+01	6.07E-01	2.57E+00	3.40E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03	-2.35E+01
NON-RENEWABLE PRIMARY ENERGY AS MATERIA USE	MJ	5.39E+00	0.00E+00	3.11E+00	8.50E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
COMPLETELY NON-RENEWABLE PRIMARY ENERGY	MJ	3.62E+01	6.07E-01	5.67E+00	4.25E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03	-2.35E+01
USE OF SECONDARY RAW MATERIALS	MJ	4.63E-03	0.00E+00	4.77E-04	5.11E-03	0.00E+00	0.00E+00	0.00E+00	1.55E-05	1.91E-06	-3.86E-03
RENEWABLE SECONDARY FUELS	MJ	1.52E-04	0.00E+00	7.78E-06	1.60E-04	0.00E+00	0.00E+00	0.00E+00	5.05E-08	6.25E-09	-7.56E-04
NON-RENEWABLE SECONDARY FUELS	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	0.00E+00
USE OF FRESH WATER RESOURCES	MJ	3.07E-02	1.26E-04	9.49E-04	3.18E-02	4.48E-04	0.00E+00	2.94E-05	2.40E-06	2.97E-07	-9.24E-03





**Other environmental information describing the waste categories**

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
HAZARDOUS WASTE DESTINED FOR LANDFILL	kg	6.76E-01	5.90E-04	4.70E-02	7.24E-01	2.10E-03	0.00E+00	1.37E-04	0.00E+00	6.54E-06	-6.81E-02
NON-HAZARDOUS WASTE DESTINED FOR DISPOSAL	kg	2.55E+00	6.53E-02	1.84E+00	4.46E+00	2.31E-01	0.00E+00	1.52E-02	0.00E+00	4.59E-05	-1.70E+00
RADIOACTIVE WASTE FOR DISPOSAL	kg	5.18E-05	4.17E-06	3.27E-06	5.93E-05	1.48E-05	0.00E+00	9.70E-07	0.00E+00	3.44E-08	-3.36E-05
COMPONENTS TO BE REUSED	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	0.00E+00
MATERIALS TO BE RECYCLED	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	0.00E+00
MATERIALS DESTINED FOR ENERGY RECOVERY	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	0.00E+00
ELECTRICITY EXPORTED	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	0.00E+00



## Results for granite products

### Environmental impacts

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GLOBAL WARMING POTENTIAL - TOTAL	kg CO2 eq.	1.40E+00	2.42E-02	5.19E-01	1.94E+00	1.39E-01	0.00E+00	9.10E-03	2.94E-03	3.63E-04	-1.66E+00
GLOBAL WARMING POTENTIAL - FOSSIL	kg CO2 eq.	1.39E+00	2.42E-02	5.13E-01	1.93E+00	1.39E-01	0.00E+00	9.09E-03	2.94E-03	3.63E-04	-1.63E+00
GLOBAL WARMING POTENTIAL - BIOGENIC	kg CO2 eq.	2.20E-03	1.76E-05	2.97E-03	5.19E-03	1.00E-04	0.00E+00	6.60E-06	5.38E-07	6.65E-08	-3.66E-02
GLOBAL WARMING POTENTIAL - LULAC	kg CO2 eq.	1.22E-03	7.28E-06	2.97E-03	4.20E-03	4.19E-05	0.00E+00	2.74E-06	2.92E-07	3.61E-08	-1.50E-03
DEPLETION POTENTIAL OF THE STRATOSPHERIC OZONE LAYER	kg CFC 11 eq.	1.46E-07	5.68E-09	1.01E-08	1.62E-07	3.26E-08	0.00E+00	2.14E-09	6.28E-10	7.76E-11	-1.46E-07
ACIDIFICATION POTENTIAL	mol H+ eq.	5.65E-03	1.02E-04	3.44E-03	9.19E-03	5.95E-04	0.00E+00	3.82E-05	3.05E-05	3.77E-06	-5.66E-03
EUTROPHICATION AQUATIC FRESHWATER	kg Pe	2.97E-05	1.97E-07	4.87E-05	7.86E-05	1.13E-06	0.00E+00	7.39E-08	9.73E-09	1.20E-09	-3.89E-05
EUTROPHICATION AQUATIC MARINE	kg N eq.	9.28E-04	3.06E-05	3.19E-04	1.28E-03	1.79E-04	0.00E+00	1.15E-05	1.35E-05	1.67E-06	-1.01E-03
EUTROPHICATION AQUATIC TERRESTRIAL	kg N eq.	1.02E-02	3.38E-04	3.56E-03	1.41E-02	1.97E-03	0.00E+00	1.27E-04	1.48E-04	1.83E-05	-1.20E-02
FORMULATION POTENTIAL OF TROPOSPHERIC OZONE	kg NMVOC eq.	4.25E-03	1.09E-04	1.91E-03	6.27E-03	6.32E-04	0.00E+00	4.08E-05	4.07E-05	5.04E-06	-3.38E-03
ABIOTIC DEPLETION POTENTIAL FOR NON-FOSSIL RESOURCES	kg Sb eq.	1.20E-05	4.13E-07	3.19E-07	1.27E-05	2.36E-06	0.00E+00	1.55E-07	1.47E-09	1.81E-10	-1.42E-05
ABIOTIC DEPLETION POTENTIAL FOR FOSSIL RESOURCES	MJ	2.29E+01	3.76E-01	5.39E+00	2.87E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03	-2.35E+01
WATER USE	m <sup>3</sup>	1.40E+00	2.42E-02	5.19E-01	1.94E+00	1.39E-01	0.00E+00	9.10E-03	2.94E-03	3.63E-04	-1.66E+00



### Environmental aspects related to resource use

Indicator	Unit	A1	A2	A3	A4	C1	C2	C3	C4	D
RENEWABLE PRIMARY ENERGY AS AN ENERGY CARRIER	MJ	9.33E-01	4.73E-03	4.75E-01	1.41E+00	2.71E-02	0.00E+00	1.78E-03	2.26E-04	2.79E-05
RENEWABLE PRIMARY ENERGY FOR MATERIAL USE	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
COMPLETELY RENEWABLE PRIMARY ENERGY	MJ	9.33E-01	4.73E-03	4.75E-01	1.41E+00	2.71E-02	0.00E+00	1.78E-03	2.26E-04	2.79E-05
NON-RENEWABLE PRIMARY ENERGY AS AN ENERGY SOURCE	MJ	1.88E+01	3.76E-01	2.64E+00	2.18E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03
NON-RENEWABLE PRIMARY ENERGY AS MATERIA USE	MJ	4.13E+00	0.00E+00	3.11E+00	7.24E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
COMPLETELY NON-RENEWABLE PRIMARY ENERGY	MJ	2.29E+01	3.76E-01	5.75E+00	2.90E+01	2.16E+00	0.00E+00	1.41E-01	3.95E-02	4.88E-03
USE OF SECONDARY RAW MATERIALS	MJ	2.86E-03	0.00E+00	4.95E-04	3.35E-03	0.00E+00	0.00E+00	0.00E+00	1.55E-05	1.91E-06
RENEWABLE SECONDARY FUELS	MJ	1.14E-04	0.00E+00	8.60E-06	1.22E-04	0.00E+00	0.00E+00	0.00E+00	5.05E-08	6.25E-09
NON-RENEWABLE SECONDARY FUELS	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
USE OF FRESH WATER RESOURCES	MJ	2.15E-02	7.83E-05	1.01E-03	2.26E-02	4.48E-04	0.00E+00	2.94E-05	2.40E-06	2.97E-07



**Other environmental information describing the waste categories**

Indicator	Unit	A1	A2	A3	A4	C1	C2	C3	C4	D
HAZARDOUS WASTE DESTINED FOR LANDFILL	kg	5.69E-02	3.65E-04	4.74E-02	1.05E-01	2.10E-03	0.00E+00	1.37E-04	0.00E+00	6.54E-06
NON-HAZARDOUS WASTE DESTINED FOR DISPOSAL	kg	1.32E+00	4.04E-02	1.85E+00	3.21E+00	2.31E-01	0.00E+00	1.52E-02	0.00E+00	4.59E-05
RADIOACTIVE WASTE FOR DISPOSAL	kg	3.05E-05	2.58E-06	3.44E-06	3.66E-05	1.48E-05	0.00E+00	9.70E-07	0.00E+00	3.44E-08
COMPONENTS TO BE REUSED	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
MATERIALS TO BE RECYCLED	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
MATERIALS DESTINED FOR ENERGY RECOVERY	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
ELECTRICITY EXPORTED	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

# 06

## Verification

The verification process for this EPD is in accordance with ISO 14025 and ISO 21930. Once verified, this EPD is valid for a period of 5 years. There is no need to recalculate after 5 years if the inputs have not changed significantly.

**EN 15804 standard serves as the basis for ITB PCR-A  
independent verification according to ISO 14025 (subsection 8.1.3.)**

internal  external

External verification of EPD: **Michał Piasecki, Professor ITB, m.piasecki@itb.pl**

Input data verification, LCI audyt, LCA: **Agnieszka Pikus, JWA, a.pikus@jw-a.pl**

LCA verification: **Michał Piasecki, Professor ITB, m.piasecki@itb.pl**

Note 1: The declaration owner has the sole ownership, liability, and responsibility for the information provided and contained in EPD. Declarations of construction products may not be comparable if they do not comply with EN 15804+A2. For further information about comparability, see EN 15804+A2 and ISO 14025.

Note 2: ITB is a public Research Organization and Notified Body (EC Reg. no 1488) to the European Commission and to other Member States of the European Union designated for the tasks concerning the assessment of building products' performance. ITB acts as the independent, third-party verification organization (ISO 17025/17065/17029). ITB-EPD program is a recognized and registered member of The European Platform - Association of EPD program operators and ITB-EPD declarations are registered and stored in the international ECO-PORTAL.



## 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

**EN 15804 +A2** Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

**EN 14688** Sanitary appliances – Wash basins – Functional requirements and test methods

**EN 14527** Shower trays for domestic use

**EN 14516** Baths for domestic use

**EN 13310** Kitchen sinks – Functional requirements and test methods



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# **CERTIFICATE No 626/2024**

## **of TYPE III ENVIRONMENTAL DECLARATION**

Products:

**Dremex sanitary and kitchen products  
bathtubs, shower trays, wash basins, sinks**

Manufacturer:

**Przedsiębiorstwo Wielobranżowe Dremex Sp. z o.o.**

ul. Pod Borem 15, 36-060 Głogów Małopolski, 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+A2**

**Sustainability of construction works.**

**Environmental product declarations.**

**Core rules for the product category of construction products.**

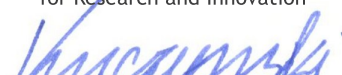
This certificate, issued on 10<sup>th</sup> April 2024 is valid for 5 years  
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physics, Acoustics  
and Environment Department

  
Agnieszka Winkler-Skalna, PhD



Deputy Director  
for Research and Innovation

  
Krzysztof Kuczyński, PhD

Warsaw, April 2024