Kalekim®

EPD INTERNATIONAL EPD SYSTEM

TÜRKİYE EPD INTERNATIONAL EPD SYSTEM

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:
Technopur
from
Kalekim Kimyevi Maddeler Sanayi ve Ticaret A.Ş

Programme:	The International EPD® System
Programme Operator:	EPD International AB
Licensee:	EPD Türkiye
EPD registration number:	EPD-IES-0029190:001
Version Date:	2026-04-16
Validity Date:	2031-04-15
EPD Type:	EPD of a single product

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com

General Information

Programme Information

Programme :The International EPD System
Address :EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website :www.environdec.com
E-mail :support@environdec.com

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): PCR 2019:14 Construction products, version 2.0.1., Construction EN 15804:2012+A2:2019/AC:2021 Sustainability of Construction Works, UN CPC code is 35110 Paints and varnishes and related products

PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review Chair: Rob Rouwette (chair), Noa Meron (co-chair).

The review panel may be contacted via the Secretariat www.environdec.com/contact.
Life Cycle Assessment (LCA)
LCA accountability: Furkan Can Akalın - Metsims Sustainability Consulting
info@metsims.com

Third-party Verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

Individual EPD verification without a pre-verified LCA/EPD tool
Third-party verifier: Vijay Thakur, Eco-Assure Verification & Advisory
Approved by: International EPD System

Procedure for follow-up of data during EPD validity involves third party verifier:
Yes No X

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.
For further information about comparability, see EN 15804 and ISO 14025.

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

How To Read This EPD?

An Environmental Product Declaration (EPD) is an ISO Type III Environmental Declaration based on ISO 14025 standard. An EPD transparently reports the environmental performance of products or services from a lifecycle perspective. The preparation of an EPD includes different stages, from acquiring raw materials to the end of life of the final product/service. EPDs are based on international standards and consider the entire value chain. Additionally, **EPD is a third-party verified document**. This EPD includes the following sections described below.

1- General and Program Information
The first part of an EPD has information about the name of the manufacturer and product/service and other general information such as the validity and expiration dates of the document, the name of the program operator, geographical scope, etc. The second page states the standards followed and gives information about the program operator, third-party verifier, etc. The followed Product Category Rule (PCR) is indicated on the second page.

2- Company and Product/Service Information
Information about the company and the investigated product is given in this section. It summarizes the characteristics of the product provided by the manufacturer. It also includes information about the product such as product composition and packaging.

3- LCA Information
Life Cycle Analysis (LCA) information is one of the most important parts of the EPD as it describes the functional /declared unit, time representativeness of the study, database(s) and LCA software, along with system boundaries. The table presented in this part has columns for each stage in the life cycle. The considered stages are marked 'X' whereas the ones that are not considered are labeled as 'NR' (Not Relevant). Not all EPDs consider the full life cycle assessment for a product's entire life stages. The 'System Boundary' page is also the place where one can find detailed information about the stages and the assumptions made.

4. LCA Results
The results of the LCA analysis are presented in table format. The first column in each table indicates the name of the impact category and their measurement units are presented in the second column. These tables show an amount at each life cycle stage to see the impact of different indicators on different stages. Each impact can be understood as what is released through the production of the declared unit of the material. The benefits of reuse/recycling of the declared product are reflected in this section.
The first impact in the table is global warming potential (GWP), which shows how much CO_2 is released at each stage. Other impacts include eutrophication potential, acidification potential, ozone layer depletion, land use related impacts, etc. The second table provides results for resource use and the third table is about the waste produced during production. The fourth and final table shows the results for the GWP-GHG indicator, which is almost equivalent to the GWP-Total indicator mentioned previously. The only difference is that this indicator excludes the biogenic carbon content by following a certain methodology.

Information About EPD Owner

Owner of the EPD: Kalekim Kimyevi Maddeler Sanayi ve Ticaret A.Ş
Address: Firuzköy Mahallesi Firuzköy Bulvarı No:188/1 Avcılar İstanbul

Founded in 1973 by Dr. H. Ibrahim Bodur, the founder of the Kale Group of Co only in its current fields of business but also new ones, and is carrying out studies to do this. To this end, Kalekim started operating in the decorative coating field in 2021 with the launch of Visuelle. It is making good use of inorganic growth opportunities and acquiring related companies. Kalekim prioritizes innovation in all these processes and regards innovation as a key company strategy. It is continuing to work to create dynamic products, generate new ideas, or improve existing goods and services. Kalekim aims to leave a more livable world to future generations by focusing on common values based on economic, environmental, and social aspects as part of its sustainability work.

Product Information

Product name: Technopur
UN CPC code: 35160 Glues and adhesives
Production site: Organize Sanayi Bölgesi 2. Cadde No: 9 Altıeylül-Balıkesir

Two component, solvent-free polyurethane based multi-purpose adhesive suitable for bonding ceramic and granite ceramic on concrete, metal, fibre-cement, wood and plasterboard surfaces, as well as for bonding parquet and applications on floors with underfloor heating systems. The product is also used for bonding thin tiles (Kalesinterflex®) reinforced with fibre mesh. It is supplied in a 7 kg pail consisting of two components and is solvent-free, offering excellent flexibility and perfect adherence.

Technical Specifications

Technical Properties (at 23˚C and 50%Relative Humidity)	
General Data	
Color	Component A: Light yellow, Component B: Dark brown
Shelf life	12 months when stored in the original sealed packing in dry place
Application Data	
Mixing Ratio	Component A: 6.25 kg, Component B: 0.75 kg
Pot Life	45-60 minutes
Setting Time	80% hardening in 24 hours, 100% hardening in 1 week
Slip (EN 1308)	≤ 0.5mm
Consumption	~ 1.5 kg/m² (4x4x4 mm notched trowel), ~ 0.75 kg/m² (1 mm thickness for waterproofing)
Performance Data	
Open Time Tensile Adhesion Strength	After 30 minutes ≥ 0.5 N/mm²
Shear Adhesion Strength (TS EN 12003)	- inital: ≥ 2 N/mm² - after immesion in water: ≥ 2 N/mm² - after thermal shock: ≥ 2 N/mm²
Flexibility	Excellent
Service Temperature Range	(-30°C)-(+80°C)
Reaction to Fire	European classification Cs2d1

Content Declaration

The content declaration is provided as intervals due to confidentiality reasons.

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product
Fillers	50-60%	0	0	0
Fatty acids	20-30%	0	20.8	0.208
Binders	10-20%	0	0	0
TOTAL	**100**	**0**	**20.8**	**0.208**

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/declared unit
Plastic bucket	7.20E-02	7.2%	0%
Euro pallet	1.81E-03	<1%	0%
Label	4.31E-05	<1%	0%
Packaging film	4.98E-06	<1%	0%
TOTAL	**7.39E-02**	**7.4 %**	**0%**

REACH Regulation

No substances included in the Candidate List of Substances of Very High Concern for authorization under the REACH regulations are present in this product either above the threshold for registration with the European Chemicals Agency or above 0.1% (wt/wt).

LCA Information

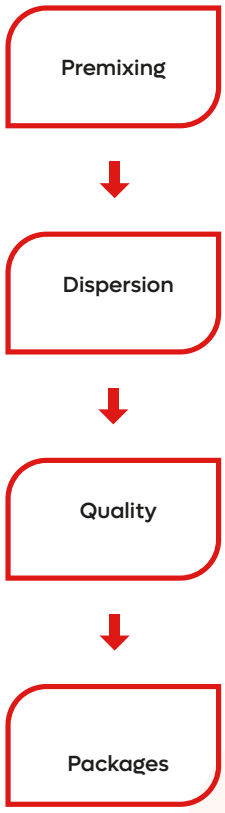
System Boundary

A1 - Raw Material Supply
This stage includes raw materials extraction and pre-treatments before its use in manufacturing. The effects of raw materials were evaluated at this stage.

A2 – Raw Material Transport
Transport information of the raw materials is provided by the manufacturer. The distances and routes are calculated accordingly

Transport Mode	Type
Road	Vehicle: Lorry Size Class: 16-32 metric ton Emission Standard: EURO6 Fuel Type: Diesel
Sea	Vehicle: Container Ship DWT (Load Capacity): 43000 tonnes Fuel Type: Heavy Fuel Oil

A3 - Manufacturing
This stage includes the production-related environmental impacts of the investigated product. All energy-related inputs are supplied by the manufacturer. The effects of packaging are also included in this stage. The manufacturing stage includes the following processes as shown in the production flow diagram below.



LCA Information

A4 - Product Transport
Product transport from manufacturer to customer is considered in product material supply stage. The distances and routes are calculated accordingly. Depending the customer location, product is transported via trucks and other supplies come through seaway. Deliveries are mainly performed by road freight, with sea freight used for export markets where relevant. The bulk density of the transported product is 1.56 g/cm³. A volume capacity utilization factor of 1 was assumed, while average vehicle loading and return-trip utilization were considered in the transport scenario assumptions.

Transport Mode	Type
Road	Vehicle: Lorry Size Class: 16-32 metric ton Emission Standard: EURO6 Fuel Type: Diesel
Sea	Vehicle: Container Ship DWT (Load Capacity): 43000 tonnes Fuel Type: Heavy Fuel Oil

A5 - Installation
As the application is manual with rollers, there is no application effect. End-of-life treatment of the packaging waste associated with the product is included in this stage.

C1 – Demolition
According to PCR 2019:14 2.0.1, the demolition effect is accepted as 0.0011 kWh of diesel per kilogram.

C2 – Waste Transport
This module includes transportation of wastes from the demolished building to landfill, considered as 80 km, with a 50% load factor.

Transport Mode	Type
Road	Vehicle: Lorry Size Class: 16-32 metric ton Emission Standard: EURO5 Fuel Type: Diesel

C3 – Waste Processing
Since all waste is sent to landfills, there is no impact at this stage.

C4 – Disposal
The landfill impact of product waste has been calculated within this scope.

D – Benefit
Since all waste is sent to landfills, there is no impact at this stage.

LCA Information

Declared Unit: 1 kg of Technopur

Time representativeness: Full year of 2024 (01.01.2024- 31.12.2024).

Geographical Scope:
Module A1 and A2 Material suppliers are Global (Asia, European and Türkiye)
Module A3 production is located in Türkiye (TR)
Module A4 transport and A5 installation locations are Global (Türkiye, European, America, Asia)

Database(s) and LCA software used: Ecoinvent 3.11 and SimaPro 10.2

Description of system boundaries: Cradle-to-gate with modules C1-C4 and module D

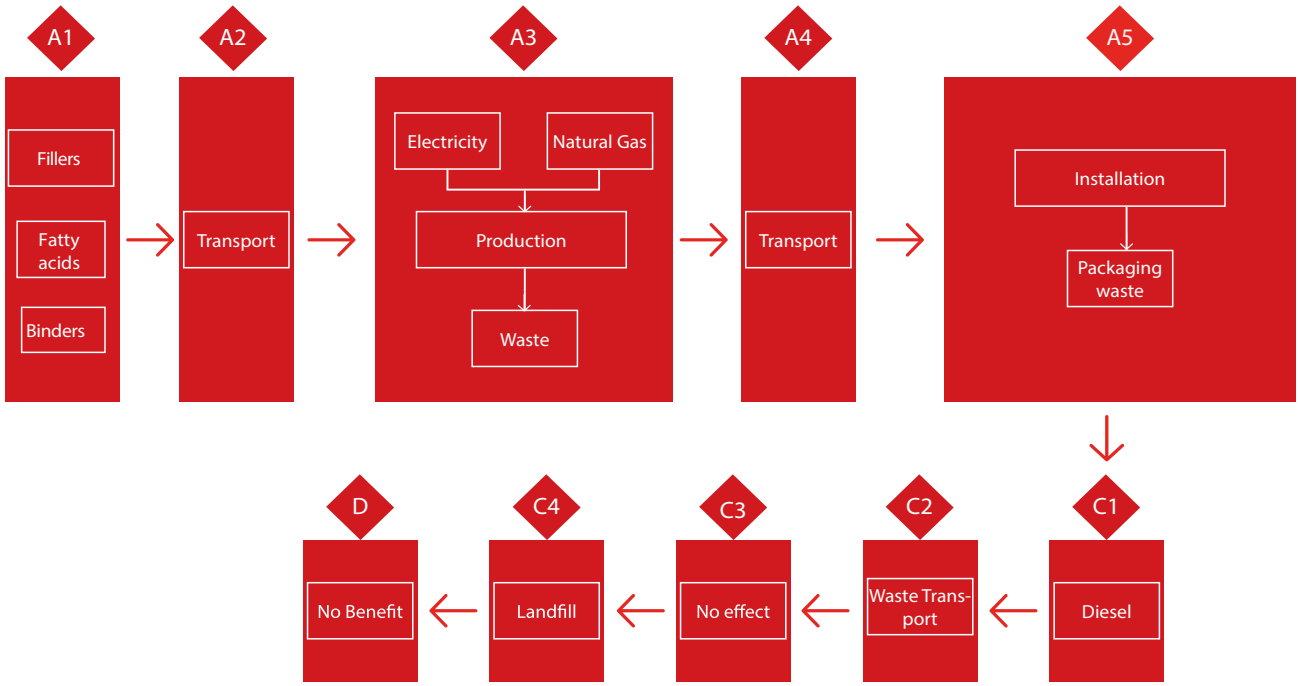
Allocation
Source of raw material, water consumption, energy consumption and raw material transportation were weighted according to 2024 production figures. In addition, hazardous and non-hazardous waste amounts were also allocated from the 2024 total waste generation.

Background Data
For all LCA modelling and calculation, Ecoinvent database (v3.11) and SimaPro (v10.2) LCA software were used. Characterization factors of EN 15804 reference package based on EF 3.1 are utilized. Impact of infrastructure and capital goods are excluded from the analysis.

Cut-off Criteria
The criteria for exclusion were set so that individual input flows less than 1% of the total, with a cumulative limit of less than 5%, could be omitted. This was contingent upon confirming that these excluded flows did not significantly alter the reported data, with “significant” defined as affecting the total by less than 5%.

LCA Information

System Boundary:



	Product Stage			Construction Process Stage		Process							End of Life Stage				Benefits and Loads
	Raw Material Supply	Transport	Manufacturing	Transport	Construction Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Deconstruction / Demolition	Transport	Waste Processing	Disposal	Future reuse, recycling or energy recovery potentials
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	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	TR	GLO	GLO	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Specific Data Used	**9.3%**			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-Products	**0%**			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-Sites	**0%**			-	-	-	-	-	-	-	-	-	-	-	-	-	-

(X= Module included, ND = Module not included)

Environmental Performance

"The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks."

Mandatory Environmental Performance Indicators According to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Climate change - total	GWP-total	kg CO_2 eq.	1.42E+00	5.85E-02	1.16E-02	3.75E-04	2.59E-02	0.00E+00	7.62E-01	0.00E+00
Climate change - fossil	GWP-fossil	kg CO_2 eq.	1.38E+00	5.85E-02	8.95E-03	3.75E-04	2.59E-02	0.00E+00	2.73E-03	0.00E+00
Climate change - biogenic	GWP-biogenic	kg CO_2 eq.	-7.62E-01	3.77E-06	2.63E-03	1.88E-08	1.70E-06	0.00E+00	7.62E-01	0.00E+00
Climate change - land use and land-use change	GWP-luluc	kg CO_2 eq.	8.02E-01	2.93E-06	4.97E-07	1.54E-08	1.32E-06	0.00E+00	1.60E-07	0.00E+00
Ozone depletion	ODP	kg CFC-11 eq.	3.12E-08	6.84E-10	2.53E-11	5.70E-12	3.07E-10	0.00E+00	3.92E-11	0.00E+00
Acidification	AP	mol H^+ eq.	8.57E-03	1.81E-04	9.05E-06	3.46E-06	7.32E-05	0.00E+00	2.46E-05	0.00E+00
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	1.37E-04	3.97E-07	1.06E-08	3.53E-10	1.81E-07	0.00E+00	8.96E-09	0.00E+00
Eutrophication aquatic marine	EP-marine	kg N eq.	7.35E-03	6.00E-05	4.01E-06	1.63E-06	2.53E-05	0.00E+00	1.12E-05	0.00E+00
Eutrophication terrestrial	EP-terrestrial	mol N eq.	2.64E-02	6.61E-04	4.07E-05	1.79E-05	2.79E-04	0.00E+00	1.23E-04	0.00E+00
Photochemical ozone formation	POCP	kg NMVOC eq.	7.44E-03	2.42E-04	1.54E-05	5.34E-06	1.04E-04	0.00E+00	3.72E-05	0.00E+00
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals[1]	kg Sb eq.	2.25E-06	4.66E-09	1.46E-09	1.31E-11	2.12E-09	0.00E+00	9.08E-11	0.00E+00
Depletion of abiotic resources - fossil fuels	ADP-fossil[1]	MJ, net calorific value	2.20E+01	7.54E-01	2.23E-02	4.90E-03	3.39E-01	0.00E+00	3.49E-02	0.00E+00
Water use	WDP[1]	m^3 world eq. deprived	1.97E+00	1.39E-03	-1.14E-02	6.17E-06	6.32E-04	0.00E+00	4.87E-05	0.00E+00
Acronyms	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; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									
General disclaimer	It is discouraged to use the results of modules A1-A3 without considering the results of module C.									
Disclaimer 1	The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.									

Additional Mandatory Environmental Performance Indicators

Impact category	Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Climate change GWP-GHG	GWP-GHG[1]	kg CO_2 eq.	2.19E+00	5.85E-02	8.97E-03	3.75E-04	2.59E-02	0.00E+00	2.73E-03	0.00E+00
Acronyms	GWP-GHG = Global warming potential greenhouse gas.									
General disclaimer	It is discouraged to use the results of modules A1-A3 without considering the results of module C.									
Disclaimer 1	The GWP-GHG indicator is termed GWP-IOBC/GHG in the ILCD+EPD+ data format. The indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.									

Additional voluntary environmental performance indicators according to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Particulate matter emissions	PM	Disease incidence	9.30E-08	4.56E-09	2.21E-10	9.97E-11	1.66E-09	0.00E+00	6.96E-10	0.00E+00
Ionizing radiation - human health	IRP[1]	kBq U235 eq.	1.37E-02	5.85E-05	5.95E-06	4.07E-07	2.63E-05	0.00E+00	3.46E-06	0.00E+00
Eco-toxicity - freshwater	ETP-fw[2]	CTUe	6.86E+01	7.86E-02	2.56E-02	1.41E-04	3.41E-02	1.33E-03	1.33E-03	0.00E+00
Human toxicity - cancer effects	HTP-c[2]	CTUh	1.11E-09	4.31E-12	3.43E-13	2.01E-14	1.85E-12	0.00E+00	1.89E-13	0.00E+00
Human toxicity - non-cancer effects	HTP-nc[2]	CTUh	3.13E-07	4.62E-10	4.94E-11	3.70E-13	1.66E-10	0.00E+00	3.62E-12	0.00E+00
Land-use related impacts/soil quality	SQP[2]	Dimensionless	5.17E+01	7.85E-03	4.70E-02	8.32E-06	3.57E-03	0.00E+00	4.12E-02	0.00E+00
Acronyms	PM = Potential incidence of disease due to particulate matter emissions; IRP = Potential human exposure efficiency relative to U235; ETP-fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for humans; HTP-nc = Potential comparative toxic unit for humans; SQP = Potential soil quality index.									
General disclaimer	It is discouraged to use the results of modules A1-A3 without considering the results of module C.									
Disclaimer 1	This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.									
Disclaimer 2	The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.									

Environmental Performance

Resource Use Indicators According to EN 15804

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ, net calorific value	1.72E+01	1.52E-03	2.31E-02	1.07E-05	6.86E-04	0.00E+00	1.64E-04	0.00E+00
PERM	MJ, net calorific value	2.28E-02	0.00E+00	-2.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ, net calorific value	1.72E+01	1.52E-03	2.58E-04	1.07E-05	6.86E-04	0.00E+00	1.64E-04	0.00E+00
PENRE	MJ, net calorific value	1.98E+01	7.54E-01	3.08E+00	4.90E-03	3.39E-01	0.00E+00	3.49E-02	0.00E+00
PENRM	MJ, net calorific value	3.06E+00	0.00E+00	-3.06E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ, net calorific value	2.29E+01	7.54E-01	2.23E-02	4.90E-03	3.39E-01	0.00E+00	3.49E-02	0.00E+00
SM	kg	3.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	4.62E-02	3.32E-05	-2.66E-04	1.48E-07	1.50E-05	0.00E+00	1.18E-06	0.00E+00
Acronyms	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; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water.								
General disclaimer	It is discouraged to use the results of modules A1-A3 without considering the results of module C.								

Waste Indicators According to EN 15804

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	1.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NHWD	kg	9.84E-03	0.00E+00	2.06E-01	0.00E+00	0.00E+00	0.00E+00	1.00E+00	0.00E+00
RWD	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
Acronyms	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed.								
General disclaimer	It is discouraged to use the results of modules A1-A3 without considering the results of module C.								

Output flow indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
CRU	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
MFR	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
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
EEE	MJ, net calorific value	0.00E+00	0.00E+00	6.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ, net calorific value	0.00E+00	0.00E+00	9.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acronyms	CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy.								
General disclaimer	It is discouraged to use the results of modules A1-A3 without considering the results of module C.								

References

Ecoinvent 3.11 / Ecoinvent Centre, www.ecoinvent.org

EN 15804:2012+A2:2019 / AC:2021 Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction products

GPI / General Programme Instructions for the International EPD® System. Version 5.0.1. www.environdec.com

ISO 14020:2000/ Environmental Labels and Declarations — General principles

ISO 14040/44 / DIN EN ISO 14040: 2006-10 / Environmental management - Life cycle assessment- Principles and framework (ISO14040:2006) and Requirements and guidelines (ISO 14044:2006)

ISO 14025 / DIN EN ISO 14025:2009-11 / Environmental labels and declarations - Type III environmental declarations - Principles and procedures

ISO 5001:2018 / Energy Management System

ISO 9001:2015 / Quality Management System

PCR for Construction Products and Construction Services / PCR 2019:14 Construction products (EN 15804:A2). Version 2.0.1. www.environdec.com.

The International EPD® System / The International EPD System is a programme for type III environmental declarations, maintaining a system to verify and register EPDs as well as keeping a library of EPD®s and PCRs in accordance with ISO 14025. www.environdec.com

SimaPro 10.2 / SimaPro LCA Software, Pré Consultants, the Netherlands, www.pre-sustainability.com

Kalekim / www.kalekim.com

Metsims / www.metsims.com

LCA Information

Source of Electricity

Electricity Used in the Manufacturing Process in A3		
Type of electricity mix	Residual mix + Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a contractual instrument	
Energy sources	Solar	57%
	Natural gas	14%
	Coal	29%
Climate impact (GWP-GHG):	0.428 kg CO_2 eq./kWh	

Data Quality

The EPD is based on data collected by Kalekim from one site over one year from January 2024. The EPD type is a single product of Technopur produced in Balıkesir Plant of Kalekim. The end-of-life stage of the EPD covers Europea. Kalekim uses same technology for all Technopur production and uses 100% primary raw material for the product. The EPD uses background data from the Ecoinvent 3.11 database, 2024, and EPD data for the specific primary input material used. The quality of the relevant data used for the EPD in terms of its time, geography and technology representativeness using EN 15804:2012+A2:2019, Annex E, E2 is mostly very good and good data. Fair category data is used for certain materials but it doesn't contribute > 30% to core indicators. The relevant data assessed included no poor or very poor data.

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Manufacturing of product	Collected data	EPD owner	2024	Primary data	0.3%
Transport of raw materials to manufacturing site	Database	Ecoinvent v3.10	2024	Primary data	9%
Production of raw materials	Database	Ecoinvent v3.10	2024	Secondary data	0%
Production of packaging	Database	Ecoinvent v3.10	2024	Secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					9.3%

Abbreviations

Abbreviation	Definition
ADP	Abiotic Depletion Potential
ADP-fossil	Abiotic depletion potential for fossil resources (MJ)
ADP-minerals&metals	Abiotic depletion potential for non-fossil resources (kg Sb eq.)
AP	Acidification Potential (mol H eq.)
CAS No.	Chemical Abstracts Service Number
CEN	European Committee for Standardization
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CFR	Components for Reuse (kg)
CLC	Co-location centre
CO_2 eq.	Carbon Dioxide Equivalents
CPC	Central product classification
EC No.	European Community Number
EEE	Exported Energy, Electricity (MJ)
EET	Exported Energy, Thermal (MJ)
EF	Environmental Footprint
EN	European Norm (Standard)
EP	Eutrophication Potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-marine	Marine eutrophication potential (kg N eq.)
EP-terrestrial	Terrestrial eutrophication potential (mol N eq.)
FW	Use of net fresh water (m^3)
GHG	Greenhouse gas
GHS	Globally harmonized system of classification and labelling of chemicals
GLO	Global
GPI	General Programme Instructions
GRI	Global Reporting Initiative
GWP	Global Warming Potential (kg CO_2 eq.)
GWP-biogenic	Global Warming Potential from biogenic sources (kg CO_2 eq.)
GWP-fossil	Global Warming Potential from fossil sources (kg CO_2 eq.)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO_2 eq.)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO_2 eq.)
GWP-total	Total Global Warming Potential (kg CO_2 eq.)
HW	Hazardous Waste (disposed) (kg)
ISO	International Organization for Standardization
kg	Kilogram
kg C	Kilograms of Carbon
kg CO_2 eq.	Kilograms of Carbon Dioxide Equivalent
m^3	Cubic Meter
MER	Materials for Energy Recovery (kg)
MJ	Megajoule
MR	Material for Recycling (kg)
N eq.	Nitrogen Equivalents
ND	Not Declared
NHW	Non-Hazardous Waste (disposed) (kg)
NMVOC	Non-Methane Volatile Organic Compounds
NRSF	Use of non-renewable secondary fuels (MJ)
ODP	Ozone Depletion Potential (kg CFC-11 eq.)
P eq.	Phosphorus Equivalents
PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)
PENRM	Use of non-renewable primary energy resources used as raw materials (MJ)
PENRT	Total use of non-renewable primary energy resources (MJ)
PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)
PERM	Use of renewable primary energy resources used as raw materials (MJ)
PERT	Total use of renewable primary energy resources (MJ)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq.)
RSF	Use of renewable secondary fuels (MJ)
RW	Radioactive Waste (disposed) (kg)
Sb eq.	Antimony Equivalents
SM	Use of secondary material (kg)
SVHC	Substances of Very High Concern
TR	Türkiye
WDP	Water Deprivation Potential (m^3)

Version History

Original version of the EPD. (2026-04-16)

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