nurus







ENVIRONMENTAL PRODUCT DECLARATIONS

Environmental Product Declaration

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

CALMA Small

from

NUMAŞ TEKNOLOJİ ÜRETİM A.Ş.

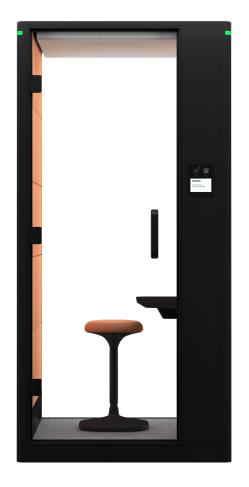
Programme: The International EPD® System, <u>www.environdec.com</u>

Programme operator: EPD International AB

Licensee: EPD Türkiye

EPD registration number: **EPD-IES-0018061**

Publication date: 2025-01-21 Valid until: 2030-01-20







General information

Programme information

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

Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR)

This EPD is in accordance with EN 15804+A2 and ISO 14025:2010 standards. The EN 15804 +A2:2019 serves as the core Product Category Rules (PCR). In addition, the Int'l EPD System PCR 2019:14 Construction products, v1.3.4 and PCR 2019:14-c-PCR-021 c-PCR-021 Furniture (c-PCR to PCR 2019:14) (Adopted from EPD Norway): NPCR 026 PCR - Part B for Furniture; version 2.0; Issue date: 29.09.2022 Valid to: 18.10.2023 (extended to 01.07.2024) are used.

PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.

Life Cycle Assessment (LCA)

LCA accountability:

Eren Yaman **ERKE Sustainability Consultancy** www.erketasarim.com info@erketasarim.com



'Sustainability Consultancy'

Third-party verification

| dependent third-party verification | n of the declaration and o | data, according to I | SO 14025:2006: |
|------------------------------------|----------------------------|----------------------|----------------|

☐ EPD process certification

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

Third-party verifier: Ipek Göktas Kalkan, Göktas Kalkan Ipek TMI

Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

☐ Yes \boxtimes No





NUMAŞ TEKNOLOJİ ÜRETİM A.Ş. has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same 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 equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company Information

Owner of the EPD: NUMAŞ TEKNOLOJİ ÜRETİM A.Ş.

Location of Production Site: Oğuz Caddesi 1. Organize San. Blg. No:25 06934 Sincan/Ankara

<u>Product-related or management system-related certifications:</u> NURUS's management system is certified against ISO 9001, ISO 14001, and ISO 45001.

About NURUS

Founded in 1927 in Ankara by Nurettin Usta, Nurus has become one of Türkiye's leading furniture manufacturers. Led by third-generation managers Renan and Güran Gökyay, the company blends technology and innovative design to create solutions for work and living spaces. Nurus exports a significant portion of its products globally and emphasizes sustainability with its 2.4 MW solar power plant covering most of its energy needs.

Product Information

Product name: CALMA Small

Product identification: CALMA Small is an acoustic working pod for one person.

Geographical scope: The geographical scope of this EPD is global

UN CPC code: 3812

<u>Product description:</u> Calma Small is a sustainable acoustic pod designed for digital communication and video conferencing, featuring eco-friendly materials, advanced engineering, and a media wall with broadcast-quality lighting for optimal face illumination during online meetings.

Calma offers an ergonomic design with flicker-free, daylight-mimicking lighting and exceptional soundproofing, holding ISO 23351-1 Class A certification. Its innovative Basotect G+ layering ensures superior voice clarity by isolating low, mid and high-frequency sounds.

Calma prioritizes sustainability, being produced at Nurus' eco-friendly facility with 45,000 sqm in Turkey, which sources 70% of its energy from solar panels. The process uses innovative, locally sourced materials and advanced R&D to minimize carbon emissions.





Calma uses eco-friendly HDF powder-coating technology and zero-VOC materials, including Basotect G+ and recycled PET felt, to create a healthy, sustainable, and acoustically optimized environment with reduced energy consumption and waste.

Calma features an advanced ventilation system ensuring excellent air quality and holds SCS Indoor Air Quality, CE, FSC certifications, and an EPD listing, making it one of the industry's most sustainable acoustic pods. Calma keeps CO₂ levels remain consistently below 1000 ppm, providing superior air quality.



VOC Free for Better Air Quality

> Cleaner Air Better Health

Ensuring excellent air quality, Calma pod components are free from Volatile Organic and Inorganic Compound emissions.

ISO 23351-1

Class A Certified Soundproofing

Immediate Noise Reduction

> Calma holds **Class A** soundproofing according to ISO 23351-1 / 2021

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Excellent Voice Clarity

Optimized Acoustic Experience

Unlike others, with its **0.30 sec**reverberation time, Calma ensures a
good sound reduction experience.
Calma provides an optimized
acoustic experience.



Adjustable Features

Dynamic Work Settings

Calma features **adjustable seat and desk height,** encouraging
movement and providing a sense of
control over your environment at all
times.

<u>Technical data</u>: The product weight is 361.15 kg including packaging and exterior size is 228 cm x 110 cm x 100 cm (h, w, d).





Content information

| Due do at accusa a santa | Mainht In | Post-consumer | Biogenic ma | terial |
|--------------------------|------------|-------------------------------|-------------|---------|
| Product components | Weight, kg | material, weight-% | weight-% | kg C/kg |
| Wood | 148.56 | 0.0% | 24.5% | 0.527 |
| Steel Parts | 30.71 | 2.6% | - | - |
| Aluminium Parts | 26.16 | 2.4% | - | - |
| Plastics | 26.82 | 1.0% | - | - |
| Glass | 86.30 | 0.0% | - | - |
| Electronics | 5.30 | 0.8% | - | - |
| TOTAL | 323.85 | 6.8% | 24.5% | 0.245 |
| Packaging materials | Weight, kg | Weight-% (versus the product) | Weight biog | |
| Carton Pallet | 36.50 | 11.3% | 0.361 | |
| PE Stretch | 0.80 | 0.2% | - | |
| TOTAL | 37.30 | 11.5% | 0.353 | |

There are no SVHC substances in the product, or their amounts are below EU regulation limits.

Recycled Material:

CALMA Small crafted from sustainable materials, featuring 100% post-consumer recycled polyester fabric. Additionally, the felt component consists of 50% post-consumer recycled polyester.

LCA information

Functional unit: The lifetime of one CALMA Small.

<u>Estimated service life</u>: The estimated service life is set at 10 years, based on a conservative estimate provided by the manufacturer, as no products have yet reached their end-of-life.

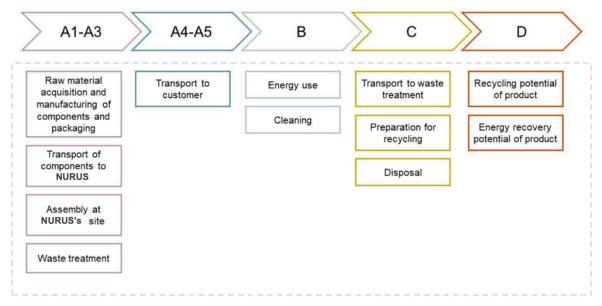
<u>Time representativeness:</u> Goal of the study is to determine the actual environmental loads for 12 consecutive months, so data for the time period is the year 2023.

Database(s) and LCA software used: Ecoinvent v3.10 and OpenLCA v2.2.0 based on EF 3.1





System Diagram:



<u>Description of system boundaries:</u> Cradle to grave (A-C), and module D.

<u>Excluded lifecycle stages:</u> All modules are included in the scope. Modules B1, B3-B5, B7 and C1 were deemed irrelevant for this product (see justifications below on Calculation assumptions). These are presented as zero in the result tables.

| | Pro | duct sta | age | prod | ruction cess ige | | | Us | se sta | ge | | | End of life stage | | | | Resource recovery stage |
|----------------------|---------------------|-----------|---------------|-----------|---------------------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|--|
| SYSTEM BOUNDARY | Raw material supply | Transport | Manufacturing | Transport | Construction installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling- potential |
| Module | A 1 | A2 | А3 | A4 | A 5 | В1 | В2 | В3 | В4 | В5 | В6 | В7 | C1 | C2 | C3 | C4 | D |
| Modules declared | Х | Х | Х | Х | Х | х | Х | Х | Х | Х | Х | Х | Х | Х | Х | х | х |
| ecoinventgr aphy | GLO | GLO | TR | GLO | GLO | GLO | GLO | GLO | GLO | GLO | GLO | GLO | GLO | GLO | GLO | GLO | GLO |
| Specific data used | | ≥90 % | | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - |
| Variation – products | | 0 % | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – sites | | 0 % | | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - |





<u>Cut-off:</u> All inputs and outputs for a (unit) process are included in the calculation, provided that data are available. The applied cut-off criteria are 1% for both renewable and non-renewable primary energy usage and 1% of the total mass input for a unit process in cases of insufficient input data or data gaps.

The total neglected input flows are limited to a maximum of 5% of energy usage and mass. Additionally, the total neglected input and output flows do not exceed 1% of energy usage or mass, as specified in the Product Category Rules (PCR).

The product stage (A1-A3) encompasses the provision of raw materials, transportation, and manufacturing. The end-of-life stage includes the recycling and disposal of final waste, while Module D addresses the benefits of reuse, recovery, and recycling. However, infrastructure, transportation of products to storage at the manufacturing site, the production of manufacturing equipment, and personnel-related activities, which are considered cut-off criteria, are not included in this LCA study. Infrastructure and capital goods for upstream, core, and downstream processes are excluded. Waste streams arise from the packaging materials of raw materials, auxiliary materials, and raw material losses during production. These losses are sent to recycling facilities. To account for potential environmental effects from recycling, the waste masses are added to the relevant raw materials in Module A1 using economic allocation. No other deductions are made within the scope of this study.

Exceptions apply for substances on the REACH candidate list, whereby a cut-off of 0.1 % applies.

<u>Allocation</u>: The allocation process was conducted by fixing the product output to one unit, with the corresponding product quantity used in the calculations.

An average breakdown was applied based on the total weight of the product in relation to annual production. Accordingly, the total energy and raw materials used in product manufacturing were divided by the total annual production. Raw material inputs, energy inputs, and waste outputs were allocated according to the total annual mass production and calculated for one unit of the product. Since the production processes for the products are identical, annual production percentages were considered when allocating energy consumption. Given that electricity is used in the production of other products within the factory, the energy share was calculated in proportion to the production quantity.

Economic allocation was applied for co-product. The inherent properties such as biogenic carbon content, energy content and secondary material are allocated based on the actual quantity of the flows.

Calculation assumptions:

The calculation methodology adheres to the specified standards and PCR requirements. Life cycle impacts are characterized in OpenLCA using EN 15804 guidelines, with EF 3.1 factors. Where data gaps exist, or future operations need to be projected, assumptions have been made. In the absence of primary data, conservative assumptions are applied to ensure reliability. The representativeness of secondary data is dependent on the available datasets in OpenLCA.

The study's background documentation details all assumptions, data limitations, and justifications for transparency and clarity.





➤ Module A1-A3:

The product is assembled from components manufactured by various suppliers. Component production includes processes such as raw material extraction and processing, energy and water consumption, transportation, waste management, and emissions. After modeling the components, their transportation to the NURUS production facility is incorporated.

The assessment of CALMA's production is based on data from the 2023 production year. The included operations are logistics, assembly at NURUS's production facility, packaging, and waste management. Mass allocation is used to scale the annual data to a single pod. NURUS utilizes diesel trucks and electric vehicles for internal logistics.

The energy source from openLCA

The inventory data for the generation of electricity used in A1-A3 has been modelled based on residual electricity mix on the market and generated electricity from PV panels installed on the roof of the production facility. GWP-GHG of the used electricity data is 0.60 kg CO2e / kWh. Since there is no residual electricity mix data for Türkiye in the data list, renewables have been removed from consumption mix.

Module A4-A5: ▶

Transportation to users is calculated as a weighted average of different distribution routes, based on the proportion of sales in specific regions. Accordingly, Euro5 diesel-powered heavy-duty truck and container ship are considered for delivery of the product. Based on the assumed scenario, 70% of the product is carried by truck only and 30% of the product is carried by ship and truck. The weighted average distances are 1900 km and 5000 km for truck and ship, respectively. Transport is modelled according to the average usage conditions defined by the Ecoinvent 3.10 database.

In Module A5, the packaging waste generated, and its transportation and treatment have been modeled. Processes such as material separation and sorting for recycling, incineration, and landfill disposal are considered. Accordingly, 35% and 50% of the carton pallet are recycled and incinerated respectively, and, 25% and 60% of the PE stretch are recycled and incinerated respectively. The remaining is landfilled. The transport of the packaging waste is assumed to be done with Euro5 diesel-powered heavy-duty truck over 100 km.

➤ Module B1-B7:

Since pod usage produces no direct environmental impacts (emissions or uptake), Module B1 is considered zero according to the PCR.

Module B2 involves cleaning the pod every two weeks using an electric vacuum cleaner. Accordingly, 19.5 kWh is required for cleaning during the estimated service life. The dataset for electricity consumption is a weighted average of grid mixes in the expected usage areas.

No part replacements or refurbishments are expected during the use phase, and there is no data on potential repair operations. In line with the PCR, Modules B3-B5 are considered zero in this study.

Module B6 accounts for the pod's electricity consumption, primarily for lighting, the touch panel, and fans. Depending on usage type, there are three different power levels: maximum, entry-level, and





passive mode. NURUS has assessed the average time allocation for these usage types, and total electricity consumption over the pod's 10-year lifespan has been calculated accordingly. Accordingly, 381 kWh is consumed during the estimated service life. The electricity dataset in B6 is the same as that used in Module B2.

Since the pod does not consume operational water, Module B7 is irrelevant for this product.

Module C1-C4: ▶

The pod is collected separately, and its deconstruction (Module C1) primarily involves manual labor, which is therefore considered zero.

The waste transportation for the pod is accounted for in Module C2. The default transportation distance is 100 km, and the vehicle used is a Euro 5 diesel truck. While actual waste transportation routes and vehicles may vary depending on the location of the use phase, they cannot be precisely tracked in advance.

To evaluate recyclability, the pod was categorized into its primary material groups. For each material fraction, the expected proportions of recycling, incineration, and landfilling were estimated using PEF default recycling factors for Europe and Asia. No material or energy recovery credits were assigned in the C modules, as these are accounted for separately in Module D.

In Module C3, the processes involved in preparing materials for recycling, such as sorting and shredding, were taken into account. According to the EN15804 standard, waste should be modeled until it reaches its "end-of-waste" state, which is assumed to occur after these processes.

Module C4 covers landfill processes for all waste fractions.

Accordingly, within Module C3, 85%, 85%, 25%, 50% of aluminum, steel, plastic, electronics are sorted for recycling, and 82.5%, 60% of wood and plastic are incinerated, respectively. 17.5%, 15%, 15%, 50%, 100% of wood, aluminum, steel, plastic, electronics, and glass are landfilled within Module C4.

Module D:

Potentially avoidable burdens resulting from waste recovery are evaluated in Module D. The scope of this evaluation includes materials and energy recovered in Module C3.

The benefits of recycling steel, aluminum, plastic and packaging materials have been considered in Module D. Benefits of the recycling of the secondary materials which are the input of the system have been avoided. Valuable energy outputs considered in Module D are electricity and heat. Exported thermal energy is modeled as replacing heat generated from natural gas. For the efficiency of incineration facilities, 30% efficiency for thermal energy production and 10% efficiency for electricity generation.

There is no benefit from allocated co-products.





Results of the environmental performance indicators

Modules that have 0 as entries are excluded from the result tables in the rest of this document to increase legibility of the results.

Mandatory impact category indicators according to EN 15804

| | Results per functional or declared unit | | | | | | | | | | | | | |
|--|---|----------------|---------------|---------------|----------------------------------|----------------|-----------------|----------|------------------|-----------|--|--|--|--|
| Indicator | Unit | A1-A3 | A4 | A 5 | B2 | В6 | C2 | C3 | C4 | D | | | | |
| GWP- fossil | kg CO ₂ eq. | 1,29E+03 | 7,89E+01 | 3,26E+00 | 1,41E+01 | 2,76E+02 | 6,28E+00 | 4,03E+01 | 1,88E+00 | -2,71E+02 | | | | |
| GWP- biogenic | kg CO ₂ eq. | -3,32E+02 | 1,27E-02 | 4,86E+01 | 8,46E-03 | 1,65E-01 | 1,01E-03 | 2,40E+02 | 5,23E+01 | 1,61E+01 | | | | |
| GWP- luluc | kg CO ₂ eq. | 4,32E+00 | 2,82E-02 | 7,12E-04 | 1,89E-02 | 3,70E-01 | 2,05E-03 | 2,17E-03 | 8,72E-04 | -1,51E-01 | | | | |
| GWP- total | kg CO ₂ eq. | 9,64E+02 | 7,90E+01 | 5,19E+01 | 1,41E+01 | 2,76E+02 | 6,29E+00 | 2,80E+02 | 5,42E+01 | -2,46E+02 | | | | |
| ODP | kg CFC 11 eq. | 1,09E-04 | 1,56E-06 | 2,63E-08 | 8,89E-08 | 1,74E-06 | 1,25E-07 | 6,61E-08 | 3,68E-08 | -2,83E-06 | | | | |
| AP | mol H⁺ eq. | 8,64E+00 | 4,00E-01 | 1,04E-02 | 6,86E-02 | 1,34E+00 | 1,96E-02 | 4,86E-02 | 1,01E-02 | -1,13E+00 | | | | |
| EP- freshwate r ¹ | kg P eq. | 1,09E-01 | 5,95E-04 | 2,50E-05 | 6,79E-04 | 1,32E-02 | 4,83E-05 | 9,12E-05 | 1,99E-05 | -4,88E-03 | | | | |
| EP- marine | kg N eq. | 1,49E+00 | 1,20E-01 | 1,01E-02 | 1,24E-02 | 2,43E-01 | 6,54E-03 | 2,18E-02 | 4,78E-03 | -1,73E-01 | | | | |
| EP- terrestrial | mol N eq. | 1,66E+01 | 1,33E+00 | 3,92E-02 | 1,38E-01 | 2,70E+00 | 7,19E-02 | 2,32E-01 | 4,13E-02 | -2,27E+00 | | | | |
| POCP | kg NMVO C eq. | 5,51E+00 | 5,09E-01 | 1,43E-02 | 4,10E-02 | 8,00E-01 | 3,07E-02 | 6,26E-02 | 1,48E-02 | -8,09E-01 | | | | |
| ADP- minerals& metals ² | kg Sb eq. | 4,58E-02 | 2,04E-04 | 6,69E-06 | 1,29E-05 | 2,51E-04 | 2,00E-05 | 1,95E-05 | 3,18E-06 | -2,29E-04 | | | | |
| ADP- fossil ² | MJ | 1,59E+04 | 1,13E+03 | 1,91E+01 | 1,82E+02 | 3,55E+03 | 8,81E+01 | 5,51E+01 | 3,16E+01 | -3,50E+03 | | | | |
| WDP ² | m³ | 3,59E+02 | 5,54E+00 | 1,50E+00 | 3,00E+00 | 5,86E+01 | 4,24E-01 | 6,67E+00 | 1,77E-01 | -4,00E+01 | | | | |
| | Potential I | and use and la | and use chang | je; ODP = Dep | GWP-biogenic letion potential | of the stratos | pheric ozone la | | dification poter | ntial, | | | | |

Acronyms

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

¹ Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e.

² The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.





Additional mandatory and voluntary impact category indicators

| | | | R | esults per | functional | or declared | l unit | | | |
|--------------------------|---------------------------|----------|------------|------------|------------|-------------|----------|----------|-----------------|-----------|
| Indicator | Unit | A1-A3 | A 4 | A 5 | B2 | В6 | C2 | C3 | C4 | D |
| GWP- GHG ¹ | kg CO ₂ eq. | 1,25E+03 | 7,90E+01 | 3,61E+00 | 1,41E+01 | 2,76E+02 | 6,29E+00 | 4,04E+01 | 3,34E+00 | -2,62E+02 |
| РМ | Disease inc. | 1,22E-04 | 7,44E-06 | 1,31E-07 | 6,05E-07 | 1,18E-05 | 4,89E-07 | 8,25E-07 | 2,24E-07 | -2,37E-05 |
| IRP ² | kBq U- 235 eq | 2,36E+01 | 4,82E-01 | 1,52E-02 | 7,31E-01 | 1,43E+01 | 4,02E-02 | 3,85E-02 | 1,21E-02 | -4,93E+00 |
| ETP-fw ³ | CTUe | 1,29E+04 | 2,64E+02 | 2,75E+02 | 3,57E+01 | 6,97E+02 | 2,36E+01 | 1,14E+02 | 7,20E+02 | -1,38E+03 |
| HTP-c ³ | CTUh | 1,39E-05 | 4,78E-07 | 1,83E-08 | 1,53E-08 | 2,99E-07 | 4,37E-08 | 6,79E-08 | 8,07E-09 | -3,68E-06 |
| HTP-nc ³ | CTUh | 2,48E-05 | 7,24E-07 | 1,24E-07 | 8,42E-08 | 1,64E-06 | 5,67E-08 | 3,84E-07 | 4,00E-08 | -1,25E-07 |
| SQP ³ | dimensi onless | 3,08E+04 | 1,08E+03 | 1,26E+01 | 2,71E+01 | 5,29E+02 | 5,25E+01 | 3,43E+01 | 7,26E+01 | -1,57E+03 |
| Acronyms | | | | | | | | | idiation, human | |

¹ This 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 CO2 is set to zero.

Resource use indicators

| | | | F | Results per | functional | or declare | ed unit | | | |
|-----------|------|----------|------------|-------------|------------|------------|----------|-----------|-----------|-----------|
| Indicator | Unit | A1-A3 | A 4 | A 5 | B2 | В6 | C2 | C3 | C4 | D |
| PERE | MJ | 3,74E+03 | 1,75E+01 | 1,81E+02 | 2,20E+01 | 4,30E+02 | 1,49E+00 | 1,17E+03 | 4,15E+02 | -2,37E+02 |
| PERM | MJ | 2,77E+03 | 0,00E+00 | -4,00E+02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -1,95E+03 | -4,14E+02 | 1,32E+02 |
| PERT | MJ | 6,51E+03 | 1,75E+01 | -2,19E+02 | 2,20E+01 | 4,30E+02 | 1,49E+00 | -7,78E+02 | 6,39E-01 | -1,05E+02 |
| PENRE | MJ | 1,53E+04 | 1,13E+03 | 3,64E+01 | 1,82E+02 | 3,55E+03 | 8,81E+01 | 3,67E+02 | 1,71E+02 | -3,07E+03 |
| PENRM | MJ | 9,14E+02 | 0,00E+00 | -3,40E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -7,41E+02 | -1,40E+02 | 2,42E+02 |
| PENRT | MJ | 1,62E+04 | 1,13E+03 | 2,44E+00 | 1,82E+02 | 3,55E+03 | 8,81E+01 | -3,74E+02 | 3,16E+01 | -2,83E+03 |
| SM | kg | 2,51E+01 | 4,93E-01 | 1,92E-02 | 1,85E-02 | 3,62E-01 | 4,02E-02 | 8,21E-02 | 1,15E-02 | 2,59E+01 |

² 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.

³ The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.





| RSF | MJ | 1,29E+02 | 5,88E-03 | 2,07E-04 | 8,87E-05 | 1,73E-03 | 5,08E-04 | 1,10E-03 | 2,12E-04 | -1,09E+00 | | |
|------|---|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|--|--|
| NRSF | 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 | | |
| FW | m ³ | 9,31E+00 | 1,60E-01 | 3,05E-03 | 8,62E-02 | 1,68E+00 | 1,17E-02 | 7,13E-02 | -4,50E-01 | -1,55E+00 | | |
| | 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 | | | | | | | | | | | |

Acronyms

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; PENRM = 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

Waste indicators

| | Results per functional or declared unit | | | | | | | | | | | |
|--|---|----------|------------|------------|----------|----------|----------|----------|----------|-----------|--|--|
| Indicator | Unit | A1-A3 | A 4 | A 5 | B2 | В6 | C2 | C3 | C4 | D | | |
| Hazardous waste disposed | kg | 1,56E+02 | 1,64E+00 | 4,15E-01 | 1,22E+00 | 2,38E+01 | 1,27E-01 | 1,56E+00 | 6,59E-02 | -3,62E+01 | | |
| Non- hazardous waste disposed | kg | 3,74E+03 | 3,23E+01 | 4,98E+01 | 2,96E+01 | 5,79E+02 | 2,68E+00 | 1,48E+02 | 6,07E+02 | -8,78E+01 | | |
| Radioactive waste disposed | kg | 1,52E-02 | 3,28E-04 | 9,97E-06 | 4,70E-04 | 9,18E-03 | 2,80E-05 | 2,47E-05 | 7,75E-06 | -3,15E-03 | | |

Output flow indicators

| | Results per functional or declared unit | | | | | | | | | | | | |
|-------------------------------------|---|----------|----------|------------|----------|----------|----------|----------|----------|----------|--|--|--|
| Indicator | Unit | A1-A3 | A4 | A 5 | B2 | В6 | C2 | C3 | C4 | D | | | |
| Component s 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 | 0,00E+00 | 0,00E+00 | | | |
| Material for recycling | kg | 0,00E+00 | 0,00E+00 | 1,30E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,72E+01 | 0,00E+00 | 5,24E+01 | | | |
| Materials 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 | | | |
| Exported energy, electricity | MJ | 0,00E+00 | 0,00E+00 | 2,21E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,47E+02 | 0,00E+00 | 0,00E+00 | | | |
| Exported energy, thermal | MJ | 0,00E+00 | 0,00E+00 | 6,62E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,42E+02 | 0,00E+00 | 0,00E+00 | | | |

Mass balance approaches (MBAs), to claim, for example, biobased, renewable, and/or recycled product content, are not applied.

The use of the results of modules A1-A3 without considering the results of module C is not encouraged.

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.





References

- General Programme Instructions of the International EPD® System. Version 4.0.
- PCR 2019:14 Construction products v1.3.4
- NPCR 026:2022 Part B for Furniture (references to EN 15804 +A2)
- EN 15804:2012+A2:2019: Sustainability of construction works Environmental product declarations Core rules for the product category of construction product
- ISO 14040: 2006 Environmental management Life cycle assessment Principles and framework
- ISO 14044: 2006 Environmental management Life cycle assessment Requirements and Guidelines
- ISO 14020: 2002 Environmental labels and declarations- General principles
- ISO 14025: 2006 Environmental labels and declarations Type III environmental declarations Principles and procedures
- The International EPD® System; www.environdec.com
- The International EPD® System / The General Programme Instructions; http://www.environdec.
- com/tr/The-International-EPD-System/General-Programme-Instructions
- openLCA Software, ecoinvent 3.10 database; https://www.openlca.org/openlca





Contact Information

The International EPD® System www.environdec.com

EPD International AB Box 210 60 SE-100 31 Stockholm / Sweden

Programme Operator



www.environdec.com info@environdec.com

Owner of the declaration



Hazal Sena YERLİKAYA R&D Specialist Phone: +90 312 589 00 00

NUMAŞ TEKNOLOJİ ÜRETİM A.Ş. Oğuz Caddesi 1. Organize San. Blg. No:25 06934 Sincan/Ankara

www.nurus.com calma.nurus.com

LCA practitioner



'Sustainability Consultancy'

Türkiye: Kısıklı Mahallesi Hanımseti Sokak No:5 Üsküdar/İstanbul +90 216 369 73 93

Eren Yaman ERKE Sürdürülebilir Bina Tasarım Ltd. Şti. www.erketasarim.com info@erketasarim.com The United Kingdom: 71 75 Shelton St, London WC2H 9FD, UK

+44 20 8159 8932

3rd party verifier

Ipek Göktas Kalkan Göktas Kalkan Ipek TMI info@ipekgoktas.com

Leikosaarentie 11 D 59 00980 Helsinki / Finland

