



## Environmental Product Declaration

Accordance with ISO 14025 and EN 15804:2012+A2:2019/AC:2021:  
EPD Type: Multiple products (average)

- EXTRA POWER GEL
- GOLD
- VINYL 500 GEL
- SPECIAL GOLD
- ELASTIC
- EXTRA GOLD
- VINYL 700 ELASTIC
- EXPORT GOLD
- EXTRA POWER
- VINYL 400 FLEX
- VINYL 500
- PLUS
- EXTRA FLEX

Tile & granite installation

**Programme:**  
The International EPD® System, [www.environdec.com](http://www.environdec.com)

**Programme operator:**  
EPD International AB

**EPD registration number:**  
S-P-13557

**Publication date:**  
2024-07-05

**Valid until:**  
2029-07-04

**UN CPC:**  
375 Articles of concrete, cement and plaster

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com).

## General Information

### Scope

The goal of this report is the development of an Environmental Product Declaration (EPD) presenting the environmental performance of **average product of multiple tile & granite installation products** manufactured by **DUROSTICK S.A.** located in Patima Kororemi during the reporting year 2022.

The intended use of this report as well as EPDs aims to inform construction companies, builders, engineers, concrete users, and end users.



## Manufacturer Information

■ **DUROSTICK** was founded in 1988 with its headquarters located in Agioi Anargyroi, Attica, Greece. The vision and goal of the founder, Mr. Nikolaos Choulis, was -and still is- the growth of the business with a leading position in product development and manufacturing, with respect for the environment, workers and end users.

■ It has cutting-edge engineering technology, high-tech facilities, producing 900 tons of adhesives and paints every day. The product range of **DUROSTICK** is divided in 9 categories that cover the entire building spectrum and meet even the most demanding customer needs.

- |                 |                               |              |
|-----------------|-------------------------------|--------------|
| • Installations | • Waterproofing               | • Protection |
| • Reinforcing   | • Sealing                     | • Painting   |
| • Repairing     | • Energy upgrade of buildings | • Cleaning   |



- More than 200 people are employed in the company. The well-equipped chemistry labs are part of the Research & Development (R&D) department, where all are committed to the creation of innovative new products and improve current product range.
- Company's sales present sustainable growth, while its export operations in countries such as United Kingdom, Cyprus, Albania, Romania, the UAE, Libya, Kuwait and Egypt are increasing.
- In addition, **DUROSTICK** made the idea of sustainable development a reality by investing financially and making efforts to incorporate and implement new technology for the protection of the environment. One of the company's primary goals and core beliefs is the concerted effort to improve the working environment for the health and safety of its workers.
- **DUROSTICK** is also committed to building and maintaining meaningful relationships, characterized by integrity and honesty, with its clients and associates. The company focuses on the needs of both the professional and individual consumer of **DUROSTICK** products.
- The company implements an Environmental Management System, according to the standard ISO 14001.
- Production and quality control are ISO 9001 (EN ISO 9001:2015) - certified. All products meet the European Standards and are CE marked, where applicable.



## EPD information

The EPD was developed according to the requirements of EN 15804:2012+A2:2019/AC:2021 and EN ISO 14025. Also, the EPD was developed taking into account the principles of Product Category Rules (PCR) 2019:14 “Construction products” (Version 1.3.3) and c-PCR-017 Technical-chemical products (for construction sector).

- The EPD owner has 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.

■ <b>Programme</b>	The International EPD® System Valhallavägen 81, SE 11427 Stockholm, Sweden <a href="http://www.environdec.com">www.environdec.com</a>	
■ <b>Programme Operator</b>	EPD International AB Box 210 60, SE-100 31 Stockholm, Sweden <a href="mailto:info@environdec.com">info@environdec.com</a>	
■ <b>Owner of the EPD/ Location of the production site</b>	<b>DUROSTICK S.A.</b> Patima Kororemi 19300 Aspropyrgos Attiki, Greece +30 210 5598350 <a href="mailto:info@durostick.gr">info@durostick.gr</a> <a href="http://www.durostick.gr">www.durostick.gr</a>	
■ <b>LCA Practitioner</b>	Terra Neutral PC Kaisareias 39, 11527, Athens <a href="mailto:information@terraneutral.gr">information@terraneutral.gr</a> <a href="http://www.terraneutral.gr">www.terraneutral.gr</a>	
■ <b>Product Category Rules (PCR)</b>	CEN standard EN 15804 serves as the Core Product Category Rules (PCR), PCR 2019:14, Version 1.3.3, c-PCR-017 Technical-chemical products (for construction sector)	
■ <b>PCR review was conducted by</b>	The Technical Committee of the International EPD® System. A full list of members available on <a href="http://www.environdec.com">www.environdec.com</a> . The review panel may be contacted via <a href="mailto:info@environdec.com">info@environdec.com</a> .	
<b>■ Independent third-party verification of the declaration and data, according to ISO 14025:2010 via:</b> <input checked="" type="checkbox"/> External EPD verification by accredited certification body <input type="checkbox"/> EPD Process Certification		
<b>■ Third party verification:</b> Business Quality Verification PC (BQV) is an approved certification body accountable for third party verification. The certification body is accredited by <b>Hellenic Accreditation System ESYD with accreditation number 1218</b>		
■ <b>Verifier:</b>	Business Quality Verification PC Konitsis Street 5, 15125, Athens <a href="mailto:info@bqv.gr">info@bqv.gr</a> <a href="http://www.bqv.gr">www.bqv.gr</a>	
<b>■ Procedure for follow-up of data during EPD validity involves third party verifier:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		





## Product identification



## EXTRA POWER GEL

Flexible and resinous, thixotropic adhesive for tiles and natural stones

CPC CODE 375 Articles of concrete, cement, and plaster

High-performance cementitious, fine-grained white tile adhesive. The inorganic, amorphous silicates and the new technology resins contained in its composition, give the mixture unique GEL properties, excellent thixotropy, workability, and ease of application. Presents strong adhesion to sound substrates and zero slip. Distinguished for its resistance to moisture, frost, expansions and contractions. **Suitable** for any type of tile installation, from glass mosaic to very large format tiles, but also natural stones. Use it for both interior and exterior applications. When working with large format tiles, the application of the adhesive is done by the method of double coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

25kg

PACKAGING



## Content Information

Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:

[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Extra\\_power\\_gel\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Extra_power_gel_eng.pdf)



## Content Information

## Product identification



Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

## VINYL 500 GEL

### Deformable and thixotropic, vinyl tile adhesive

CPC CODE 375 Articles of concrete, cement, and plaster

-Product not yet on the market-

Advanced new GEL technology and highly flexible ceramic tile adhesive based on cement, reinforced with vinyl resins (vinyl acetate 3.50%). The adhesive's fine grain formula, and the advanced new technology resins contained in its composition, give the mixture unique GEL properties, excellent thixotropy, workability, and ease of application.

An adhesive of high performance and adhesive strength, powerful bonding, zero vertical slip and extended open time.

**Suitable** for any type of tile installation, from glass mosaics to very large format tiles, but also natural stones. Distinguished for its durability against moisture, frost as well as expansions and contractions. Suitable for both interior and exterior applications.

When working with large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:

[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Vinyl\\_500\\_GEL\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Vinyl_500_GEL_eng.pdf)

25kg

PACKAGING





## Product identification



## Content Information

Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

## ELASTIC

Highly deformable adhesive for all types of tile & granite

### CPC CODE 375 Articles of concrete, cement and plaster

One-component, extremely flexible cementitious white adhesive that is fortified with acrylic resins and specially selected, low water absorption aggregates. Provides high adhesive strength, zero vertical slip, and an extended open time. Its thixotropic properties allow for coating applications up to 20mm thick without 'sagging'. Ensures any lining from detachments due to minor seismic vibrations and intense expansions and contractions.

**Suitable** for tile installation of all types and sizes, even those with minimal absorbency, on sound substrates, such as waterproofed surfaces, plaster, concrete, and floors with radiant heating systems, terraces, roofs, areas with permanent moisture presence (fountains, swimming and athletic pools, baths, showers), heavy traffic areas etc. Also bonds cork panels and expanded polystyrene boards. Ideal for restorations of tiles, mosaic, marble, etc. Use it for both interior and exterior applications. When working with large format tiles, the application of the adhesive is done by the method of double coat application, on the substrate, but also on the tile (tile back buttering). Classified C2TE S2 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:  
[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Elastic\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Elastic_eng.pdf)

5kg, 25kg

### PACKAGING







## Product identification



## VINYL 700 ELASTIC

Highly deformable adhesive for all types of tile & granite

CPC CODE 375 Articles of concrete, cement and plaster

New generation and exceptionally flexible white tile adhesive based on cement and reinforced with a very high content of vinyl resins (vinyl acetate 6%). It presents strong adhesion, zero vertical slip and extended open time. Thixotropic, allows for coatings of up to 20mm, without sagging. Its use ensures all installations against detachments caused by light earthquakes or severe expansions and contractions. **Suitable** for installing all types and sizes of low and non absorbent tiles, on sound and stable substrates. Substrates such as waterproofed surfaces, concrete, plaster or prefabricated concrete wall surfaces, floors with radiant heating systems, balconies, patios, terraces, spaces with permanent moisture, such as fountains, bathrooms, showers, fountains, athletic and swimming pools, as well as heavy traffic areas etc. The product is suitable for installing cork sheets and polyurethane boards (expanded and extruded). Necessary for installations over existing surfaces lined with tiles, mosaic, marble etc. Use it for both interior and exterior applications. When working with large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering). Classified C2TE S2 per EN 12004 and 12002. **Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

25kg

PACKAGING



## Content Information

Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:

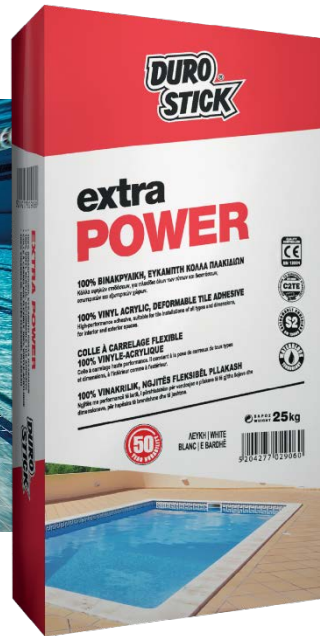
[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Vinyl\\_700\\_ELASTIC\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Vinyl_700_ELASTIC_eng.pdf)





## Product identification

## Content Information



## EXTRA POWER 100% Vinyl acrylic deformable tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

High performance and extremely flexible cementitious white adhesive, with vinyl acrylic resins. Distinguished for its high thixotropy, zero vertical slip, and resistant to even constant moisture and frost. Once cured, it is resistant to the creation of fungi. Allows for coating applications up to 20mm thick without sagging, and it has an extended open time.

**Suitable** for all types of tile installation, small and large format, such as granite and glass mosaic, cotto, klinker, porcellanato, porcellanato smaltato, and decorative bricks. Use it for both interior and exterior applications on substrates with increased requirements for adhesion, flexibility, resistance to moisture, frost, expansions and contractions, temperature variations. Suitable for tile over tile installations, but also applications over radiant floor heating systems, terraces, roofs, swimming pools, building facades, heavy traffic areas, etc. When working with large format tiles, the application of the adhesive is done by the method of double coat application, on the substrate, but also on the tile (tile back buttering). Classified C2TE S2 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

25kg

PACKAGING



Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

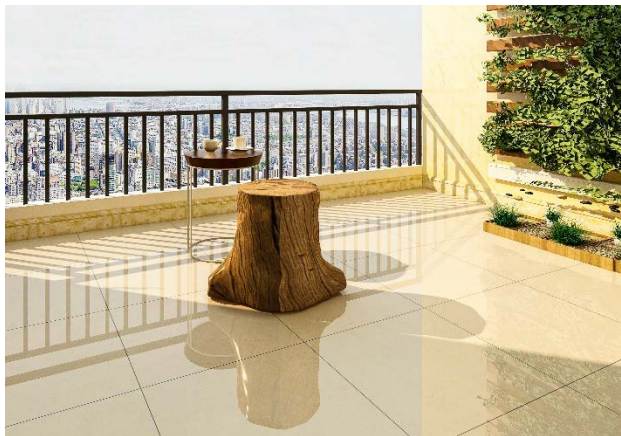
■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:  
[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Extra\\_power\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Extra_power_eng.pdf)



## Product identification

## Content Information



# VINYL 500 EXTRA FLEX

## Vinyl acrylic deformable tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

Next generation and highly flexible white tile adhesive based on cement and reinforced with a high content of vinyl resins (vinyl acetate 4.50%). Distinguished for its thixotropy, flexibility, zero vertical slip and durability, even in permanent moisture and frost. Once cured it is resistant to the creation of fungi. Allows for coatings of up to 20mm, without sagging, while it has an extended open time.

**Suitable** for installing low and non-absorbent tiles and large size granites, on building facades. It is necessary for installing very hard and resilient tiles, like klinker, gres, porcellanato, porcellanato smaltato and ceramic or glass mosaics. Distinguished for its durability against expansions and contractions indoors, associated with floor radiant heating systems, and intense temperature variations in outdoor spaces, such as balconies and terraces. Also distinguished for its durability when used in areas with permanent moisture, such as athletic and swimming pools, fountains, bathrooms, showers, etc. It is suitable for heavy traffic areas, such as car showrooms, airport terminals, shopping malls, super markets, as well as catering halls and public areas in general. When working with large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S2 per EN 12004 and 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

25kg

PACKAGING



Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:

[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Vinyl\\_500\\_EXTRA\\_FLEX\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Vinyl_500_EXTRA_FLEX_eng.pdf)





## Product identification



## GOLD High performance, deformable tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

Cementitious, highly flexible white tile and granite adhesive, reinforced with acrylic resins. Distinguished for its strong adhesion, its zero vertical slip and resistance to moisture and frost. Its high thixotropy allows for coatings in thicknesses of up to 15mm without sagging while it has an extended open time.

**Suitable** for bonding low and non absorbent tiles like granite, glass mosaic, cotto, klinker, porcellanato, porcellanato smaltato and decorative bricks. Use it for both interior and exterior applications. Distinguished for its durability against expansions and contractions indoors, associated with floor radiant heating systems, and intense temperature variations in outdoor spaces, such as balconies and terraces. It provides excellent adhesion in areas with permanent moisture, such as athletic and swimming pools, fountains, bathrooms, showers, etc. When working with medium and large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

5kg, 25kg

PACKAGING



## Content Information

Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:  
[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Gold\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Gold_eng.pdf)



## Product identification

## Content Information



## SPECIAL GOLD

### High performance, deformable tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

Cementitious, highly flexible white tile and granite adhesive, reinforced with acrylic resins. Distinguished for its strong adhesion, its zero vertical slip and resistance to moisture and frost. Its high thixotropy allows for coatings in thicknesses of up to 15mm without sagging while it has an extended open time.

**Suitable** for bonding low and non absorbent tiles like granite, glass mosaic, cotto, klinker, porcellanato, porcellanato smaltato and decorative bricks.

Use it for both interior and exterior applications. Distinguished for its durability against expansions and contractions indoors, associated with floor radiant heating systems, and intense temperature variations in outdoor spaces, such as balconies and terraces. It provides excellent adhesion in areas with permanent moisture, such as athletic and swimming pools, fountains, bathrooms, showers, etc. When working with medium and large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:

[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Special\\_Gold\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Special_Gold_eng.pdf)

25kg

PACKAGING







## Product identification

## Content Information



Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

## EXTRA GOLD

High performance, deformable tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

Cementitious, highly flexible white tile and granite adhesive, reinforced with acrylic resins. Distinguished for its strong adhesion, its zero vertical slip and resistance to moisture and frost. Its high thixotropy allows for coatings in thicknesses of up to 15mm without sagging while it has an extended open time.

**Suitable** for bonding low and non absorbent tiles like granite, glass mosaic, cotto, klinker, porcellanato, porcellanato smaltato and decorative bricks.

Use it for both interior and exterior applications. Distinguished for its durability against expansions and contractions indoors, associated with floor radiant heating systems, and intense temperature variations in outdoor spaces, such as balconies and terraces. It provides excellent adhesion in areas with permanent moisture, such as athletic and swimming pools, fountains, bathrooms, showers, etc. When working with medium and large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:

[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Extra\\_Gold\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Extra_Gold_eng.pdf)

25kg

PACKAGING





## Product identification



## EXPORT GOLD High performance, deformable tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

Cementitious, highly flexible white tile and granite adhesive, reinforced with acrylic resins. Distinguished for its strong adhesion, its zero vertical slip and resistance to moisture and frost. Its high thixotropy allows for coatings in thicknesses of up to 15mm without sagging while it has an extended open time. **Suitable** for bonding low and non absorbent tiles like granite, glass mosaic, cotto, klinker, porcellanato, porcellanato smaltato and decorative bricks. Use it for both interior and exterior applications. Distinguished for its durability against expansions and contractions indoors, associated with floor radiant heating systems, and intense temperature variations in outdoor spaces, such as balconies and terraces. It provides excellent adhesion in areas with permanent moisture, such as athletic and swimming pools, fountains, bathrooms, showers, etc. When working with medium and large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

25kg

PACKAGING



## Content Information

Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
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For more information please visit:

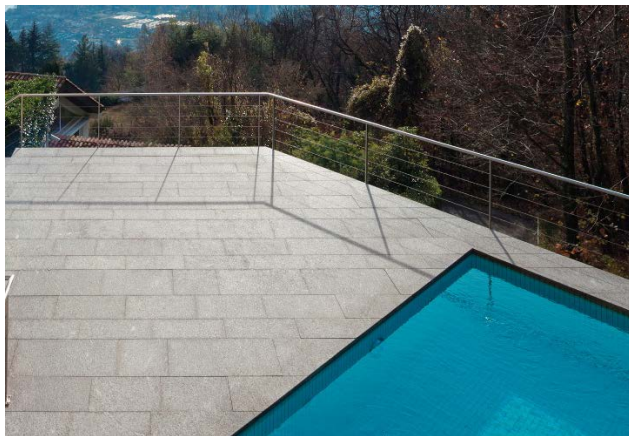
[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Export\\_Gold\\_enq.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Export_Gold_enq.pdf)





## Content Information

## Product identification



Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
Additives	0.01-0.05
Minors	<0.01
Packaging Components	Average Content, kg/kg
Paper sack	<0.01
PET	<0.01 – 0.018
Paper box	0.00 – 0.018
Stretch Film – Stretch Hood	<0.01
Pallette	0.015 – 0.018

## VINYL 400 FLEX

High performance, deformable vinyl tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

Next generation and highly flexible white tile adhesive, based on cement and selected aggregates with uniform grain sizes. Reinforced with vinyl resins (vinyl acetate 2.50%). Distinguished for its strong adhesion, its zero vertical slip and resistance to moisture and frost. Its high thixotropy allows for coatings in thicknesses of up to 15mm without sagging while it has an extended open time.

**Suitable** for bonding low and non absorbent tiles such as granite, glass mosaic, cotto, klinker, porcellanato, porcellanato smaltato and decorative bricks, regardless of their dimensions. Use it indoors and out, on substrates with increased grip requirements. Distinguished for its durability against expansions and contractions indoors, associated with floor radiant heating systems, and intense temperature variations in outdoor spaces, such as balconies and terraces. It provides excellent adhesion in areas with permanent moisture, such as athletic and swimming pools, fountains, bathrooms, showers, etc). When working with medium and large format tiles, the installation is done by the method of double-coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

■ No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the products above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

For more information please visit:

[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Vinyl\\_400\\_FLEX\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Vinyl_400_FLEX_eng.pdf)

25kg

PACKAGING





## Content Information

## Product identification



## PLUS Reinforced tile adhesive

CPC CODE 375 Articles of concrete, cement and plaster

Cementitious and flexible white adhesive for tiles and granite, fortified with acrylic resins. Its high plasticity and thixotropy distinguish the product for its high adhesive strength and zero vertical slip. It allows for coating applications up to 12mm thick without 'sagging' and it has an extended open time.

**Suitable** for the installations of all types of low and non absorbent tiles and granite, in bathrooms and showers, fountains, exterior spaces with high humidity levels and floors subjected to loads and stress.

When working with medium and large format tiles, the application of the adhesive is done by the method of double coat application, on the substrate, but also on the tile (tile back buttering).

Classified C2TE S1 per EN 12004 and EN 12002.

**Color:** white. **Consumption:** 3-5kg/m<sup>2</sup>.

Components	Average Content, kg/kg
Cement	0.25-0.35
Fillers	0.60-0.70
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■ The packaging of the products includes wooden pallets that are reused, stretch film, PET and paper packaging. All packaging used is recyclable.

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For more information please visit:

[https://www.durostick.gr/en/sites/default/files/2023-10/tds\\_Plus\\_eng.pdf](https://www.durostick.gr/en/sites/default/files/2023-10/tds_Plus_eng.pdf)

25kg

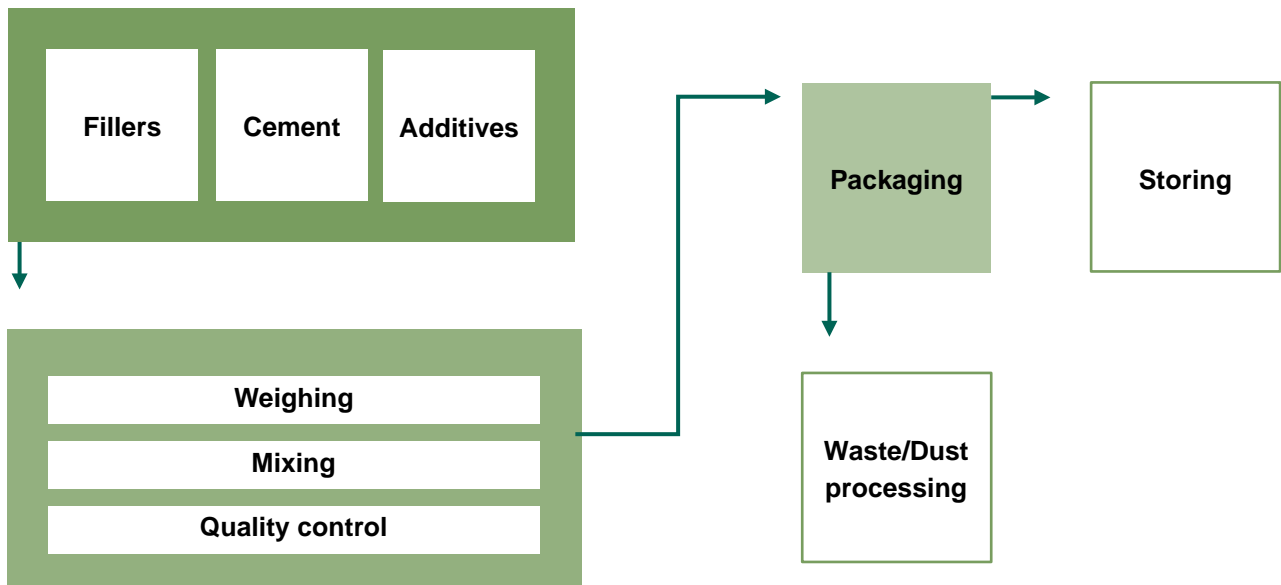
PACKAGING





## Manufacturing Process

### Production process diagram



## System Boundaries

The approach followed is “Cradle to gate with modules C1–C4 and module D (A1-A3, C and D)”, covering the Product stage which is mandatory, the End-of-life stage and the Benefits and loads beyond the system boundary. The following modules were considered:

- **A1:** Raw material extraction and processing, processing of secondary material input (includes electricity and packaging production);
- **A2:** Transportation of all raw materials to the manufacturing plant;
- **A3:** Manufacturing process (includes the waste management of the production);
- **C1:** De-construction, demolition;
- **C2:** Transport to waste processing;
- **C3:** Waste processing for reuse, recovery and/or recycling;
- **C4:** Disposal;
- **D:** Reuse, recovery and/or recycling potentials, expressed as net impacts and benefits.

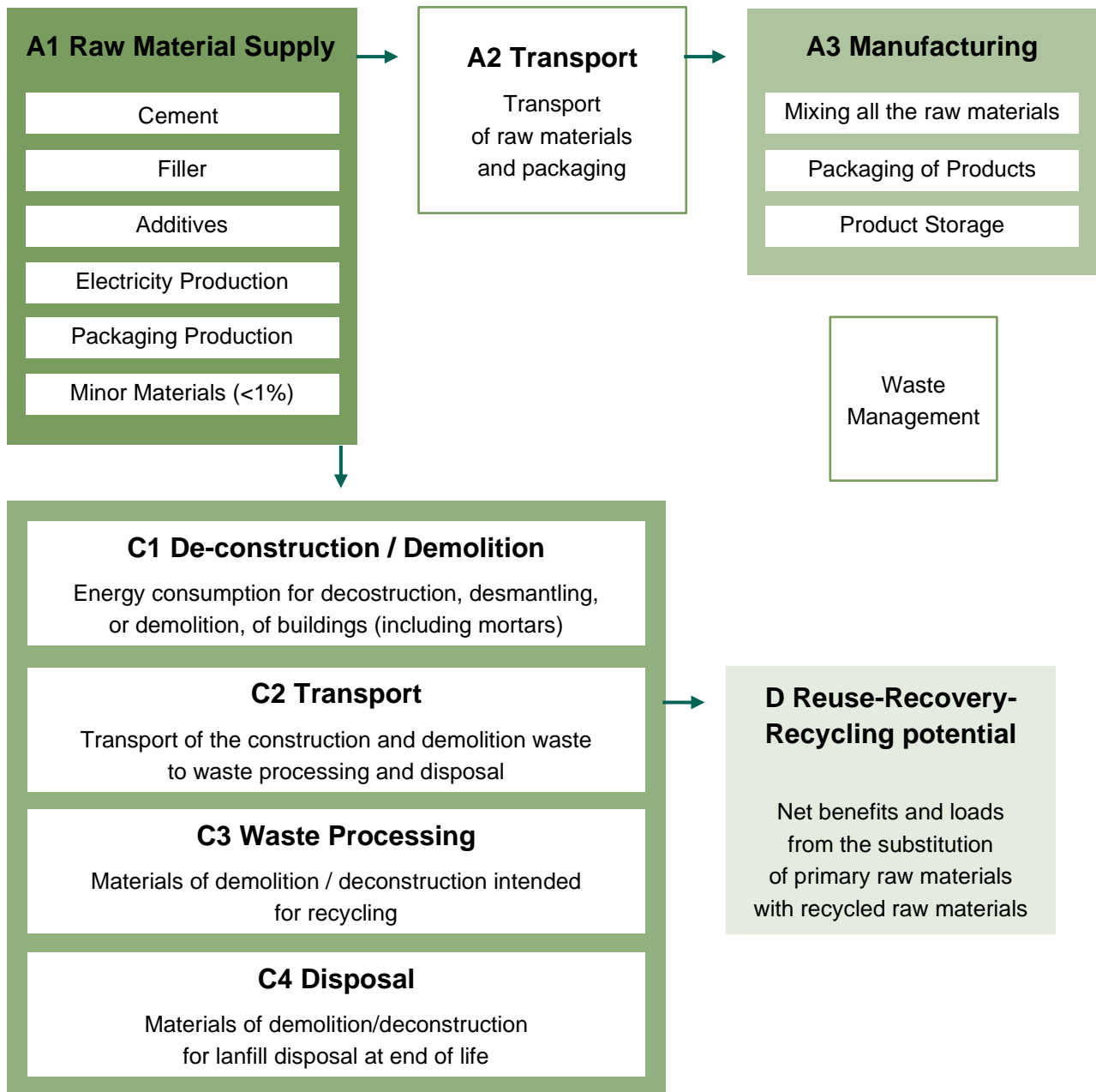
	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling- potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	EU	EU	GR	ND	ND	ND							GLO		GLO	GLO	
Specific data	>95%			-	-												
Variation - products	<10%			-	-												
Variation sites	Manufactured in one site			-	-												

The life cycle stages A4, A5 and B, which are optional, were not included in the LCA study due to the fact that there is significant uncertainty in the construction process stage as well as the use stage.



# Description of the modules

## Production process diagram



## LCA information

### Declared unit

The declared unit is 1kg of **Tile & Granite Installation product** (average product)

### Time representativeness

All primary data used in this study is for the reporting year 2022

### Databases used

The databases that were used were the following: EN15804 add-on for ecoinvent v3.9.1. The impact assessment method used was the EN15804+A2

### Geographical Scope

Worldwide

### Cut-off rules and exceptions

All inputs and outputs were included in the calculation of the system process of the production stage. The cut-off criteria were 1% for the total mass input and 1% for the renewable and non-renewable primary energy usage for each process, where the maximum was 5% for energy usage and mass that was included for all processes, according to EN 15804 and PCR 2019:14. The materials that were <1% for the total mass and excluded were minor materials. Wooden pallets are reusable. It is assumed that energy usage for the deconstruction and demolition of mortars at the End-of-life stage (module C1) was <5% because they are not removed from the applying surface during deconstruction and so, were not included in LCA calculations. The manufacturing processes of the capital goods or spare parts, infrastructure for general management, office and headquarters operations as well as people activities (common activities, travel for work, etc.), and waste streams relating to maintenance of equipment have been exempted. Also, the construction process stage (A4-A5) and use stage (B1-B7) were excluded.

### Data Quality

All the data used to model the manufacturing process for the specific products covered by this EPD, are specific data and there are no data gaps. Data for raw material supply and transport to the manufacturing plant and production (A1-A3) are based on specific consumption data for the specific production process taking place at the production site in Patima Kororemi for the reference year 2022. Regarding electricity, a data set was modified according to Greece's energy residual mix 2022 provided by DAPEEP. The **GWP-GHG indicator** for electricity has value of **0.6577 kg CO<sub>2</sub>eq/KWh**. Generic datasets were used for the upstream processes (production of raw material and transportation) as well as for the End-of-Life stage calculations. For this reason, EN 15804 add-on for Ecoinvent have been used, as these database contain the most extensive and updated information and its scope coincides with the geographical, technological and temporal area of the project. All the datasets used for calculations cover either the area of Greece, Europe or the Rest of the World. The best available datasets are picked each time, as far as geography and date are concerned. Technological coverage is specific or average. The LCA was modelled with OpenLCA 2.1.0



## Assumptions

### The following assumptions have been made in this EPD:

- This is an EPD of multiple products, based on the average results of the product group. For each indicator in the environmental performance, the average results of the included products are declared.
- LCA study does not include the manufacturing processes of the capital goods or spare parts.
- It does not include equipment maintenance.
- The environmental impact of infrastructure for general management, office and headquarters operations is not included.
- The impact caused by people (common activities, travel for work, office activities) was not considered.
- The environmental impact of external transport has been calculated using lorries from the EN 15804 add-on database, EURO 4. These lorries have been selected to reflect the most realistic scenario possible.
- The scenarios included are currently in use and are representative for one of the most probable alternatives.
- Wooden pallets used are assumed to be 100% reused, recycled or/and sent for repair.
- Modules C1-C4 based on scenarios.
- Mortars at the End-of-Life stage are assumed to be collected as mixed construction and demolition waste (C&D waste).
- Concerning module C1, mortars are not removed from the applied material during the deconstruction. Thus, the impacts of deconstruction/demolition of mortars are assumed to be zero.
- For module C2 a distance of 100km and EURO 4 truck is assumed for the transportation of mortars that are included into debris, to waste processing after deconstruction.
- Regarding module C3, the recovery rate of mortars (as mixed construction waste) at the End-of-life, is 46.2% based on ELSTAT report of 2020. The process losses of the waste treatment plant are assumed to be negligible. The remaining 53.8% of mortar waste is assumed to end in landfill (C4). For the carbonation of waste during storage, before the recycling process, a service life of ¼ year under “exposed to rain” exposure conditions was assumed. Also, the carbonation of waste in landfill assumed for a service life of 100 years under “in ground” exposure conditions
- Module D calculates the potential environmental benefits of the recycling or reuse of materials. The recycled content in mortar is assumed to be zero. The recovery rate of C&D waste is 46.2%. The waste aggregates that are produced from this recovery process are used in the production of cement and several other projects of the construction sector

## Allocations

Taking into account that all the products are produced implementing the same production procedure, there is no allocation in different production subsystems (sub -processes). There are no co-products produced using other production procedures.

Regarding the input of raw materials, it was based on the composition of each specific product taking into account the BoM for each product. The material losses from manufacture were lower than 1%.

Waste has been divided by the total quantity of products.

Therefore, no allocation method was used (economic or physical) for electricity or raw materials.

Economic allocation was not used in any case.

## Environmental Performance

The environmental indicators for **1kg of Tile & Granite Installation product** are presented in the following tables. The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

### ■ Potential environmental impact according to EN 15804 (EF 3.1 reference package) - Results per declared unit

Indicator	Unit	A1-A3	C1	C2	C3	C4	D	Variation A-C
ADPE	kg Sb eq	4,71E-07	0,00E+00	6,19E-08	1,24E-08	4,63E-09	-1,90E-08	10%
ADPF	MJ (net calorific)	4,27E+00	0,00E+00	2,69E-01	7,22E-02	8,20E-02	-3,22E-02	5%
AP	mol H+ eq	1,58E-03	0,00E+00	7,74E-05	3,33E-05	2,46E-05	-2,05E-05	6%
EPF	kg P eq	5,56E-05	0,00E+00	1,32E-06	9,76E-07	2,72E-07	-1,46E-06	25%
EPM	kg N eq	3,12E-04	0,00E+00	2,95E-05	1,35E-05	9,45E-06	-3,51E-06	4%
EPT	mol N eq	4,78E-03	0,00E+00	3,15E-04	1,45E-04	1,01E-04	-4,63E-05	3%
GWPB	kg CO <sub>2</sub> eq	4,00E-04	0,00E+00	5,42E-06	6,06E-06	1,29E-06	-5,24E-06	18%
GWPF	kg CO <sub>2</sub> eq	3,90E-01	0,00E+00	1,87E-02	-1,65E-02	-2,39E-01	-2,89E-03	4%
GWPL	kg CO <sub>2</sub> eq	1,78E-04	0,00E+00	9,28E-06	2,91E-06	2,01E-06	-3,80E-06	18%
GWPT	kg CO <sub>2</sub> eq	3,91E-01	0,00E+00	1,87E-02	-1,65E-02	-2,39E-01	-2,90E-03	4%
GWP - GHG	kg CO <sub>2</sub> eq	3,90E-01	0,00E+00	1,87E-02	-1,65E-02	-2,39E-01	1,80E-03	4%
ODP	kg CFC-11 eq	8,25E-09	0,00E+00	4,09E-10	8,22E-11	9,46E-11	-3,83E-10	16%
POCP	kg NMVOC eq	1,29E-03	0,00E+00	1,13E-04	4,49E-05	3,53E-05	-7,00E-03	4%
WDP	m <sup>3</sup> world eq	7,49E-02	0,00E+00	1,32E-03	5,90E-04	2,55E-04	2,17E-04	3%

### ■ Use of resources - Results per declared unit

Indicator	Unit	A1-A3	C1	C2	C3	C4	D	Variation A-C
PENRE	MJ	4,04E+00	0,00E+00	2,45E-01	6,70E-02	7,46E-02	2,21E-02	5%
PENRM	MJ	2,38E-01	0,00E+00	2,33E-02	5,28E-03	7,40E-03	-5,62E-02	5%
PENRT	MJ	4,28E+00	0,00E+00	2,69E-01	7,23E-02	8,20E-02	2,11E-02	5%
PERE	MJ	3,06E-01	0,00E+00	4,14E-03	3,82E-03	6,89E-04	9,45E-04	19%
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,16E-03	-
PERT	MJ	3,06E-01	0,00E+00	4,14E-03	3,82E-03	6,89E-04	7,80E-04	19%
FW	m <sup>3</sup>	1,75E-03	0,00E+00	3,21E-05	3,48E-05	8,47E-05	-1,57E-04	3%
NRSF	MJ	1,49E-01	0,00E+00	1,54E-04	1,33E-04	1,81E-05	-3,53E-05	0%
RSF	MJ	8,67E-02	0,00E+00	7,85E-05	1,16E-04	7,05E-06	-1,77E-04	1%
SM	Kg	1,83E-02	0,00E+00	2,91E-04	2,34E-04	3,62E-05	-2,12E-04	107%



■ **Output flows - Results per declared unit**

Indicator	Unit	A1-A3	C1	C2	C3	C4	D	Variation A-C
CRU	kg	-4,17E-22	0,00E+00	-1,04E-23	0,00E+00	0,00E+00	0,00E+00	-22%
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-
EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,48E-04	-
MFR	kg	4,58E-03	0,00E+00	2,64E-04	2,18E-04	2,97E-05	-5,65E-02	27%

■ **Use of resources - Results per declared unit**

Indicator	Unit	A1-A3	C1	C2	C3	C4	D	Variation A-C
HWD	kg	-1,26E-03	0,00E+00	-2,49E-04	7,98E-05	5,63E-05	-7,33E-04	-11%
NHWD	kg	-6,98E-03	0,00E+00	-1,28E-02	8,12E-02	5,37E-01	1,60E-03	-96%
RWD	kg	-4,09E-07	0,00E+00	-8,67E-08	1,16E-07	1,20E-08	1,22E-08	-19%

**Disclaimer 1:** The indicator GWP-GHG includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013).

**Disclaimer 2:** The results of the environmental impact indicators ADPE, ADPF and WDP shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

**Disclaimer 3:** If module C is included in the EPD; a disclaimer discouraging the use of the results of modules A1-A3 without considering the results of module C.

## References

- **General Programme Instructions** of the International EPD® System Version 4.0
- **ISO 14040:2006** Environmental management Life cycle assessment. Principles and framework
- **ISO 14044:2006** Environmental management. Life cycle assessment. Requirements and guidelines
- **ISO 14020:2000** Environmental labels and declarations - General principles
- **ISO 14025:2010** Environmental labels and declarations - Type III Environmental Declarations - Principles and procedures
- **PCR - 2019:14** Construction products” (Version 1.3.3)
- **c-PCR-017** Technical-chemical products (for construction sector) (c-PCR to PCR 2019:14) (adopted from EPD Norway 2022-07-08, NPCR 009 – Part B for Technical – Chemical products for building and construction industry (Version 2.0))
- **EN 15804:2012+A2:2019/AC:2021** Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
- **Residual Energy Mix 2022** from Renewable Energy Sources Operator & Guarantees of Origin (DAPEEP SA) (dapeep.gr)
- **ELSTAT (2020)** <https://www.statistics.gr/>
- Improving of C&D Waste management framework in Greece (2020), Greek Ministry of the Environment and Energy [https://ypen.gov.gr/wp-content/uploads/2021/02/Final-Report-3.1-CDW-management-20200826\\_final-GR\\_12.pdf](https://ypen.gov.gr/wp-content/uploads/2021/02/Final-Report-3.1-CDW-management-20200826_final-GR_12.pdf)



## Abbreviations

ADPE	<b>Environment:</b> Abiotic depletion potential (elements)
ADPF	<b>Environment:</b> Abiotic depletion potential (fossils)
AP	<b>Environment:</b> Acidification potential
EPF	<b>Environment:</b> Eutrophication potential (freshwater)
EPM	<b>Environment:</b> Eutrophication potential (marine)
EPT	<b>Environment:</b> Eutrophication potential (terrestrial)
GWPB	<b>Environment:</b> Global warming potential (biogenic)
GWPF	<b>Environment:</b> Global warming potential (fossil)
GWPL	<b>Environment:</b> Global warming potential (land use)
GWPT	<b>Environment:</b> Global warming potential (total)
GWP - GHG	<b>Environment:</b> Global warming potential (greenhouse gas emissions)
ODP	<b>Environment:</b> Ozone depletion potential
POCP	<b>Environment:</b> Photochemical ozone creation potential
WDP	<b>Environment:</b> Water deprivation potential
PENRE	<b>Primary energy:</b> Non-renewable (energy use)
PENRM	<b>Primary energy:</b> Non-renewable (material use)
PENRT	<b>Primary energy:</b> Non-renewable (total)
PERE	<b>Primary energy:</b> Renewable (energy use)
PERM	<b>Primary energy:</b> Renewable (material use)
PERT	<b>Primary energy:</b> Renewable (total)
FW	<b>Resource:</b> Net use of fresh water
NRSF	<b>Resource:</b> Non-renewable secondary fuels
RSF	<b>Resource:</b> Renewable secondary fuels
SM	<b>Resource:</b> Secondary materials
CRU	<b>Output:</b> Components for reuse
EEE	<b>Output:</b> Exported energy (electrical)
EET	<b>Output:</b> Exported energy (thermal)
MER	<b>Output:</b> Materials for energy recovery
MFR	<b>Output:</b> Materials for recycling
HWD	<b>Waste:</b> Hazardous waste disposed
NHWD	<b>Waste:</b> Non-hazardous waste disposed
RWD	<b>Waste:</b> Radioactive waste disposed