Declaración de Prestaciones
Declaration of Performance

CE

1. Código de identificación del producto tipo / *Unique identification code of the product type:*
Baldosa prensada en seco con absorción de agua Eb ≤ 0,5%
Dust Pressed Ceramic tiles with water absorption Eb ≤ 0,5%
2. Uso o usos previstos / *Intented use(s):*
Para suelos y paredes interiores y/o exteriores
For internal and/or external flooring and wall finishes
3. Marca y dirección / *Name or registered trade mark, and contact address of the manufacturer:*
Tendencias Cerámicas S.L.
Polígono Pont. Avda. de España 114
12180 Cabanes (CASTELLON-ESPAÑA)
4. Sistema de evaluación y verificación de la constancia de prestaciones
System of assessment and verification of constancy of performance:
Sistema / *System* 4
5. Nombre y número de laboratorio notificado, si procede / *Name and identification number of notified laboratory, if relevant.*
6. Prestaciones declaradas / *Declared Performances:*

Caracteristicas esenciales *Essential Characteristics*		**Prestaciones** *Performance*	**Especificación técnica armonizada** *Harmonised technical specification*
Reacción al fuego / *Reaction to fire*		Clase / Class A1 – A1$_{fl}$	**EN 14411:2012**
Emisión de sustancias peligrosas: ***Release of dangerous substance , for:***			
- Cadmio / *Cadmium*		PND / *NPD*	
- Plomo / *Lead*		PND / *NPD*	
Fuerza rotura / *Breaking strength*		> 1300 N	
Deslizamiento / *Slipperiness*		PND / *NPD*	
Adhesión / *Bond strength/adhesión, for:*			
Adhesivos cementosos tipo : *Cementitious adhesive type :*	**C2**	> 1 N/mm2	
Resistencia al choque térmico: ***Thermal shock resistence:***		Cumple / *Pass*	
Durabilidad / *Durability for*:			
- Usos interiores / *Internal use*		Cumple / *Pass*	
- Usos exteriores: res. Helada *External use: freeze-thaw resistance*		Cumple / *Pass*	
Propiedades táctiles / *Tactility*		PND / *NPD*	

Dpto. Calidad / *Quality Department*

Fecha / *Date* : 30-10-2017

TENDENCIAS CERAMICAS, S.L.
N.I.F. B-12530557
Polígono Pont
Avda. España, 114
12180 CABANES
CASTELLÓN (SPAIN)

Declaración de Prestaciones
Declaration of Performance

CE

1. Código de identificación del producto tipo / *Unique identification code of the product type:*
Baldosa esmaltada prensada en seco, E_b>10%
Dry pressed Glazed tile, E_b>10%
2. Uso o usos previstos / *Intented use(s):*
Para paredes interiores
For internal wall finishes
3. Marca y dirección / *Name or registered trade mark, and contact address of the manufacturer:*
Tendencias Cerámicas S.L.
Polígono Pont, Avda. de España 114
12180 Cabanes (CASTELLON-ESPAÑA)
4. Sistema de evaluación y verificación de la constancia de prestaciones
System of assessment and verification of constancy of performance:
Sistema / *System* 4
5. Nombre y número de laboratorio notificado, si procede / *Name and identification number of notified laboratory, if relevant.*
6. Prestaciones declaradas / *Declared Performances:*

Caracteristicas esenciales *Essential Characteristics*		**Prestaciones** *Performance*	**Especificación técnica armonizada** *Harmonised technical specification*
Reacción al fuego / *Reaction to fire*		Clase / *Class* A1	**EN 14411:2012**
Emisión de sustancias peligrosas: ***Release of dangerous substance , for:***			
- Cadmio / *Cadmium*		PND / *NPD*	
- Plomo / *Lead*		PND / *NPD*	
Fuerza rotura / *Breaking strength:*		> 600 N	
Adhesión / *Bond strength/adhesión, for:*			
Adhesivos cementosos tipo: *Cementitious adhesive type:*	**C2**	> 1 N/mm2	
Resistencia al choque térmico: ***Thermal shock resistence:***		Cumple / *Pass*	
Durabilidad / *Durability for:*			
-Usos interiores / *Internal use*		Cumple / *Pass*	

Departamento de Calidad / Quality Department :

Fecha / *Date* : 2017-10-30

TENDENCIAS CERAMICAS, S.L.
N.I.F. B-12539557
Polígono Pont
Avda. España, 114
12180 CABANES
CASTELLÓN (SPAIN)

Tile

CSI Sections: 09 30 00

Applicable to: Ceramic and porcelain tile, glass tile, mosaic tile, quarry tile

Not Applicable to: Paver tile, Plastic tile, Metal Tile, Concrete Tile, Brick Tiling, Natural stone tile

About the GPS Standards

Gensler has made a commitment to reduce the carbon emissions on our projects by 2030. A critical step in that process is setting sustainability standards for the products that we specify every day on behalf of our clients.

Version 2.0 of the **Gensler Product Sustainability (GPS) Standards** provide criteria for 7 more of the most frequently specified product categories for our architecture and interior projects. Once finalized, this criteria will be added to the GPS Standards webpage, joining the products named in version 1.1 of the standard.

The tables on the following pages include reporting and actions that can be pursued for each criterion to align your offering with Gensler's sustainability objectives.

There are two levels of performance within the standards:

Gensler Standard represents our baseline requirements as documented in our specifications.

Market Differentiator represents achievements beyond our requirements for those manufacturers who seek to be leaders in sustainability.

For more information visit the GPS Standards webpage.

Tile

AIA Materials Pledge Impact Areas

Circular Economy · Human Health · Climate Health
Ecosystem Health · Social Health & Equity

N/A if Multi-Attribute Certification is provided

Impact Areas	Gensler Standard	Market Differentiator
Organizational Commitments *Environmental commitments made at a organizational level, rather than at the product level.*	**Sustainability Action Plan** *Provide a publicly available action plan or statement addressing your company's commitment to sustainable practices. Best practices dictate a holistic examination of Energy, Carbon, Water Use, Waste Reduction, Responsible Sourcing, and Ethical Labor Practices.*	*Select any of the items below that align with your industry and/or organizations goals:* **ESG Statement or CSR Report** **UN Global Compact** **Supply Chain Transparency** **ISO 14001** **ISO 26000** **ISO 17889** **Global Reporting Initiative (GRI)** **Foundation for Climate Friendly Procurement and Business (SKAO)** **Science Based Targets Initiative (SBTI)** **The Climate Pledge** **Carbon Disclosure Project** **Certified B-Corp®** **JUST Label**
Multi-Attribute Certifications *Third-party certifications that assess multiple sustainability attributes at both the product and organizational level.*		*Select any of the items below that align with your industry and/or organizations goals:* **Living Product Challenge 2.0 (LPC)** **Cradle to Cradle v4 or later** *Silver level certification or above* **GreenCircle Certified Sustainability Facts (CSF)** **Green Squared Certified**
Life-Cycle Impacts *Assessments and disclosures of environmental impacts throughout a product's lifecycle, including embodied carbon, circularity, responsible sourcing, and end-of-life options.*	**Environmental Product Declaration (EPD)** *Note below which type of EPD is required.* • Industry Wide **Circular Content** *Report % of content by weight. Disclosure only, no minimum threshold.* • Pre-Consumer Recycled Content • Post-Consumer Recycled Content • Biobased Content • Rapidly Renewable Content **Manufacturing Facility Location** *Required to report location.* **End of Life Options** • Sample Take Back Program *See FAQs for details*	**Environmental Product Declaration (EPD)** *Note below which type of EPD is required.* • Product-Specific **LCA Optimization** *As defined by LEED v4.1* **Third-Party Verified Recycled Content** *(e.g. UL Certified Recycled, GreenCircle certified, SCS certified Recycled content)* **Third-Party Verified Biobased Content** *(e.g. USDA Certified Biobased Content, SCS Certified Biobased Content, etc.)* **End of Life Options** • Cradle to Cradle Certified Circularity • Manufacturer Take-Back Program • Third-Party Partnership for Recovery and Cycling

GPS Standards are subject to change as industry standards and requirements evolve, and updates will be sent to you automatically at the email address you provided when registering. At this point, our standards are exclusive to products made and/or distributed in the U.S., Canada, and the UK, with standards for additional product categories already in the works. Finally, please note that GPS Standards focus exclusively on sustainability criteria and do not cover other performance-based criteria that must be met. Thank you for your ongoing partnership as we work together to create a better world through the power of design.

Tile

AIA Materials Pledge Impact Areas

Circular Economy · Human Health · Climate Health
Ecosystem Health · Social Health & Equity

N/A if Multi-Attribute Certification is provided

Impact Areas	Gensler Standard	Market Differentiator
Indoor Air Impacts *Third-party testing and disclosures of impacts to indoor air quality in compliance with industry standards at the product level.*	**California Department of Public Health (CDPHv-1.2-2017)** *Provide at least one of the VOC emissions certifications that uses this testing standard.* • **For products that are not defined as inherently non-emitting only**	
Material Health & Transparency *Third-party verified and self-disclosed inventories of ingredients and certifications verifying the avoidance of potentially hazardous substances at the product level.*	**Ingredient Disclosure** *Provide one of the following disclosures with no more than 25% of ingredients undisclosed or listed as proprietary.* • Health Product Declaration (HPD) - 1000ppm • UL Product Lens - 1000ppm • Self Disclosed Manufacturer Inventory - 1000ppm *See glossary for requirements*	**Ingredient Disclosure** *Provide one of the following disclosures with no more than 25% of ingredients undisclosed or listed as proprietary.* • Health Product Declaration (HPD) - 100ppm • Living Building Challenge Declare - 100ppm • EPEA Material Health Statement - 100ppm • UL Product Lens - 100ppm **Third-Party Verified Ingredient Disclosure** **Restricted Substances List (RSL) Compliance** *Provide one of the following certifications or demonstrate compliance through a signed letter of assurance* • Red List Free • Cradle to Cradle Material Health Certificate *v4 or later, Silver level certification or above* • REACH • GreenScreen Certified **Class Based Substance Avoidance** *Avoid all named classed based substances* • Polyvinyl Chloride (PVC) • Ortho-Phthalates • Antimicrobials • Dimethylformamide • Per- and Polyfluoroalkyl Substances (PFAS) • Halogenated Flame Retardants • Formaldehyde

GPS Standards are subject to change as industry standards and requirements evolve, and updates will be sent to you automatically at the email address you provided when registering. At this point, our standards are exclusive to products made and/or distributed in the U.S., Canada, and the UK, with standards for additional product categories already in the works. Finally, please note that GPS Standards focus exclusively on sustainability criteria and do not cover other performance-based criteria that must be met. Thank you for your ongoing partnership as we work together to create a better world through the power of design.

(1) Issuer's name and address:
Tendencias Cerámicas S.L (WOW Design)
Polígono Pont, Avda. de España 114.
12180 Cabanes, Castellón

(2) Supplier address:
Tendencias Cerámicas S.L (WOW Design)
Polígono Pont, Avda. de España 114.
12180 Cabanes, Castellón

(3) Declare to be a ble to give all the necessary information regarding REACH regulation (N° 1907 /2006 and its amending) and will respect the obligations originating of this regulation in order to enable WOW Design to comply with it.

(4) Declare that ALL PRODUCTS (packaging included) respect the Restrictions of Reach (Annex XVII ofregulation N° 1907 /2006 and its amending)
http://echa.europa.eu/addressing-chemicals-of-concern/restrictions/list-of-restrictions

(5) Declare that ALL PRODUCTS (packaging included) are free of the 163 substances of very high concern (SVHC) of the candidate list, published by the European Agency of Chemicals the June 16, 2014. http://echa.europa.eu/web/guest/candidate-list-table
Except the following products which contain lead:
- Roots S Teal Gloss. **- Roots S Honey Gloss.**
- Roots S Indigo Gloss. **- Roots S Olive Gloss.**
- Roots S Turques Gloss. **- Hammer Collection.**

(6) Declare that he will check if the free-SVHC is still true at each publication of new candi date list and will inform WOW Design in case of presence of SVHC, maximum 6 months after publication.

(7) Supplier/maker takes all responsibilities of declared information in this declaration technical documentation required to demonstrate that the products proposed and delivered to WOW Design meet all the above listed concerned regulations have been compiled by the signatory below and is available for compilation by WOW Design and/or mandated labs and/or any national inspection authorities.

Cabanes, 23 de agosto de 2022

Tendencias Cerámicas S.L
Polígono Pont, Avda de España 114, 12180 Cabanes (Cs) Spain
tel. +34 964 331 910 | fax +34 964 331 911
www.wowdesigneu.com - info@wowdesigneu.com

ARCIBLANSA

PRODUCT SELF-DECLARATION ESM-77

UNE-EN ISO 14021

RECYCLED CONTENT

46 %

46% recycled content, including recycled raw hydric material and mineral:

- Content recycled wastewater of pre-use internal and external origin.
- Content recycled solid material of pre-use internal origin.
- Content recycled solid material of pre-use external origin.

PRODUCT	ESM-77
Total water (kg)	447
Total solids (kg)	943
Total new water (kg)	0
Total recycled wastewater (kg)	447
Total virgin solid material (kg)	745
Total recycled solid material of pre-use internal origin (kg)	36
Total recycled solid material of pre-use external origin (kg)	163
RECYCLED CONTENT (%)	**46**

REDUCED RESOURCE USE

21%	**100 %**	**20 %**
Reduction of materials	Reduction of water	Reduction of energy

PRODUCT	ESM-77
Resource materials reduction (%)	21
Resource hydrics reduction (%)	100
Resource energy reduction (%)	20

This self data are from the second half of 2020

"The content of this Self-Declared Environmental Claim and the automatic calculation methodology implemented in the computer system of the company comply with standard ISO 14021 and have been verified by the ***Instituto de Tecnología Cerámica*** *on 11/02/2021*

ARCIBLANSA

PRODUCT SELF-DECLARATION POESM-50

UNE-EN ISO 14021

RECYCLED CONTENT

70 %

70% recycled content, including recycled raw hydric material and mineral:

- Content recycled wastewater of pre-use internal and external origin.
- Content recycled solid material of pre-use internal origin.
- Content recycled solid material of pre-use external origin.

PRODUCT	POESM-50
Total water (kg)	467
Total solids (kg)	943
Total new water (kg)	0
Total recycled wastewater (kg)	467
Total virgin solid material (kg)	416
Total recycled solid material of pre-use internal origin (kg)	60
Total recycled solid material of pre-use external origin (kg)	467
RECYCLED CONTENT (%)	**70**

REDUCED RESOURCE USE

56 %	**100 %**	**20 %**
Reduction of materials	Reduction of water	Reduction of energy

PRODUCT	POESM-50
Resource materials reduction (%)	56
Resource hydrics reduction (%)	100
Resource energy reduction (%)	20

This self data are from the second half of 2020

"The content of this Self-Declared Environmental Claim and the automatic calculation methodology implemented in the computer system of the company comply with standard ISO 14021 and have been verified by the ***Instituto de Tecnología Cerámica*** *on 11/02/2021*

AICE jtc UNIVERSITAT JAUME·I

Declaramos que ninguno de los materiales o productos químicos incluidos en la "RED LIST" del LIVING BUILDING CHALLENGE forman parte de nuestro producto
final, contribuyendo a mantener un ambiente interior saludable para los ocupantes.

Excepto el plomo que forma parte de los siguientes productos:
- Roots S Teal Gloss.
- Roots S Honey Gloss.
- Roots S Indigo Gloss.
- Roots S Olive Gloss.
- Roots S Turques Gloss.
- Colección Hammer.

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We declare that none of the materials or chemical products enclosed in the "RED LIST" from the LIVING BUILDING CHALLENGE are part of our fi nal products, con-tributing to maintain a healthy indoor environment for the occupants.

Except lead which is part of the following products:
- Roots S Teal Gloss.
- Roots S Honey Gloss.
- Roots S Indigo Gloss.
- Roots S Olive Gloss.
- Roots S Turques Gloss.
- Hammer Collection.

Cabanes, 23 de agosto de 2022

Tendencias Cerámicas S.L
Polígono Pont, Avda de España 114, 12180 Cabanes (Cs) Spain
tel. +34 964 331 910 | fax +34 964 331 911
www.wowdesigneu.com - info@wowdesigneu.com

SAFETY DATA SHEET

DRY-PRESSED CERAMIC TILES GROUP BIa (Eb≤ 0.5%) (PORCELAIN)

Version: 1
Review data: 25/05/2022

1: PRODUCT AND COMPANY IDENTIFICATION

1.1: Product identification.

Common Name: Dry-pressed ceramic tiles group BIa (Eb≤ 0.5%) (Porcelain)

1.2: Product use.

Tiles are used as a construction material to clad the surface of facades, walls and floors.

1.3: Company identification.

Manufacturer/Company: TENDENCIAS CERAMICAS, S.L.

Address (city, Postcode., country):
Poligono Pont, Avenida de España, 114. CABANES, 12180, CASTELLÓN (ESPAÑA)

Tellephone/Fax/E-mail
964331910/964331911/info@tendenciasceramicas.com

1.4: Emergency phone.

EMERGENCY +34 91 592 04 20

National Institute of Toxicology and Forensic Sciences (Spain, 24hr./365 days)

The information provided in this leaflet is based on our current knowledge at the date indicated, refers exclusively to the product stated and does not constitute a guarantee as to the specific properties of the product. It is the user's responsibility to use the product in accordance with the recommendations and advice provided.

2: HAZARDS IDENTIFICATION

Intact ceramic tiles are not known to have any adverse effects on health or the environment.

Dust can be produced during some handling processes (cutting, rectifying, disposal etc.) that, because of its abrasive effect, can irritate parts of the body exposed to it.

The dust released to the environment during these operations contains respirable crystalline silica (RCS), the inhalation of which can provoke acute or chronic silicosis (nodular fibrosis of the lungs) depending on how much dust the person is exposed to and for how long. Silicosis is a risk factor as regards developing lung cancer.

The amount of RCS contained in the dust that can be released by ceramic tiles during their handling is variable as it depends on their composition and on the size of the particles produced (RCS particles are smaller than 4 µ). A preliminary study in a process of rectification of tiles reveals that it contains far less than 1% crystalline silica.

3: COMPOSITION/INFORMATION ON INGREDIENTS

Tiles are made from raw materials of mineral origin (clay mostly) that have been mixed with water, dried, shaped and fired in kilns at a high temperature. Some have a layer of glaze on one surface that has also been fired along with the base.

Composición	CAS Nº	%
ARCILLA BLANCA	1332-58-7	35-50
CUARZO	14808-60-7	10-15
FELDESPATO	68476-25-5	30-50

4: FIRST AID MEASURES

Dust inhalation:
Take the affected person outside into the fresh air. Administer artificial respiration if necessary.

Contact with the eyes:
Open the eyes and wash with plenty of clean water.

Ingestion of dust:
This is unlikely to occur. The product is not toxic nor
Is retained in the intestinal tract.

Contact with the skin:
Wash with soap and water. If the skin is broken, proceed
In accordance with the seriousness of the cut.

5: FIRE-FIGHTING MEASURES AND INFORMATION

Ceramic tiles are not combustible.
Observe standard fire protection provisions.

6: ACCIDENTAL RELEASE MEASURES

6.1: Personal precautions, protective equipment and emergency procedures.
It does not proceed. The finished material does not present a risk of spillage.

6.2: Precautions related to the environment.
It does not proceed. The finished material does not present a risk of spillage.

6.3: Cleaning containment methods and material.
It does not proceed. The finished material does not present a risk of spillage.

6.4: Reference to other sections.
Personal Protection: Section 8
Waste treatment: Section 13

7: HANDLING AND STORAGE

7.1: Handling.
The measures describe refer to porcesses that involve creating dust and/or breaking ceramic tiles such as cutting and rectification.
Ensure the work space is well ventilated. Avoid creating and dispersing dust. Wet working methods and practices that avoid or reduce the production of dust are recommended. Where it is not possible to avoid producing dust a localised extraction system should be put in place or the material should be handled in a closed system. Collect the dust produced regularly using suction mechanisms or wet cleaning methods.

7.2: Storage.
No special conditions are required for the safe storage of ceramic tiles, nor are they incompatible with other products or materials. They have a very long useful life as they do not degrade easily.

8: EXPOSURE CONTROLS / PERSONAL PROTECTION

While handling ceramic tiles:
Wear gloves to avoid possible cuts and scratches. Wear safety shoes/boots to avoid the feet being hurt should a tile or tiles fall on them.

During processes that generate dust.
Use breathing protection, safety glasses and appropriate clothing to avoid exposure to the dust.

It is recommended that you seek advice from the suppliers of personal protective equipment (PPE) to determine which are the most appropriate for the particular workplace and amount of dust.

9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brittle solid, color may vary
Odor:	Odorless
Melting Point:	Not Avalable
Boiling Point:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Solubility in Water:	Insoluble
Percent Volatile by Volume:	Not applicable
Evaporation Rate:	Not applicable
Viscosity:	Not applicable
Volatility:	0 g/L Volatile Organic Compounds (VOCs)

10: STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Conditions to avoid: Avoid contact with acids (eg hydrofluoric acid).

Incompatibility (materials to avoid): Avoid contact with acids (eg hydrofluoric acid)

Hazardous Polymerization: Will not occur

Hazardous decomposition products: None known.

11: TOXICOLOGICAL INFORMATION

Intact ceramic tiles are not known to have any adverse effects on health or the environment.

Dust can be produced during some handling processes (cutting, rectifying, disposal etc.) that, because of its abrasive effect, can irritate parts of the body exposed to it.

The dust released to the environment during these operations contains respirable crystalline silica (RCS), the inhalation of which can provoke acute or chronic silicosis (nodular fibrosis of the lungs) depending on how much dust the person is exposed to and for how long. Silicosis is a risk factor as regards developing lung cancer.

The amount of RCS contained in the dust that can be released by ceramic tiles during their handling is variable as it depends on their composition and on the size of the particles produced (RCS particles are smaller than 4 µ). A preliminary study in a process of rectification of tiles reveals that it contains far less than 1% crystalline silica.

12: ECOLOGICAL INFORMATION

Purify any spillages and emissions taking account of applicable maximum values.

13: DISPOSAL CONSIDERATION

Waste from ceramic tiles is classified as inert material so can be disposed of at a dump authorised for the purpose in accordance with applicable regulations.

14: TRANSPORTATION INFORMATION

Ceramic tiles are rated as non hazardous merchandise by international land, sea and air transportation classifications.

15: REGULATORY INFORMATION

Occupational exposure limit values proposed in Spain by the National Institute of safety and hygiene at work (INSHT)

http://bdlep.insht.es/LEP2017/

Occupational exposure limit values proposed in USA, collected by Occupational Safety and Health Administration (OSHA)
https://www.osha.gov/dsg/annotated-pels/tablez-1.html

Guide to safety and occupational risk prevention for profesional floor and Wall tile installers. Source: PROALSO (Association of Professional Floor and Wall Tile Installers)

http://www.proalso.es/images/pdf/M7%20PRL_web.pdf

Good practise guide on workers health protection through the good handling and use of crystalline silica and products containing it.
Source: NEPSI (The European Network on Silica)

http://www.nepsi.eu/good-practice-guide

16: REGULATORY INFORMATION (for intact tile)

Global Harmonization Identification System:

GHIS: Health: 4 Fire: 4 Reactivity: 4

Hazardous Material Identification System:

HMIS: Health: 0 Fire: 0 Reactivity: 0

National Fire Protection Association:

NFPA: Health: 0 Fire: 0 Reactivity: 0

"These safety instructions have been drafted with technical advice from the Institute for Ceramic Tile Technology"

ASCER Asociación Española de Fabricantes de Azulejos y Pavimentos Cerámicos

Instituto de Tecnología Cerámica jtc

SAFETY DATA SHEET

DRY-PRESSED CERAMIC TILES GROUP BIII (Eb> 10%) (WHITE BODY)

Version: 1
Review data: 25/05/2022

1: PRODUCT AND COMPANY IDENTIFICATION

1.1: Product identification.

Common Name: Dry-pressed ceramic tiles group BIII (Eb> 10%) (White Body)

1.2: Product use.

Tiles are used as a construction material to clad the surface of facades and walls.

1.3: Company identification.

Manufacturer/Company: TENDENCIAS CERAMICAS, S.L.

Address (city, Postcode., country):
Poligono Pont, Avenida de España, 114. CABANES, 12180, CASTELLÓN (ESPAÑA)

Tellephone/Fax/E-mail
964331910/964331911/info@tendenciasceramicas.com

1.4: Emergency phone.

EMERGENCY +34 91 592 04 20

National Institute of Toxicology and Forensic Sciences (Spain, 24hr./365 days)

The information provided in this leaflet is based on our current knowledge at the date indicated, refers exclusively to the product stated and does not constitute a guarantee as to the specific properties of the product. It is the user's responsibility to use the product in accordance with the recommendations and advice provided.

2: HAZARDS IDENTIFICATION

Intact ceramic tiles are not known to have any adverse effects on health or the environment.

Dust can be produced during some handling processes (cutting, rectifying, disposal etc.) that, because of its abrasive effect, can irritate parts of the body exposed to it.

The dust released to the environment during these operations contains respirable crystalline silica (RCS), the inhalation of which can provoke acute or chronic silicosis (nodular fibrosis of the lungs) depending on how much dust the person is exposed to and for how long. Silicosis is a risk factor as regards developing lung cancer.

The amount of RCS contained in the dust that can be released by ceramic tiles during their handling is variable as it depends on their composition and on the size of the particles produced (RCS particles are smaller than 4 µ). A preliminary study in a process of rectification of tiles reveals that it contains far less than 1% crystalline silica.

3: COMPOSITION/INFORMATION ON INGREDIENTS

Tiles are made from raw materials of mineral origin (clay mostly) that have been mixed with water, dried, shaped and fired in kilns at a high temperature. Some have a layer of glaze on one surface that has also been fired along with the base.

Composición	CAS Nº	%
ARCILLA BLANCA	1332-58-7	60-85
CUARZO	14808-60-7	15-20
CARBONATO CALCICO	471-34-1	10-15

4: FIRST AID MEASURES

Dust inhalation:
Take the affected person outside into the fresh air. Administer artificial respiration if necessary.

Contact with the eyes:
Open the eyes and wash with plenty of clean water.

Ingestion of dust:
This is unlikely to occur. The product is not toxic nor
Is retained in the intestinal tract.

Contact with the skin:
Wash with soap and water. If the skin is broken, proceed
In accordance with the seriousness of the cut.

5: FIRE-FIGHTING MEASURES AND INFORMATION

Ceramic tiles are not combustible.
Observe standard fire protection provisions.

6: ACCIDENTAL RELEASE MEASURES

6.1: Personal precautions, protective equipment and emergency procedures.
It does not proceed. The finished material does not present a risk of spillage.

6.2: Precautions related to the environment.
It does not proceed. The finished material does not present a risk of spillage.

6.3: Cleaning containment methods and material.
It does not proceed. The finished material does not present a risk of spillage.

6.4: Reference to other sections.
Personal Protection: Section 8
Waste treatment: Section 13

7: HANDLING AND STORAGE

7.1: Handling.
The measures describe refer to porcesses that involve creating dust and/or breaking ceramic tiles such as cutting and rectification.
Ensure the work space is well ventilated. Avoid creating and dispersing dust. Wet working methods and practices that avoid or reduce the production of dust are recommended. Where it is not possible to avoid producing dust a localised extraction system should be put in place or the material should be handled in a closed system. Collect the dust produced regularly using suction mechanisms or wet cleaning methods.

7.2: Storage.
No special conditions are required for the safe storage of ceramic tiles, nor are they incompatible with other products or materials. They have a very long useful life as they do not degrade easily.

8: EXPOSURE CONTROLS / PERSONAL PROTECTION

While handling ceramic tiles:
Wear gloves to avoid possible cuts and scratches. Wear safety shoes/boots to avoid the feet being hurt should a tile or tiles fall on them.

During processes that generate dust.
Use breathing protection, safety glasses and appropriate clothing to avoid exposure to the dust.

It is recommended that you seek advice from the suppliers of personal protective equipment (PPE) to determine which are the most appropriate for the particular workplace and amount of dust.

9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brittle solid, color may vary
Odor:	Odorless
Melting Point:	Not Avalable
Boiling Point:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Solubility in Water:	Insoluble
Percent Volatile by Volume:	Not applicable
Evaporation Rate:	Not applicable
Viscosity:	Not applicable
Volatility:	0 g/L Volatile Organic Compounds (VOCs)

10: STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Conditions to avoid: Avoid contact with acids (eg hydrofluoric acid).

Incompatibility (materials to avoid): Avoid contact with acids (eg hydrofluoric acid)

Hazardous Polymerization: Will not occur

Hazardous decomposition products: None known.

11: TOXICOLOGICAL INFORMATION

Intact ceramic tiles are not known to have any adverse effects on health or the environment.

Dust can be produced during some handling processes (cutting, rectifying, disposal etc.) that, because of its abrasive effect, can irritate parts of the body exposed to it.

The dust released to the environment during these operations contains respirable crystalline silica (RCS), the inhalation of which can provoke acute or chronic silicosis (nodular fibrosis of the lungs) depending on how much dust the person is exposed to and for how long. Silicosis is a risk factor as regards developing lung cancer.

The amount of RCS contained in the dust that can be released by ceramic tiles during their handling is variable as it depends on their composition and on the size of the particles produced (RCS particles are smaller than 4 µ). A preliminary study in a process of rectification of tiles reveals that it contains far less than 1% crystalline silica.

12: ECOLOGICAL INFORMATION

Purify any spillages and emissions taking account of applicable maximum values.

13: DISPOSAL CONSIDERATION

Waste from ceramic tiles is classified as inert material so can be disposed of at a dump authorised for the purpose in accordance with applicable regulations.

14: TRANSPORTATION INFORMATION

Ceramic tiles are rated as non hazardous merchandise by international land, sea and air transportation classifications.

15: REGULATORY INFORMATION

Occupational exposure limit values proposed in Spain by the National Institute of safety and hygiene at work (INSHT)

http://bdlep.insht.es/LEP2017/

Occupational exposure limit values proposed in USA, collected by Occupational Safety and Health Administration (OSHA)
https://www.osha.gov/dsg/annotated-pels/tablez-1.html

Guide to safety and occupational risk prevention for profesional floor and Wall tile installers. Source: PROALSO (Association of Professional Floor and Wall Tile Installers)

http://www.proalso.es/images/pdf/M7%20PRL_web.pdf

Good practise guide on workers health protection through the good handling and use of crystalline silica and products containing it.
Source: NEPSI (The European Network on Silica)

http://www.nepsi.eu/good-practice-guide

16: REGULATORY INFORMATION (for intact tile)

Global Harmonization Identification System:

GHIS: Health: 4 Fire: 4 Reactivity: 4

Hazardous Material Identification System:

HMIS: Health: 0 Fire: 0 Reactivity: 0

National Fire Protection Association:

NFPA: Health: 0 Fire: 0 Reactivity: 0

"These safety instructions have been drafted with technical advice from the Institute for Ceramic Tile Technology"

ASCER Asociación Española de Fabricantes de Azulejos y Pavimentos Cerámicos

Instituto de Tecnología Cerámica jtc

unexpected surfaces

Nuestros productos no emiten compuestos orgánicos volátiles (VOCs) debido al proceso de cocción de alta temperatura de las baldosas, contribuyendo a mantener un ambiente interior saludable para sus ocupantes.

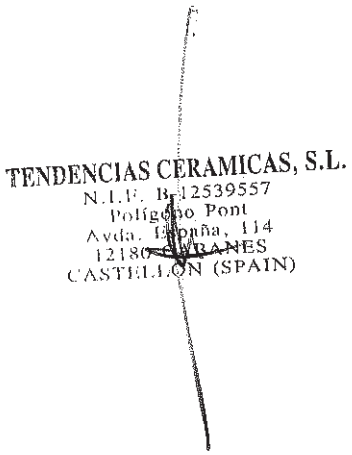
El producto es inherentemente no emisor y no tiene aglutinantes, recubrimientos ni selladores que incluyan productos químicos orgánicos.

--

Our products do not emit volatile organic compounds (VOCs) due to the high temperature firing process of the tiles, contributing to maintain a healthy indoor en-vironment for the occupants.

Product is inherently non-emitting and has no binders, surface coatings, or sealants that include organic chemicals.

Cabanes, 23 de agosto de 2022



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Holder of the Declaration

The Holder of the Environmental Product Declaration Global EPD EN 17160-035 is The Spanish Association of Ceramic Tile and Flooring Manufacturers (ASCER).

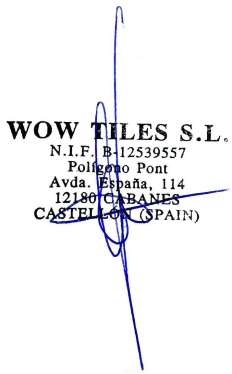
Scope of the Declaration

This Environmental Product Declaration describes average environmental information, relative to the life cycle of the Ceramic products manufactured by the companies associated to the Spanish Association of Ceramic Tile and Flooring Manufacturers (ASCER). Shown results are considered representative of the companies associated to ASCER.

Wow Tiles S.L. company associated to ASCER:

Wow Tiles S.L. is a company associated to ASCER by full right since November 8th 2001 under the category of "Special pieces Manufacturer".

Therefore the Environmental Product Declaration Global EPD EN 17160-035 applies to the products manufactured by Wow Tiles S.L.



Laboratory and Environment Manager

GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION

AENOR

ECO PLATFORM EPD VERIFIED

Environmental Product Declaration

UNE-ISO 14025:2006
UNE-EN 15804:2012+A2:2020
UNE-EN 17160:2019

ASCER
Spanish Ceramic Tiles

Date of issue:	2024-09-16
Expiry date:	2029-09-16

Declared validity is subject to registration and publication in www.aenor.com

Register code: GlobalEPD EN 17160 - 035

ASCER
Asociación Española de Fabricantes de Azulejos y Pavimentos Cerámicos

GENERALITAT VALENCIANA
Conselleria de Hacienda, Economía y Administración Pública

ASCER
Asociación Española de Fabricantes de Azulejos y Pavimentos Cerámicos

The EPD holder is responsible for the content of the Declaration. The holder is responsible for keeping the records and documents supporting the content of the Declaration

Holder of the Declaration

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AENOR is a founding member of ECO Platform, the European Association of Environmental Declarations verification Programmes

UNE-EN 17160:2020 The Standard UNE-EN 15804:2012+A2:2019 serve as the basis for the PCR
Independent verification of the declaration and data, according to ISO 14025:2010 ☐ Internal ☒External
Verification body AENOR The Certification Body is accredited by ENAC. 1/C-PR468

1. General information

1.1. The organization

The main objective of ASCER (Spanish Ceramic Tile Manufacturers' Association) is to support, defend and promote the general and common interests of the ceramic tile industry, as well as to offer its associates valuable services and help them to improve the management of their companies and to create sustainable competitive advantages.

ASCER activities are based on the need or call for joint action in those areas in which companies are unable to successfully tackle individually, or which require a considerable financial outlay. The high representativeness of the Association as well as the geographical concentration of the companies (95% of the production in the province of Castellon) guarantee that any activity will have an immediate and a global diffusion of the sector.

1.2. Scope of the declaration

This Environmental Product Declaration (EPD) describes average environmental information relating to the life cycle of ceramic tiles manufactured by the companies associated with the Spanish Ceramic Tile Manufacturers' Association, ASCER. The scope of this EPD is cradle to grave.

The results of the Life Cycle Assessment (LCA) underpinning this EPD are based on the data provided by the manufacturers of 55% of the national ceramic tile production.

The results shown are considered representative of the companies associated with ASCER, in a geographical and technological environment of Spain 2022.

1.3. Life cycle and compliance

This EPD has been developed and verified in accordance with EN ISO 14025:2006 and EN 15804:2012+A2:2019 and EN 17160:2019 Product Category Rules for Ceramic Tiles

INFORMATION ABOUT PRODUCT CATEGORY RULES	
Descriptive title	UNE-EN 17160:2019. Product Category Rules for Ceramic Tiles
Registration code and version	UNE-EN 17160:2019
Publication date	2019
Compliance	UNE-EN 15804:2012+A2:2020
Operator of the Programme	AENOR

This Environmental Declaration includes the following life cycle stages:

System boundaries. Information modules considered

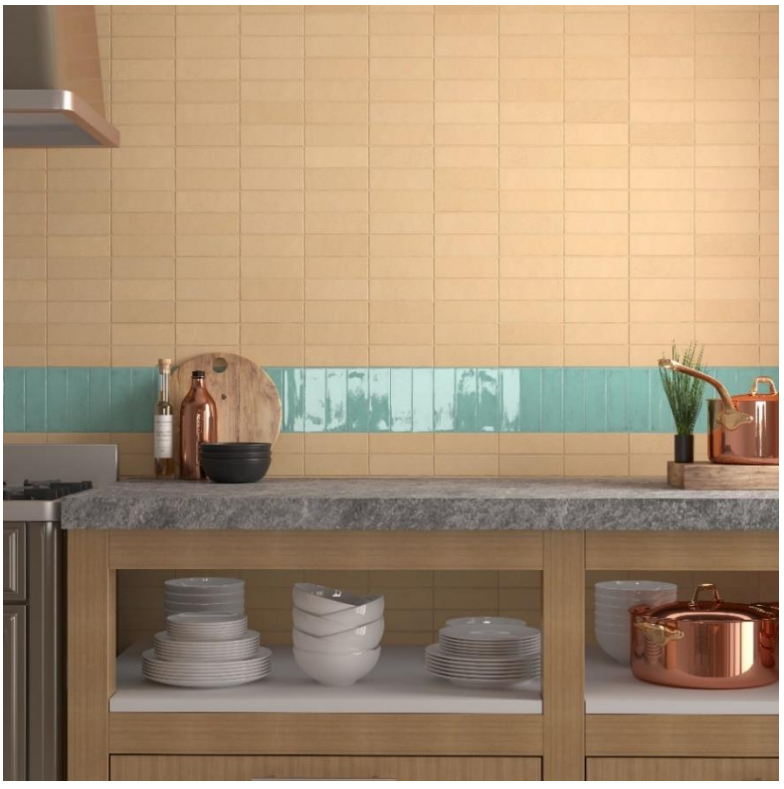
Product Stage	A1	Raw materials supply	X
	A2	Transport	X
	A3	Manufacturing	X
Construction	A4	Transport of the product	X
	A5	Installation and construction processes	X
Use	B1	Use	X
	B2	Maintenance	X
	B3	Repair	X
	B4	Replacement	X
	B5	Refurbishment	X
	B6	Use of energy in service	X
	B7	Use of water in service	X
End of Life	C1	Deconstruction	X
	C2	Transport	X
	C3	Waste management	X
	C4	Waste disposal	X
	D	Potential for reuse, recovery and recycling of materials	X

X = Module included in the LCA

This EPD may not be comparable with those developed in other Programmes or according to different reference documents, in particular it may not be comparable with EPDs not developed according to EN 15804+A2.

Similarly, this EPD may not be comparable if the origin of the data is different (e.g. databases), not all relevant information modules are included or they are not based on the same scenarios.

The comparison of construction products should be done on the same function, applying the same functional unit and at the level of the building (or architectural or engineering work), i.e. including the behaviour of the product throughout its life cycle, as well as the specifications of section 6.7.2 of the ISO 14025 standard.



2. Product information

2.1. Product information

This EPD provides average environmental information on ceramic coverings manufactured by ASCER member companies.

Ceramic tiles are thin slabs, generally used for covering surfaces in the construction sector, manufactured from a mixture of inorganic materials of a plastic and non-plastic nature that undergo grinding and/or kneading, are shaped and then dried and fired at a temperature sufficient for them to stably acquire the properties required for their use (EN 14411:2016). This product category also includes mosaics, complementary and special pieces, which can be of very different sizes and shapes, even non-flat. In short, those ceramic coverings defined by standard EN 14411:2016 (equivalent to standard ISO 13006:2018).

The ceramic tiles presented in this EPD have an average weight of 20.7 kg/m^2.

Los recubrimientos presentados en esta DAP tienen un peso medio de

The CPC code of the product is 37370.

2.2. Product technical features

This EPD collects environmental information on ceramic coverings formed by dry pressing or extrusion, intended for flooring and/or wall and façade cladding, both indoors and outdoors.

For the marketing of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No 305/2011 (CPR) applies. The product needs a declaration of performance taking into account EN 14411:2016 Ceramic tiles. Definitions, classification, characteristics, assessment and verification of constancy of performance, and marking - and CE marking. For application and use, EN 14411:2016 applies, which groups the products according to forming mode (A: extrusion and B: dry pressing) and water absorption group into: BIa, BIb, BIIa, BIIb, BIII, AIa, AIb, AIIa, AIIb, AIIb, AIII.

The performance of ceramic tiles varies according to the type of product. The main characteristics and the corresponding performance values and/or ranges covered by the standard, depending on the tile group, include:

- **Water absorption** according to ISO 10545-3 test: between 0.0 and > 10 %.
- **Modulus of rupture** according to ISO 10545-4 test: 8 - 35 N/mm2 (minimum value according to group)
- **Breaking strength** according to ISO 10545-4 test: 600 - 1300 N (minimum value according to group)
- **Abrasion resistance** of glazed tiles according to ISO 10545-7: class 0 - 5
- **Abrasion resistance** of unglazed tiles according to ISO 10545-6: maximum 2365 mm^3 for extruded tiles and 540 mm^3 for pressed tiles.
- **Coefficient of linear thermal expansion** according to ISO 10545-8: test available (for applications with high thermal variation)
- **Thermal shock resistance** according to ISO 10545-9: required

- **Cracking resistance** according to ISO 10545- 11: **required**
- **Frost resistance** according to ISO 10545-12: required for tiles with water absorption less than or equal to 3%.
- **Slip resistance** according to the test established in the national regulations of destination. In Spain, according to the Technical Building Code, tiles for floors in public areas must be tested according to the pendulum method (UNE 41901) and comply with certain minimum requirements/classes depending on the location.
- **Moisture expansion** according to ISO 10545-10: declare value
- **Impact resistance** according to ISO 10545-5: test available
- **Reaction to fire**: no test required, class A1-A1FL
- **Chemical resistance** according to ISO 10545-13: minimum class B (declare class A - C)
- **Stain resistance** according to ISO 10545-14: glazed minimum class 3 and for unglazed declare value
- **Emission of cadmium and lead** according to ISO 10545-15: only when necessary (e.g. applications where food preparation is carried out).

2.3. Product composition

The composition declared by the manufacturer is as follows:

Product composition

Substance/component	Content
Body (clays, feldspars, sands, etc.)	97%
Decoration materials (quartz, clays, feldspars, etc.)	3%

Substances contained in the product that are listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorisation" do not exceed 0.1% by weight of the product.

3. LCA Information

3.1. Life Cycle Assessment

The LCA has been carried out with the support of the LCA for Experts software (Sphera-GaBi) 10.7.1.28 [7] and with the database version 2023.2 (SP40.0) [8]) (SpheraSolutions). The characterisation factors used are those included in the EN 15804:2012+A2:2019 standard.

3.2. Functional unit / declared unit

The main function of this product is to cover surfaces, both floors and walls, indoors and outdoors, according to the technical specifications of each type of covering.

In this EPD, ceramic tiles with water absorption lower than 10% are considered to be used as floor coverings, and those with water absorption higher than 10% are considered to be used as wall coverings. In both cases, the scenario of use considered in the results is an indoor residential use, however, the versatility of ceramic tiles allows their installation as flooring for indoor and outdoor floors, urban areas, walls, façades, roofs, etc. and in any type of building with very different pedestrian traffic intensities, such as dwellings, offices, shopping centres, hospitals, educational centres, etc.

The functional unit considered is ***"Covering 1 m² of the interior floor of a dwelling with average weight of ceramic tiles, 20.7 kg/m², for 50 years".***

3.3. Reference Service Life (RSL)

The reference service life of the product is the same as that of the building where it is installed, provided it is installed correctly, as it is a long-lasting product that does not require replacement.

A useful life of 50 years has been considered, according to the suggestions of the PCRs for ceramic tiles.

Reference Service Life

Parameter	Unit (expressed per functional unit or per declared unit)
Reference service life	Minimum 50 years
Declared product properties (at the gate) and finishes, etc.	Minimum values of the relevant characteristics according to EN14411. For further information, apply for the manufacturer's technical data sheet, for each model.
Design application parameters (manufacturer's instructions), including the references to appropriate practices	For further information, apply for the manufacturer's technical data sheet, for each model.
Assumed quality of work, when installed in accordance with the manufacturer's instructions	For further information, apply for the manufacturer's technical data sheet, for each model.
Outdoor environment (for outdoor applications), e.g. weathering, pollutants, UV radiation and wind exposure, building orientation, shading, temperature	Values of the relevant characteristics according to EN 14411. For further information, apply for the manufacturer's technical data sheet, for each model.
Indoor environment (indoor applications), e.g. temperature, moisture, chemical exposure	Values of the relevant characteristics according to EN 14411. For further information, apply for the manufacturer's technical data sheet, for each model.
Usage conditions, e.g. frequency of use, mechanical exposure	For further information, apply for the manufacturer's technical data sheet, for each model.
Maintenance, e.g. required frequency, type and quality and replacement of replaceable components	For further information, apply for the manufacturer's technical data sheet, for each model.

3.4. Cut-off rule and exclusions

All known flows have been included. In total, more than 95% of all material and energy inputs and outputs of the system have been included, excluding those data that are not available or not quantified. The excluded data are as follows:

- Diffuse emissions of particulate matter into the atmosphere generated during the transport and storage of powdery raw materials
- Atmospheric emissions of pollutants, non-regulated
- Long-term emissions (>100 years).
- The processes of recycling and reuse of the waste generated throughout the life cycle of the ceramic tiles that are part of another system, based on the PCRs.
- Machinery and industrial equipment production

3.5. Representativeness, quality and selection of data

Primary data represent 55% of Spanish production in 2022. The data for stages A5-C4 are scenarios collected by the PCRs for ceramic tiles EN 17160:2019.

Data for decoration materials (frits, glazes, grits and stains) are taken from the Spanish sectoral Environmental Product Declarations published in 2024.

For secondary data, the most up-to-date *Managed LCA database-Sphera* [8] has been used and modelled with *LCA for Experts* (GaBi) version 10.7.1.28 [7].

3.6. Other calculation rules and assumptions

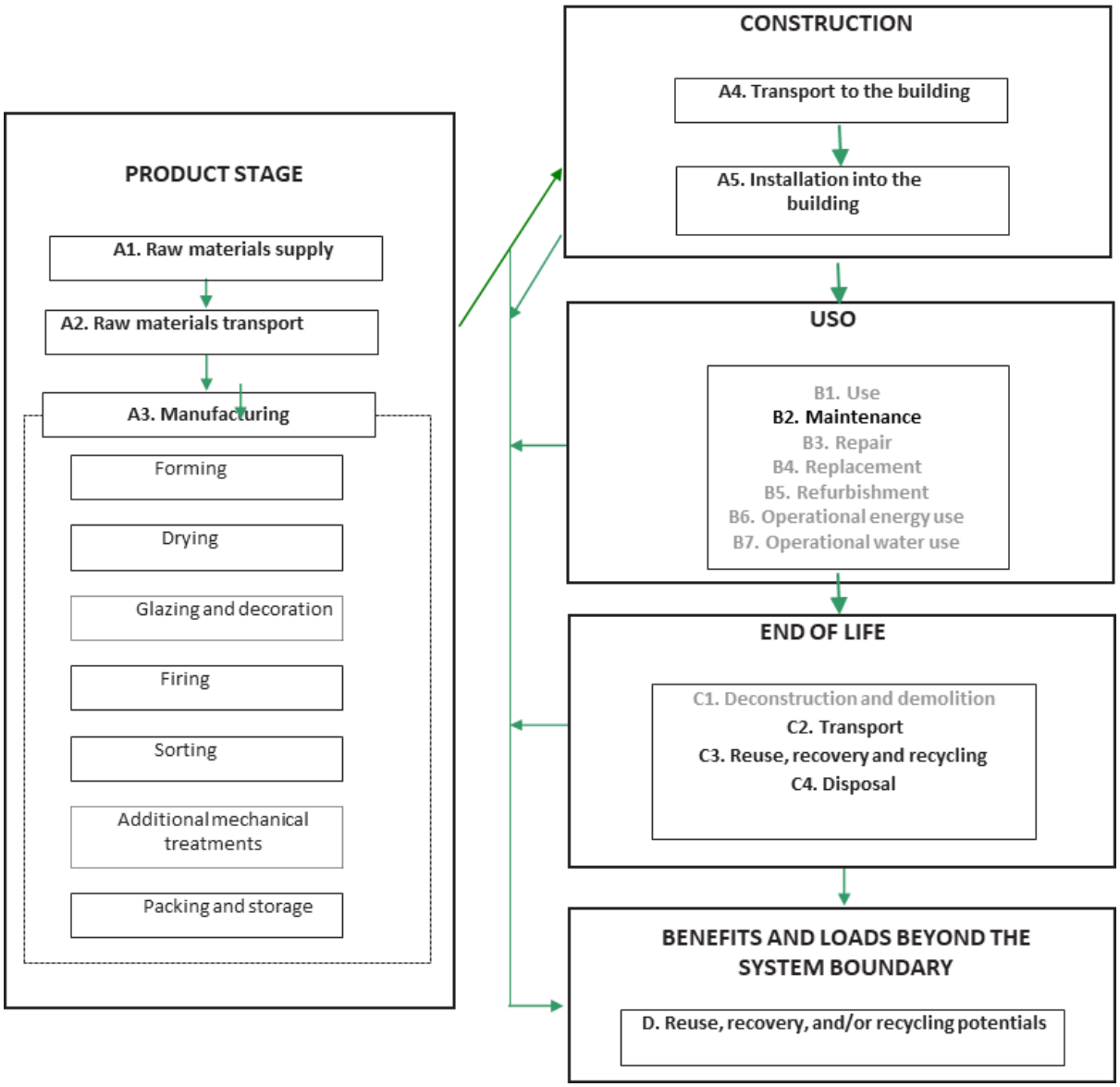
The information provided from the manufacturers has been treated statistically on an individual basis and, subsequently, a collective treatment has been carried out, studying the dispersion of the data, eliminating non-logical values in order to, finally, make averages weighted by the production of each of the participating companies.

The global warming potential (GWPtotal) of the different technologies that make up the electricity mix used is 0,4284 kgCO2 eq/MJ.

4. System limits, scenarios and additional technical information

All life cycle modules relevant to ceramic tiles according to the PCR have been included:

System diagram



4.1. Pre-manufacturing processes (upstream)

Raw materials (A1) and Transport (A2)

Ceramic tiles are composed of a ceramic body and a decorative layer.

The raw materials included in the composition of the body are mainly clays, feldspars, sands and ceramic waste generated during manufacture.

The raw materials for decoration (glazes, grits and inks) are produced in specialised plants. The most common raw materials are frits, inorganic pigments, inks and other inorganic materials. Ceramic frits are insoluble glasses, prepared in advance by complete melting of their original raw materials and rapid cooling. The data are taken from the Environmental Product Declarations of the Spanish sector (2024).

The raw materials used have different origins, according to their nature and properties; they are transported by road or by ship in bulk, depending on the distance and location of the extraction point.

The raw materials of the support are mainly wet milled in ball mills and dried to obtain a suspension called slurry, which is then spray-dried to obtain granules. To a lesser extent, the raw materials are milled dry using pendulum and hammer mills.

High-efficiency cogeneration systems are installed in the spray dryers for the production of thermal and electrical energy.

The treated raw materials are transported to the ceramic manufacturing plants.

4.2. Manufacturing of the product

Manufacturing (A3)

The ceramic pieces are formed by dry uniaxial pressing mainly and/or by extrusion and also continuous presses are being installed to obtain tiles pieces of large sizes and reduced thicknesses.

In any case, after forming, the pieces are placed in a dryer to reduce their humidity.

The pieces from the dryer are optionally coated with a thin layer or several layers of glazes and in some cases, they are decorated, mainly by injecting inks.

The pieces are then fired in single-layer roller kilns to produce a hard, water- and chemical-resistant material.

Some of the ceramic pieces are then subjected to additional mechanical treatments: pre-cutting, cutting, polishing, grinding or bevelling.

After passing the quality control processes, the sorted parts are boxed and packaged.

4.3. Construction process Transport (A4)

Product distribution is as follows: 34% of the product is distributed in Spain, 29% in Europe and 37% to the rest of the world.

The distances applied are those indicated by EN 17160:2019. For national and European transport, a road transport with a 27 t Euro 6 compliant truck of 300 km and 1390 km, respectively, has been considered. For transcontinental transport, an average transoceanic freighter (transport to the rest of the world, 6.250km) has been estimated.

Module A4 Transport to site

Scenario information	Transport to site
Parameter	Result (expressed per functional unit)
Type and fuel consumption of the vehicle, type of vehicles used for transport, e.g. long distance trucks, ship, etc.	According to the destinations in the distribution as described above: 0.1262 l diesel (Euro truck 6, 27 t) 0.026 l fuel oil (ship)
Distance	300 km national distribution national: 33% 1390 km rest of Europe distribution: 28% 6520 km rest of the world distribution: 39%
Capacity utilisation (including no-load return)	85% in truck 100% ship
Bulk density of transported products	≈1800 kg/m^3
Usable capacity factor (factor: = 1 or < 1 or ≥ 1 for products that are packed compressed or nested)	Not applicable

4.4. Product installation and construction process (A5)

The product is then duly unpacked for installation. Data show that, in a real scenario, the ceramic tiles need to be installed with fast-setting mortars.

Waste from packaging waste are handled separately depending on the geographic location of the installation site. On the other hand, based on data provided by the companies, a 5.6% loss of material has been considered in the installation stage of the coverings.

Module A5 - Installation

Scenario information	Result (expressed per functional unit)
Supplementary materials form installation	3.3 kg mortar
Water use	0.8 l
Use of other resources	Not applicable
Quantitative description of the type of energy (regional mix) and consumption during the installation process	Not applicable
Waste of materials at the construction site before processing of waste generated at the product installation (specified by type)	Product losses: 1.159g Packaging wastes: Cardboard: 151 g Plastic: 48g Wood: 473 g
Output of materials (specified by type) as a result of waste treatment waste at the construction site, e.g. from waste collected for recycling, energy recovery, disposal (specified by route)	Product losses for recycling: 811g Product losses for final deposition:348g Incinerated cardboard: 0g Recycled cardboard: 150g Cardboard for final deposition: 0 g Incinerated plastic: 1g Recycled plastic: 37g Plastic for final deposition: 10g Incinerated wood: 1g Recycled wood: 459g Wood for final deposition: 13g
Direct emissions to ambient air, soil and water	Not applicable

4.5. Use Stage

B1 Use

Once installed, ceramic tiles do not require any energy input for their use and do not require maintenance after they are put on site, except for normal cleaning operations. For this reason, only the environmental loads attributable to the maintenance of the product are considered (module B2).

Ceramic tiles are by nature inert and therefore do not emit any harmful or hazardous substances to human health or the environment.

B2 Maintenance

Cleaning is done with a damp cloth and, if the surface is dirty or greasy, cleaning agents such as detergents or bleaches can be added. This EPD considers the scenarios for floor and wall covering included in the CPR EN 17160:2019. Specifically, for wall coverings a washing frequency of 4 times/year and for floor coverings 1 time/week with water, and 1 time every two weeks with water and detergent. The water and detergent consumption to be taken into account for each cleaning are: 0.1 l water/m2 and 0.134 ml detergent/m2. The declared values represent a sectoral average.

The declared environmental impacts refer to the maintenance required for 50 years.

Module B2 – Maintenance

Scenario information	Result (expressed per functional unit)
Maintenance process	According to RCP for ceramic tiles (UNE-EN17160) residential scenario for cleaning floors and walls.
Maintenance cycle	oors: 1x/week with water, and 1x/2weeks with water and detergent. Walls: Wash 4x/year with water and detergent.
Auxiliary materials for maintenance (e.g. cleaning products) (specify each material)	Detergent: 8.38E-05 kg/m^2 per cleaning
Material wastage during maintenance (specify type))	Not applicable

Scenario information	Result (expressed per functional unit)
Net tap water consumption	0.1 l/m^2 per cleaning
Energy input during maintenance (e.g. vacuum cleaning), type of energy carrier (e.g. electricity) and amount, if applicable and relevant	Not applicable

B3-B4-B5 Repair, replacement and refurbishment

The tiles do not require repair, replacement or renovation if the tiles are correctly installed.

4.6. Use linked to the operation of the building

B6-B7 Operational energy use and Operational water use

These modules are not relevant for ceramic tiles.

4.7 End of Life Stage

C1 Deconstruction and demolition

At the end of its service life, the product will be removed, either as part of a building renovation or during demolition. In the context of the demolition of a building, the impacts attributable to the removal of the product are negligible.

C2 Transport

The product waste is transported in a large tonnage truck (27 t) Euro 6 to be managed, either by being deposited in inert landfills, or recycled. An average distance of 50km from the place of installation to the final destination is considered. The return trip of the trucks is also included (100% empty returns).

C3 Gestión de residuos para reutilización, recuperación y reciclaje

70% of tiles are considered to be recycled and/or reused, as indicated in the PCR.

In the recycling process, a physical treatment of the waste consisting of primary shredding and subsequent screening has been considered.

C4 Final disposal

It was assumed that 30% of the product was sent to controlled landfills after its service life had ended.

End of life

Parameter	Result (expressed per functional unit)
Collection process, specified by type	24.0 kg total
Recovery system, specified by type	16.8 kg for recycing
Disposal, specified by type	7.2 kg for landfilling
Assumptions for scenario development (e.g.: transport)	The product waste is transported in a Euro 6 compliant heavy-duty truck (27 t) to be managed either to landfilling or recycling. An average distance of 50km from the building site to the final destination is considered. The return journey of the lorries is also included (100% empty return).

4.8 Benefits and burdens beyond the system

Module D

The net environmental burdens and net benefits of obtaining the secondary material from waste at the installation stage (coating wastes, coating packaging wastes: cardboard, plastic and wood) and at the end of life of the product have been considered.

4.9 Information on biogenic carbon content

Ceramic coatings are inorganic and do not contain biogenic carbon and their packaging is less than 5% by weight, therefore the biogenic content is not declared.

5. Declaration of environmental parameters of the LCA and LCI.

The estimated impact results are relative and do not indicate the final value of the impact categories, nor do they refer to threshold values, safety margins or risks.

Environmental impact

Parameters	Units	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	**kg CO_2 eq**	12.5	6.2E-01	1.7	0	1.8E-01	0	0	0	0	0	0	2.0E-01	2.9E-03	1.2E-01	-2.5E-01
GWP-fossil	**kg CO_2 eq**	12.1	3.0E-01	1.7	0	1.8E-01	0	0	0	0	0	0	7.7E-02	2.9E-03	1.2E-01	-2.5E-01
GWP-biogenic	**kg CO_2 eq**	3.1E-01	3.1E-01	4.3E-02	0	4.9E-03	0	0	0	0	0	0	1.2E-01	1.0E-06	1.2E-03	-1.4E-04
GWP-luluc	**kg CO_2 eq**	1.6E-02	8.5E-03	2.9E-03	0	4.2E-05	0	0	0	0	0	0	3.2E-03	1.7E-07	5.1E-04	-5.9E-04
GWP-total-IPCC	**kg CO_2 eq**	12.3	6.1E-01	1.7	0	1.8E-01	0	0	0	0	0	0	1.9E-01	2.8E-03	1.2E-01	-2.5E-01
ODP	**kg CFC11 eq**	2.4E-08	8.2E-14	1.3E-09	0	6.3E-11	0	0	0	0	0	0	2.8E-14	4.9E-15	6.7E-14	-6.1E-09
AP	**mol H+ eq**	1.9E-02	3.7E-03	3.3E-03	0	5.7E-04	0	0	0	0	0	0	2.2E-04	3.3E-06	8.6E-04	-1.1E-03
EP-freshwater	**kg P eq**	1.4E-04	2.2E-06	1.0E-05	0	5.3E-06	0	0	0	0	0	0	8.2E-07	3.1E-10	2.5E-06	-2.1E-06
EP-marine	**kg N eq**	5.6E-03	9.5E-04	1.1E-03	0	1.3E-04	0	0	0	0	0	0	7.7E-05	9.3E-07	2.4E-04	-2.9E-04
EP-terrestrial	**mol N eq**	6.2E-02	1.1E-02	1.2E-02	0	1.3E-03	0	0	0	0	0	0	9.1E-04	1.0E-05	2.5E-03	-3.2E-03
POCP	**Kg NMVOC eq**	1.8E-02	2.8E-03	3.2E-03	0	3.6E-04	0	0	0	0	0	0	2.5E-04	3.0E-06	6.9E-04	-8.1E-04
ADP-minerals& metals [1]	**kg Sb eq**	3.9E-05	4.6E-08	2.2E-06	0	2.7E-09	0	0	0	0	0	0	1.7E-08	1.0E-10	1.2E-08	-9.4E-08
ADP-fossil [1]	**MJ**	192.0	7.8	16.8	0	3.1	0	0	0	0	0	0	2.5	6.7E-02	1.6	-4.8
WDP [1]	**m^3 depriv.**	1.9	8.0E-03	2.2E-01	0	16.8	0	0	0	0	0	0	3.0E-03	8.8E-04	8.9E-03	-4.3E-02

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

Warning 1: The results of this environmental impact indicator should be used with caution, as the uncertainties of the results are high and experience with this parameter is limited**.**

Additional environmental impacts

Parámetro	Unidades	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	**Incidencia de enfermedades**	1,5E-05	6,2E-08	8,5E-07	0	3,4E-09	0	0	0	0	0	0	2,3E-09	3,0E-11	1,1E-08	-6,6E-09
IRP	**kBq U235 eq**	44,1	5,8	5,6	0	4,1E+00	0	0	0	0	0	0	1,9E+00	8,1E-03	0,9	-1,2
ETP-fw [1]	**CTUe**	4,1E-09	1,2E-10	3,8E-10	0	2,5E-10	0	0	0	0	0	0	3,8E-11	4,1E-13	1,2E-10	-3,9E-13
HTP-c [1]	**CTUh**	1,3E-07	5,0E-09	1,8E-08	0	2,7E-08	0	0	0	0	0	0	1,7E-09	7,6E-12	1,3E-08	-1,2E-09
HTP-nc [1]	**CTUh**	4,4E-01	1,9E-03	5,7E-02	0	2,0E-02	0	0	0	0	0	0	6,7E-04	6,2E-04	2,1E-03	-1,0E-02
SQP [1]	**-**	129,0	3,3	19,2	0	0,7	0	0	0	0	0	0	1,2E+00	1,6E-04	3,7E-01	-1,8

PM: Potential for disease incidence due to emissions of particulate matter (PM)**; IRP** : Exposure efficiency of human potential relative to U235; **ETP-fw** : Ecosystem toxic unit comparative potential - freshwater; **HTP-c** : Ecosystem toxic unit comparative potential - carcinogenic effects**; HTP-nc** : Ecosystem toxic unit comparative potential - non-carcinogenic effects**; SQP :** Soil quality potential index; **NR:** Not relevant

Note 1: This impact category deals mainly with potential impacts of low doses of ionising radiation on human health from the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents or occupational exposure due to disposal of radioactive waste in underground facilities. Ionising radiation potential of soil, due to radon or some building materials is also not measured by this parameter.

Use of resources

Parameters	Units	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	**MJ**	34.4	5.8E-01	4.0	0	4.0	0	0	0	0	0	0	2.2E-01	2.6E-03	1.8E-01	-6.8
PERM	**MJ**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERT	**MJ**	34.4	5.8E-01	4.0	0	4.0	0	0	0	0	0	0	2.2E-01	2.6E-03	1.8E-01	-6.8
PENRE	**MJ**	193.0	7.8	16.9	0	3.1	0	0	0	0	0	0	2.5	6.7E-02	1.6	-4.8
PENRM	**MJ**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	**MJ**	193.0	7.8	16.9	0	3.1	0	0	0	0	0	0	2.5	6.7E-02	1.6	-4.8
SM	**kg**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSF	**MJ**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	**MJ**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FW	**m^3**	3.7E-02	6.4E-04	4.4E-03	0	2.2E-01	0	0	0	0	0	0	2.4E-04	1.2E-05	3.0E-04	-3.0E-03

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

Waste categories and output flows

Parameters	Units	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	**Kg**	2.0E-02	2.9E-10	1.1E-03	0	1.4E-10	0	0	0	0	0	0	9.7E-11	8.0E-12	2.5E-08	-3.5E-08
NHWD	**Kg**	3.9	1.2E-03	6.7E-01	0	5.9E-02	0	0	0	0	0	0	4.1E-04	7.2	0.0	-1.0E-03
RWD	**Kg**	5.5E-03	1.3E-05	5.2E-04	0	8.0E-06	0	0	0	0	0	0	4.6E-06	9.7E-06	2.1E-05	-1.5E-05
CRU	**Kg**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MFR	**Kg**	3.3E-01	0	9.0E-01	0	0	0	0	0	0	0	0	0	16.8	0	0.776
MER	**Kg**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EE	**MJ**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HWD: Hazardous waste disposed of; NHWD: Non-hazardous waste disposed of; RWD: Radioactive waste disposed of; CRU: Components for reuse; MFR: Materials for recycling; MER: Materials for energy recovery; EE: Energy exported;

6 Additional environmental impacts

6.1. General

Indoor air emissions

Ceramic tiles, in their manufacturing process, are subjected to a thermal process that exceeds 1000°C. At these temperatures, any organic compounds present in the compositions decompose, resulting in a final product that is inert and free of volatile organic compounds that may be emitted during the use phase.

Release to soil and water

Ceramic tiles do not emit any compounds into the soil or water during the use phase, as it is a totally inert product, which does not undergo physical, chemical or biological transformations, is not soluble or combustible, does not react physically, chemically or in any other way, is not biodegradable, does not adversely affect other materials with which it comes into contact in a way that could lead to environmental pollution or harm human health. It is a non-leaching product and therefore does not pose a risk to surface or groundwater quality.

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