

HPD UNIQUE IDENTIFIER: 30315

CLASSIFICATION: 09 30 13 Ceramic Tiling

PRODUCT DESCRIPTION: Wall and Floor tile, Bla

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

<p>Inventory Reporting Format</p> <p><input checked="" type="radio"/> Nested Materials Method</p> <p><input type="radio"/> Basic Method</p> <p>Threshold Disclosed Per</p> <p><input type="radio"/> Material</p> <p><input checked="" type="radio"/> Product</p>	<p>Threshold Level</p> <p><input checked="" type="radio"/> 100 ppm</p> <p><input type="radio"/> 1,000 ppm</p> <p><input type="radio"/> Per GHS SDS</p> <p><input type="radio"/> Other</p>	<p>Residuals/Impurities Evaluation</p> <p>Completed in 1 of 1 Materials</p> <p>Explanation(s) provided for Residuals/Impurities?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p><i>For all contents above the threshold, the manufacturer has:</i></p> <p>Characterized <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><i>Provided weight and role.</i></p> <p>Screened <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><i>Provided screening results using HPDC-approved methods.</i></p> <p>Identified <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><i>Provided name and CAS RN or other identifier.</i></p>
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CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

[NESTED MATERIAL](#) | [MATERIAL OR SUBSTANCE](#) | [RESIDUAL OR IMPURITY](#)

[GREENSCREEN SCORE](#) | [HAZARD TYPE](#)

[SILICA \[\]](#)

Number of Greenscreen BM-4/BM3 contents ... 0

Contents highest-concern GreenScreen score(s) (BM-1, LT-1, LT-P1) ... None

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

No inventory needed

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE *See Section 3 for additional listings.*

VOC emissions: MAS Certified Green - VOC Emissions

CONSISTENCY WITH OTHER PROGRAMS

No pre-checks completed or disclosed.

Third Party Verified?

Yes

No

PREPARER: Self-Prepared

VERIFIER:

VERIFICATION #:

SCREENING DATE: 2022-10-25

PUBLISHED DATE: 2022-10-25

EXPIRY DATE: 2025-10-25

Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold*
- *Nested Material Inventory method with individual Material-level thresholds*

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.3, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-3-standard

SILICA

%: 60.0000 - 70.0000

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes

MATERIAL TYPE: Ceramic

RESIDUALS AND IMPURITIES NOTES: No relevant residual or impurity

OTHER MATERIAL NOTES: The material (Silica) doesn't contain any substances.

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS

MAS Certified Green - VOC Emissions

CERTIFYING PARTY: Third Party

ISSUE DATE: 2018-11-22

CERTIFIER OR LAB: Lab

APPLICABLE FACILITIES: All

EXPIRY DATE:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

according to EN 14411:2016 in classified as: Bla with water absorption <0.5%

MANUFACTURER INFORMATION

MANUFACTURER: Ceramiche Mutina
ADDRESS: via Ghiarola Nuova 16
 Fiorano Modena 41042, Italia
WEBSITE: www.mutina.it

CONTACT NAME: Matteo Galli
TITLE: CTO
PHONE: 0536812800
EMAIL: info@mutina.it

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity	LAN Land toxicity	PHY Physical hazard (flammable or reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive
DEV Developmental toxicity	MUL Multiple	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	NF Not found on Priority Hazard Lists	UNK Unknown
GEN Gene mutation	OZO Ozone depletion	
GLO Global warming	PBT Persistent, bioaccumulative, and toxic	

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-P1 List Translator Possible 1 (Possible Benchmark-1)
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-1 List Translator 1 (Likely Benchmark-1)
BM-2 Benchmark 2 (use but search for safer substitutes)	LT-UNK List Translator Benchmark Unknown
BM-1 Benchmark 1 (avoid - chemical of high concern)	NoGS No GreenScreen.
BM-U Benchmark Unspecified (due to insufficient data)	

GreenScreen Benchmark scores sometimes also carry subscripts, which provide more context for how the score was determined. These are DG (data gap), TP (transformation product), and CoHC (chemical of high concern). For more information, see 2.2.2.4 GreenScreen® for Safer Chemicals, www.greenscreenchemicals.org, and Best Practices for Hazard Screening on the HPDC website (hpd-collaborative.org).

Recycled Types

- PreC** Pre-consumer recycled content
- PostC** Post-consumer recycled content
- UNK** Inclusion of recycled content is unknown
- None** Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

- Nested Method / Material Threshold** Substances listed within each material per threshold indicated per material
- Nested Method / Product Threshold** Substances listed within each material per threshold indicated per product
- Basic Method / Product Threshold** Substances listed individually per threshold indicated per product

- Nano** Composed of nano scale particles or nanotechnology
- Third Party Verified** Verification by independent certifier approved by HPDC
- Preparer** Third party preparer, if not self-prepared by manufacturer
- Applicable facilities** Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.



MODENA CENTRO PROVE s.r.l.

Sede legale e Laboratori: 41123 Modena (Italy) - Via Sallustio, 78
Tel. 059 822417 r.a. - Fax 059380281 - e-mail : info@modenacentroprove.it - www.modenacentroprove.it
C.C.I.A.A. Modena n. 228587 - Tribunale di Modena n° 2231 - C.F. e P. IVA n. 01592020364

MECCANICA

ECOLOGIA

CERAMICA

ALIMENTARE



Modena, 21/10/2020

Certificato n°
50 100 4582



Diploma
IWR/IT n°
30438

Abilitato per
autocontrolli
alimentari
DL 530/92 -
537/92 -
65/93

*Notifica UE
n°01599
all'attività di
certificazione
CE, ai sensi
della direttiva
305/2011/CE,
su piastrelle di
ceramica e
relativi adesivi
di posa*

Riconosciuto
dal Ministero
della Sanità
per le analisi
sull'amianto



Socio



Membro



Socio

Unione Industriali
Modena



Iscritto

Oggetto: VOC content per i prodotti Mutina

MODENA CENTRO PROVE, Laboratorio certificato UNI EN ISO 9001/2008 con TÜV ITALIA e in regime di qualità secondo UNI CEI ISO/IEC 17025:2005 (Accredia N° 1018), dichiara che le piastrelle (prodotte con ciclo termico da 1100° fino a 1220°C e prive di trattamenti superficiali successivi la cottura) commercializzate da Ceramica Mutina non contengono e non rilasciano, nelle condizioni di utilizzo, composti VOC.

Object: VOC content for Mutina products

MODENA CENTRO PROVE, certified Laboratory UNI EN ISO 9001/2008 with TÜV ITALIA and in quality order according to UNI CEI ISO/IEC 17025:2005 (Accredia N° 1018), declare that the tile (produced with thermal cycle from 1100° to 1220°C and without post fired surface treatments) marketed by Ceramiche Mutina they do not contain and do not release any VOC compounds.

Responsabile Sezione Ceramica

P.I. De Pasquale Roberto

Direttore

Dr. Sant'Unione Giuseppe

**DECLARATION OF PERFORMANCE
MUTINA001**

- 1 ROMBINI LOSANGE 4,7 mm
Dry-pressed ceramic tiles, with water absorption $\leq 0,5\%$
- 2 For internal and external walls and flooring
- 3 CERAMICHE MUTINA SPA
Via Ghiarola Nuova 16, 41042 Fiorano Modenese (MO) Italia
- 4 System 4
- 5 not applicable
- 6 declared performances



Essential characteristics	Performances	Harmonised technical specification
Reaction to fire	A1_{FL}/A1	EN 14411: 2012
Breaking strength $\geq 7,5$ mm	> 1 300 N	
Slipperiness, as: PTV slider 57, CEN/TS 16165:2011 Annex C	>0,35	
Bond strength/adhesion, for:		
Cementitious adhesion, type C2	1 N/mm²	
Thermal shock resistance	Pass	
Durability for:		
- internal use:	Pass	
- external use: freeze-thawresistance	Pass	

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GlobalEPD

A VERIFIED ENVIRONMENTAL DECLARATION

Environmental
Product
Declaration

EN ISO 14025:2010

EN 15804:2012+A1:2013

AENOR

Confía

Ceramic tiles, glazed ceramic
tiles (BIII clasification according
to EN 14411:2016)

Date of issue: 2020-02-19

Expiry date: 2025-02-18

Código GlobalEPD: 002-051

EQUIPE

EQUIPE CERÁMICA S.L.



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

EQUIPE

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Instituto de Tecnología Cerámica

LCA Study

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AENOR

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

GlobalEPD-RCP-002 rev. 1 CEN standard EN 15804:2012+A1:2013 serves as the core RCP	
Independent verification of the declaration and data, according to EN ISO 14025:2010	
<input type="checkbox"/> Internal	<input checked="" type="checkbox"/> External
Verification Body AENOR	

1 General information

1.1. The organization

EQUIPE CERÁMICAS SL, was founded on September 27, 1999 and, after great growth in the ceramic tile industry in recent years, is currently the reference company in the sector of small format for floor and wall tiles.

EQUIPE provides as an added value a product with a high level of design and quality, a real commitment to its client and a transparency, closeness and flexibility that make EQUIPE a company adapted to its times and in constant evolution.

So much so that in 2017 EQUIPE was included by Cepyme in Cepyme500 programme, that identifies, selects and promotes the 500 Spanish companies that lead business growth and where the added value, employment, innovation and international projection is rewarded.

Currently EQUIPE has more than 150 employees and its products are present worldwide, with its main markets being Europe and America.

1.2. Scope of the Declaration

This Environmental Product Declaration contains complete environmental information along the life cycle of grouping products produced by EQUIPE CERÁMICAS SL. in a geographical and technological environment of Spain in the year 2018.

This environmental product declaration describes the environmental information related to the life cycle of ceramic tiles (BIII group). This EPD represents an average product, since it includes different product families (BIII group). This LCA is "cradle-to-gate".

1.3. Lyfe cycle and conformity

This EPD was drafted and verified in accordance with the EN ISO 14025:2010 and EN15804:2012+A1:2013 Standards and the Product Category Rules (PCR) listed in table 1.

This EPD includes the life cycle stages indicated in table 2.

Title	Ceramic tiles
Registration code	GlobalEPD-RCP-002 rev. 1
Issue date	2018/07/11
Conformity	UNE-EN 15804
Programme	GlobalEPD
Programme Operator	AENOR

Table 1. Information about the PCR

This Declaration cannot be subject to comparison with others as drawn up in other Programmes or in accordance with different reference documents. This EPD is not comparable with other EPD not developed according to the standard EN 15804. In the same way, environmental Declarations cannot be subject to comparison if the origin of the data is different (the data sets, for example), if not all the relevant information modules are included, or if they are not based on the same scenarios.

Comparison of construction products shall be based on the same function, using the same functional unit at building level (or architectural or civil engineering works), i.e. including the performance of the product during the life cycle and the requirements stated in EN ISO 14025, 6.7.2.

	Product stage		
		Module	Value
Product stage	A1	Raw material supply	X
	A2	Transport to the manufacturer	X
	A3	Manufacturing	X
Const.	A4	Transport to the building site	MNE
	A5	Installation / construction	MNE
Use stage	B1	Use	NR
	B2	Maintenance	MNE
	B3	Repair	NR
	B4	Replacement	NR
	B5	Refurbishment	NR
	B6	Operational energy use	NR
	B7	Operational water use	NR
End of life	C1	De-construction / demolition	NR
	C2	Transport	MNE
	C3	Waste processing	MNE
	C4	Disposal	MNE
	D	Reuse, recovery and/or recycling potentials	X

X = Module included in the LCA; NR = Not relevant module; MNA = Module not assessed

Table 2. System boundary. Information modules included

2 The product

2.1. Identification of the product

The ceramic tiles included in this study are those belonging to the BIII water absorption group in accordance with the EN 14411:2016 Standard (equivalent to ISO 13006:2018), with water absorption $E > 10\%$. (glazed or porous tiles)

Glazed tiles include in this EPD have large-format ceramic tiles. The product sizes that lie within the scope of the study have a thickness between 8 mm and 14 mm, with an average weight of 14,8 kg/m².

The results of the sizes included within the scope of this EPD which exhibit the maximum and minimum values of the declared impacts are declared in Annexes, corresponding to format 11,4x13,1 cm of 8,8 mm of thickness and 1,2x20 cm of 8 mm of thickness, respectively.

2.2. Intended use of the product

The product's function is to cover surfaces. The versatility of the glazed tile allows this type of coverings to be installed in different environments (houses, offices, shops, hospitals, etc.) in interior and exterior environments, as well as covering floors, walls or other surfaces.

Technical specifications of ceramic tiles are listed in EN 14411:2016 Standard. This information will be provided by the manufacturer.

2.3. Composition of the product

None of the end-product components are included in the Candidate List of substances of very high concern for authorisation.

Raw materials	Content	Units
Clay, feldspar, sand, kaolin, deflocculant, unfired and fired tile scrap	92%	kg/m ²
Feldspar, carbonates, quartz, borates, silicates, kaolin, zirconium oxide, clays, zinc oxide	8%	kg/m ²

Table 3. Composition of the product

3 Information regarding the LCA

3.1. Life cycle analysis

The Life Cycle Assessment (LCA) study on which this EPD is based has been drawn up from data provided by EQUIPE CERÁMICA S.L. of its ceramic tiles produced in 2018 in two different facilities.

The LCA on which this declaration is based has been conducted according to the ISO 14040 and ISO 14044 standard, and the GlobalEPD-RCP-002 revision 1 for ceramic tiles of the GlobalEPD Programme of AENOR.

The LCA was developed with the life cycle analysis software GaBi 9.1.053 and database 8.007 (Thinkstep). The characterization factors used are the factors included in EN 15804:2012+A1:2013.

3.2. Functional Unit

The Functional Unit is "covering 1 m² of a surface (walls) of interior of a house during 50 years" with BIII group ceramic tiles.

3.3. Reference service life

The Reference Service Life (RSL) is the same as that of the building where it is installed, if it is properly installed. It is a long-lasting product that does not require replacement. It has been considered a reference service life of 50 years.

3.4. Allocation and cut-off criteria

In this "cradle-to-gate" LCA study, a cut-off rule of 1% has been applied for the energy use (renewable and non-renewable) and for the mass in all single processes whose data are insufficient. More than 95% of inputs and outputs from energy and matter have been included, excluding not available and not quantifiable dataset.

The excluded dataset are:

- Diffuse particulate emissions generated by transport and storage of powdery raw materials.
- Non-regulated channelled emissions from combustion stage (spray drying, ceramic tiles drying and firing stage).
- The waste recycling and reuse processes generated throughout the life cycle of ceramic tiles based on Product Category Rules (PCR). However, the waste recycling process and their benefits are considered in module D.
- Industrial machinery and equipment manufacture, owing to the lack of currently available data, the cost/complexity of analysis and the relatively low environmental impact per FU compared to other processes in the case of building products. In addition, these processes are not included in the used databases. Waste generated during the maintenance of this machinery and equipment are also excluded due to the low impact caused..

3.5. Representativeness, quality and selection of data

The primary data have been obtained through questionnaires filled in by EQUIPE CERÁMICA S.L., corresponding to two facilities.

For secondary data, GaBi databases have been used, compilation 8007 and modelled with GaBi version 8.0.7.18. All datasets provided belong to a geographical scenario of Spain 2018.

The results includes are representative of ceramic tiles, expressed as an average by the production of BIII group tiles, limiting said average for the products that they have the minimum and maximum environmental impact.

3.6. Other calculation rules and hypotheses

The load assignments applied have been the necessary to quantify specific data of the ceramic tiles, as well as the calculations necessary to be able to assign the associated data to products that have a minimum and maximum environmental impact.

4 System boundaries, scenarios and additional technical information

4.1. Processes that precedes manufacturing (upstream) and manufacturing of the product (A1-A3)

This environmental product declaration refers to the environmental behaviour of the ceramic tile product manufactured by EQUIPE CERÁMICA S.L.

All Life Cycle modules applicable to ceramic tiles according to PCR (cradle-to-gate) have been included.

PRODUCT STAGE

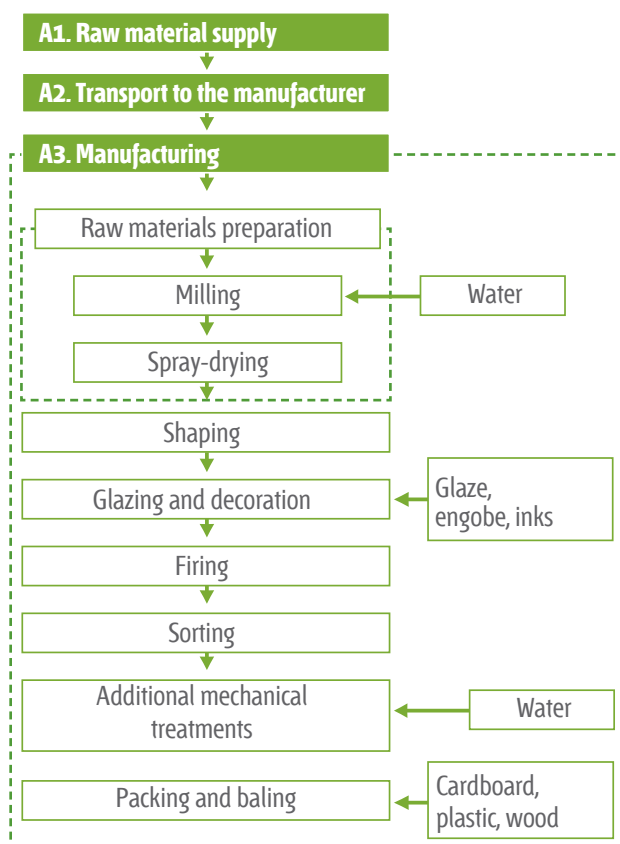


Figure 2. Product stage

Raw materials supply and transport (A1 and A2)

The basic materials for the manufacture of ceramic tiles are classified in plastic raw materials and non-plastic or degreasing raw material. Their proportion should be appropriate to form the tile and to provide enough raw strength to allow it to be processed.

The main plastic raw materials are clays and kaolins. The most common non-plastic raw materials or degreasers are: siliceous sands and alkaline feldspars.

Other raw materials are the waste from the factory itself i.e. sludge, unfired tile scrap and fired tile scrap. These wastes are introduced in the milling stage of the raw materials.

The most common glaze raw materials are quartz, kaolin, alkaline feldspars, calcium carbonate, borates, zircon, clay, calcined alumina, ceramic frits, pigments, and additives such as suspending agents, deflocculants, or binders. The glaze raw materials come from different sources and are transported in bulk by truck and transoceanic freighter.

Ceramic frits are insoluble glass, prepared “ex process” by complete fusion of its original raw materials, called “frits”. It has been estimated as an average that 35% of the raw materials used in the enamels applied on porcelain tiles are subjected to the “fritting” process.

Raw materials have different sources according to their nature and properties. Raw materials that have its origin outside Spain are transported to the Castellón harbour by ship and then by truck to the manufacturing plants. For transport by sea, a type of transoceanic freighter has been chosen, whose distance travelled differs in each case depending on the origin, while a 27t freight truck has been chosen for road transport that complies with Euro 6 regulations. All raw materials are transported in bulk, i.e. with no packing, except for decorative materials that are transported in a 17.3t payload truck that complies with Euro 5 regulations directly from the factory of frits and glazes to the plants of EQUIPE CERÁMICA S.L. A distance of 17 km has been considered.

Manufacturing (A3)

Preparing raw materials takes place at the plant of the spray-dried granule supplier of EQUIPE. In this process the proportion of raw materials is defined and adjusted to the characteristics of the production process and final performances required.

The atomized granules, once manufactured, are transported to the EQUIPE facilities. In the factory the spray-dried powder is stored in storage hoppers. Using a feed system of conveyor belts with weight control, the granules are conveyed to the forming stage by dry unidirectional pressing, made with hydraulic or oleodynamic presses. This method is the most suitable for controlling the pressing cycle. The formed pieces are introduced into a continuous drier to reduce tile moisture content, thus doubling or tripling tile mechanical strength for subsequent processing, thus allowing next processing.

Once the tiles are removed from the dryer they are decorated with one or more thin layers of ceramic glaze or engobe with applying on the body techniques such as bell glazing and airbrushes. After, the body is also decorated with applying different techniques, being the majority, the injection of inks and to a lesser extent the decoration is made using chruused frits and rotogravure. This treatment is performed to confer on the surface of the fired product a series of technical and aesthetic properties, such as impermeability, ease of cleaning, gloss, color, surface texture, chemical and mechanical resistance.

The firing is the most important stage in the production process, as the materials have a fundamental change in the properties, obtaining a hard material, resistant to water and to chemical products. The products are fired in single-channel roller kilns.

The search for new effects on ceramic pieces has given rise to an additional treatments: cut, surface finishings, grindind, etc. This type of treatments are done in an external company to EQUIPE.

After the quality control processes, also known as sorting, the pieces are packaged using cardboard, pallets and LPDE film.

4.2. Benefits and loads beyond the system boundary

It is assumed that there are avoided loads (such as cardboard, film and wood waste), in the manufacturing stage.

5 Declaration of the environmental parameters of the LCA and LCI

The following table includes the averaged data of the LCA parameters.

The results associated with ceramic tiles that have a greater and lesser environmental impact are presented in Annexes I and II.













	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 GWP	5,4	2,9E-01	10,3														-5,5E-03
 ODP	7,8E-08	5,9E-11	-2,5E-10														-3,5E-10
 AP	1,8E-02	8,3E-04	6,2E-03														-2,8E-05
 EP	2,7E-03	1,1E-04	9,4E-04	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	-3,9E-06
 POCP	1,3E-03	6,8E-05	8,0E-04														-3,4E-06
 ADPE	6,7E-06	1,9E-08	3,6E-07														-4,4E-10
 ADPF	72,5	4,0	135,0														-1,5E-01
GWP [kg CO ₂ eq]	Global warming potential																
ODP [kg CFC-11 eq]	Depletion potential of the stratospheric ozone layer																
AP [kg SO ₂ eq]	Acidification potential of soil and water																
EP [kg (PO ₄) ³⁻ eq]	Eutrophication potential																
POCP [kg etileno eq]	Formation potential of tropospheric ozone																
ADPE [kg Sb eq]	Abiotic depletion potential for non fossil resources																
ADPF [MJ]	Abiotic depletion potential for fossil resources																

Table 4. Parameters describing environmental impacts defined in EN 15804

	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 PERE	37,5	2,0E-01	6,0														-1,5E-01
PERM	0	0	0														0
PERT	37,5	2,0E-01	6,0														-1,5E-01
 PENRE	94,3	4,0	139,0														-1,7E-01
PENRM	0	0	0														0
PENRT	94,3	4,0	139,0	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	-1,7E-01
 SM	0	0	0														0
 RSF	0	0	0														0
NRSF	0	0	0														0
 FW	7,9	1,5E-02	6,6E-01														3,6E-04

PERE [M] Use of renewable primary energy excluding renewable primary energy resources used as raw materials

PERM [M] Use of renewable primary energy resources used as raw materials

PERT [M] Total use of renewable primary energy resources

PENRE [M] Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials

PENRM [M] Use of non renewable primary energy resources used as raw materials

PENRT [M] Total use of non renewable primary energy resources

SM [M] Use of secondary material

RSF [M] Use of renewable secondary fuels

NRSF [M] Use of non renewable secondary fuels

FW [m³] Net use of fresh water

Table 5. Parameters describing resource use







		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	2,5E-03	0	0														4,5E-05
	NHWD	10,6	1,3E-02	34,4														-4,1E-03
	RWD	6,9E-03	5,5E-06	1,4E-03														1,8E-06
	CRU	0	0	0														0
	MFR	0	0	0	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	-1,9E-02
	MER	0	0	0														0
	EE	0	0	0														0
	EET	0	0	0														0
HWD	[kg]	Hazardous waste disposed																
NHWD	[kg]	Non hazardous waste disposed																
RWD	[kg]	Radioactive waste disposed																
CRU	[kg]	Components for re-use																
MFR	[kg]	Materials for recycling																
MER	[kg]	Materials for energy recovery																
EE	[kg]	Exported electric energy																
EET	[kg]	Exported thermal energy																

Table 6. Parameters describing output flows and waste categories

6 Additional environmental information

6.1. Indoor emissions

During the manufacturing process of ceramic tiles, they are put through a thermal process that exceeds 1000 °C. At such temperatures, any organic compound present in the compositions breaks down, with the result of producing an inert end product that is free of volatile organic compounds that can be emitted in its use phase.

6.2. Release to soil and water

the ceramic tiles do not emit any compounds into the land or into water once installed by the customer in their end use stage, since the product is virtually inert and so does not undergo physical, chemical or biological transformations, is neither soluble nor combustible, does not react either physically or chemically or in any other way, is not biodegradable, does not negatively affect other materials with which it comes into contact in a way that may give rise to environmental pollution or to damage to human health. It is a non-leaching product, so that it does not endanger the quality of surface water or groundwater.

ANNEX I Declaration of the environmental parameters of the LCA and the LCI for the format of MINIMUM environmental impact













	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 GWP	4,8	1,8E-01	6,2														-3,3E-03
 ODP	7,6E-08	5,9E-11	-1,7E-10														-2,1E-10
 AP	1,7E-02	5,7E-04	3,8E-03														-1,7E-05
 EP	2,6E-03	8,0E-05	5,8E-04	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	-2,4E-06
 POCP	1,2E-03	4,6E-05	4,8E-04														-2,1E-06
 ADPE	6,6E-06	1,1E-08	2,4E-07														-2,6E-10
 ADFP	64,7	2,4	80,8														-8,7E-02
GWP [kg CO ₂ eq]	Global warming potential																
ODP [kg CFC-11 eq]	Depletion potential of the stratospheric ozone layer																
AP [kg SO ₂ eq]	Acidification potential of soil and water																
EP [kg (PO ₄) ³⁻ eq]	Eutrophication potential																
POCP [kg etileno eq]	Formation potential of tropospheric ozone																
ADPE [kg Sb eq]	Abiotic depletion potential for non fossil resources																
ADFP [MJ]	Abiotic depletion potential for fossil resources																

Table I.1. Parameters describing environmental impacts defined in EN 15804

	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 PERE	35,0	1,1E-01	4,2														-8,9E-02
PERM	0	0	0														0
PERT	35,0	1,1E-01	4,2														-8,9E-02
 PENRE	85,4	2,5	83,4														-1,0E-01
PENRM	0	0	0	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	0
PENRT	85,4	2,5	83,4														-1,0E-01
 SM	0	0	0														0
 RSF	0	0	0														0
NRSF	0	0	0														0
 FW	7,2	8,3E-03	4,4E-01														2,1E-04

PERE [M] Use of renewable primary energy excluding renewable primary energy resources used as raw materials

PERM [M] Use of renewable primary energy resources used as raw materials

PERT [M] Total use of renewable primary energy resources

PENRE [M] Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials

PENRM [M] Use of non renewable primary energy resources used as raw materials

PENRT [M] Total use of non renewable primary energy resources

SM [M] Use of secondary material

RSF [M] Use of renewable secondary fuels

NRSF [M] Use of non renewable secondary fuels

FW [m³] Net use of fresh water

Table I.2. Parameters describing resource use







		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	2,4E-03	0	0														2,7E-05
	NHWD	7,5	8,0E-03	12,1														-2,5E-03
	RWD	6,4E-03	3,5E-06	1,0E-03														1,1E-06
	CRU	0	0	0														0
	MFR	0	0	0	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	-1,1E-02
	MER	0	0	0														0
	EE	0	0	0														0
	EET	0	0	0														0
HWD	[kg]	Hazardous waste disposed																
NHWD	[kg]	Non hazardous waste disposed																
RWD	[kg]	Radioactive waste disposed																
CRU	[kg]	Components for re-use																
MFR	[kg]	Materials for recycling																
MER	[kg]	Materials for energy recovery																
EE	[kg]	Exported electric energy																
EET	[kg]	Exported thermal energy																

Table I.3. Parameters describing output flows and waste categories

ANNEX II Declaration of the environmental parameters of the LCA and the LCI for the format of MAXIMUM environmental impact













	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
 GWP	5,6	3,5E-01	13,2															-6,6E-03
 ODP	7,9E-08	5,9E-11	-2,9E-10															-4,2E-10
 AP	1,8E-02	9,6E-04	8,3E-03															-3,4E-05
 EP	2,8E-03	1,3E-04	1,3E-03	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE		-4,8E-06
 POCP	1,4E-03	8,0E-05	1,1E-03															-4,2E-06
 ADPE	6,8E-06	2,3E-08	5,3E-07															-5,3E-10
 ADPF	76,6	4,8	175,0															-1,8E-01
GWP [kg CO ₂ eq]				Global warming potential														
ODP [kg CFC-11 eq]				Depletion potential of the stratospheric ozone layer														
AP [kg SO ₂ eq]				Acidification potential of soil and water														
EP [kg (PO ₄) ³⁻ eq]				Eutrophication potential														
POCP [kg etileno eq]				Formation potential of tropospheric ozone														
ADPE [kg Sb eq]				Abiotic depletion potential for non fossil resources														
ADPF [MJ]				Abiotic depletion potential for fossil resources														

Table II.1. Parameters describing environmental impacts defined in EN 15804

	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 PERE	38,9	2,4E-01	9,6														-1,8E-01
PERM	0	0	0														0
PERT	38,9	2,4E-01	9,6														-1,8E-01
 PENRE	99,0	4,8	181,0														-2,1E-01
PENRM	0	0	0														0
PENRT	99,0	4,8	181,0	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	-2,1E-01
 SM	0	0	0														0
 RSF	0	0	0														0
NRSF	0	0	0														0
 FW	8,3	1,8E-02	9,5E-01														4,3E-04

PERE [Mj] Use of renewable primary energy excluding renewable primary energy resources used as raw materials

PERM [Mj] Use of renewable primary energy resources used as raw materials

PERT [Mj] Total use of renewable primary energy resources

PENRE [Mj] Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials

PENRM [Mj] Use of non renewable primary energy resources used as raw materials

PENRT [Mj] Total use of non renewable primary energy resources

SM [Mj] Use of secondary material

RSF [Mj] Use of renewable secondary fuels

NRSF [Mj] Use of non renewable secondary fuels

FW [m³] Net use of fresh water

Table II.2. Parameters describing resource use







		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	2,6E-03	0	0														5,5E-05
	NHWD	12,2	1,6E-02	49,4														-5,0E-03
	RWD	7,1E-03	6,7E-06	2,2E-03														2,2E-06
	CRU	0	0	0														0
	MFR	0	0	0	6,4E-05	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	-2,3E-02
	MER	0	0	0														0
	EE	0	0	0														0
	EET	0	0	0														0
HWD	[kg]				Hazardous waste disposed													
NHWD	[kg]				Non hazardous waste disposed													
RWD	[kg]				Radioactive waste disposed													
CRU	[kg]				Components for re-use													
MFR	[kg]				Materials for recycling													
MER	[kg]				Materials for energy recovery													
EE	[kg]				Exported electric energy													
EET	[kg]				Exported thermal energy													

Table II.3. Parameters describing output flows and waste categories

References

- [1] General Instructions of the GlobalEPD Programme, 1st revision. AENOR. February 2016
- [2] EN ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures (ISO 14025:2006)
- [3] EN 15804:2012+A1:2013 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
- [4] GlobalEPD-RCP-002 Ceramic coverings. AENOR. July 2018
- [5] Life cycle assessment according to GlobalEPD Programme for porcelain stoneware ceramic tile product of the Bla group. Annex I C195037 of Instituto de Tecnología Cerámica report.

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AENOR
Confía



A verified environmental declaration

GlobalEPD



RECYCLED MATERIAL DECLARATION

Ceramiche Mutina SpA, headquarters in via Ghiarola Nuova 16, 41042 Fiorano Modenese (MO), Italy, according to the requirements specified in the following standards:

- UNI EN ISO 14021:2002 Environmental labels and declarations – (Type II environmental labelling)
- LEED for New Construction & Major Renovations Rating System version 2.2 – October 2005 (Green Building Council Italia - GBC e USGBC - U.S Green Building Council)

declares that

The base pug from which the ceramic slabs of the following collections are produced:

Rombini Triangle – design Ronan&Erwan Bouroullec

has a recycled content of

64 % for all colours

calculated as a percentage of the total weight (pre-consumer recycled material).

Fiorano Modenese, 4th August 2021

Ceramiche Mutina SpA

HPD UNIQUE IDENTIFIER: 26667
 CLASSIFICATION: 09 30 13 Ceramic Tiling
 PRODUCT DESCRIPTION: Wall tile, BIII

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

<p>Inventory Reporting Format</p> <p><input checked="" type="radio"/> Nested Materials Method <input type="radio"/> Basic Method</p> <p>Threshold Disclosed Per</p> <p><input type="radio"/> Material <input checked="" type="radio"/> Product</p>	<p>Threshold Level</p> <p><input checked="" type="radio"/> 100 ppm <input type="radio"/> 1,000 ppm <input type="radio"/> Per GHS SDS <input type="radio"/> Other</p>	<p>Residuals/Impurities</p> <p>Considered in 3 of 3 Materials</p> <p>Explanation(s) provided for Residuals/Impurities?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p><i>All Substances Above the Threshold Indicated Are:</i></p> <p>Characterized <input type="radio"/> Yes Ex/SC <input checked="" type="radio"/> Yes <input type="radio"/> No <i>% weight and role provided for all substances.</i></p> <p>Screened <input type="radio"/> Yes Ex/SC <input checked="" type="radio"/> Yes <input type="radio"/> No <i>All substances screened using Priority Hazard Lists with results disclosed.</i></p> <p>Identified <input type="radio"/> Yes Ex/SC <input checked="" type="radio"/> Yes <input type="radio"/> No <i>All substances disclosed by Name (Specific or Generic) and Identifier.</i></p>
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CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY
GREENSCREEN SCORE | HAZARD TYPE
SILICA SILICA FUSED MULLITE [MULLITE (AL6O5(SIO4)2) LT-UNK]

Number of Greenscreen BM-4/BM3 contents ... 0
 Contents highest concern GreenScreen Benchmark or List translator Score ... LT-UNK
 Nanomaterial ... No

INVENTORY AND SCREENING NOTES:
 No inventory needed

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

VOC emissions: MAS Certified Green - VOC Emissions

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients Option 1 and Option 2

<p>Third Party Verified?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>PREPARER: Self-Prepared VERIFIER: VERIFICATION #:</p>	<p>SCREENING DATE: 2021-12-06 PUBLISHED DATE: 2021-12-06 EXPIRY DATE: 2024-12-06</p>
--	--	--

Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.2, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-2-standard

SILICA %: 60.0000 - 70.0000

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes MATERIAL TYPE: Ceramic

RESIDUALS AND IMPURITIES NOTES: No relevant residual or impurity

OTHER MATERIAL NOTES: The material (Silica) doesn't contain any substances.

SILICA FUSED %: 22.0000 - 28.0000

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes MATERIAL TYPE: Ceramic

RESIDUALS AND IMPURITIES NOTES: No relevant residual or impurity

OTHER MATERIAL NOTES: The material (Silica) doesn't contain any substances.

MULLITE %: 8.0000 - 12.0000

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes MATERIAL TYPE: Ceramic

RESIDUALS AND IMPURITIES NOTES: No relevant residual or impurity

OTHER MATERIAL NOTES: The material doesn't contain any substances.

MULLITE (AL6O5(SIO4)2)

ID: 1302-93-8

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-12-06 4:15:10

%: 8.0000 - 12.0000 GS: LT-UNK RC: None NANO: No SUBSTANCE ROLE: Ceramic body

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
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None found		No warnings found on HPD Priority Hazard Lists
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SUBSTANCE NOTES:

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS

MAS Certified Green - VOC Emissions

CERTIFYING PARTY: Third Party

ISSUE DATE: 2018-11-22 EXPIRY DATE:

CERTIFIER OR LAB: Lab

APPLICABLE FACILITIES: All

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

Rombini Triangle

according to EN 14411:2016 in classified as: BIII with water absorption > 10%, GL

MANUFACTURER INFORMATION

MANUFACTURER: Ceramiche Mutina
ADDRESS: via Ghiarola Nuova 16
 Fiorano Modena 41042, Italia
WEBSITE: www.mutina.it

CONTACT NAME: Matteo Galli
TITLE: CTO
PHONE: 0536812800
EMAIL: info@mutina.it

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity	LAN Land toxicity	PHY Physical hazard (flammable or reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive
DEV Developmental toxicity	MUL Multiple	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	NF Not found on Priority Hazard Lists	UNK Unknown
GEN Gene mutation	OZO Ozone depletion	
GLO Global warming	PBT Persistent, bioaccumulative, and toxic	

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-1 List Translator 1 (Likely Benchmark-1)
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-UNK List Translator Benchmark Unknown (the chemical is present on at least one GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LTP1 score.)
BM-2 Benchmark 2 (use but search for safer substitutes)	
BM-1 Benchmark 1 (avoid - chemical of high concern)	
BM-U Benchmark Unspecified (due to insufficient data)	
LT-P1 List Translator Possible 1 (Possible Benchmark-1)	NoGS No GreenScreen.

Recycled Types

PreC Pre-consumer recycled content
PostC Post-consumer recycled content
UNK Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.