

Environmental Product Declaration

EN ISO 14025:2010 EN 15804:2012+A1:2013



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

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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



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

	-RCP-002 rev. 1 2+A1:2013 serves as the core RCP
	declaration and data, according to 14025:2010
Internal	External
Verifica	ation Body

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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.

t a	A1	Raw material supply	Χ
Product stage	A2	Transport to the manufacturer	Х
₹ ,,	A3	Manufacturing	Х
Const.	A4	Transport to the building site	MNE
Cor	A5	Installation / construction	MNE
	B1	Use	NR
	B2	Maintenance	MNE
ge	В3	Repair	NR
Use stage	B4	Replacement	NR
Us	B5	Refurbishment	NR
	B6	Operational energy use	NR
	B7	Operational water use	NR
	C1	De-construction / demolition	NR
End of life	C2	Transport	MNE
Endo	C3	Waste processing	MNE
_	C4	Disposal	MNE
	D	Reuse, recovery and/or recycling potentials	Х
>	(= Mod	ule 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, respectivily.

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/m²
Feldspar, carbonates, quartz, borates, silicates, kaolin, zirconium oxide, clays, zinc oxide	8%	kg/m²

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 diferent 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 datas

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 BIIII group tiles, limiting said average for the products that they have the minimum and maximum environmental impact.





6

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 manufacturig (upstream) and manufactuing 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

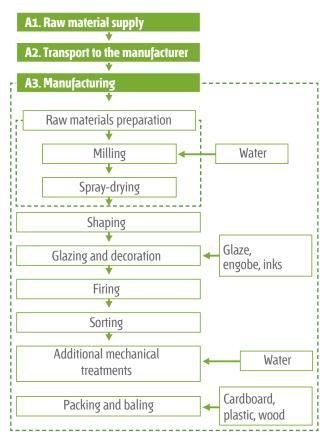


Figure 2. Product stage

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 chrused 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 aditional 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 agreater and lesser environmental impact are presented in Annexes I and II.

	A1	A2	АЗ	A4	A5	B1	B2	Вз	B4	B5	B6	В7	C1	C2	С3	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 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
Оз РОСР	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
ADFP	72,5	4,0	135,0														-1,5E-01

GWP [kg CO₂ eq] Global warming potential

ODP [kg CFC-11 eq] Depletion potential of the stratospheric ozone layer

AP [kg SO₂ eq] Acidification potential of soil and water

EP [kg (PO₄)³⁻ eq] Eutrophication potential

POCP [kg etileno eq] Formation potential of tropospheric ozone

ADPE [kg Sb eq] Abiotic depletion potential for non fossil resources

Table 4. Parameters describing environmental impacts defined in EN 15804

Abiotic depletion potential for fossil resources



ADPF [M]]



	A1	A2	Аз	A4	A5	B1	B2	Вз	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	MAIE	MNE	NID.	MNIE	ND	ND	ND	ND	NID.	NID	MNE	MANE	MNIE	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

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

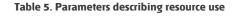
PERNRT [M]] Total use of non renewable primary energy resources

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







		A1	A2	АЗ	A4	A5	B1	B2	Вз	B4	B5	B6	В7	C1	C2	C3	C4	D
\triangle	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	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	0
00	MFR	0	0	0	MINE	MINE	MINE	IMINE	IMINE	IMINE	MINE	IMINE	IMINE	IMINE	IMINE	MINE	IMINE	-1,9E- 02
	MER	0	0	0														0
7	EE	0	0	0														0
·III.	EET	0	0	0														0
	HWD	[kg]			Hazard	ous was	te dispos	ed										
	NHWD	[kg]			Non ha	azardous	waste di	isposed										
	RWD	[kg]			Radioa	ictive wa	ste dispo	sed										
	CRU	[kg]			Components for re-use Materials for recycling													
	MFR	[kg]																
	MER	[kg]				als for en												
	EE	[kg]				ed electri												
	EET	[kg]			Export	ed therm	al energ	У										

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	А3	A4	A5	B1	B2	Вз	B4	B5	В6	В7	C1	C2	С3	C4	D
CO ₂ 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 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
Оз РОСР	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 CO₂ eq] Global warming potential

ODP [kg CFC-11 eq] Depletion potential of the stratospheric ozone layer

AP [kg SO₂ eq] Acidification potential of soil and water

EP [kg (PO₄)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
 [M]]
 Abiotic depletion potential for fossil resources

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





	A1	A2	АЗ	A4	A5	B1	B2	Вз	В4	B5	B6	B7	C1	C2	СЗ	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	MUE	MILE	AID.	MANIE	ND	AID.	N.D.	AID.	ND	ND	MUE	MUE		0
PENRT	85,4	2,5	83,4	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	-1,0E-01
SM	0	0	0														0
RSF NAMES	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

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

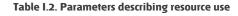
PERNRT [M]] Total use of non renewable primary energy resources

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







		A1	A2	АЗ	A4	A5	B1	B2	Вз	B4	B5	B6	B7	C1	C2	С3	C4	D
\triangle	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	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	0
00	MFR	0	0	0	MINE	IVINL	IVIX	IVINL	INIX	IVIX	INIX	INIX	IVIX	IVIX	IVIINE	IVIINE	IVIINE	-1,1E- 02
	MER	0	0	0														0
7 -	EE	0	0	0														0
·III.	EET	0	0	0														0
	HWD	[kg]			Hazard	lous was	te dispos	sed										
	NHWD	[kg]			Non ha	azardous	waste d	isposed										
	RWD	[kg]				ictive wa		sed										
	CRU	[kg]			Components for re-use													
	MFR	[kg]				als for re												
	MER	[kg]				als for en												
	EE	[kg]				ed electri ed therm												
	EET	[kg]			Export	eu merm	ai energ	у										

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	А3	A4	A5	B1	B2	Вз	B4	B5	B6	В7	C1	C2	С3	C4	D
GWP	5,6	3,5E-01	13,2														-6,6E- 03
ODP 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 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
Оз РОСР	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
ADFP	76,6	4,8	175,0														-1,8E-01

GWP [kg CO₂ eq] Global warming potential

ODP [kg CFC-11 eq] Depletion potential of the stratospheric ozone layer

 ${\bf AP} \ \ [{\rm kg\ SO_2\ eq}]$ Acidification potential of soil and water

EP [kg (PO₄)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 [M]] Abiotic depletion potential for fossil resources

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





		A1	A2	Аз	A4	A5	B1	B2	Вз	B4	B5	B6	В7	C1	C2	С3	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
I	PENRM	0	0	0	MNE	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	0
•	PENRT	99,0	4,8	181,0	MINE	MINE	NK	MINE	NK	IVK	NK	NK	NK	NK	MINE	MINE	MINE	-2,1E-01
00	SM	0	0	0														0
	RSF	0	0	0														0
ے <u>۔</u>	NRSF	0	0	0														0
	FW	8,3	1,8E-02	9,5E-01														4,3E-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

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

PERNRT [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







		A1	A2	А3	A4	A5	B1	B2	В3	В4	B5	B6	B7	C1	C2	C3	C4	D
\triangle	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	-6,4E-05	MNE	NR	MNE	NR	NR	NR	NR	NR	NR	MNE	MNE	MNE	0
00	MFR	0	0	0	0,4E-03	MINE	INIX	IMINE	ININ	INIX	INIX	INIX	ININ	INIX	IMINE	IMINE	IMINE	-2,3E- 02
	MER	0	0	0														0
7-	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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