CERAMIC PRODUCTS

ARGENTA CERÁMICA

Medium Stoneware Tile

THIS INCLUDES DIFFERENT MODELS OF DRY-PRESSED STONEWARE TILES:
ABSORPTION GROUP BIa WITH WATER ABSORPTION ≤0.5% AND ABSORPTION GROUP BIb WITH WATER ABSORPTION BETWEEN 0.5% AND ≤3%

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Medium Stoneware Tile

Dry-pressed stoneware tiles. This includes different models:

Absorption group BIa with water absorption ≤0.5%, and
Absorption group BIb with water absorption between 0.5% and ≤3%.

Ceramic floor and wall tiles

Contact details

Argenta Cerámica, S.L. www.argentaceramica.com
Pol. Ind. Vall d'Alba, Vall d'Alba (Castellón)
Telephone: 964324003
argenta@argentaceramica.com

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Summary table: Environmental parameters to which the material makes a specific contribution.
Detailed in the VERDE environmental certification sheet

		Supporting documents	*Certificates:*	*EPD, LAB TESTS*		*Self-declarations*		*Potential*	
Location & Transportation		Material reflection index SRI	Rainwater management	Ext. light control	…				
Energy & Atmosphere		Energy absorbed	Greenhouse gas effect	Reduction in energy demand	Equipment efficiency	Other polluting gases	Renewable energy	Energy manage-ment	…
Materials		Accredited location	Pre-consumption recycling	Post-consumption recycling	Potential reuse	Certified wood	Site waste	Chemical composi-tion	…
Water		Consumption < reference	Management water	…					
Indoor Environment		Low emission of VOCs	Low emission of formalde-hydes	Comfort control	Lighting control	Acoustic control	Air quality	…	
Innovation		Innovation Design	…						

NOTES:

1. The information in this document to comply with the credits for the environmental certificate study system chosen (VERDE) is based on the information that the company contributes and provides. In order to ensure possible compliance with said credits, it is necessary, during the process of awarding any seals, to verify the validity of the information and data provided by the company.
2. This document does not constitute product certification, nor does it guarantee compliance with the local regulations in force.
3. The conclusions of this study apply only to the products mentioned in this report and are subject to the invariability of the product's technical conditions.
4. The validity of this document is subject to expiry of the supporting documents or changes in regulations and/or versions of environmental certificate seals.
5. This document informs of the possible contribution of the product studied to obtaining VERDE certification.

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SUMMARY OF VERDE CREDITS

SITE AND LOCATION (PyE)

- PyE08, Heat island effect

ENERGY AND ATMOSPHERE (EyA)

- EyA01, Heating and cooling demand
- EyA02, Non-renewable primary energy consumption
- EyA03, CO_2 emissions

NATURAL RESOURCES (RN)

- RN05, Use of recycled materials
- RN06, Use of materials obtained from sustainable resources
- RN07, Use of local materials
- RN08, Planning a selective demolition strategy
- RN09, Management of construction waste
- RN10, Impact of construction materials
- RN11, Product eco-labelling

VERDE environmental categories

Site and Location

Energy & Atmosphere

Natural Resources

Environmental Quality

Service Quality

Social Aspects

Innovation

VERDE Certification Standards

NE UNI	New-build House	**RH VIV**	Housing Renovation
NE RO	New-build Residential and Offices	**RH EQUIP**	Systems Renovation
NE EQUIP	New-build Systems	**DU P**	Industrial Estate Developments

CATEGORY
SITE AND LOCATION

PyE08, Heat island effect
(RES Ω This may contribute up to 1.75% of the total score**)**

Intent	To decrease the heat island effect in urban areas by using wooded green spaces and installing shade and solar protection on accumulation surfaces.
Requirements	The products included in the medium stoneware tile group from the company Argenta Cerámica, S.L. in their lightest colours are materials with a high solar reflectance index (especially if the surface finish is polished), so they may help obtain points for this criterion, provided external coatings are used on the facade or roof.
Assessment procedure	Assessment of the building for this criteria is conducted by calculating the percentage of the surface area that prevents a heat island in the open area of a plot, facade and roof, based on the following: • **Linear 70%:** The sum of the plot and roof's surface areas that comply with the requirements described in the criterion is between 40 and 70% • **Linear 30%:** The sum of the surface area of the E-S-W surface area of the building that complies with the requirements described in the criterion is between 40 and 70%
Analysis example	N/A
Supporting documents	**01_1-Certificado IRS KURSAAL_SLATE.pdf** **01_2-Certificado IRS TANUM_PLOMO.pdf** **01_3-Certificado IRS CRYSTAL_WHITE.pdf** **01_4-Certificado IRS FOSTER_WHITE.pdf**
Reference standard	ASTM E1980-11

CATEGORY
ENERGY & ATMOSPHERE

- **EyA01, Heating and cooling demand**
- **EyA02, Non-renewable primary energy consumption**
- **EyA03, CO_2 emissions**

(RES Ω This may contribute up to 7.35% + 4.34% + 3.34% of the total score**)**

Intent

To promote reduction in heating and cooling energy demands, non-renewable primary energy and CO_2 emissions from heating and hot water processes.

Requirements

The products included in the medium stoneware tile group from the company Argenta Cerámica, S.L. have very low thermal conductivities, contributing to efficiency and energy-saving.
The thermal conductivity of the products in group Bia is 1.50 W/mK and that for group Bib is 1.46 W/mK, as described in the certificate issued by the accredited laboratory.
The thermal conductivity and thicknesses of the product can be used to perform the energy simulation of the target building, in accordance with LEED requirements.
NOTE: The final result to determine the total points depends on the design of the building, its location, direction, materials, definition of the envelope and the systems used.

Assessment procedure

The building's energy demand is calculated with the official HULC programme or any of the cancellation procedures accepted by the regulations.
The criteria are assessed based on the following:

- EyA01: The percentage reduction in peak demand defined by the regulations in new-builds, compared with the reference building defined in CTE DB HE1 for renovation.
- EyA02: The percentage reduction in non-renewable primary energy consumption for heating, cooling and hot water, compared with the peak consumption value in the regulations for new-builds and compared with the reference building defined in CTE DB HE1 for renovation.
- EyA03: The percentage reduction in total CO_2 emissions compared with the highest value in the energy rating corresponding to letter B, for new-builds, and letter D, for renovation.

Analysis example

N/A

Supporting documents

02_1-Certificado conductividad térmica grupo BIa.pdf
02_2-Certificado conductividad térmica grupo BIb.pdf

Reference standard

ASTM D7984-16

CATEGORY
NATURAL RESOURCES

RN05, Use of recycled materials
(RES Ω This may contribute up to 1.00% of the total score**)**

Intent	To encourage the selection of producers with the highest levels of post-consumption and pre-consumption recycling in their products to reduce depletion of raw materials and the impacts associated with their extraction.
Requirements	According to the self-declarations by Argenta and the raw materials supplier, the pre-consumption recycled content is 36% by weight.
Assessment procedure	Assessment of the building for this criterion is conducted by calculating the recycled materials percentage mass, based on the following: • **Linear 40%**: The percentage mass of materials other than post-consumption sand and gravel and rock plus 50% pre-consumption, out of the total materials used, varies between 10 and 30%. In order to calculate the materials' percentage mass, the breakdown of materials will be extracted from the quote, deducting the labour, and the mass will be calculated.
Analysis example	N/A
Supporting documents	**03_2-Autodeclaracion ambiental del producto Bla (BPE) EN-Argenta.pdf** **03_2-Autodeclaracion ambiental del producto Bla (BPE) ESP-Argenta.pdf** **03_3-Autodeclaracion ambiental del producto materia prima-Argenta.pdf**
Reference standard	N/A

CATEGORY
NATURAL RESOURCES

RN06, Use of materials obtained from sustainable resources
(RES Ω This may contribute up to 1.00% of the total score**)**

Intent

To encourage the use of materials sourced and extracted in accordance with recognised social and environmental standards. The objective is to protect woodland, prevent child exploitation and maintain environmentally-friendly standards in the extraction of natural stone.

Requirements

The wood pallets in the packaging of the products included in the medium stoneware tile group from the company Argenta Cerámica, S.L. have an FSC custody chain certificate, which guarantees the employment of sustainable extraction practices for word, contributing to compliance with the first point of the criterion.

Argenta Cerámica's products are manufactured in Vall d'Alba (Castellón) and therefore comply with European regulations concerning sustainability and worker protection.

Assessment procedure

Assessment of the building for this criterion is conducted by calculating the percentage mass of materials obtained from sustainable resources, based on the following:

- **Linear 70%:** Between 20 and 50% of the mass of the wood and materials that include wood in their composition with a CoC chain of custody certificate of origin. Wood that is not used during construction will be included even if it is not going to be installed permanently in the building, such as pallets.

In order to calculate the materials' percentage mass, the breakdown of materials will be extracted from the quote, deducting the labour, and the mass will be calculated.

Analysis example

N/A

Supporting documents

04_1-Certificado FSC.pdf
04_2-Certificado PEFC.pdf
04_3-Carta declaración madera controlada.pdf

Reference standard

FSC-STD-50-001 (v1.2) EN
FSC-STD-40-005 (v2.1) EN
FSC-STD-40-004 (v2.1) EN

CATEGORY
NATURAL RESOURCES

RN07, Use of local materials
(RES Ω This may contribute up to 2.67% of the total score**)**

Intent	To encourage the use of local materials and thus boost the local economy and reduce impacts due to transport.
Requirements	The plant used to produce all of the products marketed by ARGENTA CERÁMICA is at: Polígono Industrial de Vall d'Alba, 12194-Vall d'Alba (Castellón)) Therefore, for projects located within a radius of 400 km from the plant, ARGENTA CERÁMICA products contribute to compliance with the criterion.
Assessment procedure	Assessment of the building for this criterion is conducted by calculating the percentage mass of local materials, whose production plant is less than 200 km from the site used in the project, which must vary between 40% and 80%. For distances between 200 and 400 km, a linear scale will be applied in which materials at 200 km count as 100% and materials at 400 km count as 0%.
Analysis example	N/A
Supporting documents	**05_1-Declaración material local.pdf**
Reference standard	N/A

CATEGORY
NATURAL RESOURCES

RN08, Planning a selective demolition strategy
(RES Ω This may contribute up to 1.67% of the total score**)**

Intent	To promote designs that include and envisage a selective demolition plan at the end of the building's life cycle that allows the maximum possible reuse of materials, and also aids recycling of the rest.
Requirements	At the end of the useful life, the products included in the medium stoneware tile group from the company Argenta Cerámica, S.L. are 17.02% recycled products such as sand and gravel and cannot be reused due to demolition processes.
Assessment procedure	There is a Demolition Plan that ensures the reuse of at least 10% of the materials and recycling of the rest, guaranteeing that at least 80% are recycled. The demolition plan must include the following aspects: If there is any material that cannot be reused or recycled, it must be stated and justified why it has been necessary to use said materials in the building and the impossibility of replacing them with others that can be reused or recycled.
Analysis example	N/A
Supporting documents	**03_1-DAP-Gres Porcelánico Medio EN-Argenta.pdf** **03_1-DAP-Gres Porcelánico Medio ESP-Argenta.pdf** **06_1-Declaración plan de demolioción.pdf**
Reference standard	ISO 14021-1999 / ISO 14025-2006 / ISO 14040-2006 / ISO 14044-2006 / UNE-EN 15804+A1

CATEGORY
NATURAL RESOURCES

RN09, Management of construction waste
(RES Ω This may contribute up to 1.00% of the total score**)**

Intent

To reduce the waste generated during construction of the building by using prefabricated and industrial elements or using controlled construction processes that minimise the production of waste. This criterion only considers the waste generated during the construction or renovation stage.

Requirements

According to the environmental declaration for the medium stoneware tile product from Argenta Cerámica, construction waste per square metre of material is as follows:

Spain:

Cardboard to be incinerated:	4.14E-03 kg
Cardboard to be recycled:	4.35E-02 kg
Cardboard for controlled landfill:	2.14E-02 kg
Pallet to be incinerated:	9.13E-04 kg
Pallet to be recycled:	1.30E-03 kg
Pallet for controlled landfill:	4.30E-03 kg
Plastic to be incinerated:	2.63E-02 kg
Plastic to be recycled:	2.46E-02 kg
Plastic for controlled landfill:	5.04E-03 kg
Recycling losses	2.62E-02 kg
Landfill losses	1.28E-01 kg

Europe:

Cardboard to be incinerated:	1.02E-03 kg
Cardboard to be recycled:	3.78E-02 kg
Cardboard for controlled landfill:	1.23E-02 kg
Pallet to be incinerated:	1.26E-03 kg
Pallet to be recycled:	1.30E-03 kg
Pallet for controlled landfill:	2.27E-03 kg
Plastic to be incinerated:	8.30E-03 kg
Plastic to be recycled:	1.58E-02 kg
Plastic for controlled landfill:	1.74E-02 kg
Recycling losses:	1.94E-02 kg
Landfill losses:	9.48E-02 kg

World:

Cardboard to be incinerated:	1.60E-02 kg
Cardboard to be recycled:	8.02E-03 kg
Cardboard for controlled landfill:	5.61E-02 kg
Pallet to be incinerated:	1.52E-03 kg
Pallet to be recycled:	7.58E-04 kg
Pallet for controlled landfill:	5.31E-03 kg
Plastic to be incinerated:	1.30E-02 kg
Plastic to be recycled:	3.25E-02 kg
Plastic for controlled landfill:	1.95E-02 kg
Recycling losses:	3.05E-02 kg
Landfill losses:	1.50 E-01 kg

Assessment procedure

Assessment of the building for this criterion is conducted by calculating the volume of NON-hazardous waste in the construction of the buildings in the elements to be assessed.
Between 50 and 75% by mass of the waste generated on site must be

recycled.
All of the material waste that will be generated during the construction or demolition work must be identified, specifying the amount, quality and physical location where the waste will be generated.

Analysis example	N/A
Supporting documents	**01_1-DAP-Gres Porcelánico Medio EN-Argenta.pdf** **01_1-DAP-Gres Porcelánico Medio ESP-Argenta.pdf** **07_1-Declaración residuos.pdf**
Reference standard	ISO 14021-1999 / ISO 14025-2006 / ISO 14040-2006 / ISO 14044-2006 / UNE-EN 15804+A1

CATEGORY
NATURAL RESOURCES

RN10, Impact of construction materials
(RES Ω This may contribute up to 4.01% of the total score**)**

Intent

To reduce the impact associated with production of construction materials by selecting materials with low impact during extraction and processing as well as using reused and/or recycled materials.

Requirements

The products included in the medium stoneware tile group from the company Argenta Cerámica, S.L. have an EPD verified by an independent third party.
Verified by the Institute of Construction Technology of Catalonia (Instituto de Tecnología de la Construcción de Cataluña - ITEC), according to ISO 14025 and UNE-EN 15804+A1.
The reference PCR used for the EPD is PCR002 – Ceramic cladding products – V.2 (2015).
EPD construction programme administered by the Official Association of Quantity Surveyors, Architectural Technicians and Construction Engineers of Barcelona.

The impact calibrated in the EPD may be used for the LCA for the proposed building.

Assessment procedure

Assessment of the building for this criterion is performed by comparing the impact associated with the construction materials, calculated through a Life Cycle Analysis compared with an established reference.
The scope of study for this criterion covers the materials used in the envelope and interior partitions. The following construction elements are considered as such: roof, facade, horizontal and vertical interior partitions, frames in contact with the ground, party walls and basement walls. If the definition of a reference structure is justified for a particular case, it may be included in the assessment.
The score varies depending on the scope of the analysis (whether only products in stage (A1-3) or all of the life-cycle stages are taken into consideration) and the percentage reduction in impacts.

Analysis example

N/A

Supporting documents

01_1-DAP-Gres Porcelánico Medio EN-Argenta.pdf
01_1-DAP-Gres Porcelánico Medio ESP-Argenta.pdf
01_2-Autodeclaracion ambiental del producto Bla (BPE) EN-Argenta.pdf
01_2-Autodeclaracion ambiental del producto Bla (BPE) ESP-Argenta.pdf
01_3-Autodeclaracion ambiental del producto materia prima-Argenta.pdf

Reference standard

ISO 14021-1999 / ISO 14025-2006 / ISO 14040-2006 / ISO 14044-2006 / UNE-EN 15804+A1

CATEGORY
NATURAL RESOURCES

RN11, Product eco-labelling
(RES Ω This may contribute up to 2.67% of the total score**)**

Intent	To promote the use of product eco-labelling Type I or Type III.
Requirements	The products included in the medium stoneware tile group from the company Argenta Cerámica, S.L. have an EPD verified by an independent third party. This therefore contributes to compliance with the criterion.
Assessment procedure	Assessment of the building for this criterion is conducted by calculating the number of materials with a type I or type III (EPD) eco-label: In order to achieve the maximum score, the percentage, by mass, of materials with EPDs must be 20% and the following families must be included among the materials with EPDs: structural elements, insulation and cladding.
Analysis example	N/A
Supporting documents	**01_1-DAP-Gres Porcelánico Medio EN-Argenta.pdf** **01_1-DAP-Gres Porcelánico Medio ESP-Argenta.pdf**
Reference standard	ISO 14021-1999 / ISO 14025-2006 / ISO 14040-2006 / ISO 14044-2006 / UNE-EN 15804+A1

OTHER CONSIDERATIONS

Other considerations

Description	There is other evidence not included in the categories for the VERDE baseline but that may be used by the assessment technician. These are:
Supporting documents	**08_1-Carta REACH a clientes-Argenta.pdf** **08_2-Guía REACH sector cerámico-Argenta.pdf** **09_1-Certificación AENOR ISO 9001-Argenta.pdf** **09_2-Certificación IQNET ISO 9001-Argenta.pdf** **10_1-Certificación CSTB Porcelánico Bla-Argenta.pdf**
Reference standard	FSC-STD-50-001 (v1.2) EN FSC-STD-40-005 (v2.1) EN FSC-STD-40-004 (v2.1) EN ISO 9001-2008 EN 14411