

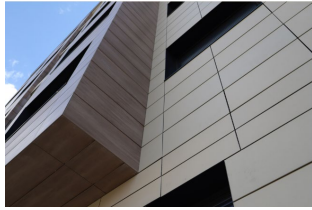
**VENTILATED  
FACADE  
CLADDINGS  
GRES ARAGÓN**

Product family

FAVEKER

Coatings

# VENTILATED FACADE CLADDINGS FAVEKER



## Coatings

## Representative of the product family

Gres Aragón - Faveker

## Description







Horizontal extrusion porcelain tiling products for large-format ventilated facades

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Summarized table: Environmental parameters to which the material makes a specific contribution  
Detailed in the record sheets of the respective VERDE, LEED and BREEAM environmental certificates.

	Backup documents	Certificates :	EPD, Laboratory tests	Self-declarations	Potential
<b>Plot Mobility</b> 	Index material reflection SRI	Rainwater management	External light control ...		
<b>Energy Atmosphere</b> 	Embedded energy	Effect of greenhouse gases	Reduction in energy demand Efficiency equipment	Other pollutant gases Renewable energy	Gestión energética ...
<b>Materials</b> 	Proven source	Pre-consumer recycled materials	Post-consumer recycled materials	Potential re-use Certified wood	Building waste Chemical Composition ...
<b>Water</b> 	Consumption < reference	Water management	...		
<b>Indoor environment</b> 	Low VOC emissions	Low formaldehyde emissions	Comfort control	Lighting comfort Acoustic comfort	Air quality ...
<b>Innovation</b> 	Innovative Design	...			

### NOTES:

- The information in this compliance document with the credits corresponding to the environmental certification system study chosen (VERDE, LEED or BREEAM) is based on data supplied by the company. To ensure potential compliance with said credits, the validity of the information and details furnished by the company must be verified in any certification process.
- This document is not a product certificate and it does not guarantee compliance with local regulations in force.
- The conclusions of this study are only applicable to products mentioned in this report and they are also subject to the invariability of the product's technical conditions.
- The validity of this document is subject to the expiry of the supporting documents or variations in regulations and/or versions of the environmental certificates.
- This document provides information on possible contributions by the products studied to the earning of VERDE, LEED or BREEAM certificates. However, the final decision regarding the product's compliance with LEED certification requirements is exclusively for GBCI (Green Business Certification Inc.) to decide.

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# SUMMARY OF CREDITS

## VERDE



### PLOT AND SITE (PE)

- PE08, Heat island effect



### ENERGY AND ATMOSPHERE (EA)

- EA01, Primary energy consumption



### NATURAL RESOURCES (RN)

- RN 05, Use of recycled materials
- RN 06, Use of materials obtained from Sustainable
- RN 07, Use of local materials
- RN 08, Buildings as material banks
- RN 09, Construction waste management
- RN 11, Impact of construction materials
- RN 12, Product ecolabeling



### CONCEPT OF QUALITY (CE)

- CE01, Passive design

### Environmental categories VERDE



Plot and Site



Energy and Atmosphere



Natural Resources



Indoor Environment Quality



Concept of Quality



Social Aspects



Innovation

### Certification Standards VERDE

Edificios  
2020\_Rev02

# CREDIT SHEET VERDE



## CATEGORY PLOT AND SITE (PE)

### PE08, Heat island effect (VERDE Edificios 2020\_Rev02)

**Objective** To diminish the heat island effect in urban areas with the use of green, wooded spaces, roofs or green façades and the installation of shading and solar protection devices in sunlight-ridden surfaces.

**Compliance information** The manufacturer offers SRI tests according to ASTM E1980-11 for the following possible colours of Faveker ventilated façade cladding

COLOR	SRI (%)
Blanco brillo – Glossy White	74
Blanco mate	76
Urban beige	57
Urban blanco antideslizante/antislip	63

**Assessment procedure** The evaluation of the building using this criterion is established through the calculation of plot, rooftop and E-S-O façade surfaces that share the following characteristics:

- Gardened surfaces with a soil thickness of 5 cm minimum.
- Surfaces with a permeable pavement. If the surface is an “open grill permeable pavement”, it must guarantee a surface permeability of 50%.
- Shaded surfaces which prevent heat islands.
- Surfaces with a light colored finish.
  - For rooftops, VERDE considers a minimum SRI limit value as shown in the following table:

SLOPE	SRI minimum threshold
≤15%	82
≥15%	39

- For east, south and west façades, a finishing material is considered that guarantees an IRS of more than 40 or covered by vegetation.

It will be valued that the percentage of these surfaces relative to the total rooftop and E-S-O façade surface oscillates between 40% and 70%.

**Analysis  
example** NA

**Backup  
documents** *SRI blanco brillo fachadas.pdf / SRI fachada blanco mate.pdf / SRI Urban  
beige.pdf / SRI Urban blanco AS.pdf*

**Reference  
standard** NA



## CATEGORY ENERGY AND ATMOSPHERE (EA)

### EA01, Primary energy consumption (VERDE Edificios 2020\_Rev02)

<b>Objective</b>	Promote the reduction of the consumption of non-renewable primary energy (until zero consumption is reached) and the consumption of total primary energy necessary to meet the demands for heating, cooling, DHW, ventilation, humidity control and lighting, where applicable.
<b>Compliance information</b>	<p>The facade claddings referred to on this data sheet are part of a ventilated facade system that has undergone a European technical assessment backed by the Catalan Construction Technology Institute.</p> <p>Only if said coatings are installed on site as part of this officially approved system and complemented with thermal insulation or other materials with sufficient insulating capacity, may they contribute to compliance with this criterion as this is favored by the formation of a ventilated chamber.</p> <p>It shall be clarified that the contribution is not marked by the thermal characteristics of the products referred to on this data sheet but rather the total thermal resistance of the specific construction solution used for each project, especially the materials with an insulating capacity.</p> <p>Nonetheless, this constitutes only a partial contribution to the thermal capabilities of the building envelope, as the final grading result will depend on the building's design, its location, orientation, involved materials, envelope definition and the employed systems.</p>
<b>Evaluation procedure</b>	<p>The evaluation of the building through this criterion is established based on the percentage reduction in non-renewable primary energy consumption (up to zero consumption) and the percentage reduction in total primary energy consumption to meet the demands for heating, cooling, DHW, ventilation, humidity control and lighting, where applicable, above the limit value set forth by CTE DB HE0.</p> <p>To evaluate this criterion, an energy simulation must be carried out that can be used for energy certification or to justify compliance with CTE DB-HE. The score shall drop to 20% if a simplified method is used for the calculations.</p> <p>Irrespective of the party carrying it out, it must be reviewed by the EA, who will guarantee its correspondence with the project as concerns all the requirements under the GREEN Buildings 2020 tool.</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i>ETA 16/0645 de 06.09.2022 del ITEC para FAVEKER® FV</i>
<b>Reference standard</b>	NA





## CATEGORY NATURAL RESOURCES (RN)

### ➤ RN 05, Use of recycled materials (VERDE Edificios 2020\_Rev02)

<b>Objective</b>	To encourage the selection of producers with higher levels of post- consumption and pre-consumption recycled materials in their products in order to reduce the exhaustion of raw materials as well as the impacts associated with their extraction.
<b>Compliance information</b>	The company Gres Aragón offers a declaration of recycled material content certifying that the FAVEKER® GA16 and FAVEKER® GA20 porcelain tile facade pieces (with water absorption $\leq 0.5\%$ ) have an average pre-consumer recycled material content of more than 49.7% in weight. The recycled material content was calculated based on standard UNE ISO 14021:2017 Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) using data from the year 2021.
<b>Evaluation procedure</b>	<p>The building evaluation based on this criterion is established by calculating the percentage in mass of the ceramic, aggregate, stone and post-consumer recycled concrete, plus 50% of the ceramic, aggregate, stone and pre-consumer recycled concrete elements with respect to the total used for the project or building rehabilitation process. Said percentage should be between 40 and 100%.</p> <p>The same is done as with the prior indicator (families of ceramic, aggregate, stone and concrete elements) for all other materials. Mechanical, electrical, plumbing and other components are not included nor are any special elements such as lifts or other equipment. Only materials permanently installed on the building or on the plot will be considered. Said percentage should be between 10 and <math>\geq 30\%</math>.</p>
<b>Analysis example</b>	NA
<b>Supporting documentes</b>	<i>Certificado-Reciclado-Fachadas-2022-FAVEKER_compressed.pdf</i>
<b>Reference standard</b>	NA



## CATEGORY NATURAL RESOURCES (RN)

### ◆ RN 06, Use of materials obtained from sustainable resources (VERDE Edificios 2020\_Rev02)

<b>Objective</b>	To encourage the use of materials whose origin and extraction satisfies recognized social and environmental standards. The objective is the protection of forests, the prevention of child exploitation and the maintenance of standards regarding the extraction of natural stone.
<b>Compliance information</b>	<p>The company Gres Aragón offers a PEFC chain of custody certificate (CoC) certifying that the regional inter-sectorial wood organization “Asociación Mesa Intersectorial de la Madera de Castilla y León, Grupo CEMCAL”, supplier of the pallets, which are products manufactured with the wood necessary to supply the material, is PEFC ST 2002:2013 certified.</p> <p>It also offers an invoice proving its relationship with the company Masova S.L. as the company that supplies the pallets for the delivery of its products.</p> <p>The company Gres Aragón also offers a Corporate Social Responsibility Report indicating the place of extraction of the raw materials used for its product, responsible environmental procedures during extraction and processing in addition to the company’s policy on workers’ rights and relations with distributors.</p>
<b>Evaluation procedure</b>	<p>Between 20 and 50% of the mass of wood and materials including wood in their composition used for the project should come with a chain of custody certificate (CoC). Wood used during construction yet not installed on the building permanently such as concrete formwork or pallets shall be included.</p> <p>Between 5 and 15% of the mass of all construction materials should come with a document indicating the origin of the raw materials to guarantee the requirements indicated in the criterion: The documents accepted to prove the sustainable origin of the raw materials are as follows:</p> <ul style="list-style-type: none"> <li>• Global Reporting Initiative (GRI) Sustainable Report. If two different materials are provided with this certification, the innovation criterion may be solicited.</li> <li>• Self-declaration from the manufacturer, including: the place of extraction of the raw materials employed in their product and the environmental procedures involved in the extraction and processing.</li> <li>• Company policy report approved by the senior management containing the demandable requisites for distributors of raw materials regarding their compliance with basic worker’s rights, including child labor and environmental respect for protected spaces or spaces of high ecological value.</li> </ul>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<p><b><i>CertificadoCOC.pdf</i></b>  <b><i>20230413FacturaMasova.pdf</i></b>  <b><i>Memoria-RSE-2021-GRES-ARAGON-2.pdf</i></b></p>
<b>Reference standard</b>	NA



## CATEGORY NATURAL RESOURCES(RN)

### ➤ RN 07, Use of local materials (VERDE Edificios 2020\_Rev02)

<b>Objective</b>	To incentivize the use of local materials, thus promoting the local economy and reducing transportation-related impacts.
<b>Compliance information</b>	The company FAVEKER-GRES ARAGÓN certifies that its production plant is located at Polígono Industrial El Regatillo, nº 2, de Alcorisa, Teruel, Spain. This is indicated in the Environmental Product Declaration (EPD).
<b>Evaluation procedure</b>	<p>The building evaluation through this criterion is established by calculating the percentage in mass of the materials used (handling the families of ceramics, aggregates, stone and concrete separately from all other materials) from local production out of the total materials used for the project, considering local production materials as those manufactured at a production plant that is within a radius of 400 km of the study plot. Of these elements, those manufactured at a production plant less than 200 km away shall be calculated at 100% while those manufactured 200 to 400 km away shall be calculated using a linear scale of between 100 and 0%.</p> <p>Said percentage should be between 40 and ≥80%.</p> <p>Mechanical, electrical, plumbing and other components are not included nor are any special elements such as lifts or other equipment. Only materials permanently installed in the building or on the plot will be considered.</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i>DAP Spanish Favaker.pdf</i>
<b>Reference standard</b>	NA



## CATEGORY NATURAL RESOURCES (RN)

### ➤ RN 08, Buildings as material banks (VERDE Edificios 2020\_Rev02)

<b>Objective</b>	Provide an incentive for designs and strategies implemented in the building project which consider and foster the recovery of the materials at the end of their lifecycle, and which enable as much reuse of the materials as is possible in addition to facilitating the recycling of the rest.
<b>Compliance information</b>	<p>The company FAVEKER-GRES ARAGÓN provides a declaration indicating that FAVEKER® ceramic pieces for its ventilated facades are compatible with the FAVEKER® installation systems which use mechanical anchors and EPDM profiles without adhesives or elastomer putty, thus enabling the dismantling of the ceramic plates and substructure.</p> <p>It also indicates that they have other installation systems without EPDM profiles and with elastomer putties which do not enable the total dismantling of the ceramic plates and substructures, estimating that approximately 30% of the surface area of the ceramic plates cannot be managed by recycling operations.</p> <p>FAVEKER-GRES ARAGÓN also provides a Zero Waste Verification Declaration certified by SGS Tecnos S.A.U. for the year 2020, indicating a recycling rate of 99.58% of all waste generated at its production plant in Alcorisa.</p> <p>The European Waste List (EWL) classifies ceramic construction and demolition waste as inert, stable and non-hazardous meaning it is highly recyclable for different uses: road fill and stabilization material, prefabricated concrete and mortar aggregate products, plant substrate and topsoil in agriculture, tennis clay courts, etc.</p>
<b>Evaluation procedure</b>	<p>The building evaluation based on this indicator is established by calculating the percentage in mass of the materials for which the possibility of their recycling, reuse and recovery may be proven at the end of the building lifecycle out of the total used for the project or building rehabilitation process.</p> <p>Said percentage should be between 40 and ≥60%.</p> <p>Also assessed is the study of the possible use of the materials after dismantling at the end of the building lifecycle through an evaluation by calculating the percentage of the construction systems planned in the building design which can be dismantled using non-destructive processes and layers of materials comprising them which can be separated into the purest possible elements.</p> <p>Dismantling using non-destructive methods means that it is possible to separate the element without damaging it and without damaging the rest of the construction system it belongs to, or that separation is not necessary because all the layers or elements belong to the same group of raw materials or materials.</p> <p>Mechanical, electrical and plumbing components are not included nor are any special elements such as lifts or other equipment.</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i><b>RN-08 EDIFICIO COMO BANCO MATERIALES FAVEKER.pdf</b></i> <b>Declaracion Residuo Cero.pdf</b>
<b>Reference standard</b>	NA



## CATEGORY NATURAL RESOURCES(RN)

### ➤ RN 09, Management of construction waste (VERDE Edificios 2020)

**Objective** To reduce the residues generated during the building’s construction using prefabricated or industrial elements or by using controlled construction processes that minimize residue production. This criterion only considers residues generated during the construction or rehabilitation phase.

**Compliance information** FAVEKER ventilated facades come with an Environmental Product Declaration (EPD) certified by EPD SYSTEM. Section A5 includes a table with the waste deriving from the onsite installation process. A document prepared by the company briefly summarizes this and provides the EWL code for each type of waste generated. The packaging waste from the facade ceramic pieces during unboxing prior to assembly by m<sup>2</sup> of facade totals:

Waste	Type	LER Code	Treatment Code	Waste per facade sq m	Destination
Cardboard	No Dangerous	150101	R5	138 gr.	Managing waste through an authorised dealer for recycling
Plastic	No Dangerous	170203	R5	35 gr.	
Wood:pallet	No Dangerous	170201	R3	963 gr.	

(1) Pursuant to Spanish Law 7/2022, of 8 April, on waste and contaminated soil for a circular economy.

On the other hand, a hypothesis of 3% of losses in the installation phase was considered both for ceramic pieces as well as the auxiliary materials used to install the product on the facade. The waste generated by losses per m<sup>2</sup> of facade totals:

Waste	Type	LER Code	Treatment Code	Waste per facade sq m	Destination
Ceramic tiles	No Dangerous	170103	R5	970 gr	Managing waste through an authorised dealer for recycling
Cardboard	No Dangerous	150101	R5	4,1 gr.	
Plastic	No Dangerous	170203	R5	1,1 gr.	
Wood:pallet	No Dangerous	170201	R3	28,9 gr.	
Aluminium profiles	No Dangerous	170402	R4	30 gr.	
Steel Clips-Screws	No Dangerous	170405	R4	4,2 gr.	
EPDM profiles	No Dangerous	170203	R5	5,4 gr.	

**Evaluation procedure** The evaluation of this criterion is established through the use of a study that is currently in the project phase called “A Study of the Management of Construction Waste” which complies with the regulations in effect and instructions set forth in the document EU Construction & Demolition Waste Management Protocol. In the previous phase of the intervention, a Waste Management Plan must be drawn up in accordance with the previous study carried out.

In the case of a rehabilitation intervention, all the waste necessary for the rehabilitation action will be considered, including possible demolitions. The guarantee of revaluation of between 50% and 75% by mass of the total waste generated on site will be considered.

**Analysis  
example**

NA

**Supporting  
documents**

**RN-09 GESTIÓN RESIDUOS DE CONSTRUCCIÓN FAVEKER.pdf  
DAP Spanish Faveker.pdf**



## CATEGORY NATURAL RESOURCES(RN)

### ➤ RN 11, Impact of construction materials (VERDE Edificios 2020\_Rev02)

**Objective** Reduce the impacts associated with the production of construction materials by choosing materials with low impacts during their extraction and transformation process, as well as by using reused and / or recycled materials.

**Compliance information** FAVEKER-GRES ARAGÓN extruded porcelain ventilated facades come with an Environmental Product Declaration certified by EPD SYSTEM. It provides environmental information with the impacts associated with 1 m<sup>2</sup> of coating over a period of 50 years with extruded porcelain ventilated facade tiles (32.4 kg/m<sup>2</sup> in average weight). The declaration is a cradle to grave type and includes all phases of the system lifecycle.

This information may be used to highlight the ACV of a building with this complete system.

In any case, it's a partial contribution as the final result depends on all the materials that must be included in the building ACV.

Potential environmental impacts – mandatory indicators pursuant to EN UNE-EN 15804:2012+A2:2019:

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> eq.	22.8	9.2E-01	11.5	0	1.7E-02	0	0	0	0	0	0	1.2E-01	0	1.2E-01	-7.1
GWP-fossil	kg CO <sub>2</sub> eq.	23.2	9.4E-01	11.5	0	2.3E-02	0	0	0	0	0	0	1.2E-01	0	1.2E-01	-7.2
GWP-biogenic	kg CO <sub>2</sub> eq.	1.4E-01	-1.2E-03	4.5E-02	0	1.3E-04	0	0	0	0	0	0	-1.7E-04	0	1.3E-03	1.1E-02
GWP-luluc	kg CO <sub>2</sub> eq.	7.7E-03	4.9E-03	4.6E-03	0	7.0E-07	0	0	0	0	0	0	6.9E-04	0	5.2E-04	-1.4E-03
GWP-total	kg CO <sub>2</sub> eq.	23.4	9.4E-01	11.6	0	2.3E-02	0	0	0	0	0	0	1.3E-01	0	1.2E-01	-7.2
ODP	kg CFC 11 eq.	6.0E-08	5.6E-14	1.8E-09	0	8.4E-09	0	0	0	0	0	0	7.4E-15	0	6.9E-14	-6.1E-09
AP	mol H <sup>+</sup> eq.	1.0E-01	2.6E-03	5.6E-02	0	2.0E-04	0	0	0	0	0	0	1.0E-04	0	8.9E-04	-2.8E-02
EP-freshwater	kg P <sup>-</sup> eq.	1.6E-04	2.6E-06	1.2E-05	0	4.0E-07	0	0	0	0	0	0	3.7E-07	0	2.5E-06	-4.4E-06
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	5.0E-04	8.1E-06	-3.8E-05	0	1.2E-06	0	0	0	0	0	0	1.1E-06	0	7.8E-06	-1.4E-05

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
EP-marine	kg N eq.	1.1E-02	7.2E-04	7.3E-03	0	2.1E-05	0	0	0	0	0	0	2.8E-05	0	2.4E-04	-4.9E-03
EP-terrestrial	mol N eq.	1.2E-01	8.1E-03	7.9E-02	0	8.1E-04	0	0	0	0	0	0	3.4E-04	0	2.6E-03	-5.3E-02
POCP	kg NMVOC eq.	3.7E-02	2.1E-03	2.2E-02	0	1.5E-04	0	0	0	0	0	0	9.5E-05	0	7.1E-04	-1.4E-02
ADP-minerals&metals <sup>2</sup>	kg Sb eq.	6.0E-05	7.6E-08	4.1E-05	0	6.9E-10	0	0	0	0	0	0	1.0E-08	0	1.3E-08	-4.3E-07
ADP-fossil <sup>3</sup>	MJ	435.0	12.4	149.4	0	1.1E-01	0	0	0	0	0	0	1.7	0	1.6	-86.0
WDP	m <sup>3</sup> global private equivalent	7.8	8.0E-03	2.2E+00	0	6.5E-01	0	0	0	0	0	0	1.1E-03	0	9.2E-03	-4.9E-01
Acronyms	Global Warming Potential, UNE EN15804:2012+A1:2014 (GWP-GHG); Total Global Warming Potential (GWP-total); 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															

Use of resources:

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	117,0	6,7E-01	62,0	0	0,4	0	0	0	0	0	0	9,4E-02	0	1,9E-01	-42,4
PERM	MJ	20,4	0	6,1E-01	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	137,4	6,7E-01	62,6	0	0,4	0	0	0	0	0	0	9,4E-02	0	1,9E-01	-42,4
PENRE	MJ	435,0	12,4	149,4	0	0,1	0	0	0	0	0	0	1,7	0	1,6	-86,1
PENRM	MJ	1,5E+00	0	4,5E-02	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	436,5	12,4	149,5	0	0,1	0	0	0	0	0	0	1,7	0	1,6	-86,1
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	m³	1,2E-01	7,6E-04	1,5E-01	0	8,4E-03	0	0	0	0	0	0	1,1E-04	0	3,1E-04	-6,8E-02
Acronyms	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															

**Evaluation procedure**

The building’s evaluation using this criterion is established via the comparison of the impacts associated with construction materials and an established reference. The area of study of this criterion is outlined by the materials used in the coating and in the indoor partitions. The following elements are considered parts of these two categories: cover, façade, horizontal and vertical indoor partitions, slabs contacting the ground, dividing walls and basement walls. It was chosen not to include the structure in the calculation. However, if the use of a reference structure for a given case is justified, it may be included.

**Analysis example**

NA

**Supporting documents**

*DAP Spanish Faveker.pdf*

**Reference standard**

*The guide GREEN Buildings 2020 defines the reference building parameters.*





## CATEGORY NATURAL RESOURCES(RN)

### ➤ RN 12, Ecoetiquetado del producto (VERDE Edificios 2020\_Rev02)

<b>Objective</b>	To encourage the use of Type I or Type III product ecolabel
<b>Compliance information</b>	FAVEKER-GRES ARAGÓN extruded porcelain ventilated facades come with an Environmental Product Declaration, which is a type III ecolabel (UNE-EN ISO 14025:2010).
<b>Evaluation procedure</b>	<p>The building's evaluation using this criterion is established via the calculation of the mass percentage of materials that exhibit a Type I or Type III ecolabel. A percentage of materials with a Type I ecolabel that oscillates between 10% and 20% will be valued.</p> <p>The percentage in mass of ceramic, aggregate, stone and concrete elements with EPDs should also be between 70 and 100%, the percentage of mass of the materials excluding ceramic, aggregate, stone and concrete elements with an EPD should be between 20 and 40%, materials with an EPD should be at least in the following families: structural elements, insulation and coatings and among the EPDs provided, at least 50% should have an ACV in all lifecycle phases or take into account all indicators set forth by standard UNE-EN 15804.</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i>DAP Spanish Faveker.pdf</i>
<b>Reference standard</b>	NA



## CATEGORY CONCEPT OF QUALITY

### ➤ CE 01, Passive design (VERDE Edificios 2020\_Rev02)

<b>Objective</b>	Facilitate a building bioclimatic design by prioritizing passive strategies for the conditioning thereof all while ensuring a high level of thermal comfort and preventing possible construction pathologies.
<b>Compliance information</b>	<p>The facade claddings referred to on this data sheet are part of a ventilated facade system that has undergone a European technical assessment backed by the Catalan Construction Technology Institute.</p> <p>Only if said coatings are installed on site as part of this officially approved system and complemented with thermal insulation or other materials with sufficient insulating capacity, may they contribute to compliance with this criterion as this is favored by the formation of a ventilated facade.</p> <p>It shall be clarified that the contribution is not marked by the thermal characteristics of the products referred to on this data sheet but rather the total thermal resistance of the specific construction solution used for each project, especially the materials with an insulating capacity.</p> <p>In any case, it's a partial contribution to the thermal features of the envelope as the final result for the score depends on the thickness and insulation material used, the building design, location, orientation, materials, definition of the envelope and systems used.</p>
<b>Evaluation procedure</b>	<p>This criterion evaluates the reduction in transmittance of the thermal envelope, the reduction of the solar control parameter of the thermal envelope, the reduction of permeability to air of the thermal envelope and the limitation of surface condensation and generation of mold.</p> <p>This product may help reduce transmittance of the thermal envelope, the evaluation of which is done by means of the overall thermal envelope heat transfer coefficient (k) of the building, as set forth in the Spanish Technical Building Code in the HE Basic Document, section HE 1.</p> <p>The value obtained will be compared with the limit value established in the CTE DB-HE 1 tables based on the type of use and action, as well as the compactness and climate zone where the building is located.</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i>ETA 16/0645 de 06.09.2022 del ITEC para FAVEKER® FV</i>
<b>Reference standard</b>	NA

# CREDIT SUMMARY LEED v4



## SUSTAINABLE SITES (SS)

- SSc5, Reduction of the heat island effect



## ENERGY AND ATMOSPHERE(EA)

- EA p2, Minimum energy performance (prerequisite)
- EA c2, Energy efficiency optimization



## MATERIALS AND RESOURCES (MR)

- MRp2 y MRc5, Construction and demolition waste management
- MRc1, Reduction of the Building's Life Cycle Impact
- MRc2, Transparency and Optimization of Construction Products-EPD
- MRc3, Disclosure and optimization of Building products – Source of raw materials

### LEED environmental CATEGORIES



(LT)  
Location and transportation



(SS)  
Sustainable plots



(WE)  
Efficient water usage



(EA)  
Energy and Atmosphere



(MR)  
Materials and Resources



(IEQ) Indoor Environment Quality



(ID)  
Innovation in Design



(RP)  
Regional Priority

### Estándares de Certificación LEED (v4)

<b>EB</b> Existing Building	<b>RNC</b> Retail New Construction	<b>DCNC</b> Data Center NC
<b>NC</b> New Construction	<b>REB</b> Retail Existing Building	<b>DCEB</b> Data Center EB
<b>CI</b> Commercial Interiors	<b>RCI</b> Retail Commercial Interiors	<b>WNC</b> Warehouse NC
<b>CS</b> Core & Shell	<b>HC</b> Healthcare	<b>WEB</b> Warehouse EB
<b>SNC</b> School New Construction	<b>HNC</b> Hospitality-New Constr.	<b>NDP</b> Neighborhood Devel. Plan
<b>SEB</b> School Existing Building	<b>HEB</b> Hospitality-Existing Building	<b>ND</b> Neighborhood Develop.
<b>MRB</b> Mid Rise Buildings	<b>HCI</b> Hospitality-Commercial Int.	<b>HO</b> Homes

# SUMMARY OF CREDITS

## LEED v4



### CATEGORY

## SUSTAINABLE SITES (SS)

### SSc5, Heat island effect reduction (LEED BDC: NC, CS, SNC, RNC, HC, HNC, DCNC, WNC)

**Objective** To reduce the heat island effect created on cover finish surfaces and exterior sites in order to minimize the impact on microclimates and human and animal habitats.

**Compliance information** The manufacturer offers SRI tests according to ASTM E1980-11 for the following possible colours of Faveker ventilated façade cladding.

COLOR	SRI (%)
Blanco brillo – Glossy White	74
Blanco mate	76
Urban beige	57
Urban blanco antideslizante/antislip	63

All pieces may be considered for this criteria if they are used as a roof coating element (where the “roof” is considered as the visible projection of the envelope as viewed from above).

The credit does not, therefore, contemplate the facade envelope at 90°.

- (Option 1.1 Non-cover measures) exterior pavements (SRI>33)
- (Option 1.2. High solar reflection cover) Flat roof coating (SRI>82) or sloped cover coating (SRI>39)
- (Option 2. Parking lot under a cover) Parking lot roof coating (SRI>39)
- 

The compliance with the credit’s requisites depends on the treatment of the total surfaces with cover finish and exterior space. The fact that the materials comply with the demanded minimum SRI requisites guarantees that their inclusion in the global compliance calculation will be positive.

In the case of flat cover coatings (SRI > 82) (Option 1.2 High solar reflection cover), the pieces are below the minimum reference. Therefore, they are not a full contribution, and they will have to be used in combination with other strategies and materials that allow for the overall compliance of the surface.

### Evaluation procedure

#### Option 1. Non-cover and cover

Compliance of solar reflection requisites using the combination of the following criteria:

- 1.1. Non roof with high solar or vegetable reflectance
- 1.2. High solar reflectance roof

1.3. Vegetation cover

$$\frac{\text{Area of Nonroof Measures}}{0.5} + \frac{\text{Area of High-Reflectance Roof}}{0.75} + \frac{\text{Area of Vegetated Roof}}{0.75} \geq \frac{\text{Total Site Paving Area}}{\text{Total Roof Area}}$$

1.1. No-Cover (BDC)

- Using materials with a solar reflectance index (SRI) of at least 28 (for materials with 3-year data) or 33 (for materials with initial SRI data), providing shade with wooded areas, energy-generating elements.
- Providing shade or pavements with vegetable elements
- Using draining pavements (at least 50%)

1.2. High solar reflectance cover: (BDC)

- Use roof materials with a reflectance index (SRI) equal or superior to the initial 39, and 32 at three years (sloped roof), initial 82 and 64 at three years (flat roof) for 75% of the roof.
- Vegetation roof
- Or a combination of both

$$\frac{\text{Area of High-Reflectance Roof}}{0.75} + \frac{\text{Area of Vegetated Roof}}{0.5} \geq \text{Total Roof Area}$$

> Roof surface with installations and skylights are excluded from this calculation

1.3 Vegetation cover (BDC)

or

2nd Option. Roofed parking lot

Cover at least 75% of parking spots with a roof, (2.1) with roofs with an SRI over 39, (2.2) green roofs, (2.3) energy generating elements

Exemplary Performance:

If the two last options are met (Options 1 and 2) and 100% of the parking lot is roofed, an additional point can be obtained through exemplary benefits.

**Analysis example**

NA

**Supporting documents**

*SRI blanco brillo fachadas.pdf / SRI fachada blanco mate.pdf / SRI Urban beige.pdf / SRI Urban blanco AS.pdf*

**Reference standard**

*ASTM Standards E903 i E892: [astm.org](http://astm.org)  
Cool Roof Rating Council Standard (CRRC-1): [coolroofs.org](http://coolroofs.org)*



## CATEGORY ENERGY AND ATMOSPHERE (EA)

- EA p2, Minimum energy efficiency (prerequisite)
- EA c2, Energy efficiency optimization (credit)  
(NC, CS, SNC, RNC, HC, HNC, DCNC, WNC, CI, RCI, HCI, EB, SEB, REB, HEB, WEB, MRB, HO)

<b>Objective</b>	Establish a minimum level of energy efficiency for the proposed building and the respective systems, thus reducing the environmental and economic impacts associated with excessive use of energy.
<b>Compliance information</b>	<p>The facade claddings referred to on this data sheet are part of a ventilated facade system that has undergone a European technical assessment backed by the Catalan Construction Technology Institute.</p> <p>Only if said coatings are installed on site as part of this officially approved system and complemented with thermal insulation or other materials with sufficient insulating capacity, may they contribute to compliance with this criterion as this is favored by the formation of a ventilated chamber.</p> <p>It shall be clarified that the contribution is not marked by the thermal characteristics of the products referred to on this data sheet but rather the total thermal resistance of the specific construction solution used for each project, especially the materials with an insulating capacity.</p> <p>Nonetheless, this constitutes only a partial contribution to the thermal capabilities of the building envelope, as the final result of the energy simulation to determine the total points depends on the design of the building, its location, orientation, materials, definition of the envelope and the systems used.</p>
<b>Evaluation procedure</b>	<p><b>Option 1: Energy simulation of the entire building.</b></p> <p>Demonstrate, through an energy simulation, the energy savings of the proposed building compared to the reference building or “baseline” (defined according to the ASHRAE 90.1-2010 standard, appendix G). (Energy costs of the proposed building versus the reference building established as a percentage of the costs of all energy systems expressed as% improvement of the proposed building)</p> <p><b>EA p2:</b> Demonstrate an improvement of 5% for new construction, 3% for integral renovations, or 2% for basic and “Core and Shell” projects in the performance rating of the proposed building with respect to the reference value (baseline).</p> <p><b>EA c1:</b> Demonstrate a percentage improvement (between 3-50%, according to the rating system) in the performance rating of the proposed building compared to the reference building (baseline). Points are awarded between 1-20 based on percentage improvement.</p> <p><b>Exemplary Performance:</b> Bonus point for savings over 54% in NC, MR, CS</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i>ETA 16/0645 de 06.09.2022 del ITEC para FAVEKER® FV.pdf</i>

**Reference  
standard**

*ASHRAE 90.1-2010*  
*UNE-EN ISO 12567-1:2011*  
*UNE-EN ISO 10077-2:2012*



## CATEGORY MATERIALS AND RESOURCES (MD)

### MRp2 y MRc5, Construction and demolition waste management (LEED BDC: NC, CS, SNC, RNC, HC, HNC, DCNC, WNC)

**Objective** Separate and recycle construction waste to prevent it from reaching the landfill or incinerator.

**Compliance information** FAVEKER ventilated facades come with an Environmental Product Declaration (EPD) certified by EPD SYSTEM. Section A5 includes a table with the waste deriving from the onsite installation process. A document prepared by the company briefly summarizes this and provides the EWL code for each type of waste generated. The packaging waste from the facade ceramic pieces during unboxing prior to assembly by m<sup>2</sup> of facade totals:

Waste	Type	LER Code	Treatment Code	Waste per facade sq m	Destination
Cardboard	No Dangerous	150101	R5	138 gr.	Managing waste through an authorised dealer for recycling
Plastic	No Dangerous	170203	R5	35 gr.	
Wood:pallet	No Dangerous	170201	R3	963 gr.	

(1) Pursuant to Spanish Law 7/2022, of 8 April, on waste and contaminated soil for a circular economy.

On the other hand, a hypothesis of 3% of losses in the installation phase was considered both for ceramic pieces as well as the auxiliary materials used to install the product on the facade. The waste generated by losses per m<sup>2</sup> of facade totals:

Waste	Type	LER Code	Treatment Code	Waste per facade sq m	Destination
Ceramic tiles	No Dangerous	170103	R5	970 gr	Managing waste through an authorised dealer for recycling
Cardboard	No Dangerous	150101	R5	4,1 gr.	
Plastic	No Dangerous	170203	R5	1,1 gr.	
Wood:pallet	No Dangerous	170201	R3	28,9 gr.	
Aluminium profiles	No Dangerous	170402	R4	30 gr.	
Steel Clips-Screws	No Dangerous	170405	R4	4,2 gr.	
EPDM profiles	No Dangerous	170203	R5	5,4 gr.	

The previous waste has the potential to be recycled depending on the type of waste generated, the recycling treatment considered in the Waste Management Plan and the accredited management capacity of the Waste Manager designated on site.

In order to comply with MRp2, the project will need to incorporate a general Waste Management Plan, also incorporating the waste generated by ceramic tiles.

To comply with MRc5, said Plan and the actual management of the construction waste must prove the prevention of more than 50% or 75% of the waste ends up in the landfill or incineration plant.



<b>Evaluation procedure</b>	<p><b>MRp2 – Plan de Management of Construction and demolition waste</b> Establish, implement and monitor a waste management plan where the% of recovery and / or recycling are incorporated. Detail the place and the procedure of management and revaluation of each material.</p> <p><b>MRC5 – Management of Construction and demolition waste</b></p> <p>Option 1. (BDC, CI) Prevent 50% or 75% of the waste from the work from ending up in the landfill or incinerator, revaluing it.</p> <p>Option 1. (EB) Prevent 70% of the waste in the work from ending up in the landfill or incinerator, revaluing it</p> <p>Option 2. Reduce the total amount of waste generated on site, below 12.2 kg/m2</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i>RN-09 GESTIÓN RESIDUOS DE CONSTRUCCION FAVEKER.pdf</i>



## CATEGORY MATERIALS AND RESOURCES (MD)

### MRc1, Reducing of the Building's Life Cycle Impact (LEED BDC: NC, CS, SNC, RNC, HC, HNC, DCNC, WNC)

**Objective** Extend the useful life of the building, preserve resources and cultural heritage. Reduce waste and environmental impacts of new construction.

**Compliance information** FAVEKER-GRES ARAGÓN extruded porcelain ventilated facades come with an Environmental Product Declaration certified by EPD SYSTEM. It provides environmental information with the impacts associated with 1 m<sup>2</sup> of coating over a period of 50 years with extruded porcelain ventilated facade tiles (32.4 kg/m<sup>2</sup> in average weight). The declaration is a cradle to grave type and includes all phases of the system lifecycle.

This information may be used to highlight the ACV of a building with this complete system.

In any case, it's a partial contribution as the final result depends on all the materials that must be included in the building ACV.

Potential environmental impacts – mandatory indicators pursuant to EN UNE-EN 15804:2012+A2:2019:

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> eq.	22.8	9.2E-01	11.5	0	1.7E-02	0	0	0	0	0	0	1.2E-01	0	1.2E-01	-7.1
GWP-fossil	kg CO <sub>2</sub> eq.	23.2	9.4E-01	11.5	0	2.3E-02	0	0	0	0	0	0	1.2E-01	0	1.2E-01	-7.2
GWP-biogenic	kg CO <sub>2</sub> eq.	1.4E-01	-1.2E-03	4.5E-02	0	1.3E-04	0	0	0	0	0	0	-1.7E-04	0	1.3E-03	1.1E-02
GWP-luluc	kg CO <sub>2</sub> eq.	7.7E-03	4.9E-03	4.6E-03	0	7.0E-07	0	0	0	0	0	0	6.9E-04	0	5.2E-04	-1.4E-03
GWP-total	kg CO <sub>2</sub> eq.	23.4	9.4E-01	11.6	0	2.3E-02	0	0	0	0	0	0	1.3E-01	0	1.2E-01	-7.2
ODP	kg CFC 11 eq.	6.0E-08	5.6E-14	1.8E-09	0	8.4E-09	0	0	0	0	0	0	7.4E-15	0	6.9E-14	-6.1E-09
AP	mol H <sup>+</sup> eq.	1.0E-01	2.6E-03	5.6E-02	0	2.0E-04	0	0	0	0	0	0	1.0E-04	0	8.9E-04	-2.8E-02
EP-freshwater	kg P <sup>-</sup> eq.	1.6E-04	2.6E-06	1.2E-05	0	4.0E-07	0	0	0	0	0	0	3.7E-07	0	2.5E-06	-4.4E-06
EP-freshwater	kg PO <sub>4</sub> <sup>-3</sup> eq.	5.0E-04	8.1E-06	3.8E-05	0	1.2E-06	0	0	0	0	0	0	1.1E-06	0	7.8E-06	-1.4E-05

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
EP-marine	kg N eq.	1.1E-02	7.2E-04	7.3E-03	0	2.1E-05	0	0	0	0	0	0	2.8E-05	0	2.4E-04	-4.9E-03
EP-terrestrial	mol N eq.	1.2E-01	8.1E-03	7.9E-02	0	8.1E-04	0	0	0	0	0	0	3.4E-04	0	2.6E-03	-5.3E-02
POCP	kg NMVOC eq.	3.7E-02	2.1E-03	2.2E-02	0	1.5E-04	0	0	0	0	0	0	9.5E-05	0	7.1E-04	-1.4E-02
ADP-minerals&metals <sup>2</sup>	kg Sb eq.	6.0E-05	7.6E-08	4.1E-05	0	6.9E-10	0	0	0	0	0	0	1.0E-08	0	1.3E-08	-4.3E-07
ADP-fossil <sup>3</sup>	MJ	435.0	12.4	149.4	0	1.1E-01	0	0	0	0	0	0	1.7	0	1.6	-86.0
WDP	m <sup>3</sup> global private equivalent	7.8	8.0E-03	2.2E+00	0	6.5E-01	0	0	0	0	0	0	1.1E-03	0	9.2E-03	-4.9E-01

Acronyms Global Warming Potential, UNE EN15804:2012+A1:2014 (GWP-GHG), Total Global Warming Potential (GWP-total), 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

Use of resources:

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	117,0	6,7E-01	62,0	0	0,4	0	0	0	0	0	0	9,4E-02	0	1,9E-01	-42,4
PERM	MJ	20,4	0	6,1E-01	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	137,4	6,7E-01	62,6	0	0,4	0	0	0	0	0	0	9,4E-02	0	1,9E-01	-42,4
PENRE	MJ	435,0	12,4	149,4	0	0,1	0	0	0	0	0	0	1,7	0	1,6	-86,1
PENRM	MJ	1,5E+00	0	4,5E-02	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	436,5	12,4	149,5	0	0,1	0	0	0	0	0	0	1,7	0	1,6	-86,1
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	m³	1,2E-01	7,6E-04	1,5E-01	0	8,4E-03	0	0	0	0	0	0	1,1E-04	0	3,1E-04	-6,8E-02

Acronyms: PERE = Use of renewable primary energy excluding non-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

**Evaluation procedure**

For new construction, only these two options are valid:

**Option 3. Reuse of material**

Included are all permanent elements: the envelope structure, inner distribution, etc. (25-50-75% of the material with respect to the total surface area of the materials).

**Option 4. Analysis of the building life cycle**

Carry out a life cycle analysis of the building (structure and envelope) that shows a minimum of 10% reduction in the impact of the life cycle compared to the reference building. The impact of any category may be greater than 5% of the baseline.

The baseline and the project must consider a life cycle of 60 years, with the same use.

Select at least 3 of the following categories.

- global warming potential (greenhouse gases), in CO2 and ozone layer destruction, in kg CFC-11
- acidification of soil and water sources, in moles H + or kg SO2
- eutrophication, in kg nitrogen or kg phosphate
- tropospheric ozone formation, in kg NOx, kg O3 eq
- use of non-renewable energy sources, in MJ

**Analysis example**

NA

**Supporting documents**

*DAP Spanish Favaker.pdf*

**Reference standard**

NA



## CATEGORY MATERIALS AND RESOURCES (MD)

### MRc2, Transparency and optimization of construction products - EPD (LEED BDC: NC, CS, SNC, RNC, HC, HNC, DCNC, WNC)

**Objective** Promote the use of materials that have information on the life cycle and environmental, economic and social impacts.

**Compliance information** FAVEKER-GRES ARAGÓN extruded porcelain ventilated facades come with an Environmental Product Declaration, which is a type III ecolabel (UNE-EN ISO 14025:2010).

Therefore, it is valued at 100%.

In any case, it's a partial contribution as the final result depends on all the materials with the corresponding EPD.

**Evaluation procedure** Opción 1: It will be necessary to provide the Environmental Product Declarations (DAP- EPD) of a minimum of 20 products, from 5 different suppliers, that meet any of the following criteria:

- Products with LCA, public and reviewed according to ISO 14044, as a minimum, covering the entire process "cradle to gate" (Valued ¼)
- EPD, according to ISO 14025, 14040, 14044 and EN 15804 or ISO 21930, as a minimum, covering the entire "cradle to gate" process:
  - EPD, industry scope (generic) (Valued ½)
  - EPD, Type III specific product (Rated 1)

**Analysis example** NA

**Supporting documents** ***DAP Spanish Faveker.pdf***

**Reference standard**

- *International Standard ISO 14021–1999, Environmental labels and declarations—Environmental Labeling*: [iso.org](http://iso.org)
- *International Standard ISO 14025–2006, Environmental labels and declarations (Type Principles and Procedures)*: [iso.org](http://iso.org)
- *International Standard ISO 14040–2006, Environmental management, Life cycle assess* [iso.org](http://iso.org)
- *International Standard ISO 14044–2006, Environmental management, Life cycle assessn* [iso.org](http://iso.org)
- *CEN Comité Européen de Normalisation (European Committee for Standardization) E construction works, Environmental product declarations, Core rules for the product c* [cen.eu](http://cen.eu)
- *International Standard ISO 21930–2007 Sustainability in building construction—Envi* [products: iso.org](http://iso.org)
- *Federal Trade Commission, Guides for the Use of Environmental Marketing* [ftc.gov/bcp/grnrule/guides980427.htm](http://ftc.gov/bcp/grnrule/guides980427.htm)



## CATEGORY MATERIALS AND RESOURCES (MD)

### MRc3, Disclosure and optimization of Building products – Source of raw materials (LEED BDC: NC, CS, SNC, RNC, HC, HNC, DCNC, WNC)

**Objective** To promote the use of materials that include information about their life cycle and their environmental, economic and social impacts.  
To enhance the use of products from manufacturers that demonstrate responsibility in the process of extraction and processing of raw materials.

**Compliance information** The system complies with Option 2.

#### Recycled content

The company Gres Aragón offers a declaration of recycled material content certifying that the FAVEKER® GA16 and FAVEKER® GA20 porcelain tile facade pieces (with water absorption  $\leq 0.5\%$ ) have an average pre-consumer recycled material content of more than 49.7% in weight. The recycled material content was calculated based on standard UNE ISO 14021:2017 Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) using data from the year 2021.

#### Resources location and production:

The company FAVEKER-GRES ARAGÓN certifies that its production plant is located at Polígono Industrial El Regatillo, nº 2, de Alcorisa, Teruel, Spain. This is indicated in the Environmental Product Declaration (EPD).

#### Evaluation procedure

#### Option 1: Report on Sources and Extraction of Raw

Using at least 20 different products installed permanently from at least five different manufacturers which have a public report on their raw materials suppliers which includes the locations of extraction of raw materials suppliers, a long-term commitment to the use of ecologically responsible soil, a commitment to reducing environmental damages during extraction and/or manufacturing processes and a commitment to complying with standards or programs applied voluntarily which cover responsible supply criteria.

#### 2nd Option: Extraction leadership practices

Usage of products that comply with at least one of the following responsible extraction criteria, for 25% (in cost) of the total value of the construction products permanently installed in the building.

The structure's materials and the enclosure will not be able to constitute more than 30% of the total value of the products that comply with the credit.

1. **Extended responsibility to the producer.**  
Recognized "Extended producer responsibility" program
2. **Products of bio origin** ("Sustainable Agriculture Network's, Sustainable Agriculture Standard". Tested using ASTM Test Method D6866 )
3. **FSC, PEFC or the equivalent certified wood approved by USGBC and with a CoC (chain of custody certificate)**

- 4. **Reused Materials** (for a use diferente from the original)
- 5. **Materials with recycled content**

Total content of recycled materials: Post-consumer materials (100%) + pre-consumer materials (50%).

*Post-consumer materials:* These are residue materials that have been generated by the final consumer and cannot be reused for the same original purpose.

*Pre-consumer materials:* These are residue materials that have been deviated from a production process, excluding all of those that can be reused within the same process that has generated them.

\*Extracted products processed and manufactured less than 160 km from the construction site may compute at 200%.

The regionality of the materials may be accredited through self-declaration of the producer, but they must provide the following information: extraction site, product processing site, elaboration site and distance from the placement site.

The recycling plant site may be considered the “extraction site” of the fraction of the product with recycled content.

—

**Analysis example**

NA

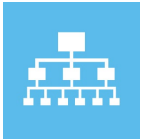
**Supporting documents**

***Certificado-Reciclado-Fachadas-2022-FAVEKER\_compressed.pdf / DAP Spanish Faveker.pdf***

**Reference standard**

- *International Standard ISO 14021–1999, Environmental labels and declarations—Self Declared Claims (Type II Environmental Labeling): iso.org*
- *International Standard ISO 14025–2006, Environmental labels and declarations (Type III Environmental Declarations—Principles and Procedures): iso.org*
- *International Standard ISO 14040–2006, Environmental management, Life cycle assessment principles, and frameworks: iso.org*
- *International Standard ISO 14044–2006, Environmental management, Life cycle assessment requirements, and guidelines: iso.org*
- *CEN Comité Européen de Normalisation (European Committee for Standardization) EN 15804—2012 Sustainability of construction works, Environmental product declarations, Core rules for the product category of construction products: cen.eu*
- *International Standard ISO 21930–2007 Sustainability in building construction—Environmental declaration of building products: iso.org*
- *Federal Trade Commission, Guides for the Use of Environmental Marketing Claims, 16 CFR 260.7 (e): ftc.gov/bcp/gmrule/guides980427.htm*

# CREDITS SUMMARY BREEAM



## MANAGEMENT

◆ GST3, Impact of the Building areas



## HEALTH & WELLBEING

◆ SyB3 SyB4, Thermal comfort



## ENERGY

◆ ENE1, Energy efficiency



## MATERIALS

◆ MAT1, Life Cycle Impacts  
◆ MAT3, Responsible sourcing of materials



## WASTE

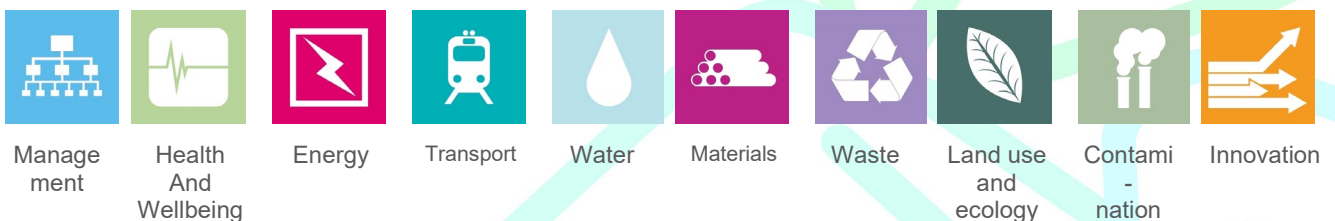
◆ RSD1, Construction waste management



## INNOVATION

◆ INNOVATION

### BREEAM ES Environmental categories



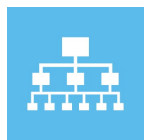
### BREEAM ES Certification Standards

UR BREEAM ES Urbanism      VIV BREEAM ES Housing      USO BREEAM ES In Use  
NC BREEAM ES New construction



# SUMMARY OF CREDITS

## BREAM ES



### CATEGORY MANAGEMENT

#### **GST 3 – Impact of the Building areas** (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)

<b>Objective</b>	Recognize and promote that the management of the works areas is carried out in an environmentally friendly way in terms of resource use, energy consumption and pollution. Criteria that affect; - Transportation of construction materials and waste
<b>Compliance information</b>	As concerns transportation, the company FAVEKER-GRES ARAGÓN certifies that its production plant is located at Polígono Industrial El Regatillo, nº 2, de Alcorisa, Teruel, Spain. This is indicated in the Environmental Product Declaration (EPD). The goods are always transported by road and the most common means of transportation is a truck.
<b>Evaluation procedure</b>	<u>Transportation of construction materials and waste (one point)</u> The evaluation of the building using this criterion is established by indicating, in an independent report, the total fuel consumption (liters), the total emissions of carbon dioxide (kgCO <sub>2</sub> equivalent emissions) associated with transport, and the total distance traveled (km) even the building itself.
<b>Analysis example</b>	The transportation criteria calculation must be done in each case based on the location of the building, intermediate storage and distribution.
<b>Supporting documents</b>	<i>DAP Spanish Favaker.pdf</i>
<b>Reference standard</b>	<ul style="list-style-type: none"> <li>• National Atmospheric Emissions Inventory (Netcen, 2005) based on DTI data in combination with TRL factors such as functions of the average vehicle speed, deriving from data taken from tests performed during real testing cycles.</li> <li>• Digest of UK Energy Statistics DTI 2004 and carbon factors for fuels from UKPIA (2004).</li> <li>• Guidelines for Corporate Information on Greenhouse Gas Emissions, DEFRA, Continuing Survey of Road Goods Transport 2001.</li> </ul>





## CATEGORY HEALTH AND WELLBEING

### ◆ SyB 3 SyB 4 Thermal comfort (BREEAM ES NUEVA CONSTRUCCIÓN 2015, BREEAM ES VIVIENDA 2020)

**Objective** Guarantee the achievement of adequate thermal comfort levels through design as well as the selection of the necessary control mechanisms to maintain a thermally comfortable environment for the building occupants.

**Compliance information** The facade claddings referred to on this data sheet are part of a ventilated facade system that has undergone a European technical assessment backed by the Catalan Construction Technology Institute. Only if said coatings are installed on site as part of this officially approved system and complemented with thermal insulation or other materials with sufficient insulating capacity, may they contribute to compliance with this criterion as this is favored by the formation of a ventilated chamber.

It shall be clarified that the contribution is not marked by the thermal characteristics of the products referred to on this data sheet but rather the total thermal resistance of the specific construction solution used for each project, especially the materials with an insulating capacity.

The standards considered by BREEAM require the building design maintain thermal comfort conditions within certain ranges. Thermal insulation helps prevent thermal asymmetry, changes in temperature over time, vertical differences in temperature, etc., thus contributing to comfort as well as efficiency and energy savings.

In any case, it's a partial contribution to the comfort conditions as the levels of indoor thermal comfort depend on the thickness and insulation material used, the building design, location, orientation, materials, definition of the envelope and systems used.

**Evaluation procedure** Among others, BREEAM assesses the following aspects under this requirement:

1. The thermal modeling (or measurement/analytical evaluation of the thermal comfort levels in the building) using the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices pursuant to standard UNE-EN ISO 7730:2006, in addition to taking into consideration seasonal variations.

3. The thermal comfort levels in occupied spaces comply with the CATEGORY B criteria established in Table A.1 of Annex A under standard UNE-EN ISO 7730:2006.

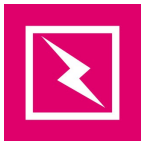
**Analysis example** NA

**Supporting documents** *ETA 16/0645 de 06.09.2022 del ITEC para FAVEKER® FV*

**Reference  
standard**

- *UNE-EN ISO 7730:2006. Ergonomics of the thermal environment. Analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria.*





## CATEGORY ENERGY

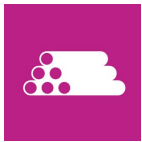
### ◆ ENE 1 – Energy efficiency (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)

<b>Objective</b>	Recognize and promote buildings that minimize operational energy consumption through proper design.
<b>Compliance information</b>	<p>The facade claddings referred to on this data sheet are part of a ventilated facade system that has undergone a European technical assessment backed by the Catalan Construction Technology Institute.</p> <p>Only if said coatings are installed on site as part of this officially approved system and complemented with thermal insulation or other materials with sufficient insulating capacity, may they contribute to compliance with this criterion as this is favored by the formation of a ventilated chamber.</p> <p>It shall be clarified that the contribution is not marked by the thermal characteristics of the products referred to on this data sheet but rather the total thermal resistance of the specific construction solution used for each project, especially the materials with an insulating capacity.</p> <p>Nonetheless, this constitutes only a partial contribution to the thermal capabilities of the building envelope, as the final grading result will depend on the building's design, its location, orientation, involved materials, envelope definition and the employed systems.</p>
<b>Evaluation procedure</b>	<p>The building's energy efficiency is calculated using software approved by the Spanish Ministry of Industry, Energy and Tourism for the calculation of the Energy Certification. The final score (ranging from 1 to 15) is based on the predicted energy efficiency of the evaluated building in comparison to the efficiency of a reference building chosen by BREEAM ES.</p> <p>The coefficient of energy efficiency is calculated through the BREEAM ES evaluation tool, which considers the demand for operative energy, primary energy consumption and the resulting total CO2 emissions.</p> <p><b>Exemplary level (5 extra points):</b></p> <p>The modeled building demonstrates that it consists in a "Positive Energy Balance Building (BB+)" as to its total operative energy consumption, 5 points can be awarded.</p> <p>If the modeled building demonstrates that an equivalent percentage in Facility Energy Consumption (from 10 to 80%) is generated through carbon neutral facilities in the placement or its surroundings, or through credited renewable energy sources, allowing for the compliance of the requirements of the Apparatus Energy associated to the systems or the processes of the building, 1 or 4 points can be awarded. The fifth point can be earned if the building is proven to be a "Positive Energy Balance Building (EB+)".</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<b>ETA 16/0645 de 06.09.2022 del ITEC para FAVEKER® FV</b>

**Reference  
standard**

- Basic requirement according to CTE-HE, the Energy Certification, European Directive 2007/91/CE, Real Decreto 47/2007 and Orden FOM/1635/2013 through which the Basic Document DB-HE “Energy saving” of the CTE is updated.
- The document “Conditions for the acceptance of Alternative Computer Programs for LIDER and CALENER”. Register of MICYT Recognized Documents, August 2009





## CATEGORY MATERIALS

### **MAT 1 – Life cycle impacts** (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)

#### Objective

To recognize and enhance the use of robust and adequate tools for the analysis of the life cycle and, therefore, the type of construction materials with a low environmental impact (also in terms of incorporated carbon) throughout the building’s entire life cycle.

#### Compliance information

#### Environmental Product Declaration (EPD):

FAVEKER-GRES ARAGÓN extruded porcelain ventilated facades come with an Environmental Product Declaration certified by EPD SYSTEM. It provides environmental information with the impacts associated with 1 m<sup>2</sup> of coating over a period of 50 years with extruded porcelain ventilated facade tiles (32.4 kg/m<sup>2</sup> in average weight). The declaration is a cradle to grave type and includes all phases of the system lifecycle.

#### Life cycle analysis:

The impacts on the EPD that have been evaluated may be employed for the creation of the LCA contributing in this way to the compliance of Option 2. The following table reflects some of the impacts reflected in the EPD of this product that may be used for the calculation of the building’s LCA.

In any case, this constitutes a partial contribution, as the final result will depend on all the materials that must be included in the building’s final LCA.

Potential environmental impacts – mandatory indicators pursuant to EN UNE-EN 15804:2012+A2:2019:

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG*	kg CO <sub>2</sub> eq.	22.8	9.2E-01	11.5	0	1.7E-02	0	0	0	0	0	0	1.2E-01	0	1.2E-01	-7.1
GWP-fossil	kg CO <sub>2</sub> eq.	23.2	9.4E-01	11.5	0	2.3E-02	0	0	0	0	0	0	1.2E-01	0	1.2E-01	-7.2
GWP-biogenic	kg CO <sub>2</sub> eq.	1.4E-01	-1.2E-03	4.5E-02	0	1.3E-04	0	0	0	0	0	0	-1.7E-04	0	1.3E-03	1.1E-02
GWP-luluc	kg CO <sub>2</sub> eq.	7.7E-03	4.9E-03	4.6E-03	0	7.0E-07	0	0	0	0	0	0	6.9E-04	0	5.2E-04	-1.4E-03
GWP-total	kg CO <sub>2</sub> eq.	23.4	9.4E-01	11.6	0	2.3E-02	0	0	0	0	0	0	1.3E-01	0	1.2E-01	-7.2
ODP	kg CFC 11 eq.	6.0E-08	5.6E-14	1.8E-09	0	8.4E-09	0	0	0	0	0	0	7.4E-15	0	6.9E-14	-6.1E-09
AP	mol H <sup>+</sup> eq.	1.0E-01	2.6E-03	5.6E-02	0	2.0E-04	0	0	0	0	0	0	1.0E-04	0	8.9E-04	-2.8E-02
EP-freshwater	kg P <sup>-</sup> eq.	1.6E-04	2.6E-06	1.2E-05	0	4.0E-07	0	0	0	0	0	0	3.7E-07	0	2.5E-06	-4.4E-06
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	5.0E-04	8.1E-06	3.8E-05	0	1.2E-06	0	0	0	0	0	0	1.1E-06	0	7.8E-06	-1.4E-05

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
EP-marine	kg N eq.	1.1E-02	7.2E-04	7.3E-03	0	2.1E-05	0	0	0	0	0	0	2.8E-05	0	2.4E-04	-4.9E-03
EP-terrestrial	mol N eq.	1.2E-01	8.1E-03	7.9E-02	0	8.1E-04	0	0	0	0	0	0	3.4E-04	0	2.6E-03	-5.3E-02
POCP	kg NMVOC eq.	3.7E-02	2.1E-03	2.2E-02	0	1.5E-04	0	0	0	0	0	0	9.5E-05	0	7.1E-04	-1.4E-02
ADP-minerals&metals*	kg Sb eq.	6.0E-05	7.6E-08	4.1E-05	0	6.9E-10	0	0	0	0	0	0	1.0E-08	0	1.3E-08	-4.3E-07
ADP-fossil†	MJ	435.0	12.4	149.4	0	1.1E-01	0	0	0	0	0	0	1.7	0	1.6	-86.0
WDP	m <sup>3</sup> global private equivalent	7.8	8.0E-03	2.2E+00	0	6.5E-01	0	0	0	0	0	0	1.1E-03	0	9.2E-03	-4.9E-01
Acronyms	Global Warming Potential, UNE EN15804:2012+A1:2014 (GWP-GHG); Total Global Warming Potential (GWP-total); 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															

Use of resources:

Results per functional unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	117,0	6,7E-01	62,0	0	0,4	0	0	0	0	0	0	9,4E-02	0	1,9E-01	-42,4
PERM	MJ	20,4	0	6,1E-01	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	137,4	6,7E-01	62,6	0	0,4	0	0	0	0	0	0	9,4E-02	0	1,9E-01	-42,4
PENRE	MJ	435,0	12,4	149,4	0	0,1	0	0	0	0	0	0	1,7	0	1,6	-86,1
PENRM	MJ	1,5E+00	0	4,5E-02	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	436,5	12,4	149,5	0	0,1	0	0	0	0	0	0	1,7	0	1,6	-86,1
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	m³	1,2E-01	7,6E-04	1,5E-01	0	8,4E-03	0	0	0	0	0	0	1,1E-04	0	3,1E-04	-6,8E-02

Acronyms 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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

**Evaluation procedure**

**Environmental Product Declaration (EPD):**

Specify products that come with Environmental Product Declarations, EPD (Type III Labels) in at least 30% of the categories listed in the table found in the BREEAM ES New Construction Manual when applicable.

**Análisis de Ciclo de Vida (ACV):**

The project employs a life cycle analysis tool (LCA) that complies with the BREEAM specifications, in order to measure the environmental impact of the building element's life cycle.

**Exemplary level (1 extra point):**

- BREEAM ES Housing: as a result of the LCA, materials with a lower environmental impact have been selected for at least six of the building's elements.
- BREEAM ES New Construction: rigorous LCA have been performed in which most of the building's elements have been included.

NA

**Analysis example**

**Supporting documents**

*DAP Spanish Favaker.pdf*

**Reference standard**

- *UNE-EN ISO 14025:2010. Labels and environmental statements. Type II environmental statements. Principles and procedures. (ISO 14025:2006)*
- *UNE-EN 15804:2012 Sustainability in the construction process. Product environmental statements. Basic product category rules for construction products.*
- *UNE-EN 15978:2012. Sustainability of the construction process. Evaluation of the building's environmental behavior. Calculation methods.*





## CATEGORY MATERIALS

### **MAT3 – Responsible sourcing of materials** (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)

<b>Objective</b>	Recognize and promote the specification of materials for the main elements of the building whose supply has been carried out responsibly.
<b>Compliance information</b>	<p>The production plant belonging to the company FAVEKER-GRES ARAGÓN is located at Polígono Industrial El Regatillo, nº 2, de Alcorisa, Teruel, Spain and it has an environmental management system certified by a third party for the manufacture of the products (EMS Certificate for the key process phase).</p> <p>The EMS certificate for the key process phase corresponds to level 3 responsible sourcing certification.</p>
<b>Evaluation procedure</b>	<p><b>A pre-requisite only for BREEAM ES New Construction:</b> Proof that all wood used for the project is “legally harvested and traded wood”.</p> <p><b>Requirement:</b> Points are assigned for compliance with responsible sourcing requirements as concerns the main construction elements. To prove compliance, each product must be certified in accordance with any of the responsible sourcing systems approved by BREEAM.</p> <p>Each one of the materials applicable is assigned a responsible sourcing certification level with the corresponding score. The certification level is based on the responsible sourcing rigor demonstrated by suppliers/manufacturers of each material/element (through responsible sourcing certification systems). The responsible sourcing certification systems are detailed below:</p> <ul style="list-style-type: none"> <li>• BRE Global BES6001 product certification (or the equivalent)</li> <li>• Canadian Standards Association (CSA) chain of custody (CoC) system (backed by PEFC) for chain of custody certification (CoC)</li> <li>• An environmental management system (EMS) (certified) for the key process and supply chain extraction process</li> <li>• An environmental management system (EMS) (certified) for the key process</li> <li>• FLEGT licensed wood</li> <li>• Forest Stewardship Council (FSC)</li> <li>• Recycled material with a certified EMS for the key process</li> <li>• Reused materials</li> <li>• Malaysia wood certification (backed by PEFC) with chain of custody certification (CoC)</li> <li>• Program for the Endorsement of Forest Certification (PEFC) with chain of custody certification (CoC)</li> <li>• Sustainable Forest Initiative (SFI) (backed by PEFC) with chain of custody certification (CoC) and a declaration of certified material of 70%.</li> </ul> <p><b>Example level only under BREEAM ES New Construction:</b> When the responsible sourcing requirements assessed by BREEAM are exceeded and 70% of the available responsible sourcing points are earned.</p>
<b>Analysis example</b>	NA

**Supporting documents*****FAVEKER-ISO-14001-Espanol\_compressed.pdf*****Reference standard**

- To see a list of approved products under standard BES6001, and find more information on this, go to [www.greenbooklive.com/](http://www.greenbooklive.com/)
- Useful document for determining the validity of FSC and PEFC certificates. <http://www.pefc.org/index.php/certification-services/find-certified>
- Databases to search for holders of certificates earned pursuant to individual certification systems: <http://info.fsc.org/>  
<http://www.pefc.es>
- *UNE-EN ISO 14006:2011. Environmental management systems. Guidelines for incorporating ecodesign.*
- *Standard ISO 14001*







**CATEGORY  
RESIDUOS**

**RSD 1 – Construction waste management  
(BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)**

**Objective** Encourage resource efficiency through effective and appropriate management of construction waste.

**Compliance information** FAVEKER ventilated facades come with an Environmental Product Declaration (EPD) certified by EPD SYSTEM. Section A5 includes a table with the waste deriving from the onsite installation process. A document prepared by the company briefly summarizes this and provides the EWL code for each type of waste generated. The packaging waste from the facade ceramic pieces during unboxing prior to assembly by m<sup>2</sup> of facade totals:

Waste	Type	LER Code	Treatment Code	Waste per facade sq m	Destination
Cardboard	No Dangerous	150101	R5	138 gr.	Managing waste through an authorised dealer for recycling
Plastic	No Dangerous	170203	R5	35 gr.	
Wood:pallet	No Dangerous	170201	R3	963 gr.	

(1) Pursuant to Spanish Law 7/2022, of 8 April, on waste and contaminated soil for a circular economy.

On the other hand, a hypothesis of 3% of losses in the installation phase was considered both for ceramic pieces as well as the auxiliary materials used to install the product on the facade. The waste generated by losses per m<sup>2</sup> of facade totals:

Waste	Type	LER Code	Treatment Code	Waste per facade sq m	Destination
Ceramic tiles	No Dangerous	170103	R5	970 gr	Managing waste through an authorised dealer for recycling
Cardboard	No Dangerous	150101	R5	4,1 gr.	
Plastic	No Dangerous	170203	R5	1,1 gr.	
Wood:pallet	No Dangerous	170201	R3	28,9 gr.	
Aluminium profiles	No Dangerous	170402	R4	30 gr.	
Steel Clips-Screws	No Dangerous	170405	R4	4,2 gr.	
EPDM profiles	No Dangerous	170203	R5	5,4 gr.	

**Evaluation procedure** The previous waste has the potential to be recycled depending on the type of waste generated, the recycling treatment considered in the Waste Management Plan and the accredited management capacity of the Waste Manager designated on site.

**BREEAM ES New Construction 2015** requirements for construction resources efficiency and the diversion of dump resources are;

One point: The compliance of requisites 1-6 are justified by a Construction or Demolition Residues Management Plan (RMP) that complies with certain requisites that ensure the minimization of produced dangerous and non-dangerous residues.

One point: The compliance of criteria 7-8 is justified by the implementation of procedures for the classification, reuse and recycling of construction residues in at least the fraction of identified residues identified in the current legislation, inside or outside the plot through an authorized external residues manager. Each type of residue must be specified via its code and must be associated to a residues manager with the credited capacity of management and revaluation of the residues.

One point: The compliance of the criteria 9-11 is justified through equivalent ports/control registers that confirm the total produced residues and the key groups of residues that have been defined and proves that a significant quantity of non-dangerous demolition and construction residues (when necessary) generated during the project have been diverted from the dump in a quantity of at least 80%.

The **BREEAM ES Homes 2020 requirements** are:

One point: Compliance with criteria 3-7 is justified by means of a Construction & Demolition Waste Management Plan (CDWMP) that meets certain requirements ensuring the minimization of hazardous and non-hazardous waste produced.

One point: Compliance with criteria 8-9 is justified through the implementation of procedures for classification, reuse and recycling of construction waste of at least the groups indicated in the Checklists and Tables section on and off site through an authorized external waste manager.

One point: Compliance with criterion 10 is justified by reports/equivalent control records confirming a significant amount of demolition waste (if applicable) and non-hazardous construction waste generated by the project have been diverted from landfill by at least 80%.

Exemplary level: When the quantity of non-dangerous demolition and construction residues (when necessary) generated in the project have been diverted from the dump in a quantity of at least 95%.

**Analysis example** NA

**Supporting documents**

*RN-09 GESTIÓN RESIDUOS DE CONSTRUCCIÓN FAVEKER.pdf*

**Reference standard**

NA



## CATEGORY INNOVATION



### INNOVATION

(BREEAM ES NUEVA CONSTRUCCIÓN 2015, BREEAM ES VIVIENDA 2020)

<b>Objective</b>	To enhance innovation within the construction sector through the acknowledgement of improvements in the area of sustainability that aren't rewarded through the standard requisites.
<b>Compliance information</b>	<p>FAVEKER ventilated facades can contribute to the exemplary level requirements with the following requisites:</p> <ul style="list-style-type: none"> <li>• ENE 1, Energy efficiency (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)</li> <li>• MAT 1, Life cycle impacts (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)</li> <li>• MAT3, Responsible sourcing of materials (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)</li> <li>• RSD 1, Construction waste management (BREEAM ES NUEVA CONSTRUCCIÓN 2015 y BREEAM ES VIVIENDA 2020)</li> </ul> <p>NOTE: See exemplary level criteria in the corresponding requisite.</p>
<b>Evaluation procedure</b>	<p>A maximum of 10 points in innovation may be obtained through a combination of the following options:</p> <p><b>Exemplary level of existing requisites</b> Some BREEAM requisites give the option of obtaining extra points by providing evidence of exemplary efficiency through the consecution of the exemplary level criteria defined in said credits.</p> <p><b>Approved innovations</b> An additional point may be obtained for every Innovation Request Approved by BREEAM ES so long as the criteria defined in an approved innovation request form are met.</p>
<b>Analysis example</b>	NA
<b>Supporting documents</b>	<i>See corresponding requisites</i>
<b>Reference standard</b>	<i>See corresponding requisites</i>