

Environmental Product Declaration

SUMMARY



According to EN 15804:2012 and ISO 14025:

METAL CEILING SYSTEMS

STEEL/ALUMINIUM, SMOOTH/PERFORATED

THU PERFIL SL

Programme:	The International EPD® System www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-01724
Issue date:	2019-11-29
Validity date:	2024-11-25
PCR:	2012:01 version 2.3 Construction Products and Construction Services
CPC Code:	4219 OTHER STRUCTURES (EXCEPT PREFABRICATED BUILDINGS) AND PARTS OF STRUCTURES, OF IRON, STEEL OR ALUMINUM
Geographical scope:	Europe



THU
ceiling
solutions

EPD developed by:

ISOLANA Ahorro Energético SL

Independent verification of the declaration and information, according to ISO 14025: 2010:

☐ EPD Certification Process (internal)

☒ EPD Verification (external)

Third party verifier:

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Tecnalia R&I Certificación, S.L.

www.tecnaliacertificacion.com

Accredited by:

ENAC. Accreditation no.125/C-PR283

SUMMARY OF THE ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Description of the Company

THU is a company based in Valencia with more than 25 years of experience within the national and international market dedicated to the manufacture of metallic ceilings and partition profile solutions.

Our philosophy is always based on quality and customer service. At THU our Quality Management system is based on the ISO 9001 standard, which has been in place at our company since 2006, together with a number of other seals of quality (AENOR, NF, etc.) All our products hold certificates issued by accredited laboratories and comply with the strictest UNE standards to obtain CE markings. All this, combined with excellent service and highly competitive prices enable us to guarantee maximum satisfaction for our customers.

In 2015, THU was majority acquired by the Valencia based GRUPO ZRISER company, whose investment strategy and distribution of assets is based on three main areas: the capital markets, property investment and business acquisitions. The acquisition of THU by the Zriser Group has allowed the company to invest in new product lines and expand our business internationally.

Our ambition is now to become the benchmark for the production and marketing of ceilings and profile solutions, offer unique quality and value for our customers, and an efficient, competitive and sustainable business model. With this catalogue we aim to present our full range of products designed to provide functional and decorative solutions for creating ambient and original spaces. The trust shown by our customers over more than 25 year in the business is a clear sign of the effort and commitment to customer service on the part of our organization, which is now expanding its presence on the ever more demanding national and international markets.

Regarding the impact to the environment, at THU we continually work towards reducing our ecological footprint to the maximum. Our products are designed with 100% recyclable materials such as steel and aluminium. In addition our manufacturing processes employ a high percentage of recyclable material. We use 100% renewable energy sources in our manufacturing processes. In our non-metallic products, such as chipboard ceilings, we only use wood from certified sustainable forests, again demonstrating THU's commitment to the

environment. We also employ 100% recycled and recyclable products for packaging, and use the minimum quantity possible to ensure compliance with the three r's: Reduce, Reuse & Recycle. Finally we would highlight production in Spain, which considerably reduces the transport of the product and fossil fuel requirements.

In relation to fire resistance, all our products have been classified under UNE-EN 13501-1 regulations. Our pre-lacquered and lacquered products have a Euroclass A2-s1,d0 fire rating: non-combustible product (without contribution to fire), with a low smoke emission and zero production of inflammable droplets or particles. The nonlacquered products belong to Euroclass A1: no contribution to fire.

Also, THU performs exhaustive quality control testing on our products in accordance with ISO 9001 standards. Service quality is monitored from the moment we receive an order through to delivery, in order to ensure constantly improved customer service. Our guarantee is endorsed by the following certifications:

- ISO 9001:2015 certification (Quality Management System) administered by Bureau Veritas.
- AENOR Spanish Quality standard certification
- CSTB (the Scientific and Technical Centre for Building) official French certification.
- CE marking in accordance with European Construction Products Standard No. 305/2011 administered by Bureau Veritas.
- Products and systems conform to C.T.E Spanish Construction Code standards.

Additionally, thanks to the exceptional acoustic qualities of our products, we successfully achieve reverberation times suited to rooms for a wide range of uses.

All THU ceiling systems are manufactured according to UNE-EN 13964.



Description of the product

Among the wide range of products that THU manufactures, the EPD includes all the ceilings presented in this section.

The variety of ceiling sheets are manufactured using galvanized pre-lacquered steel or galvanized pre-lacquered aluminum offering excellent resistance and durability with high quality

durable materials that also allow easy cleaning. The structures are easily adjustable allowing access for installing lighting or wiring, avoiding complex repair and maintenance work.

The various perforation specifications available allow acoustic conditions for all types of space, and the addition of acoustic veil completes the effectiveness of the system.

The analyzed ceiling systems are the following:

- Panel Sicilia CLIP-IN
- Panel Modena Panel T24
- Panel Parma T15
- Panel Roma
- Panel Murano
- Panel Capri
- Stave Veneto
- Stave Treviso
- Stave Venezia
- Stave Verona
- Stave Italia 30
- Open cell Milan

In the environmental declaration we analyzed all components that you need for the ceiling system as profiles and accessories. For perforated steel roofs we also analyzed the veil.

The **CPC code** of the product is **4219 OTHER STRUCTURES (EXCEPT PREFABRICATED BUILDINGS) AND PARTS OF STRUCTURES, OF IRON, STEEL OR ALUMINUM.**

This Environmental Product Declaration is carried out in accordance with **PCR 2012:01 v2.3 Construction Products and Construction Services** from the International EPD® system and verified by **Tecnalia R&I Certificación**.

The EPD content is also compliant with the principles set in the standards **ISO 14025 Environmental Labels and Declarations. Type III Environmental Declarations** and **EN 15804:2012 + A1: 2013**.

The EPD is based in the LCA developed by **ISOLANA Ahorro Energético SL**, following **CML-IA (Baseline) Methodology V4.2 September 2016**, simulated with **SimaPro software v8**. The database used is **Ecoinvent 3.3**.

Declared unit: 1 m² of Metallic ceiling system with a total system weight of 2,79-6,76 kg/m² depending if the ceiling is steel/aluminium or smooth/ perforated.

This Environmental Product Declaration covers the stages A1 to A3 (cradle to gate) defined in EN 15804:2012.

System boundaries: **Cradle to gate** as shown in the following figure.

Product stage			Construction process stage		Use Stage							End of life stage				Resource recovery stage
Raw material	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	MND

X= Included in LCA

MND= Module Not Declared

NR= Not relevant

Statements:

- EPDs of construction products may not be comparable if they do not comply with EN 15804.
- EPDs within the same product category but from different programs may not be comparable;
- The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.
- The holder of the EPD is the sole owner and has responsibility for it.

Results

The main environmental impacts of 1m² of the analyzed **ceiling systems** (A1-A3) are shown in the tables below for the steel and aluminum models separately. All results are shown per declared unit of each ceiling system (DU: Declared Unit).

These results encompass the different variants within each ceiling model, meaning they are valid for the option of a smooth and perforated ceiling in its different perforation diameters since the results do not vary more than a 10% between them.

Note that steel ceilings have an acoustic veil while aluminum ceilings do not.

The ceiling system results for Sicilia without a protective film are less than 5% in the main indicators shown below.

Panel Sicilia CLIP-IN

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	7,43E-07	6,74E-05	5,86E-04	4,15E-04	6,54E-04	4,82E-04
Depletion of abiotic resources (fossil)	MJ	4,03E+00	2,53E+01	2,56E+02	1,16E+02	2,85E+02	1,41E+02
Acidification of land and water	kg SO ₂ eq	4,19E-04	1,40E-02	1,38E-01	6,43E-02	1,52E-01	7,83E-02
Ozone depletion	kg CFC-11 eq	2,25E-09	1,18E-07	1,13E-06	3,78E-07	1,25E-06	4,96E-07
Global warming potential (100years)	kg CO ₂ eq.	1,30E-01	2,57E+00	2,43E+01	1,20E+01	2,70E+01	1,46E+01
Eutrophication	kg PO ₄ ³⁻ eq	6,65E-05	3,74E-03	3,83E-02	1,39E-02	4,21E-02	1,76E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	3,60E-05	9,46E-04	8,36E-03	3,96E-03	9,34E-03	4,91E-03

Panel Modena T24

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	7,43E-07	1,15E-04	5,41E-04	3,83E-04	6,57E-04	4,98E-04
Depletion of abiotic resources	MJ	4,03E+00	4,37E+01	2,36E+02	1,08E+02	2,84E+02	1,52E+02

(fossil)							
Acidification of land and water	kg SO ₂ eq	4,19E-04	2,44E-02	1,27E-01	5,93E-02	1,52E-01	8,37E-02
Ozone depletion	kg CFC-11 eq	2,25E-09	2,04E-07	1,04E-06	3,47E-07	1,25E-06	5,51E-07
Global warming potential (100years)	kg CO ₂ eq.	1,30E-01	4,42E+00	2,24E+01	1,11E+01	2,70E+01	1,55E+01
Eutrophication	kg PO ₄ ³⁻ eq	6,65E-05	6,69E-03	3,53E-02	1,27E-02	4,21E-02	1,94E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	3,60E-05	1,62E-03	7,71E-03	3,64E-03	9,37E-03	5,26E-03

Panel Parma T15

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	7,58E-07	1,03E-04	5,50E-04	3,89E-04	6,54E-04	4,92E-04
Depletion of abiotic resources (fossil)	MJ	4,11E+00	3,90E+01	2,40E+02	1,09E+02	2,83E+02	1,48E+02
Acidification of land and water	kg SO ₂ eq	4,27E-04	2,17E-02	1,29E-01	6,02E-02	1,51E-01	8,19E-02
Ozone depletion	kg CFC-11 eq	2,30E-09	1,82E-07	1,06E-06	3,52E-07	1,24E-06	5,34E-07
Global warming potential (100years)	kg CO ₂ eq.	1,33E-01	1,39E+00	2,28E+01	1,13E+01	2,43E+01	1,27E+01
Eutrophication	kg PO ₄ ³⁻ eq	6,79E-05	5,94E-03	3,59E-02	1,29E-02	4,19E-02	1,88E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	3,68E-05	1,45E-03	7,83E-03	3,70E-03	9,32E-03	5,15E-03

Panel Roma

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	9,84E-07	3,43E-05	3,44E-04	2,44E-04	3,79E-04	2,78E-04
Depletion of abiotic resources (fossil)	MJ	5,34E+00	1,74E+01	1,57E+02	7,58E+01	1,80E+02	9,32E+01
Acidification of land and water	kg SO ₂ eq	5,55E-04	7,16E-03	8,23E-02	3,93E-02	9,00E-02	4,65E-02

Ozone depletion	kg CFC-11 eq	2,98E-09	6,09E-08	6,93E-07	2,55E-07	7,57E-07	3,16E-07
Global warming potential (100years)	kg CO ₂ eq.	1,73E-01	1,42E+00	1,46E+01	7,42E+00	1,62E+01	8,84E+00
Eutrophication	kg PO ₄ ³⁻ eq	8,81E-05	1,75E-03	2,28E-02	8,55E-03	2,46E-02	1,03E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	4,77E-05	5,16E-04	4,98E-03	2,41E-03	5,54E-03	2,93E-03

Panel Murano

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	9,84E-07	1,14E-04	3,55E-04	2,52E-04	4,70E-04	3,66E-04
Depletion of abiotic resources (fossil)	MJ	5,34E+00	4,32E+01	1,62E+02	7,77E+01	2,11E+02	1,21E+02
Acidification of land and water	kg SO ₂ eq	5,55E-04	2,42E-02	8,48E-02	4,04E-02	1,10E-01	6,46E-02
Ozone depletion	kg CFC-11 eq	2,98E-09	2,01E-07	7,13E-07	2,61E-07	9,17E-07	4,62E-07
Global warming potential (100years)	kg CO ₂ eq.	1,73E-01	4,39E+00	1,50E+01	7,64E+00	1,96E+01	1,20E+01
Eutrophication	kg PO ₄ ³⁻ eq	8,81E-05	6,62E-03	2,36E-02	8,81E-03	3,03E-02	1,54E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	4,77E-05	1,61E-03	5,14E-03	2,48E-03	6,80E-03	4,09E-03

Panel Capri

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	8,98E-07	5,81E-05	3,52E-04	2,50E-04	4,11E-04	3,08E-04
Depletion of abiotic resources (fossil)	MJ	4,87E+00	2,20E+01	1,61E+02	7,74E+01	1,88E+02	9,94E+01
Acidification of land and water	kg SO ₂ eq	5,06E-04	1,20E-02	8,43E-02	4,02E-02	9,68E-02	5,22E-02
Ozone depletion	kg CFC-11 eq	2,72E-09	1,03E-07	7,09E-07	2,60E-07	8,15E-07	3,63E-07

Global warming potential (100years)	kg CO ₂ eq.	1,58E-01	2,22E+00	1,49E+01	7,59E+00	1,73E+01	9,81E+00
Eutrophication	kg PO ₄ ³⁻ eq	8,04E-05	3,19E-03	2,34E-02	8,73E-03	2,67E-02	1,19E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	4,35E-05	8,16E-04	5,11E-03	2,47E-03	5,97E-03	3,29E-03

Stave Veneto

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	-	1,04E-04	-	2,52E-04	-	3,56E-04
Depletion of abiotic resources (fossil)	MJ	-	3,94E+01	-	1,02E+02	-	1,41E+02
Acidification of land and water	kg SO ₂ eq	-	2,20E-02	-	4,37E-02	-	6,57E-02
Ozone depletion	kg CFC-11 eq	-	1,84E-07	-	2,74E-07	-	4,58E-07
Global warming potential (100years)	kg CO ₂ eq.	-	4,00E+00	-	8,49E+00	-	1,25E+01
Eutrophication	kg PO ₄ ³⁻ eq	-	6,02E-03	-	9,33E-03	-	1,54E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	-	1,47E-03	-	2,64E-03	-	4,11E-03

Stave Treviso

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	-	9,56E-05	-	1,89E-04	-	2,85E-04
Depletion of abiotic resources (fossil)	MJ	-	3,70E+01	-	6,16E+01	-	9,86E+01
Acidification of land and water	kg SO ₂ eq	-	2,02E-02	-	3,09E-02	-	5,11E-02
Ozone depletion	kg CFC-11 eq	-	1,69E-07	-	2,05E-07	-	3,74E-07
Global warming potential (100years)	kg CO ₂ eq.	-	3,69E+00	-	5,87E+00	-	9,56E+00

Eutrophication	kg PO ₄ ³⁻ eq	-	5,50E-03	-	6,69E-03	-	1,22E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	-	1,36E-03	-	1,88E-03	-	3,24E-03

Stave Venezia

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	9,84E-07	6,43E-05	4,57E-04	2,65E-04	5,22E-04	3,29E-04
Depletion of abiotic resources (fossil)	MJ	5,34E+00	2,89E+01	2,05E+02	8,27E+01	2,39E+02	1,12E+02
Acidification of land and water	kg SO ₂ eq	5,55E-04	1,37E-02	1,09E-01	4,30E-02	1,23E-01	5,67E-02
Ozone depletion	kg CFC-11 eq	2,98E-09	1,14E-07	9,11E-07	2,83E-07	1,03E-06	3,97E-07
Global warming potential (100years)	kg CO ₂ eq.	1,73E-01	2,58E+00	1,92E+01	8,09E+00	2,20E+01	1,07E+01
Eutrophication	kg PO ₄ ³⁻ eq	8,81E-05	3,59E-03	3,03E-02	9,39E-03	3,40E-02	1,30E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	4,77E-05	9,43E-04	6,61E-03	2,65E-03	7,60E-03	3,59E-03

Stave Verona

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	-	5,39E-05	-	2,17E-04	-	2,71E-04
Depletion of abiotic resources (fossil)	MJ	-	2,02E+01	-	5,71E+01	-	7,73E+01
Acidification of land and water	kg SO ₂ eq	-	1,10E-02	-	3,35E-02	-	4,45E-02
Ozone depletion	kg CFC-11 eq	-	9,45E-08	-	2,14E-07	-	3,09E-07
Global warming potential (100years)	kg CO ₂ eq.	-	2,04E+00	-	6,23E+00	-	8,27E+00
Eutrophication	kg PO ₄ ³⁻ eq	-	2,91E-03	-	7,34E-03	-	1,03E-02

Photochemical ozone creation	kg C ₂ H ₄ eq.	-	7,53E-04	-	2,07E-03	-	2,82E-03
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Stave Italia 30

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	-	4,79E-05	-	3,70E-04	-	4,18E-04
Depletion of abiotic resources (fossil)	MJ	-	1,79E+01	-	9,56E+01	-	1,14E+02
Acidification of land and water	kg SO ₂ eq	-	9,69E-03	-	5,64E-02	-	6,61E-02
Ozone depletion	kg CFC-11 eq	-	8,39E-08	-	3,45E-07	-	4,29E-07
Global warming potential (100years)	kg CO ₂ eq.	-	1,81E+00	-	1,05E+01	-	1,23E+01
Eutrophication	kg PO ₄ ³⁻ eq	-	2,54E-03	-	1,24E-02	-	1,49E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	-	6,68E-04	-	3,51E-03	-	4,18E-03

Open Cell Milan

	Units	Veil	Profiles+ Accessories	Steel	Aluminium	Steel System	Aluminium System
Depletion of abiotic resources (elements)	kg Sb eq	-	1,83E-04	-	4,02E-04	-	5,85E-04
Depletion of abiotic resources (fossil)	MJ	-	6,93E+01	-	1,05E+02	-	1,74E+02
Acidification of land and water	kg SO ₂ eq	-	3,92E-02	-	6,14E-02	-	1,01E-01
Ozone depletion	kg CFC-11 eq	-	3,22E-07	-	3,83E-07	-	7,05E-07
Global warming potential (100years)	kg CO ₂ eq.	-	7,05E+00	-	1,14E+01	-	1,85E+01
Eutrophication	kg PO ₄ ³⁻ eq	-	1,08E-02	-	1,37E-02	-	2,45E-02
Photochemical ozone creation	kg C ₂ H ₄ eq.	-	2,59E-03	-	3,82E-03	-	6,41E-03