HOT-DIP GALVANISED STEEL ELEMENTS

Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019

PCR 2019:14: Construction products, version 1.11
CPC CODE: 412 – Products of iron or steel

PROGRAMME: The International EPD® System - www.environdec.com
PROGRAMME OPERATOR: EPD International AB
REGISTRATION NUMBER: S-P-04231
DATE OF PUBLICATION: 03/08/2022
DATE OF VALIDITY: 03/08/2027
GEOGRAPHICAL SCOPE: Europe

CIPRIANI PROFILATI

EPD®
THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM EPD VERIFIED

https://www.ciprianiprofilati.it/

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com.

PROGRAMME INFORMATION

Programme: The International EPD® System
EPD International AB
Box 210 60
SE-100 31 Stockholm, Sweden
www.environdec.com
info@environdec.com

Product category rules (PCR):
PCR 2019:14 Construction products, version 1.11

PCR review was conducted by:
The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.

CEN standard EN 15804 serves as the core PCR

Independent third-party verification of the declaration and data, according to ISO 14025:2010:
[X] External [ ] Internal

covering:
[ ] EPD process certification [X] EPD verification

Third party verifier: Ugo Pretato, Studio Fieschi & soci Srl

Accredited by: The International EPD System

Procedure for follow-up during EPD validity involves third party verifier:
[ ] Yes [X] No

The EPD owner has the sole ownership, liability and responsibility of the EPD. ISO 14025: "EPDs within the same product category but from different programmes may not be comparable." EN 15804: "EPDs of construction products may not be comparable if they do not comply with EN 15804."

GENERAL INFORMATION

EPD OWNER

Cipriani Profilati SB S.r.l.
Registered office: Piazza Luigi di Savoia, 22 - 20124 Milano (MI) - Italy
Operational and Amministrative Headquartes: Via Pineta, 31 - 38068 Rovereto (TN) - Italy

REFERENCE CONTACTS

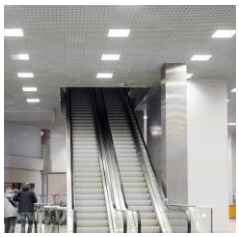
Daniela Manenti – daniela.manenti@ciprianiprofilati.it

COMPANY DESCRIPTION

Cipriani Profilati is a family-owned business company, leader in the production of metal systems for plasterboard and suspended ceilings.

1900

Early 1900s: chemistry, engineering, food and printing



2002

Production of modular false ceilings

1961

It was born in Rovereto with the production of cold sections

2007 - 2013

Expansion of the production plant. New sales offices in Brazil, Scandinavia and UK

1975 - 1988
Production of metal frame for plasterboard. Automation development in the production process

2016
Production of Steel Frame

CERTIFICATIONS

SYSTEM CERTIFICATION: UNI EN ISO 9001
(certificate SGS n° IT 07/1415)

PRODUCT CERTIFICATION
certification NF following AFNOR NF

PRODUCT CERTIFICATION
CE mark following DIN EN 14195

MEMBERSHIP

PRODUCT INFORMATION

PRODUCTS

UN CPC CODE

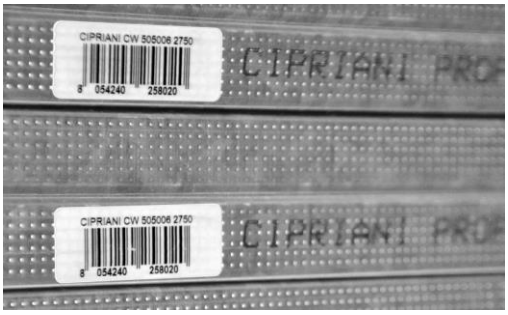
412 – Products of iron or steel

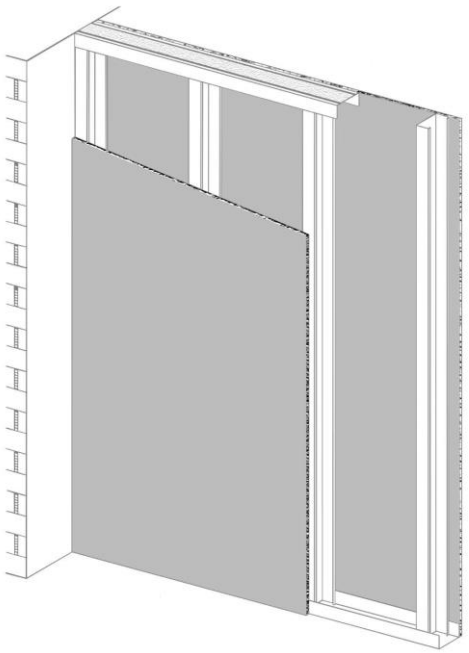
GEOGRAPHICAL SCOPE

Europe

APPLICATION

The CIPRIANI production range analyzed in this document includes studs, tracks and T-profiles for the construction of complete metal structures for plasterboard and false ceilings (refered hereafter as C and T sections). The profiles are produced according to the standards required by the reference standard UNI EN 14195 and DIN 18182-1. Products are therefore suitable to be assembled for the construction of walls, counter-walls and false ceilings with certified fire resistance characteristics, as long as they comply with the dimensions and specifications required by the certificates. The most common field of use of CIPRIANI metal systems is in interior construction, from new to renovation, for this reason the fields of application vary from residential to commercial, from industrial to hospital. In particular: structures for ceilings and counter walls of any size; structures for both simple and multiple partitions with a wide range of heights; special structures that allow the creation of curved walls, partitions and ceilings as well as stairs, veils, variable angles and protected edges.





LCA INFORMATION

DECLARED UNIT

1 tons (1000 kg) of profiles with sections C and T

TIME REPRESENTATIVENESS

The primary data used for the study of the life cycle refer to a period of 12 months, considering the production of the reference year (2020)

DATABASE AND SOFTWARE

Database: Ecoinvent 3.7
Software LCA: SimaPro, version 9.3.0.3.

SYSTEM BOUNDARIES

The approach used for this study is of the '' cradle-to-gate with options '' type
(ie '' from the cradle to the gate with options '').
Modules A1 to A5, C1 to C4 and module D are included, in accordance with the reference PCR and the EN 15804: 2012 + A2: 2019 standard.

CONTENT DECLARATION

The products analyzed (profiles with section C and T) are made up of 99% galvanized steel, with a content of recycled material of about 46% by weight. Hot dip galvanizing is purchased from the supplier, then rolled and stamped into the desired shape in elements ranging between 0.3 and 2mm thick. The product does not contain chemicals included in the SVHC list.
The products are packaged with polyethylene terephthalate (PET), polyethylene (LDPE), polypropylene (PP) and cardboard films; the transport then takes place by placing the packaging on fir wood pallets.

CONTENT DECLARATION				
Product components	Weight (kg)	Post-consumer material, weight-%	Renewable materials, weight -%	Pre-consumer material, weight-%
Galvanized steel	1000	37%	0%	9%
Packaging materials	Weight (kg)	Weight-% (versus the product)		
Wood	10,84	1,07%	100%	0%
PE (polyethylene)	0,0834	> 0,1%	-	-
PET (polyethylene terephthalate)	0,0177	> 0,1%	-	-
PP (polypropylene)	0,0377	> 0,1%	-	-
Cardboard	3,94	0,4%	100%	0%

	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction, demolition	Transport	Waste processing	Disposal	Reuse, ricovery, recycling potential
Modules declared	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	X			X	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X
Geography	GLO	GLO	IT	EU	EU								EU	EU	EU	EU	EU
Specific data used	> 90%																
Variation - products	<10%																
Variation - sites	n/a																

System boundaries
"X" = included in the study
"MND" = module not declared
n.a. = not applicable

LCA SCENARIOS AND TECHNICAL INFORMATION

The study of the life cycle includes all the process units that are considered relevant and with a key and predominant role in identifying the impacts of the products being analyzed.

ALLOCATION

The consumption of energy and materials have been allocated to the product in question on the basis of the annual production of galvanized steel products. No further allocations were applied in the modules after the production phase.

CUT-OFF

The study applies a cut-off criterion of maximum 1% of the material and energy inputs of the system. This means that the sum of excluded material inputs does not exceed 1% of the total material inputs. No exclusion was made to the knowledge of the authors of the LCA study.

PRODUCTION STAGE

Module A1, "raw material supply", examines and estimates the impact generated by the procurement of raw materials through the extraction and processing of materials:

- Steel profiles
- Water and energy carriers
- Packaging of raw materials

Module A2, "transport", examines and estimates the impact generated by the transport of raw materials and semi-finished products from the manufacturer to the warehouse of the plant.

Module A3 describes the "core" activities of the CIPRIANI plant, where the production of the analyzed C and T section profiles is located. Here the internal processing activities of raw materials are carried out, for the constitution of the finished product. They therefore include:

- The combustion of energy vectors and the production of electricity from photovoltaics
- The packaging
- The production of auxiliary materials
- The outgoing flows

CONSTRUCTION STAGE

Module A4 includes the transport of finished products to the installation site. Sales in 2020 and the shipment of products to Italy and different countries of Europe are considered.

Module A5 analyzes the installation of products on site (in the European context). The waste treatment (packaging and scraps) after the installation process was considered in module A5, while the environmental benefits and burdens of recycling were included in module D.

PARAMETERS A4	VALUES
Type of fuel	Diesel
Distance transport A4	Avarange distance customers EU
Transport distance A5	Avarage distance 50 km
Transport Type	Truck, EURO 4
Loading capacity (including retourn)	3,29 ton (efficiency 35%)
Cargo ferry distance	54 km

PARAMETERS A5	VALUES
Packaging end of life (plastic)	42% - Recycle 39,5% - Energy recovery 18,5% - Disposal
Packaging end of life (wood)	40% - Recycle 60% - Disposal
Packaging end of life (paper and cardboard)	73,9% - Recycle 15,41% - Energy recovery 10,69% - Disposal
Steel end of life (2% scrap during production)	98% - Recycle 2% - Disposal

END OF LIFE STAGE

Module C1 analyzes the removal of the sheets at the end of their useful life or at the end of the life of the building in which they are installed. Removal is done manually by the removal staff.

Module C2 includes the transport, by road, of products at the end of their life, i.e. to the waste treatment center, for all materials conveyed for recycling or energy recovery, or for final disposal in landfills.

Module C3 provides information and analyzes waste preparation and treatment processes until the product reaches the state of waste to be subsequently processed through recycling or energy recovery.

Module C4 considers the deposit of part of the product, considered inert, in landfills.

PARAMETER C2 – C3 – C4	VALUES
C2 – Type of fuel	Diesel
C2 – Transport distance	Avarage customer distance
C2 – Type of transport	Truck, EURO 4
C2 – Loading capacity (included retourn)	3,29 tons (efficiency 35%)
C3 / C4 – Steel end of life	98% - Recycle 2% - Disposal

MODULE D

Module D includes the potential environmental loads and benefits related to the reuse, recovery and / or recycling of the material.

According to EN 15804: 2012 + A2: 2019 all the benefits and loads declared by the net flows out of the system of products not allocated as co-products and which have passed the end-of-waste status must be included in module D. The benefits considered in module D they originate from the recycling of profiles and from the recycling / incineration of packaging

ENVIRONMENTAL IMPACT

1 ton (1000 kg) of profiles with C and T sections

Potential environmental impact per ton of steel element

Environmental impact indicator	Unit	A1-3	A4	A5	C1	C2	C3	C4	D
Climate change	$kgCO_2eq$	1,84E+03	1,71E+02	7,58E+01	0,00E+00	1,07E+01	1,97E+01	1,06E-01	-6,83E+02
Climate change - Fossil	$kgCO_2eq$	1,86E+03	1,71E+02	4,01E+01	0,00E+00	1,07E+01	2,11E+01	1,05E-01	-7,08E+02
Climate change - Biogenic	$kgCO_2eq$	-2,48E+01	8,54E-02	3,57E+01	0,00E+00	5,33E-03	-1,39E+00	2,09E-04	2,45E+01
Climate change - Land use and LU change	$kgCO_2eq$	1,56E+00	7,43E-02	3,24E-02	0,00E+00	4,63E-03	2,54E-02	2,94E-05	1,27E-01
Climate change – GWP-GHG	$kgCO_2eq$	2,16E+03	1,70E+02	3,99E+01	0,00E+00	1,06E+01	2,08E+01	1,03E-01	-6,57E+02
Ozone depletion	kgCFC11eq	1,39E-04	3,81E-05	3,56E-06	0,00E+00	2,38E-06	2,83E-06	4,34E-08	-1,34E-05
Acidification	mol H+eq	3,15E+01	8,45E-01	6,32E-01	0,00E+00	5,24E-02	2,74E-01	1,00E-03	-2,82E+00
Eutrophication, freshwater	kg P eq	1,33E+00	1,47E-02	2,64E-02	0,00E+00	9,18E-04	2,02E-02	1,08E-05	-3,06E-01
Eutrophication, freshwater	kg PO_4 eq	4,09E+00	4,52E-02	8,11E-02	0,00E+00	2,82E-03	6,19E-02	3,32E-05	-9,38E-01
Eutrophication, marine	kg N eq	2,92E+00	2,79E-01	6,70E-02	0,00E+00	1,73E-02	5,94E-02	3,46E-04	-5,89E-01
Eutrophication, terrestrial	mol N eq	1,19E+02	3,05E+00	2,37E+00	0,00E+00	1,90E-01	6,73E-01	3,79E-03	-5,80E+00
Photochemical ozone formation	kg NMVOCeq	8,95E+00	8,76E-01	1,97E-01	0,00E+00	5,44E-02	1,83E-01	1,10E-03	-4,11E+00
Resource use, minerals and metals [2]	kg Sb eq	3,45E+00	6,19E-03	6,62E-02	0,00E+00	3,86E-04	1,27E-03	9,64E-07	2,16E-03
Resource use, fossils [2]	MJ	2,55E+04	2,57E+03	4,85E+02	0,00E+00	1,60E+02	2,90E+02	2,94E+00	-5,13E+03
Water scarcity [2]	m^3 depriv.	5,47E+02	7,87E+00	1,06E+01	0,00E+00	4,91E-01	3,18E+00	1,32E-01	-2,02E+01

DISCLAIMER
2 – "The results of this environmental impact indicator must be used with caution because uncertainties about these results are high, or because experience with the indicator is limited"

1 ton (1000 kg) of profiles with C and T sections

Use of resources per ton of steel element

Environmental impact indicator	Unità	A1-3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	2,79E+03	4,37E+01	5,42E+01	0,00E+00	2,72E+00	5,17E+01	2,38E-02	-1,36E-01
PERM	MJ	2,20E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	3,01E+03	4,37E+01	5,42E+01	0,00E+00	2,72E+00	5,17E+01	2,38E-02	-1,36E-01
PENRE	MJ	2,54E+04	2,57E+03	4,85E+02	0,00E+00	1,60E+02	2,90E+02	2,94E+00	-5,13E+03
PENRM	MJ	2,59E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	2,55E+04	2,57E+03	4,85E+02	0,00E+00	1,60E+02	2,90E+02	2,94E+00	-5,13E+03
Use of secondary material	kg	4,54E+02	0,00E+00	9,09E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,78E+01	3,05E-01	3,34E-01	0,00E+00	1,90E-02	1,52E-01	3,14E-03	4,27E-01

Waste production per ton of steel element

Environmental impact indicator	Unità	A1-3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	5,30E-01	6,90E-03	1,04E-02	0,00E+00	4,31E-04	8,95E-04	4,40E-06	-8,60E-02
Non-hazardous waste disposed	kg	7,72E+02	1,01E+02	2,47E+01	0,00E+00	6,31E+00	7,25E+00	2,00E+01	7,35E+00
Radioactive waste disposed	kg	1,29E-01	1,73E-02	1,79E-03	0,00E+00	1,08E-03	1,69E-03	1,93E-05	1,38E-02

Output flows per ton of steel element

Environmental impact indicator	Unità	A1-3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	3,72E+01	0,00E+00	3,01E+01	0,00E+00	0,00E+00	9,60E+02	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,40E+00	0,00E+00	3,55E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ACRONYM

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

ADDITIONAL INFORMATION

BIOGENIC CARBON

1 of profiles of C and T sections	Value	unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	7,02	kg C

1 kg biogenic carbon is equivalent to 44/12 kg of CO_2.

ENERGY MIX

The energy source analyzed in module A3 derives from the energy mix purchased from the supplier; the potential impacts related to the consumption of 1 kWh are 0.396 kgCO_2eq.

REFERENCES

EN 15804:2012+A2:2019. Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products.

UNI EN ISO 14025: 2010. Environmental labels and declarations - Type III environmental declarations - Principles and procedures

UNI EN ISO 14040: 2021. Environmental management - Life cycle assessment - Principles and framework

UNI EN ISO 14044: 2021. Environmental management - Life cycle assessment - Requirements and guidelines

© EPD INTERNATIONAL AB 2021. PCR 2019:14. Construction Products. Version 1.11. Onlice version

© EPD INTERNATIONAL AB 2021. GENERAL PROGRAMME INSTRUCTIONS FOR THE INTERNATIONAL EPD® SYSTEM. VERSION 3.01 (2021-03-29) Online version.

Study LCA carried out for Cipriani Profilati SB S.r.l.

EU paper council (2020). Monitoring Report 2020. European Declaration on paper recycling 2016-2020

PlasticsEurope (2020) Plastic – the Facts EU 2020. An analysis of European plastics production, demand and waste.

Sustainable Development Foundation (2020). Italy of recycling 2020

CONTACTS

EPD owner

Cipriani Profilati SB S.r.l.
Representative Office: Piazza Luigi di Savoia, 22 - 20124 Milano (MI) - Italy
Operational and Administrative Headquarters: Via Pineta, 31 - 38068 Rovereto (TN) - Italy

Website: https://www.ciprianiprofilati.it/it-it
E-mail: info@ciprianiprofilati.it

Executor LCA

Habitech Distretto Tecnologico Trentino S.c.a r.l.
Piazza della Manifattura, 1, 38068 Rovereto TN
Website: https://www.habitech.it/

Bureau Veritas Nexta Srl
Via Mario Bianchini, 13, 00142 Roma RM
Website: https://www.nexta.bureauveritas.it/

Programme operator

The International EPD® System
Address: EPD International AB - Box 210 60
SE-100 31 Stockholm, Sweden

Website: www.environdec.com
E-mail: info@environdec.com

Cipriani Profilati SB S.r.l.
Representative Office: Piazza Luigi di Savoia, 22 - 20124 Milano (MI) - Italy
Operational and Administrative Headquarter: Via Pineta, 31 - 38068 Rovereto (TN) - Italy

Website: https://www.ciprianiprofilati.it/it-it
E-mail: info@ciprianiprofilati.it