



Environmental Product Declaration

In accordance with ISO 14025:2006 and EN15804:2012+A2:2019 for
Steel Profiles and Accessories

Programme: The International EPD® System
www.environdec.com

Program Operator: EPD International AB

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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](http://www.environdec.com).



PROGRAMME INFORMATION

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ISO standard ISO 21930 and CEN standard EN 15804 serves as the core Product Category Rules (PCR)

Product Category Rules (PCR):
2019:14 Version 1.11, 2021-02-05, Construction
Products and CPC 54 Construction Services, EN 15804:2012 + A2:2019 Sustainability of Construction Works

PCR review was conducted by:

The Technical Committee of the International EPD® System.
Review chair: Claudia A. Peña, University of Concepción, Chile

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

EPD process certification

EPD verification

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Approved by: The International EPD® System Technical Committee, supported by the Secretariat

Procedure for follow-up of data during EPD validity involves third party verifier:

Yes

No

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

ABOUT THE UMS

UMS Ugur Metal Sanayi was founded in 1999 at Ankara Ostim OIZ for trading in galvanized and painted galvanized sheets. Within a very short span of time, UMS, thanks to its principled and high quality sheet trading approach, became an industry brand that makes the highest sales volume in its region.

Growing by taking a new investment decision in 2005, UMS established the first and only steel service center in its region. Having cut-to-length line, trapezoid line and slitting line with steel service center, ums has been providing high quality and rapid service for specific-measure galvanized sheet demands.

UMS, crowning the importance it attaches to quality by obtaining TS EN ISO 9001 quality management certificate, has been a steel service center that makes a difference with its quality certificate. Continuing its production with a full head of steam and the same determination, today, UMS performs its production activities with its modern and fast counters by galvanized steels and non-alloy structural steels which are suitable for cold forming, with an annual production capacity of 120 thousand tonnes.

Keeping on growing and improving in the industry through its investments, UMS, with its 150 million-meter capacity for plaster profiles, plaster board profiles, external wall profiles and accessories, created with the new counters and production lines added in 2013, has become the fastest producer with the highest production volume in Turkey.

UMS, adopting customer satisfaction, after-sale services, quality and reliability as its core principles, continues to add to product diversity and make difference in the industry with its understanding of always being one step ahead in innovation, technology and value attached to development.



PRODUCT INFORMATION

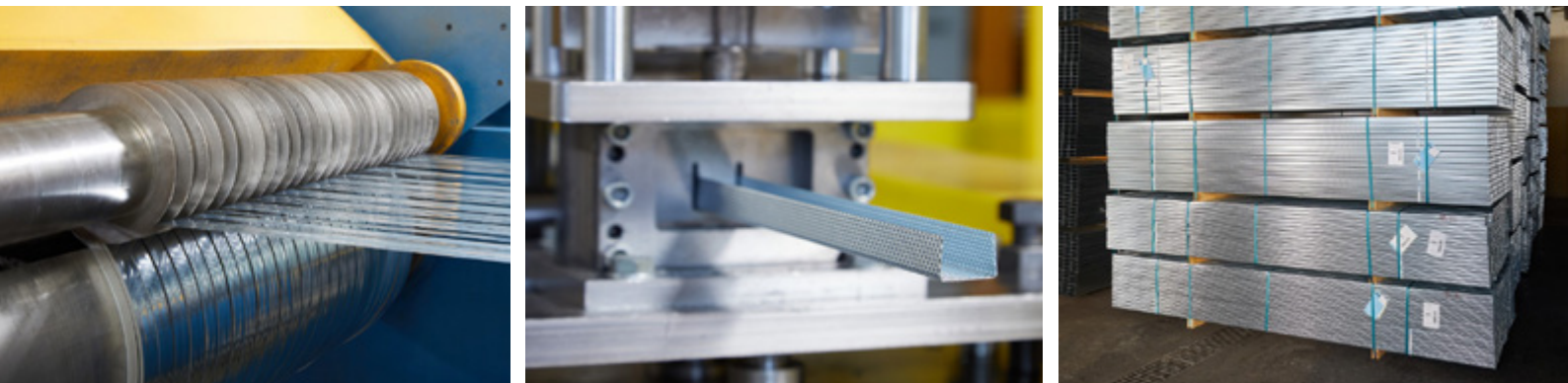
Steel profiles are construction structures that are manufactured according to TS EN 14195 standards and used as carrier elements, partition walls etc.

UMS steel profile products and accessories are primarily used for the mounting of various plasterboard or other sheet materials in the construction of interior walls, exterior walls and ceilings.

The profile sections manufactured by UMS varies from 0.25 mm to 2.00 mm in thickness with the density of 7 850 kg/m³. The accessories are also manufactured from galvanized steel coils.

All the waste resulting from the main production and related processes of UMS is managed in accordance with valid local legal requirements.

Manufacturing Process



The products are manufactured from hot dip galvanized carbon steel. Purchased galvanized coils are divided into narrower bands whose width fits the specific profiles and accessories. Then, steel profiles are manufactured through roll forming technique while accessories are cut from bands according to relevant specifications.










No substances included in the Candidate List of Substances of Very High Concern for authorisation under the REACH Regulations are present in the steel profiles and accessories manufactured by UMS, either above the threshold for registration with the European Chemicals Agency or above 0.1% (wt/wt).

Technical Specifications & Areas of Use

UMS manufactures various steel profiles and accessories with specifications for different applications.

Steel Profiles	Product Description & Areas of Use	Thickness (mm)
Ceiling Profiles	Used in the construction of plasterboard suspended ceilings. Carrier (C) and non-carrier (U) types are available.	0.40 - 0.60
Wall Profiles	Used in plasterboard partition wall construction. Carrier (C) and non-carrier (U) types are available.	0.40 - 0.80
Corner Profiles	Used in plaster and plasterboard applications, to provide corner perpendicularity and to increase the resistance to crushing.	0.25 - 0.50



Accessories	Product Description & Areas of Use	
Suspension Hanger		In gypsum suspended ceiling applications, suspension hanger is the connection element between the suspension wire and the ceiling C profiles fixed to the ceiling.
Suspension Wire		Used to adjust how low the surface of the suspended ceiling will be from the supporting platform and connects the systems to the ceiling.
Clips		Used to fix auxiliary profiles to main profiles.
Connector		Used for connecting fixed ceiling C profiles to each other.
L Bracket		Used for the door support profiles to fix them to the floor in the base and ceiling.
Double Spring		In gypsum suspended ceiling applications, used to adjust the height of the ceiling.
Agraffe		Used to connect the ceiling to suspended ceiling and C profiles.

SYSTEM BOUNDARY

Upstream Process (A1: Raw Material Supply)

Production starts with locally sourced raw materials. 'Raw material supply' includes raw material extraction and pre-treatment processes before production.

Core Process (A2: Transportation and A3: Manufacturing)

Transport is relevant for delivery of raw materials to the plant and the transport of materials within the plant.

'Manufacturing' starts with coil to band cutting. Steel bands are then formed and cut. The end products are then packaged to be sold.

Downstream Processes

Construction Processes (A4: Transport from the gate to the site,)

Transport of final product to construction site is taken as the weight average values for transport to customers in 2021 (A4).

Use Stage (B1: Use, B2: Maintenance, B3: Repair, B4: Replacement, B5: Refurbishment, B6: Operational Energy Use, B7: Operational Water Use)

The use stage (B1-B7) of declared products do not require any water and energy consumption, maintenance, repair or replacement during their lifetime.

End of Life Stage (C1: De-construction, C2: Transport, C3: Waste Processing, C4: Disposal)

During de-construction of products do not require any water and energy consumption (C1).

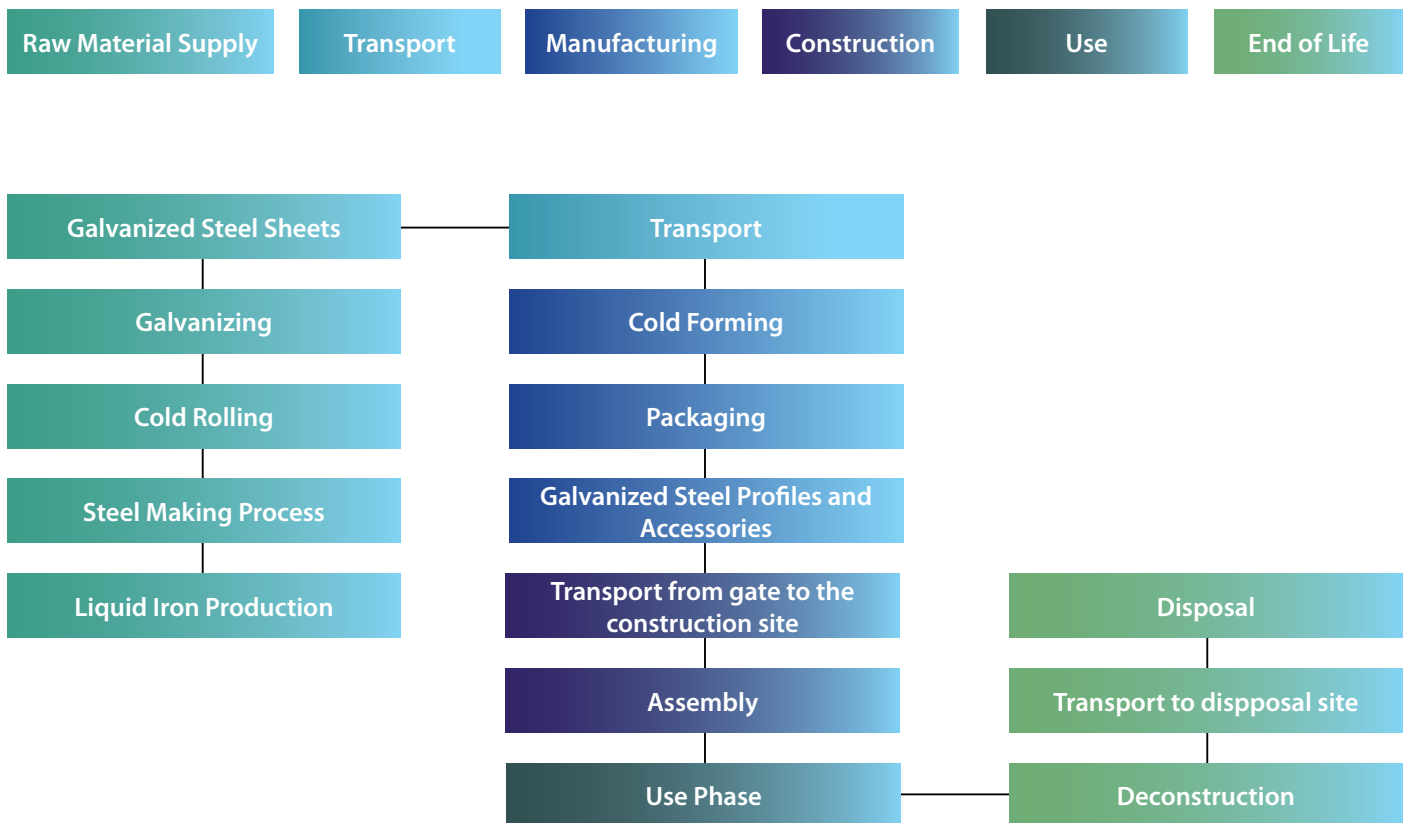
An average of 50 km is taken as a distance from construction site to waste processing and disposal sites (C2).

Waste processing for reuse, recovery and/or recycling is not taken into consideration for the current study (C3).

95% of galvanized steel profiles and accessory products are collected to be recycled and the rest end up at landfills as their final fate and modelled as such in the LCA (C4).

Benefits and loads beyond the product system boundary, Module D

No potential benefits of recycling and re-use were taken into account in the current LCA report.



LCA INFORMATION

Declared Unit	The declared unit is the production of 1 tonne steel profile and accessories.
System Boundary	Cradle to gate with options, modules C1-C4, module D and with optional modules A4 and B modules.
Estimates and Assumptions	<p>Transport of final product to construction site is taken as the transport of 1 tonne of steel profile and accessories from UMS's Ankara plant in Turkey to the construction site as distance value based on weighted average values for 2021 as transport to customers (A4).</p> <p>The use stage (B1-B7) of declared products is assumed to not require any water and energy consumption, maintenance, repair or replacement during their lifetime (50 years).</p> <p>De-construction of products do not require any water and energy consumption (C1). An average of 50 km is taken as a distance from construction site to waste processing and disposal sites (C2). Waste processing for reuse, recovery and/or recycling is not taken into consideration for the current study (C3). At the end of life of the products, 95 % of galvanized steel profiles and accessory products are collected to be recycled and the rest end up at landfills according to European steel recycling statistics (C4).</p>
Cut-Off Rules	1% cut-off applied. Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts have been included.
Data Quality	Raw materials, energy and water consumption, waste and material and product transport data is collected from UMS.
Period Under Review	All primary data collected from UMS is for the period year of 2021.
Allocations	Water consumption, energy consumption and raw material transportation were weighted according to 2020 production figures. In addition, hazardous and nonhazardous waste amounts were also allocated from the 2020 total waste generation.

	Product Stage			Construction Process Stage		Use Stage							End of Life Stage			Benefits and Loads	
	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
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules Declared	X	X	X	X	ND	X	X	X	X	X	X	X	X	X	X	X	X
Geography	GLO	GLO	TR	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO
Specific Data Used	>90%	>90%	>90%	>90%	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	NR					-	-	-	-	-	-	-	-	-	-	-	-
Variation- Sites	NR					-	-	-	-	-	-	-	-	-	-	-	-

X = Modul declared, ND = Modul not declared, NR = Not relevant

LCA RESULTS

Impact Category	Unit	A1-A3	A4	B1-B7	C1	C2	C3	C4	D
GWP - Fossil	kg CO ₂ eq	993	41.5	0	0	8.31	0	0.263	-792
GWP - Biogenic	kg CO ₂ eq	21.9	0.110	0	0	0.022	0	0.001	-17.6
GWP - Luluc	kg CO ₂ eq	5.34	0.016	0	0	0.003	0	249E-6	-1.03
GWP - Total	kg CO ₂ eq	1020	41.7	0	0	8.33	0	0.264	-811
ODP	kg CFC-11 eq	71.7E-6	9.62E-6	0	0	1.92E-6	0	107E-9	-56.7E-6
AP	mol H+ eq	10.6	0.169	0	0	0.034	0	0.002	-8.77
*EP - Freshwater	kg P eq	0.567	0.003	0	0	0.001	0	24.1E-6	-0.469
EP - Freshwater	kg (PO ₄) eq	1.73	0.008	0	0	0.002	0	73.8E-6	-1.44
EP - Marine	kg N eq	1.22	0.051	0	0	0.010	0	0.001	-0.961
EP - Terrestrial	mol N eq	36.5	0.555	0	0	0.111	0	0.009	-30.3
POCP	kg NMVOC	2.72	0.138	0	0	0.028	0	0.002	-2.16
ADPE	kg Sb eq	0.024	144E-6	0	0	28.9E-6	0	601E-9	-0.021
ADPF	MJ	14453	628	0	0	126	0	7.35	-11526
WDP	m ³ depriv.	454	1.82	0	0	0.364	0	0.330	-378
PM	disease inc.	112E-6	2.89E-6	0	0	578E-9	0	48.6E-9	-91.4E-6
IR	kBq U-235 eq	226	3.23	0	0	0.646	0	0.033	-188
ETP - FW	CTUe	26432	490	0	0	98.0	0	4.64	-21718
HTTP - C	CTUh	28.9E-6	15.9E-9	0	0	3E-9	0	1.18E-10	-24.5E-6
HTTP - NC	CTUh	27.4E-6	514E-9	0	0	103E-9	0	3.05E-09	-22.5E-6
SQP	Pt	5572	447	0	0	89.4	0	16.06	-3913
Acronyms	GWP-total: Climate change, GWP-fossil: Climate change- fossil, GWP-biogenic: Climate change - biogenic, GWP-luluc: Climate change - land use and transformation, ODP: Ozone layer depletion, AP: Acidification terrestrial and freshwater, EP-freshwater: Eutrophication freshwater, EP-marine: Eutrophication marine, EP-terrestrial: Eutrophication terrestrial, POCP: Photochemical oxidation, ADPE: Abiotic depletion - elements, ADPF: Abiotic depletion - fossil resources, WDP: Water scarcity, PM: Respiratory inorganics - particulate matter, IR: Ionising radiation, ETP-FW: Ecotoxicity freshwater, HTP-c: Cancer human health effects, HTP-nc: Non-cancer human health effects, SQP: Land use related impacts, soil quality.								
Legend	A1: Raw Material Supply, A2: Transport, A3: Manufacturing, A1-A3: Sum of A1, A2, and A3, A4: Transport, C1: Deconstruction / Demolition, C2: Transport, C3: Waste Processing, C4: Disposal, D: Benefits and Loads Beyond the System Boundary.								
Disclaimer 1	This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.								
Disclaimer 2	The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.								
*Disclaimer 3	EP-freshwater: This indicator is calculated both in kg PO ₄ eq and kg P eq as required in the characterization model. (EUTREND model, Struijs et al, 2009b, as implemented in ReCiPe; http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml)								

Resource use for 1 tonne of steel profiles and accessories

Impact Category	Unit	A1-A3	A4	B1-B7	C1	C2	C3	C4	D
PERE	MJ	1699	8.85	0	0	1.77	0	0.063	-1370
PERM	MJ	0	0	0	0	0	0	0	0
PERT	MJ	1699	8.85	0	0	1.77	0	0.063	-1370
PENRE	MJ	14479	628	0	0	126	0	7.36	-11523
PENRM	MJ	0	0	0	0	0	0	0	0
PENRT	MJ	14779	628	0	0	126	0	7.36	-11523
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m ³	8.51	0.104	0	0	0.021	0	0.008	-7.01
Acronyms	PERE: Use of renewable primary energy excluding resources used as raw materials, PERM: Use of renewable primary energy resources used as raw materials, PERT: Total use of renewable primary energy, PENRE: Use of non-renewable primary energy excluding 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, SM: Secondary material, RSF: Renewable secondary fuels, NRSF: Non-renewable secondary fuels, FW: Net use of fresh water.								

Waste&Output Flows for 1 tonne of steel profiles and accessories

Impact Category	Unit	A1-A3	A4	B1-B7	C1	C2	C3	C4	D
HWD	kg	0	0	0	0	0	0	0	0
NHWD	kg	16.0	0	0	0	0	0	50.0	0
RWD	kg	0	0	0	0	0	0	0	0
CRU	kg	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	95.0	0
MER	kg	0	0	0	0	0	0	0	0
EE (Electrical)	MJ	0	0	0	0	0	0	0	0
EE (Thermal)	MJ	0	0	0	0	0	0	0	0
Acronyms	HWD: Hazardous waste disposed, NHWD: Non-hazardous waste disposed, RWD: Radioactive waste disposed, CRU: Components for reuse, MFR: Material for recycling, MER: Materials for energy recovery, EE (Electrical): Exported energy electrical, EE (Thermal): Exported energy, Thermal.								
Legend	A1: Raw Material Supply, A2: Transport, A3: Manufacturing, A1-A3: Sum of A1, A2, and A3, A4: Transport, C1: Deconstruction / Demolition, C2: Transport, C3: Waste Processing, C4: Disposal, D: Benefits and Loads Beyond the System Boundary.								

Climate impact according to PCR 2019:14 1 tonne of steel profiles and accessories

Indicator	Unit	A1-A3	A4	B1-B7	C1	C2	C3	C4	D
*GHG-GWP	kg CO ₂ eq	982	41.2	0	0	8.24	0	0.259	-780

GWP-GHG = Global Warming Potential total excl. biogenic carbon following IPCC AR5 methodology

* The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013

REFERENCES

/GPI/ General Programme Instructions of the International EPD® System. Version 4.0.

/EN ISO 9001/ Quality Management Systems - Requirements

/EN ISO 14001/ Environmental Management Systems - Requirements

/EN ISO 50001/ Energy Management Systems - Requirements

/ISO 14020:2000/ Environmental Labels and Declarations – General principles

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

/ISO 14025/ DIN EN ISO 14025:2009-11: Environmental labels and declarations - Type III environmental declarations – Principles and procedures

/ISO 14040/44/ DIN EN ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework (ISO14040:2006) and Requirements and guidelines (ISO 14044:2006)

/PCR for Construction Products and CPC 54 Construction Services/ Prepared by IVL Swedish Environmental Research Institute, Swedish Environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB, The International EPD System, 2019:14 Version 1.11 DATE 2019-12-20

/The International EPD® System/ The International EPD® System is a programme for type III environmental declarations, maintaining a system to verify and register EPD®s as well as keeping a library of EPD®s and PCRs in accordance with ISO 14025. www.environdec.com

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