



DEMİR ÇELİK VE BORU  
PROFİL ENDÜSTRİ A.Ş.

# ENVIRONMENTAL PRODUCT DECLARATION



Environmental Product Declaration in accordance with  
ISO 14040:2006, ISO 14044:2006, ISO 14025:2006 and  
EN 15804:2012+A2:2019/AC:2021

## Hollow Sections

### PROGRAMME

The International EPD® System

### PROGRAMME OPERATOR

EPD International AB

### LICENSEE

EPD Türkiye

### GEOGRAPHICAL SCOPE

Global

### EPD REGISTRATION NUMBER

EPD-IES-0021510

### PUBLICATION DATE

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### VALID UNTIL

2030-05-07

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

## Programme Information

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### Information about verification and reference PCR:

*CEN standard EN 15804 serves as the Core Product Category Rules (PCR)*

#### Product category rules (PCR)

*PCR 2019:14 Construction products (EN 15804:2012+A2.2019/AC:2021) Version 1.3.4, EN 15804 reference package based on EF 3.1*

#### 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.

Independent verification of the declaration and data, according to ISO 14025:2021:

EPD process verification

EPD verification

#### Third party verifier

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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

### LCA Study & EPD Design Conducted by

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BUDOTEK Teknopark, No 8/27

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**İlhan Demir Çelik ve Boru Profil Endüstri A.Ş.** 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. For further information about comparability, see EN 15804 and ISO 14025.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## Company Information

### Owner of the EPD

#### İlhan Demir Çelik ve Boru Profil Endüstri A.Ş.

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İlhan Demir Çelik ve Boru Profil Endüstri A.Ş. was built in Payas which is the county of Hatay in 1983. Since 1983, it has been continuing its own way steadily by converting trust and quality focused production concept into to the company policy.

The company operates a rolling mill facility spanning 13,443 m<sup>2</sup> of covered area within a total of 16,941 m<sup>2</sup>, with an annual capacity of 483,840 tons dedicated to the production of round and ribbed reinforcement bars.

İlhan Demir Çelik ve Boru Profil Endüstri A.Ş., whose main field of activity is construction iron, expanded in 2005 with a new investment in a second facility focused on pipe and profile production This plant located on Dörtöyl, Hatay, covering 12,500 m<sup>2</sup> of a 20,405 m<sup>2</sup> area, focused on to pipe profiles and sheet metal production.

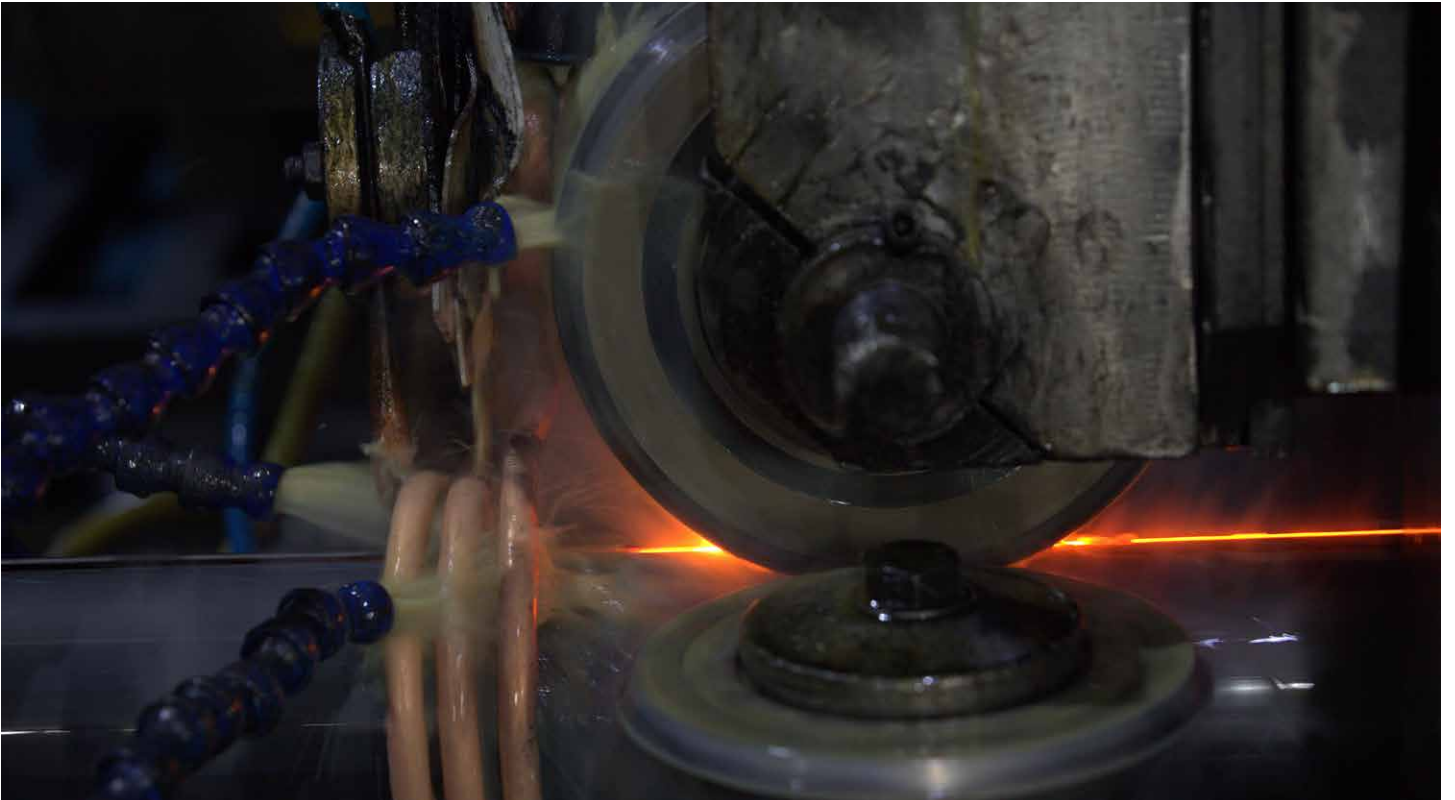
The pipe profile facility has an annual production capacity of 230,000 tons, manufacturing Longitudinal Seam High-Frequency Resistance Welded Steel Pipes and Profiles, and Anticorrosive Painted Pipes and Profiles. It also conducts 564,000 tons of cut-to-length processing annually.

To ensure production meets the highest quality standards, it creates the most modern laboratory conditions and produces products whose compliance with international standards has been checked by performing physical and chemical analysis tests of all products.

With a team possessing all necessary equipment and discipline required for production, İlhan Demir Çelik ve Boru Profil Endüstri A.Ş., continues to evolve each day. It encourages and supports its employees to contribute ideas that continually improve quality and efficiency through full team participation.

To maintain the highest levels of customer satisfaction and loyalty by swiftly and effectively meeting expectations and demands, our entire staff works at full capacity.

İlhan's vision is to maintain the highest product quality through a total quality management approach, ensuring customer satisfaction with our friendly and experienced team, and establishing itself as a leading company in its sector.



# Product Information

## Product Name: Hollow Sections

The product covered by this Environmental Product Declaration (EPD) is square, rectangular, and circular hollow sections (commonly referred to as hollow sections) produced from hot and cold rolled flat steel (HRC/CRC) using the Electric Resistance Welding (ERW) method. These longitudinally welded profiles are manufactured in accordance with national and international standards including TS 5317, TS-EN 10305-5, DIN 2395, and TS-EN 10219. Production utilizes high-quality steel grades such as DC01 (St12), St33, St37 (DIN 17100), and S235 JR/J0/J2 (EN 10025), ensuring mechanical strength, dimensional accuracy, and consistent performance across applications.

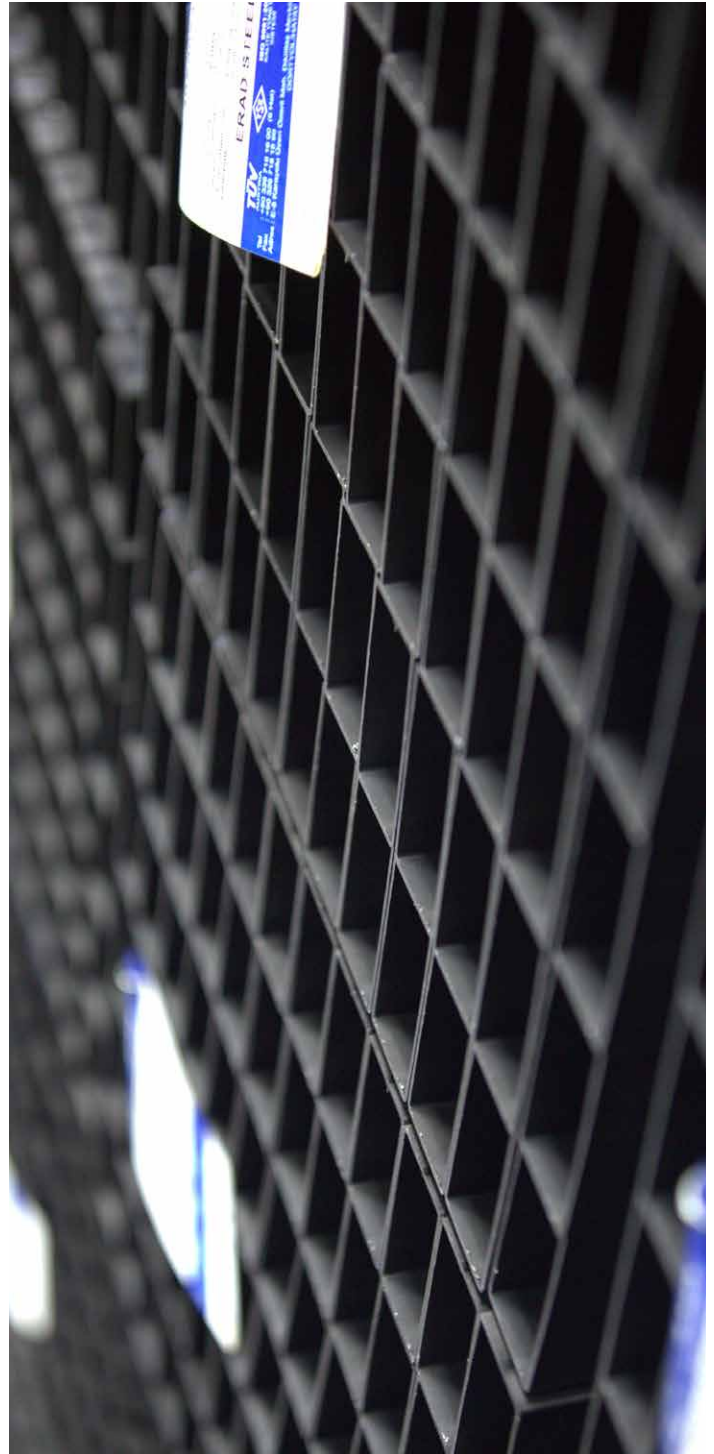
### Production

The manufacturing process begins with the slitting of flat steel supplied as raw material, where it is cut into strips according to specified product dimensions in the slitting line. The slit steel strips are then fed into high-frequency welding (ERW) lines where they are formed into round, square, or rectangular shapes and welded longitudinally. The formed profiles undergo sizing, straightening, and cutting operations to achieve the desired final dimensions. A protective anti-rust oil is applied at the end of the production process to provide basic corrosion resistance during storage and transportation.

A comprehensive quality control system is applied throughout the production line, including dimensional checks, weld integrity tests, mechanical property validation, and surface inspections, ensuring that each product complies with applicable standards and customer requirements. Once approved, finished products are packaged securely and stored under appropriate conditions until shipment.

### Intended Use of Product

Steel strips produced from hot and cold rolled flat steel (HRC/CRC) and manufactured using the Electric Resistance Welding (ERW) method are widely used across various industries. The resulting longitudinally welded industrial pipes and square/rectangular profiles are essential components in structural applications due to their strength-to-weight efficiency, weldability, and versatility. Key application areas such as buildings, piers, and steel construction systems. They are also commonly utilized in roof systems, mould systems, automotive industry and its sub-industries.



# Technical Specifications

Features	Product Type	Typical Values
<b>Foreign diameter:</b>	Regtangular Hollow Sections	10x20 mm - 100x150 mm
	Square Hollow Sections	10x10 mm - 130x130 mm
	Circular Hollow Sections	Q 13 mm - Q 168 mm
<b>Thickness:</b>	Regtangular Hollow Sections	0.70 mm - 6.00 mm
	Square Hollow Sections	
	Circular Hollow Sections	
<b>Length:</b>	Regtangular Hollow Sections	Standard length is 6 mt, but for special orders, according to pipe diameters products can be delivered in 4 mt and 12 mt length
	Square Hollow Sections	
	Circular Hollow Sections	
<b>Production Standarts:</b>	Regtangular Hollow Sections	In accordance with TS 5317, TS-EN 10305-5, DIN 2395 norms, rectangular and square hollow sections are produced with high frequency welding (ERW) technology by using standard quality of St33, St37 (DIN 17100) S235JR/J0/J2 (EN 10025) steel strips.
	Square Hollow Sections	
	Circular Hollow Sections	In accordance with TS EN 10305-3, DIN 2394, TS EN 10219 norms, circular hollow sections are produced with high frequency welding (ERW) technology by using quality of DC01 (St12) and standard quality of St33, St37 (DIN 17100) S235JR/J0/J2 (EN 10025) steel strip.

**UN CPC Code :** 4128 - Tubes, pipes and hollow profiles, of steel

# LCA Information

## Declared Unit

The declared unit is 1 ton of Hollow Sections manufactured in İlhan Demir Çelik ve Boru Dörtyol, Hatay facility.

## Reference Service Life

Not applicable.

## Time Representativeness

The production data in this LCA study represents the period of 1 January - 31 December 2024.

## Database(s) and LCA software used

SimaPro v9.6.0.1 LCA software and Ecoinvent v3.10

## Description of System Boundaries

Cradle to gate with options, modules C1–C4, module D and with optional modules A4–A5 (A1–A3 + C + D and A4-5)

## Data Quality and Data Collection

According to EN 15804:2012+A2.2019/AC:2021 specific data was used for module A3 (Processes the manufacturer has influence over) and was gathered from manufacturing plant. Specific data includes actual product weights, amounts of raw materials used, product content, energy consumption, transport figures, water consumption and amounts of wastes.

## Allocation

Electricity consumption is allocated based on the power ratings of the machines used in the processes. Additionally, the distribution of EAF- and BOF-produced steels is determined according to the quantities procured from the supplier.

## Cut-off Rules

Life Cycle Inventory data for a minimum of 99% of total inflows to the three life cycle stages have been included and a cut-off rule of 1% regarding energy, mass and environmental relevance was applied.

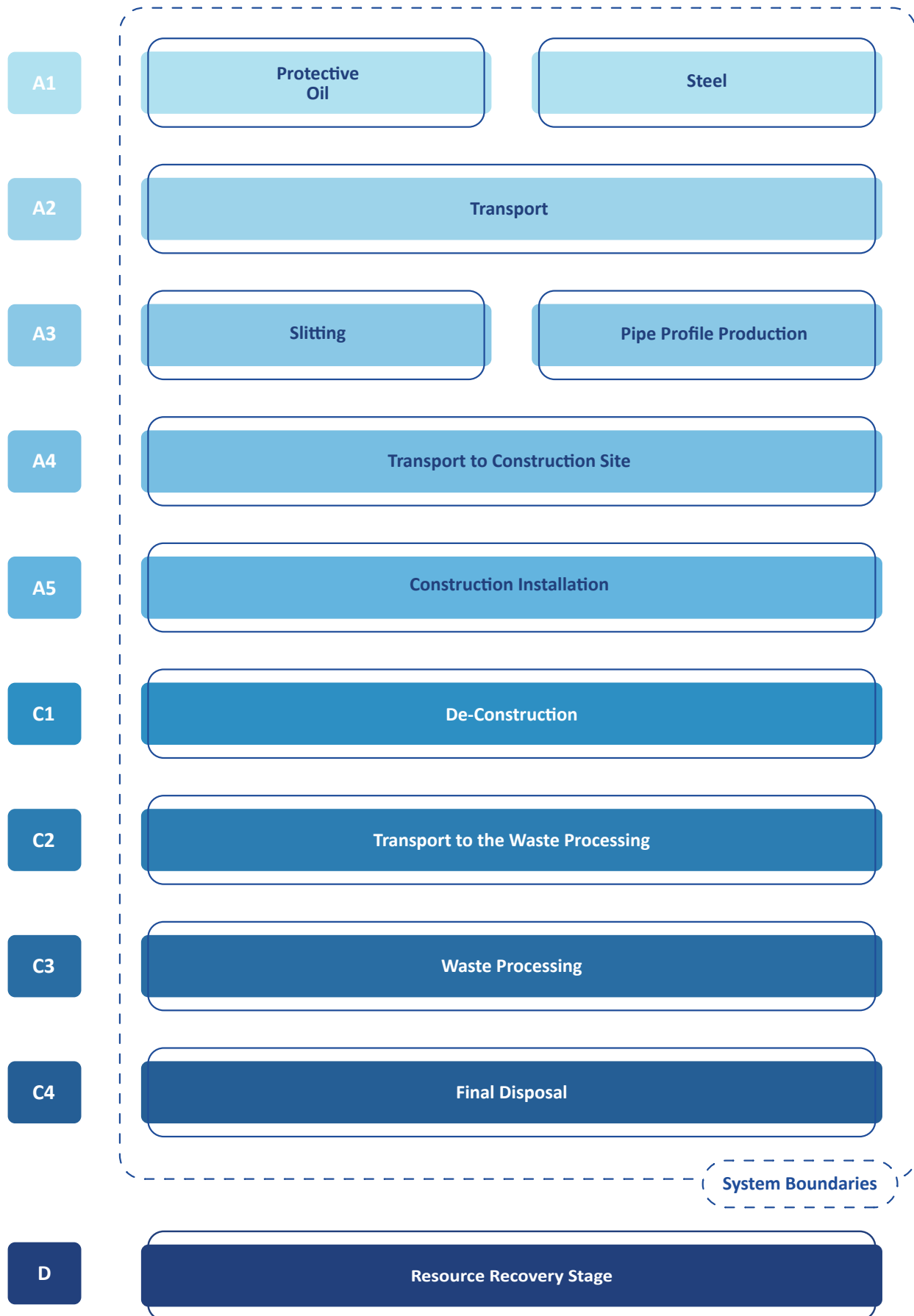
## Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE			USE STAGE					END OF LIFE STAGE			RESOURCE RECOVERY STAGE		
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Recycling Potential
MODULES	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Module declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	TR	GLO	GLO	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Specific data used	>10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-products	Not Relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-sites	Not Relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X: Declared

ND: Not declared.

# System Diagram



# Description of Declared Modules

## A1 - Raw Materials Supply

This module represents raw material extraction, processing and energy used in the production process. For Hollow Sections, EAF and BOF coated steel and other materials are supplied.

## A2 - Transport to the Manufacturer

This module includes transportation of the raw materials from supplier to factory gate. Transportation methods are considered as roadway and seaway.

## A3 - Manufacturing

This stage includes energy and water consumption during the manufacturing process. Furthermore, this module also addresses packaging materials and includes the management of any waste generated during this stage.

In the manufacturing process, electricity is supplied from from two distinct channels: the public grid and a rooftop solar photovoltaic system installed at the production facility. The electricity generated by the solar system is quantified based on actual generation data. The remaining electricity demand is met by the national electricity grid, representing the standard market supply mix available in Turkey. This energy mix significantly reduces the carbon footprint associated with electricity consumption by integrating a high share of renewable energy.

INPUT	GWP-GHG (KG CO <sub>2</sub> E/KWH)
Electricity, low voltage {TR}  electricity production, photovoltaic, 3kWp slanted-roof installation, multi-Si, panel, mounted   EN15804, S	0.0632906
Electricity, medium voltage {TR}  market for electricity, medium voltage   EN15804, S	0.57538304

## A1-3 - Cradle to gate – Mandatory Module

The aggregation of the modules A1, A2 and A3 is allowed by EN 15804:2012+A2:2019/AC:2021. This rule is applied in this EPD and denoted by A1-3. This module encompasses the extraction and processing of raw materials, their transportation to production facilities, as well as the manufacturing and packaging processes.

## A4 - Transport to construction site – Voluntary Optional Module

An average distance of 250 km has been assumed for transportation to the construction site. The calculation is based on a scenario using the parameters outlined in the table below.

PARAMETERS A4 MODULE	
Transport by road*	Lorry >32 metric ton
Distance (km)	250
Database	Ecoinvent v3.10

\*Technology is Euro 6

## A5 - Construction installation - Voluntary Optional Module

During the installation of the products at their intended area of use, additional materials or energy may be consumed. However, due to high variability and the lack of specific and consistent data, installation-related emissions are not declared in this analysis. Therefore, packaging materials are becoming a waste. So, their disposal impact is considered under this stage. All the packaging materials assumed as sent to recycle..

## C1 - De-construction – Mandatory Module

At the end of the service life deconstruction is done. Demolition stages may vary according to the use area and the auxiliary equipment. This study assumes that energy is required for the deconstruction of the steel structure, is about 0.239 MJ/kg.

## C2 - Transport to Waste Processing – Mandatory Module

It has been assumed that the transportation to the sorting facility covers an average distance of 100 km. Transport is calculated on the basis of a scenario with the parameters described in the attached table.

PARAMETERS C2 MODULE	
Transport by road*	Lorry 3.5-7.5 metric ton
Distance (km)	250
Database	Ecoinvent v3.10

\*Technology is Euro 6

## C3 - Waste Processing for Reuse, Recovery and/or Recycling – Mandatory Module

It is assumed that there is no sorting or processing required for steel hollow sections after it reaches its end-of-life.

## C4 - Final Disposal – Mandatory Module

According to World Steel Association (WSA), total of 95% of the product are recycled and reused in construction projects or material production, while the remaining 5% are sent to landfill.

## D - Reuse, recovery or recycling – Mandatory Module

According to World Steel Association (WSA), 95% of the steel from the product is assumed to be collected and sent for recycling at the end of life. Module D allows the modelling of avoided impacts resulting from the reuse, recovery, or recycling of steel at the product's end-of-life minus that used at the production stage. The scrap inputs to the production stage are subtracted from the scrap to be recycled at the end of life to obtain the net scrap output. This ensures that only the net recycled scrap's environmental impacts are considered, providing a more accurate assessment of the actual environmental impact of the recycling processes.

## Information on which life cycle stages are not considered

This LCA and the EPD only cover the Cradle to Gate A1-3, A4-5 and C1-4 and D stages because other stages are very dependent on particular scenarios and are better developed for specific building or construction works.

# Content Declaration

## Content Declaration of 1 ton Hollow Sections

## Content Declaration of Packaging Materials

PRODUCT	COMPOSITION %	RENEWABLE MATERIAL, WEIGHT-KG	BIOGENIC CARBON, WEIGHT-KG
Steel	99-100%	0	0
Others	<0.1%	0	0

PRODUCT	WEIGHT, %	BIOGENIC CARBON, WEIGHT-KG
Steel Strip	<0.1%	0

\* The product does not contain "Candidate List of Substances of Very High Concern (SVHC)" compounds.



# Environmental Performance

## Potential Environmental Impact *Mandatory Indicators According to EN 15804*

Results for 1 ton of Hollow Sections									
Indicator	Unit	A1+A3 total	A4	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO <sup>2</sup> eq.	1.80E+03	2.59E+01	2.41E-02	2.41E+01	5.72E+01	0.00E+00	3.15E-03	-1.05E+03
GWP-biogenic	kg CO <sup>2</sup> eq.	4.44E+01	1.63E-01	3.10E-04	3.98E-02	5.71E-01	0.00E+00	2.37E-05	-2.77E+01
GWP-luluc	kg CO <sup>2</sup> eq.	1.63E+00	9.32E-03	6.29E-05	2.10E-03	2.21E-02	0.00E+00	1.66E-06	-3.94E-01
GWP-total	kg CO <sup>2</sup> eq.	1.85E+03	2.61E+01	2.45E-02	2.41E+01	5.77E+01	0.00E+00	3.18E-03	-1.08E+03
ODP	kg CFC 11 eq.	9.90E-06	5.36E-07	4.95E-10	3.65E-07	1.12E-06	0.00E+00	9.00E-11	-5.21E-06
AP	mol H <sup>+</sup> eq.	7.39E+00	6.11E-02	1.31E-04	2.16E-01	1.15E-01	0.00E+00	2.22E-05	-4.13E+00
EP-freshwater	kg P eq.	8.20E-01	1.82E-03	2.09E-06	6.97E-04	4.55E-03	0.00E+00	2.59E-07	-4.64E-01
EP-marine	kg N eq.	1.65E+00	1.60E-02	4.99E-05	1.00E-01	2.53E-02	0.00E+00	8.44E-06	-9.17E-01
EP-terrestrial	mol N eq.	1.69E+01	1.73E-01	5.39E-04	1.10E+00	2.73E-01	0.00E+00	9.22E-05	-9.76E+00
POCP	kg NMVOC eq.	5.74E+00	1.06E-01	1.89E-04	3.27E-01	1.83E-01	0.00E+00	3.30E-05	-3.30E+00
ADP minerals & metals*	kg Sb eq.	1.16E-02	7.22E-05	6.22E-08	8.34E-06	2.46E-04	0.00E+00	4.86E-09	-7.97E-03
ADP-fossil*	MJ	1.86E+04	3.89E+02	4.28E-01	3.13E+02	7.94E+02	0.00E+00	7.67E-02	-1.06E+04
WDP*	m <sup>3</sup>	5.31E+02	2.38E+00	1.05E-02	9.19E-01	5.16E+00	0.00E+00	3.41E-03	-2.42E+02
Acronyms	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								

\* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

\*\*The results of this environmental product declaration (EPD) are only valid if modules A1–C4 are considered. The use of modules A1–A5 results alone without considering the end-of-life stage (module C) may lead to misinterpretation of the product's environmental performance.

## Potential Environmental Impact *Additional Mandatory and Voluntary Indicators*

Results for 1 ton of Hollow Sections									
Indicator	Unit	A1+A3 total	A4	A5	C1	C2	C3	C4	D
<b>GWP-GHG [1]</b>	kg CO <sub>2</sub> eq.	1.80E+03	2.60E+01	2.42E-02	2.41E+01	5.72E+01	0.00E+00	3.15E-03	-1.05E+03
Results for 1 ton of Hollow Sections									
Indicator	Unit	A1+A3 total	A4	A5	C1	C2	C3	C4	D
<b>PM</b>	[disease inc.]	1.40E-04	2.52E-06	2.90E-09	6.14E-06	3.01E-06	0.00E+00	5.04E-10	-7.82E-05
<b>IRP</b>	[kBq U235 eq]	6.00E+01	4.72E-01	3.29E-04	1.40E-01	1.49E+00	0.00E+00	4.89E-05	-3.44E+01
<b>ETP-fw</b>	[CTUe]	1.59E+05	3.70E+02	4.44E-01	2.02E+02	8.25E+02	0.00E+00	5.38E-02	-1.02E+05
<b>HT-C</b>	[CTUh]	3.03E-04	1.66E-07	1.21E-10	9.36E-08	4.37E-07	0.00E+00	1.41E-11	-2.23E-04
<b>HT-nc</b>	[CTUh]	7.05E-05	3.16E-07	2.95E-10	1.39E-07	6.15E-07	0.00E+00	3.16E-11	-3.03E-05
<b>SQP</b>	[pt]	5.29E+03	3.91E+02	5.79E-01	2.19E+01	3.32E+02	0.00E+00	1.51E-01	-3.18E+03
<b>Acronyms</b>	GWP-GHG = Global Warming Potential total excl. biogenic carbon following IPCC AR5 methodology; IRP = Ionizing radiation, human health; ET-freshwater = Eco-toxicity (freshwater); HT-cancer = Human toxicity, cancer effects; HT-non-cancer = Human toxicity, non-cancer effects; SQP = Potential soil quality index (SQP)								

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero.

# Use of Resources

Results for 1 ton of Hollow Sections									
Indicator	Unit	A1+A3 total	A4	A5	C1	C2	C3	C4	D
PERE	MJ	2.24E+03	6.17E+00	5.11E-03	1.92E+00	1.90E+01	0.00E+00	7.11E-04	-1.05E+03
PERM	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
PERT	MJ	2.24E+03	6.17E+00	5.11E-03	1.92E+00	1.90E+01	0.00E+00	7.11E-04	-1.05E+03
PENRE	MJ	1.98E+04	4.13E+02	4.56E-01	3.33E+02	8.44E+02	0.00E+00	8.16E-02	-1.13E+04
PENRM	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
PENRT	MJ	1.98E+04	4.13E+02	4.56E-01	3.33E+02	8.44E+02	0.00E+00	8.16E-02	-1.13E+04
SM	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
RSF	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
NRSF	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
FW	m <sup>3</sup>	5.98E+01	3.68E-01	5.47E-04	1.63E-01	8.40E-01	0.00E+00	1.25E-04	-2.59E+01
<b>Acronyms</b>	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								

# Waste production and output flows

## Waste Production

Results for 1 ton of Hollow Sections									
Indicator	Unit	A1+A3 total	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	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
Non-hazardous waste disposed	kg	2.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E+01	0.00E+00
Radioactive waste disposed	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

## Output Flows

Results for 1 ton of Hollow Sections									
Indicator	Unit	A1+A3 total	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
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.50E+02	0.00E+00	0.00E+00
Materials for energy recovery	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
Exported energy, electricity	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
Exported energy, thermal	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

*“\*The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.”*

## References

ISO 14040 2021 Environmental management - Life cycle assessment - Principles and framework  
ISO 14044 2021 Environmental management - Life cycle assessment - Requirements and guidelines  
ISO 14025 2006 Environmental labels and declarations - Type III environmental declarations - Principles and procedures  
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The International EPD® System [www.environdec.com](http://www.environdec.com)  
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İlhan Demir Çelik ve Boru Profil Endüstri A.Ş. <https://www.ilhandemircelik.com/>

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