

# Environmental Product Declaration

In compliance with ISO 14025 and EN 15804:2012+A2:2019/AC: 2021 for

## Pre-Painted Galvanized Steel Coil



EPD Program	Title	Details
<b>International Climate Intelligence System</b> 71-75 Shelton Street Covent Garden London WC2H 9JQ, United Kingdom info@climateintell.com	Registration #	ICIS-202401-18
	Date of Issue	29.01.2024
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The most recent data needs to be provided through an EPD, which may be updated when circumstances change. Thereby the claimed validity is contingent upon ongoing validation at [www.climateintell.com](http://www.climateintell.com)



### United Iron & Steel Company LLC

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## 1.0 PROGRAM INFORMATION

<b>Program</b>	International Climate Intelligence System 71-75 Shelton Street Covent Garden London WC2H 9JQ United Kingdom
<b>Product Group Classification</b>	UN CPC 41231
<b>Product Category Rules (PCR)</b>	PCR 2020:17 Construction products (EN 15804:2012+A2:2019/AC:2021) Version 1.2.5 dated 01.11.2022  EN standard EN 15804 serves as the Core Product Category Rules (PCR)
<b>Registration Number</b>	ICIS-202401-18
<b>Date of Issue</b>	29-01-2024
<b>Validity Date</b>	28-01-2029
<b>Geographical Scope</b>	Manufactured in Abu Dhabi, UAE and are distributed Globally.

## 2.0 INTRODUCTION

This report contains the environmental performance of the manufacturing process of Pre-painted Galvanized Steel Coil by United Iron & Steel Company LLC. This Environmental Product Declaration (EPD) has been developed using the Life Cycle Assessment (LCA) methodology. The environmental impact values calculated are expressed to 1 metric ton (MT) of Pre-painted Galvanized Steel Coil.

The assessed life cycle includes all phases in the manufacturing process of Pre-painted Galvanized Steel Coil in a “cradle to gate with options” scope. This LCA covers transportation of Raw materials, production, distribution of final product to the customer and end of life stages.

This EPD has been conducted according to the program operator regulations and it has been verified in accordance with the International Climate Intelligence System. The EPD regulation is a system for the international use of Type III Environmental Declarations, according to ISO 14025:2006. Not only the system, but also its applications, is described in the Programmer’s Product Category Rules (PCR). This report has been made following the specifications given in the European standard EN 15804:2012+A2:2019/AC:2021.

### 3.0 COMPANY INFORMATION

United Iron & Steel Company LLC (UIS) a joint venture promoted by the AJ Group of Abu Dhabi and SAFID group of the Kingdom of Saudi Arabia. UIS is a world class downstream facility which is conceptualized to produce excellent quality of Galvanized and Color Coated Steel Coils to cater requirements of the UAE and the GCC Market, along with all other developed and developing economies including Europe and USA.

UIS is one of the leading producers of Galvanized and Pre-painted Steel Coils (PPGI) / Cut Sheet – 250,000 MT PA, PPGI Coils/sheet – 150,000 MT PA to cater the requirement of the UAE and the GCC Markets., along with all other developed and developing economies including Europe and USA. UIS can supply SLIT Coils as well as CUT-TO-LENGTH SHEETS.

UIS is equipped with state of the art Pickling Line, 4HI Reversible Cold Rolling Mill and Continuous Galvanizing Line supplied by DANIELI, ITALY. All process lines are ultra-modern and use the latest technology to meet the ever changing demands of the Market and Usage.

Optimized process and enhanced chemical and thermal efficiency, results in reduced consumption of acid and water. The state-of -the-art high speed galvanizing and pre-painting process lines suit any customer requirements. UIS process lines handle wider range of products and provide more flexibility in production scheduling.

**Vision** - To be the best and the most successful company in the world of manufacturing Galvanized and Pre-Painted Steel Coils.

**Mission** - To ensure that United Iron & Steel Company's steel product would be the first choice of customers around the globe.

#### Certifications

UIS has achieved the below certification:

- ISO 9001:2015 – Quality Management System (EQCS-C3CC3210)
- ISO 14001:2015 – Environmental Management System (EQCS-C3CC3210)
- ISO 45001:2018 – Occupational Health & Safety Management System (EQCS-C3CC3210)
- Saudi Quality Mark License for Galvanized and PPGI Products. (201900810811 & 20200162141)



## Color Coating Line



## 4.0 PRODUCT INFORMATION

### 4.1 Analyzed Product

The assessed system in this Environmental Product Declaration (EPD) comprises the full life cycle of Pre-painted Galvanized Steel Coil by United Iron & Steel Company LLC (UIS) in its factory in Abu Dhabi.

UIS manufacture & export high quality Pre-painted Galvanized Steel Coils & Sheets (GI Coils & Sheets) as per International Standards & Specifications. This EPD comprises the general environmental assessment of the Pre-painted Galvanized Steel Coils (PPGI Coils) as per ASTM A653/A653M, ASTM A755/A755M and EN 10346/EN10169.

The Pre-painted Galvanized coils are further slit into coils and sheets. The treated strip surface is then coated with three layers of organic coatings: Primer, Top coat and Back coat in three-stage roll-coating stations and is oven-cured at each stage. Other coats like SMP, SDP, PVDF and Lamination with Textured Finish in addition to Regular Modified Polyesters. This Environmental Product Declaration refers to above mentioned products.

### 4.2 Product Sizes

Thickness Range(mm)	Width Range (mm)	Form	Zinc Coating (GSM)
0.25 - 2.00	600 - 1600	Coils	RMP(Regular Modified Polyester), SMP(Silicon Modified Polyester, SDP (Super Durable Polyester) and PVDF (poly Vinyl Di-Fluoride)
0.25 - 2.00	35 - 1600	Slits	
0.25 - 2.00	1000 - 4000	Sheets	

### 4.3 Product Specifications

Standard	Grade	Thickness mm	GSM	TOP Coat	Bottom Coat
ASTM	CS TYPE A	0.25 - 0.40	70 - 180	PVDF 20-160μ, RMP/SMP 10-50μ SDP/HDP 10-50μ	PVDF 20-90μ, RMP/SMP 5-30μ, SDP/HDP 5-30μ, EPOXY 5-30μ
	CS TYPE B	0.41 - 1.00	70 - 275		
	FS TYPE A	1.01 - 1.50	70 - 275		
	FS TYPE B	1.51 - 2.00	70 - 275		
	SS 33 (230)	0.40 - 1.00	70 - 275		
	SS 40 (275)	1.01 - 1.50	70 - 275		
	SS 50 - C1 (340)	1.51 - 2.00	70 - 275		
	SS 80 - C1 (550)	0.40 - 1.50	70 - 275		

EN 10346	DX51D DX52D	0.25 - 0.40	70 - 180	PVDF 20-160μ, RMP/SMP 10-50μ SDP/HDP 10-50μ	PVDF 20-90μ, RMP/SMP 5-30μ, SDP/HDP 5-30μ, EPOXY 5-30μ
		0.41 - 1.00	70 - 275		
		1.01 - 1.50	70 - 275		
		1.51 - 2.00	70 - 275		
	S220GD S250GD S280GD S350GD S550GD	0.25 - 0.40	70 - 180		
		0.41 - 1.00	70 - 275		
		1.01 - 1.50	70 - 275		
		1.51 - 2.00	70 - 275		
		0.40 - 1.50	70 - 275		

#### 4.4 Product Applications

UIS's pre-painted galvanized steel coils are used in multiple applications and by many sector of industries.

Roofing & Cladding	Hangers and Warehouses	Cold Storage Rooms
Shutter Doors	Car Parking Sheds	Refrigerated Vans
Lighting Fixtures	Metal Furnitures	Various OEM Applications



## 5.0 LCA INFORMATION

### 5.1 Declared Unit

The Declared Unit of the Life Cycle Assessments is 1 metric ton (MT) of Pre-painted Galvanized Steel Coil. All direct and indirect environmental impacts, as well as the use of resources, are reported referred to this unit. This EPD presents the environmental impacts associated to the LCA of the analyzed product.

### 5.2 Time representativeness

Manufacturing facility specific data from United Iron & Steel are based on 1 year average for process data (Reference year July 2022 to June 2023). The following rules for time scope of data were applied - < 10 years for background data and < 2 years for manufacturer's data.

### 5.3 LCA Software and Database

Version 3.16.0.1 of software Air.e LCA™ with Ecoinvent™ 3.8.0 database has been used for LCA modeling and impacts calculations.

### 5.4 System Boundaries

This EPD covers all product stages from “cradle to gate with options”, i.e this LCA covers Production stage A1-A3, Transportation A4, End of life stages C1-C4 and Resource recovery stage D according to EN 15804 + A2/AC:2021.

The procedures that are not controlled by the company, but are included in this environmental study, are:

- The extraction and production of fuels.
- The production of electricity.
- The production of the machinery, buildings, and vehicles.

All related direct and indirect environmental impacts related to these elements have been calculated and were included in the LCAs in this EPD.

**Upstream Processes (A1: Raw Material Supply):** Production of the product starts with mainly raw material production and transportation from different parts of the world and some locally sourced. ‘Raw material supply’ includes raw material extraction before production.

**Core Processes (A2: Transportation):** Transport is relevant for delivery of raw materials to the plant and the transport of materials within the plant. Galvanized Steel



Coils are transported from in-house division and paints are transported from different emirates in United Arab Emirates. In our case, the modelling included each raw material's road distances (average values).

**Manufacturing (module A3):** The processes that are included in the manufacturing phase are the pre-painting of galvanized of steel coils and cutting into sheets, of which energy consumption, auxiliary material consumption, waste and gaseous emissions have been modeled. During the manufacturing process, there is created metal waste - 100% of metal wastes are recycled.

**Transport (module A4):** To create a scenario of the A4 phase, all the products sold from July 2022– June 2023 has been analyzed as representative of the international transport. The transport means 3.5-7.5t & >32t trucks, Euro 6.

Scenario Details	Description
Vehicle used for transport	3.5-7.5t & >32t trucks, Euro 6.
Vehicle capacity	3.5 -7.5 tons and 25 tons
Fuel type and consumption	Diesel, 0.38 liters per km
Capacity utilization (including empty drums)	50% as assumed in Ecoinvent
Bulk transportation	Mass of the transported product.

#### Dismantling/demolition (module C1)

95% of the steel is removed during demolition with diesel consumption of machineries: 60.8 liters/hour; capacity approx. 15 m<sup>3</sup>/h) and 40% is dismantled with hydraulic excavator and tongs (diesel consumption of excavator: 36.1 liters/hour; capacity approx. 20 m<sup>3</sup>/h). The ratio of steel to concrete content is 4.8 %, corresponding to 120 kg reinforcing steel per m<sup>3</sup> reinforced concrete (Source: German Environment Agency). Calculated diesel consumption for the demolition of 1 kg steel is 0.0013 liters.

Type	Share	Steel concrete/hour	Diesel/hour	Steel in concrete
Diesel consumption machineries	60 %	15 m3	60.81	4.8% =120kg
Hydraulic excavator and tongs	40%	20 m3	36.11	4.8% =120kg

### Transportation of demolished items (module C2)

With a collection rate of 100%, the transports are carried out by truck over 50 km and with a capacity utilization of 50%. Since the product is poured into concrete, it is collected as mixed construction waste.

Type	Capacity utilization	Type of vehicle	Average distance
Truck	50%	Euro 6 >32t	50 km

### Waste processing (module C3)

Steel must be mechanically separated from the concrete or any other material surrounding them prior to recycling so that the steel can be made available to a downstream product system as secondary material. This is considered in module C3. The impact level is negligible.

### Disposal (module C4)

Landfilling of the remaining 5% which is not collected for recycling is considered in module C4.

Scenario Details	Description
Collection Process by type	1 ton of collected product mixed with construction waste
Recovery	95% steel. 0.95 tons of steel for recycling & 0.5 tons of steel to landfill.

### Reuse, Recycling, and Recovering Potential (module D)

Module D contains credits from the recycling of steel in module C3. Corresponding potentials and avoided loads are assigned to module D. As a result of the recycling process the production of steel is avoided.

## 5.5 Manufacturing and System Boundaries Diagram

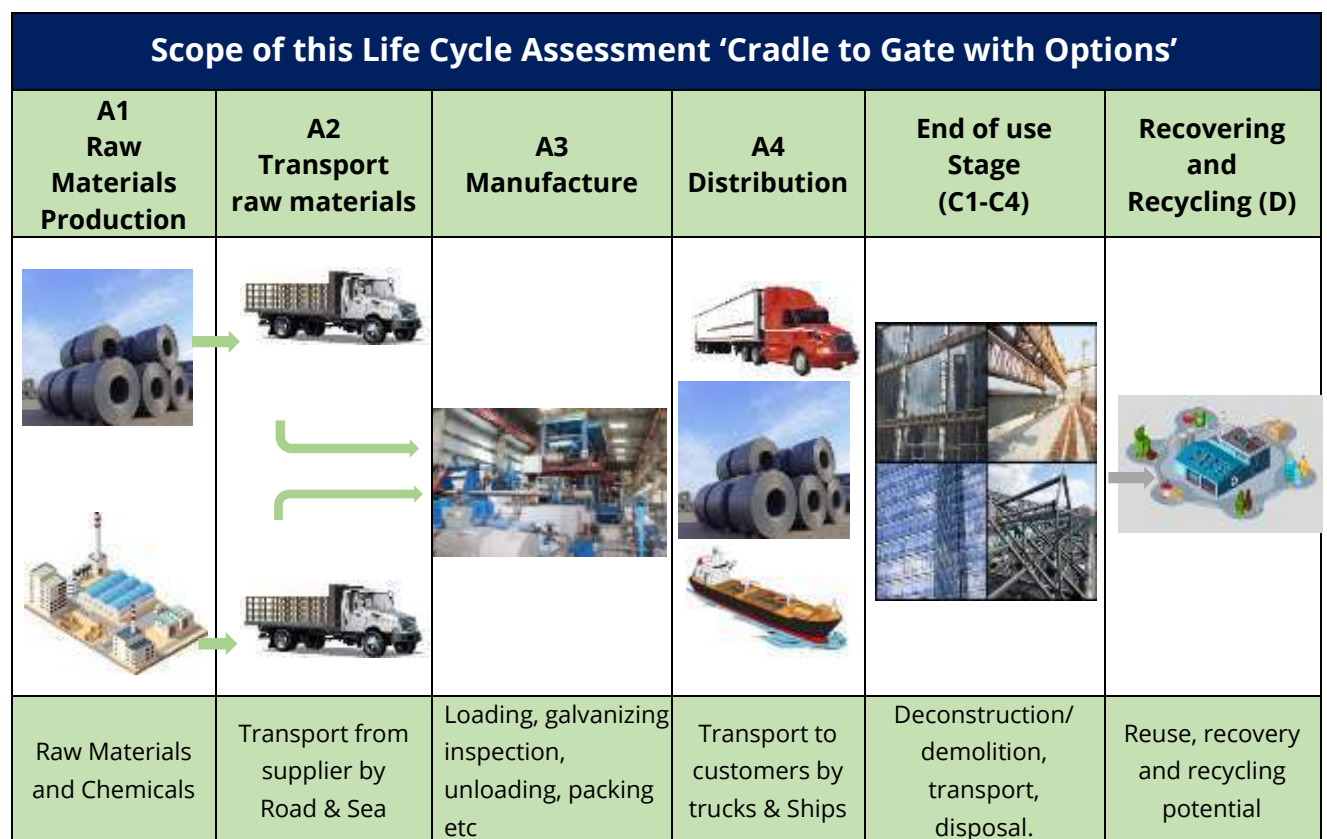
### The scope of this EPD is "cradle to gate with options".

Possible scopes of the LCA defined in the European standard EN 15804:2012+A2:2019/AC:2021 are:

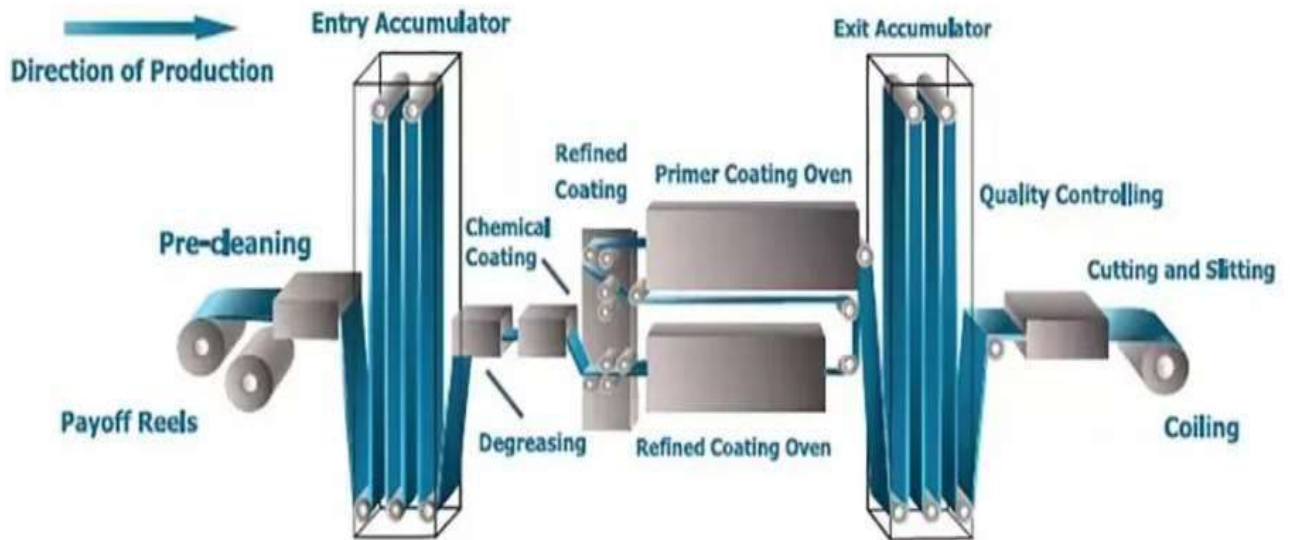
	Production Stage			Construction Process Stage	Use Stage							End of Life Stage					Resource Recovery Stage
	Raw Materials	Transport	Manufacturing	Transport	Construction Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	De-construction Demolition	Transport	Waste Processing	Disposal	Reuse Recovery Recycling Potential
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	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	UAE/G LO	UAE	UAE/ GLO	-	-	-	-	-	-	-	-	GLO	GL O	GL O	GL O	GLO
Specific data	GWP > 90%				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	One Product				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	One manufacturing center				-	-	-	-	-	-	-	-	-	-	-	-	-

X = Included, ND=Module not declared, NR= Module not relevant

Modules from A5 to B7 are not included (X refers to considered stage; N refers to not relevant stage and ND to not declared stage).



The following diagram is a more detailed description of the A3 module.



## 5.6 Content Declaration

Product Components	Weight Kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Steel	967.00	0	0
Paint	30.40	0	0
Gardo bond C 4508 (Chromating solution)	0.60	0	0
Gardo clean S 5245 (Cleaning agent)	1.60	0	0
Bonderite C-AK 40 V (Cleaning agent)	0.40	0	0
<b>Total</b>	<b>1000.00</b>	<b>0</b>	<b>0</b>

Packaging Materials			
Packaging Materials	Weight Kg	Weight % (Versus the Product)	Weight biogenic carbon, kg C/kg
Wooden Pallet	0.039	3.90	0*
Metal Straps	0.0046	0.46	0
Bags/LDPE	0.027	2.70	0
*Biogenic carbon content is not presents since the packaging weights less than a 5% over the product's weight.			

## 5.7 Substances listed in the “Candidate List of SVHC”

The following list includes all the substances used to provide the service that are included in the Candidate List of substances of very high concern by European Chemicals Agency.

Material Component	Substance	Weight	CAS Number	Hazard Class and Category Code(s)1	Hazard statement Code(s)1
Conversion Coating	Dichromium tris(Chromate)	0.012%	24613-89-6	Ox. Sol. 1 Carc. 1B Skin Corr. 1A Skin Sens. 1 Aquatic Acute 1 Aquatic Chronic	H271 H350 H314 H317 H400 H410

## 5.8 More information

**Cut-off rules:** more than 99% of the materials and energy consumption have been included. The Polluter Pays Principle and the Modularity Principle have been followed.

**Allocations:** The allocation of common inputs and outputs is based on the general allocation rule what represents the proportion of production of every specific product in overall production expressed in kg. Generic process data for production of input materials were used.

**Electricity:** A specific dataset with the Life Cycle Inventory (LCI) corresponding to the electricity mix in Abu Dhabi, UAE, has been used for this LCA.

**Calculation Rules:** Datasets from Ecoinvent 3.8.0 with emission factors for raw materials and generic chemicals have been characterized to adjust them to the characteristics of manufacturing of suppliers or counties where suppliers are located. Specific datasets with the emissions factors corresponding to the fuel combustion of production plant and machinery have been developed for these LCAs. Indirect emissions due to diesel production and transportation are also included in the environmental impact. Minor components are not directly related to the product, with less than 1% impact, such as office supplies, has been excluded from the assessment.

All transports of components have been included in the LCA considering real distances travelled by materials used for production. It is estimated in a global scale according to Ecoinvent™ criteria. As exact port locations are not known in detail, transport distances have been calculated from a one of the ports in the country of origin to the factory.



Operation in port has also been excluded. Road distances calculated using Google Maps. Maritime distances calculated using Marine Traffic Voyage Planner.

**By Products Assignment:** Economic allocation was applied and the allocation was performed according to the PCR. Economic allocation was based on the income of each product. There is no List of by-Products used in this EPD.

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## 6.0 ENVIRONMENTAL PERFORMANCE

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### 6.1 Potential Environment Impacts

In the following tables, the environmental performance of the declared units “One-ton of Pre-Painted Galvanized Steel Coil” is presented for the United Iron & Steel Company. During the assessment it was not evident to distinguish the differences in the consumption of electricity, water, raw material and chemicals during the manufacturing. Hence, the calculation is based on total production vs total consumption against manufacturing of the product. Environmental impacts are calculated using the EF-3.1, (ILCD).

## Pre-Painted Galvanized Steel Coil/Slit/Sheet

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding thresholds values, safety margins or risks.

### Core Environmental Impact Indicators

Impact Category	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Climate change (GWP) – fossil	kg CO <sub>2</sub> e	2.11E+03	3.80E+01	ND	ND	4.57E-01	5.82E+00	1.24E+03	3.49E-01	-1.58E+03
Climate change (GWP) – biogenic	kg CO <sub>2</sub> e	1.62E+00	1.61E-03	ND	ND	2.48E-04	0.00E+00	3.51E+00	5.52E-04	-9.42E-01
Climate change (GWP) – LULUC	kg CO <sub>2</sub> e	1.14E+00	6.57E-03	ND	ND	1.40E-04	0.00E+00	2.03E+00	6.63E-04	-7.06E-01
Climate change (GWP) – total	kg CO <sub>2</sub> e	2.12E+03	3.80E+01	ND	ND	4.57E-01	5.82E+00	1.25E+03	3.50E-01	-1.58E+03
Ozone depletion	kg CFC11e	1.06E-04	1.90E-06	ND	ND	7.86E-07	0.00E+00	7.40E-05	1.09E-07	-6.18E-05
Acidification	mol H <sup>+</sup> e	1.08E+01	3.22E-01	ND	ND	5.74E-03	2.05E-03	5.89E+00	2.75E-03	-6.01E+00
Eutrophication, aquatic freshwater	kg PO <sub>4</sub> e	2.35E+00	9.20E-04	ND	ND	1.07E-04	0.00E+00	1.60E+00	1.22E-04	-1.96E+00
Eutrophication, aquatic freshwater	kg P eq	7.67E-01	3.00E-04	ND	ND	3.48E-05	0.00E+00	5.20E-01	3.97E-05	-6.37E-01
Eutrophication, aquatic marine	kg Ne	2.57E+00	8.16E-02	ND	ND	7.27E-04	1.02E-03	1.12E+00	9.67E-04	-1.40E+00
Eutrophication, terrestrial	mol Ne	2.77E+01	9.08E-01	ND	ND	7.97E-03	1.15E-02	1.21E+01	1.03E-02	-1.49E+01
Photochemical ozone formation	kg NMVOCe	1.04E+01	2.35E-01	ND	ND	3.22E-03	3.03E-03	4.44E+00	2.96E-03	-6.59E+00
Abiotic depletion, minerals & metals	kg Sbe	5.56E-03	1.32E-05	ND	ND	5.93E-07	0.00E+00	1.14E-02	1.02E-06	-3.56E-03
Abiotic depletion of fossil resources	MJ	2.08E+04	1.30E+02	ND	ND	5.03E+01	0.00E+00	1.50E+04	8.10E+00	-1.40E+04
Water use	m <sup>3</sup> e depr.	6.43E+02	2.92E-01	ND	ND	1.75E-02	0.00E+00	8.05E+02	2.78E-01	-3.99E+02

EN 15804+ A2 disclaimers for Abiotic depletion and Water use indicators and all optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator. "Reading example: 1.57E-03 = 1.57\*10<sup>-3</sup> = 0.00157"

## Additional Environmental Impact Indicators

Impact Category	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1.70E-03	3.46E-07	ND	ND	2.90E-08	1.08E-08	8.00E-05	5.01E-08	-1.40E-04
Ionizing radiation, human health	kBq U235e	6.40E+01	5.55E-01	ND	ND	2.10E-01	0.00E+00	1.01E+02	3.87E-02	-3.91E+01
Eco-toxicity (freshwater)	CTUe	6.58E+03	3.59E+01	ND	ND	1.34E+01	1.74E-02	7.09E+03	2.40E+00	-4.66E+03
Human toxicity, cancer effects	CTUh	8.75E-06	6.31E-09	ND	ND	1.86E-10	2.00E-10	2.00E-05	1.69E-10	-7.54E-06
Human toxicity, non-cancer effects	CTUh	1.10E-05	5.07E-08	ND	ND	3.69E-09	3.85E-09	1.00E-04	2.72E-09	-1.00E-05
Land use related impacts/soil quality	Dimensionless	6.27E+03	1.62E+01	ND	ND	5.92E+00	0.00E+00	5.74E+03	1.34E+01	-4.92E+03

EN 15804+A2 disclaimer for Ionizing radiation, human health. 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.

## Environmental impacts – GWP-GHG

Impact Category	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP-GHG	kg CO2e	2.11E+03	3.80E+01	ND	ND	4.57E-01	5.82E+00	1.24E+03	3.49E-01	-1.58E+03

This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013) This indicator is almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Use of Natural Resources

Impact Category	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Renewable PER used as energy	MJ	9.56E+02	8.18E-01	ND	ND	1.17E-01	0.00E+00	1.30E+03	1.40E-01	-6.49E+02
Renewable PER used as materials	MJ	3.81E+00	3.61E-03	ND	ND	5.73E-04	0.00E+00	4.63E+00	4.01E-04	-2.39E+00
Total use of renewable PER	MJ	9.60E+02	8.22E-01	ND	ND	1.18E-01	0.00E+00	1.30E+03	1.40E-01	-6.51E+02

Non-renew. PER used as energy	MJ	2.11E+04	1.30E+02	ND	ND	5.03E+01	0.00E+00	1.50E+04	8.10E+00	-1.40E+04
Non-renew. PER used as materials	MJ	6.27E-03	2.16E-06	ND	ND	2.74E-07	0.00E+00	3.35E-03	4.57E-06	-5.19E-03
Total use of non-renewable PER	MJ	2.11E+04	1.30E+02	ND	ND	5.03E+01	0.00E+00	1.50E+04	8.10E+00	-1.40E+04
Use of secondary materials	Kg	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renew. secondary fuels	MJ	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m3	4.34E+04	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## End of Life - Waste

Impact Category	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Hazardous waste	Kg	2.03E+04	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-hazardous waste	Kg	3.49E+04	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	2.17E+06	0.00E+00
Radioactive waste	Kg	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## End of Life - Outflows

Impact Category	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Components for reuse	Kg	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.13E+07
Materials for recycling	Kg	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	Kg	0.00E+00	0.00E+00	ND	ND	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	ND	ND	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	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Biogenic Carbon Content

Details	Unit	A1-A3
Biogenic carbon content in product	Kg C	0
Biogenic carbon content in accompanying packaging	Kg C	0

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>. "Reading example: 1.57E-03 = 1.57\*10<sup>-3</sup> = 0.00157"

*Disclaimer: "According to the EN 15804:2012+A2:2019 standard, the LCIA results are relative expressions translating impacts into environmental themes such as climate change, ozone depletion, etc. (midpoint impact categories). Thus, the LCIA results do not predict impacts on category endpoints such as impact on the extinction of species or human health. In addition, the results do not provide information about the exceeding of thresholds, safety margins or risks".*

### How to read Scientific Notation

Scientific Notation	Decimal Form	Scientific Notation	Decimal Form
1.00E-01	0.1	1.00E+01	10.00
1.33E-02	0.0133	1.33E+02	133.00
1.40E-03	0.0014	1.40E+03	1400.00
1.00E-04	0.0001	1.00E+04	10000.00
1.99E-05	0.0000199	1.99E+05	199000.00

## 6.2 Interpretation of LCA Study Results

In general terms, as it is shown in the table of core environmental impact indicators, A1-A3 modules have the higher impact, representing above 80% of the whole impact. A4 module has a less impact. C2 and C4 module has little impact too, representing at most 0.16% and 0.01% respectively of the whole impact.



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## 7.0 MANDATORY STATEMENTS

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Explanatory material can be obtained from EPD owner and/or LCA author. The verifier and The Program Operator do not make any claim or present any responsibility about the legality of the product. The EPD owner has the sole ownership, liability, and responsibility for the EPD. The LCA Author shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

EPDs within the same product category but registered in different EPD programmes 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; have equivalent content declarations; and be valid at the time of comparison.

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## 8.0 ADDITIONAL INFORMATION

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### 8.1 Action against Erosion, Environmental Restoration, and Landscaping of the work.

Application of measures to prevent erosion, restore the environment, and landscape the job includes restoring all elements immediately connected to it. The restoration of other related items indirectly is also suggested, including auxiliary facilities, and loan and landfill lands.

At UIS, we strive to reduce our environmental impact as much as possible. This was one of the main considerations for manufacturing our products in the UAE.

We recycle as many waste materials as possible. We follow a Just-in-Time manufacturing strategy to increase efficiency, reduce wastage and eliminate the need for excess storage.

Optimized process and enhanced chemical and thermal efficiency, results in reduced consumption of acid and water. The state-of -the-art high speed galvanizing and pre-painting process lines suit any customer requirements. USI process lines handle wider range of products and provide more flexibility in production scheduling.

### 8.2 Information related to Sector EPD

This is not a sector EPD.

### 8.3 Differences versus previous versions

This is the first version of the EPD.

## 9.0 VERIFICATION

Diffusion Institution	International Climate Intelligence System 71-75 Shelton Street Covent Garden London WC2H 9JQ
Registration Number	ICIS-202401-18
Date of Publication	29.01.2024
Valid until	28.01.2029
Product Group Classification	UN CPC 41231
Reference year for Data	July 2022 to June 2023
Geographical Scope	Manufactured in Abu Dhabi and Distributed Globally
Product category rules (PCR): PCR 2020:17 Construction products (EN 15804:2012+A2:2019/AC:2021) Version 1.2.5 dated 01.11.2022. EN standard EN 15804 serves as the Core Product Category Rules (PCR)	
PCR review was conducted by: International Climate Intelligence System.	
Independent verification of the declaration and data, according to ISO 14025:2006 and ISO 14040: <input type="checkbox"/> EPD Process Certification (internal) <input checked="" type="checkbox"/> EPD Verification (external)	
Third party verifier: Constantine Stephen.B, Glasgow, beskidoc@gmail.com Accredited by: - International Climate Intelligence System	

## 10.0 CONTACT INFORMATION

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Verifier Details	Name: Constantine Stephen.B Location: Glasgow Accredited by: International Climate Intelligence System  INTERNATIONAL CLIMATE INTELLIGENCE SYSTEM

## 11.0 REFERENCES

LCA Report: Life Cycle Inventory of Pre-Painted Galvanized Steel Coil by United Iron & Steel Company LLC.

Software: Air.e LCA Version 3.14.0.15 [www.solidforest.com](http://www.solidforest.com)

Main database: Ecoinvent 3.9 [www.ecoinvent.org](http://www.ecoinvent.org)

Geographical scope of the EPD: Global

ISO 14040:2006 "Environmental management -- life cycle assessment -- principles and framework";

ISO 14044:2006 "Environmental management -- life cycle assessment -- requirements and guidelines";

ISO 14020:2000 "Environmental Labels and declarations - General Principles

ISO 14025:2006 "Environmental labels and declarations -- type III environmental declarations -- principles and procedures".

EN 15804+A2:2019/AC:2021 European Committee for Standardization: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

General Programme Instructions of the International Climate Intelligence System

Product Category Rules: P-3100 (EN 15804:2012+A2:2019/AC:2021)

