Environmental Product Declaration

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

Pre-Painted Aluminium Coil

EPD Program	Title	Details
International Climate Intelligence System 71-75 Shelton Street Covent Garden London WC2H 9JQ, United Kingdom info@climateintell.com	Registration #	ICIS-202404-27
	Date of Issue	19.04.2024
	Validity	18.04.2029
	Date of Revision	30.09.2024

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

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1.0 PROGRAM INFORMATION

Program	International Climate Intelligence System 71-75 Shelton Street Covent Garden London WC2H 9JQ United Kingdom
Product Group Classification	UN CPC 41231
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)
Registration Number	ICIS-202404-27
Date of Issue	19.04.2024
Validity Date	18.04.2029
Geographical Scope	Manufactured in Dubai, UAE and are distributed Globally.

2.0 INTRODUCTION

This report contains the environmental performance of the manufacturing process of Pre-painted Aluminium Coil by United Metal Coating 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 Aluminium Coil.

The assessed life cycle includes all phases in the manufacturing process of Pre-painted Aluminium 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 Metal Coating LLC has been founded in the year 2008 in Dubai, a cosmopolitan city in the U.A.E and begun commercial operations in the year 2009. UMC is a part of AJ Group of companies with diversified interests in building and industrial sector in the U.A.E for more than two decades.

UMC had set up its First coil coating line (CCL-1) with an annual production capacity of 25,000 MT Pre-Painted Aluminum coils / 70, 000 MT Pre Painted Steel coils for end applications such as Roofing & Claddings, Facade Awnings, Interior Ceilings, Rolling Shutter, ACP Panels and Cold Storage Rooms and so on.

To meet the growing demands for Quality Pre-Painted coils in the Domestic market as well as the Export markets; UMC has expanded its capacity by setting up the Second Coil Coating Line (CCL-2) in November 2015 to reach a total annual production of 50,000 MT Pre-Painted Aluminium coils / 140,000 MT Pre-Painted Steel coils.

High Speed Continuous Stucco Embossing machine has been commissioned in 2018 to increase UMC's product portfolio. Plastisol coating up to 200 Microns with smooth or Leather finish on Aluminum or GI Steel has been successfully produced in 2019 to cater the needs of cold storage and food processing markets.

Certifications

UMC has achieved the below certification:

- ISO 9001:2015 – Quality Management System (EQCS-I4IGM218)
- ISO 14001:2015 – Environmental Management System (EQCS-I4IGM218)
- ISO 45001:2018 – Occupational Health & Safety Management System (EQCS-I4IGM218)
- Saudi Quality Mark License for Galvanized and PPGI Products. (201900763411)
- Bureau of Indian Standards License (CM/L – 4100113557)
- National Coil Coating Association Member
- Health Product Declaration (HPD) for Pre-painted Galvanized Steel Coil
- Health Product Declaration (HPD) for Pre-painted Aluminium Coil

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 Aluminium Coil by United Metal Coating LLC (UMC) in its factory in Dubai.

UMC manufacture & export high quality Pre-painted Aluminium Coils & Sheets as per International Standards & Specifications. This EPD comprises the general environmental assessment of the Pre-painted Aluminium Coil (PPAL Coils) as per EN 1396 and ASTM B209M.

The Pre-painted Aluminium 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

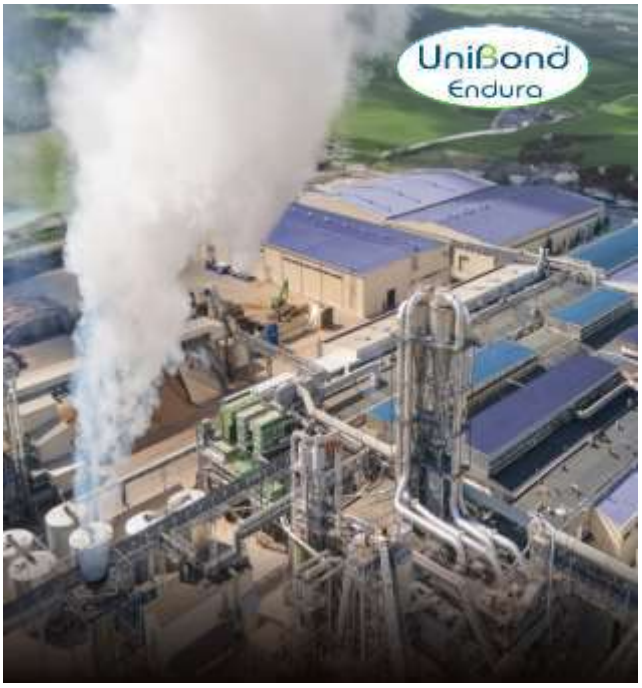
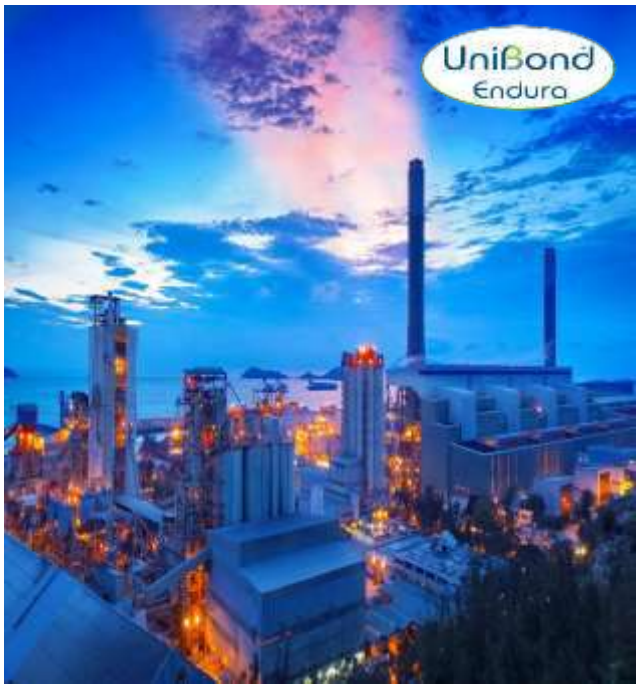
Thickness Range(mm)	Width Range (mm)	Form	Paint Coating (microns)
0.25 - 2.00	600 – 1600	Coils	Polyester, SMP, SDP (Super Durable Polyester), HDPE, PVDF (poly Vinyl Di-Fluoride)
0.25 - 2.00	35 - 1600	Slits	
0.25 - 2.00	1000 - 4000	Sheets	

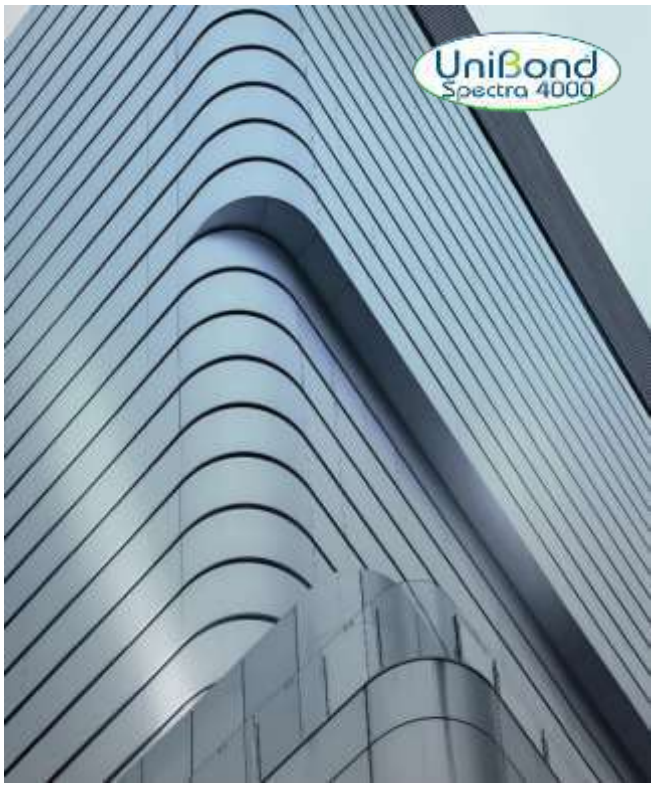
4.3 Product Specifications

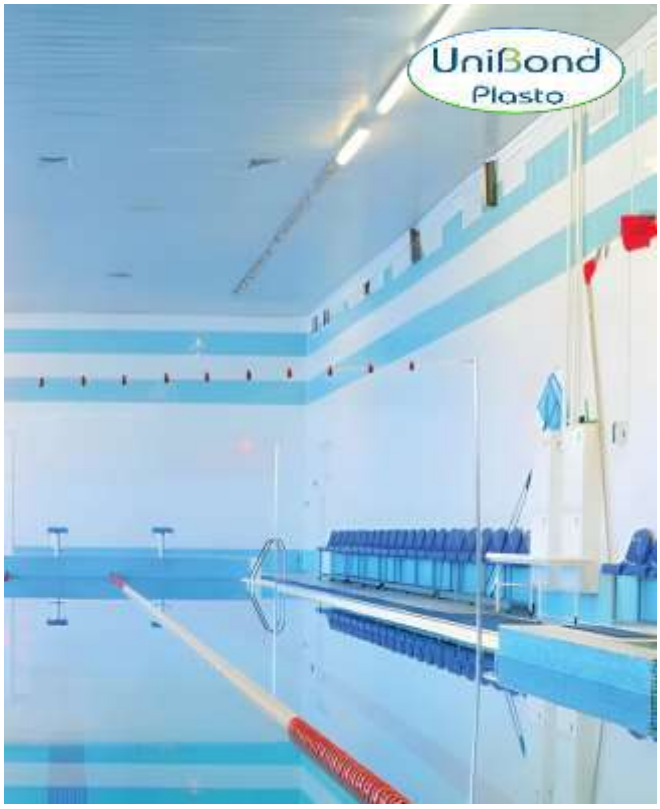
Standard	Alloy	Thickness mm	Top Coat	Bottom Coat
EN1396 / ASTM B209M	AW 3004	0.78 – 2.00	PVDF 20-160µ, PE/SMP 10-50µ SDP/HDP 10-50µ Endura 60 - S150µ	PVDF 20-160µ, PE/SMP 10-50µ SDP/HDP 10-50µ Endura 60 - 150µ EPOXY 5-10µ
	AW 3005	0.22 – 2.00		
	AW 3105	0.22 – 2.00		
	AW 5052	0.78 – 2.00		

4.4 Product Applications

UMC's pre-painted aluminum coils are used commonly used in a variety of applications, including automotive, construction, and electronic industries. Due to their light weight and corrosion-resistant properties, they are highly versatile and can be used for both interior and exterior purposes. In addition to their functional properties, pre-painted aluminum coils also boast an aesthetically pleasing appearance, making them an ideal material for architects and designers seeking to create beautiful and long-lasting structures.

	
Chemical Industrial Complex	Power plant
	
Airport	Commercial buildings

	
Stadium	Cladding
	
Food storage	Rolling shutters



Swimming pools

Research Labs

Facades

Cold storage

5.0 LCA INFORMATION

5.1 Declared Unit

The Declared Unit of the Life Cycle Assessments is 1 metric ton (MT) of Pre-painted Aluminium 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 Metal Coating are based on 1 year average for process data (Reference year November 2022 to October 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 3.16.2.4 of software Air.e LCA™ with Ecoinvent™ 3.9.1 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:

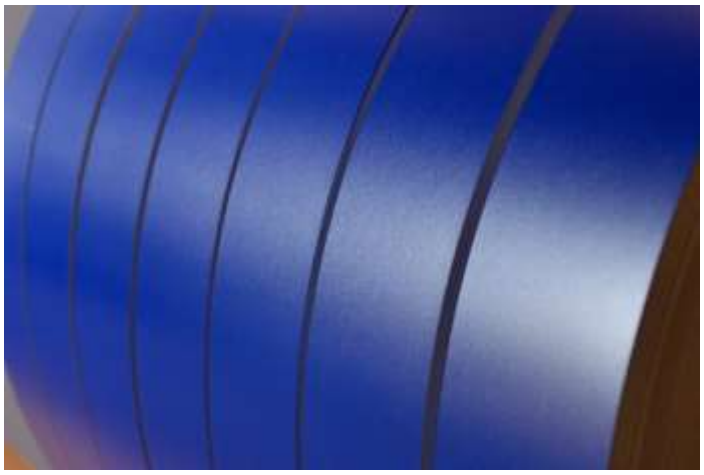
- The extraction and production of fuels.
- The production of electricity.
- The production of the machinery, buildings, and vehicles.

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. Aluminium Coils are transported from different parts of globe and paints are transported from different emirates in United Arab Emirates. In our case, the modelling included each raw material's road and sea distances (average values).

Manufacturing (module A3): The processes that are included in the manufacturing phase are the Pre-Painted Aluminium Coil 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 November 2022–October 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 32 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 Aluminium is removed during demolition with diesel consumption of machineries: 60.8 liters/hour; capacity approx. 15 m³/h) and 40% is dismantled with hydraulic excavator and tongs (diesel consumption of excavator: 36.1 liters/hour; capacity approx. 20 m³/h). Calculated diesel consumption for the demolition of 1 kg Aluminium is 0.0013 liters.

Type	Share	Concrete/hour	Diesel/hour	Aluminium in Construction
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%, 95% of the Aluminium is transported to a nearby scrap yard and the remaining 5% is transported to a landfill site. The transports are carried out by a >32 ton truck over 50 km carrying the demolished items from the demolition site to a nearby scrap yard and landfill sites. Aluminium 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)

Aluminium must be mechanically separated from any other material surrounding them prior to recycling so that it can be made available to a downstream product system as secondary material. Hence, the environmental impacts of separation of Aluminium are considered in module C3.

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% Aluminium. 0.95 tons of Aluminium for recycling & 0.5 tons to landfill.

Reuse, Recycling, and Recovering Potential (module D)

Module D represents the recycling benefits of the used Aluminium and packaging materials. As a result of the recycling process the production of Aluminium is avoided.

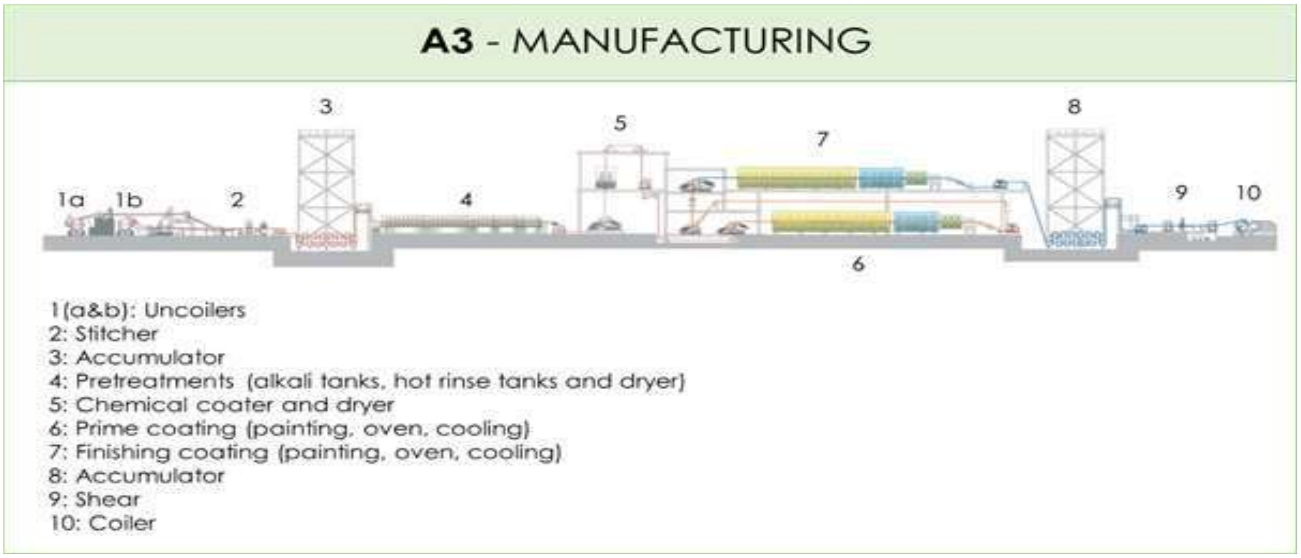
5.5 Manufacturing and System Boundaries Diagram

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/GLO	UAE	UAE/GLO	-	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	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.



Scope of this Life Cycle Assessment 'Cradle to Gate with Options'					
A1 Raw Materials Production	**A2 Transport raw materials**	**A3 Manufacture**	**A4 Distribution**	**End of use Stage (C1-C4)**	**Recovering and Recycling (D)**
 	 		  		
Raw Materials and Chemicals	Transport from supplier by Road & Sea	Loading, coating inspection, unloading, packing etc	Transport to customers by trucks & Ships	Deconstruction/ demolition, transport, disposal.	Reuse, recovery and recycling potential

5.6 Content Declaration

Product Components	Weight Kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Aluminium	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
Total	**1000.00**	**0**	**0**

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 Ton. 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 Dubai, UAE, has been used for this LCA.

Calculation Rules: Datasets from Ecoinvent 3.9.1 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.

6.0 ENVIRONMENTAL PERFORMACE

6.1 Potential Environment Impacts

In the following tables, the environmental performance of the declared units “One-ton of Pre-Painted Aluminium Coil” is presented for the United Metal Coating LLC. 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 Aluminium 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	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Climate change (GWP) – fossil	kg CO2e	1.95E+03	5.57E+01	4.89E+02	1.02E+02	ND	ND	8.57E-01	2.92E+00	3.91E+00	1.43E+01	-1.38E+03
Climate change (GWP) – biogenic	kg CO2e	5.21E+00	3.40E-05	1.24E-01	5.10E-03	ND	ND	2.84E-04	0.00E+00	5.41E-02	1.09E-01	-5.98E-01
Climate change (GWP) – LULUC	kg CO2e	8.24E+01	1.39E-04	7.41E-02	2.08E-02	ND	ND	2.45E-04	0.00E+00	6.99E-02	9.39E-02	-2.24E-01
Climate change (GWP) – total	kg CO2e	2.04E+03	5.57E+01	4.89E+02	1.02E+02	ND	ND	8.58E-01	2.92E+00	4.04E+00	1.45E+01	-1.39E+03
Ozone depletion	kg CFC11e	1.19E-04	4.02E-08	1.09E-04	6.02E-06	ND	ND	5.80E-08	0.00E+00	1.80E-06	1.66E-06	-9.59E-05
Acidification	mol H+e	9.82E+00	2.61E-02	1.45E+00	1.14E+00	ND	ND	4.76E-03	1.02E-03	3.67E-02	1.03E-01	-6.23E+00
Eutrophication, aquatic freshwater	kg PO4e	1.29E+00	1.94E-05	7.68E-02	2.91E-03	ND	ND	1.26E-04	0.00E+00	2.30E-03	2.23E-02	-5.85E-01
Eutrophication, aquatic freshwater	Kg P eq	4.19E-01	6.33E-06	2.50E-02	9.48E-04	ND	ND	4.10E-05	0.00E+00	7.51E-04	7.26E-03	-1.91E-01
Eutrophication, aquatic marine	kg Ne	1.79E+00	1.13E-02	2.88E-01	3.25E-01	ND	ND	9.23E-04	5.12E-04	7.74E-03	1.90E-02	-9.56E-01
Eutrophication, terrestrial	mol Ne	1.66E+01	1.27E-01	3.13E+00	3.60E+00	ND	ND	8.34E-03	5.73E-03	7.62E-02	1.70E-01	-1.02E+01
Photochemical ozone formation	kg NMVOCe	5.77E+00	3.35E-02	1.16E+00	9.21E-01	ND	ND	7.75E-03	1.51E-03	1.71E-02	4.64E-02	-3.34E+00
Abiotic depletion, minerals & metals	kg Sbe	6.06E-03	2.78E-07	1.26E-03	4.16E-05	ND	ND	5.78E-07	0.00E+00	7.45E-05	1.78E-03	-2.34E-03
Abiotic depletion of fossil resources	MJ	2.87E+04	2.74E+00	1.06E+04	4.11E+02	ND	ND	5.98E+01	0.00E+00	1.03E+02	1.80E+02	-2.12E+04
Water use	m3e depr.	4.33E+02	6.17E-03	1.66E+01	9.25E-01	ND	ND	1.03E-01	0.00E+00	4.44E+00	1.60E+01	-1.38E+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.

Additional Environmental Impact Indicators

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1.00E-04	1.10E-07	9.08E-06	2.37E-06	ND	ND	3.27E-08	5.25E-09	3.64E-07	7.83E-07	-7.00E-05
Ionizing radiation, human health	kBq U235e	6.04E+01	1.17E-02	2.67E+01	1.76E+00	ND	ND	1.17E-02	0.00E+00	2.13E+00	1.75E+00	-1.81E+01
Eco-toxicity (freshwater)	CTUe	1.11E+04	9.22E-01	2.68E+03	1.14E+02	ND	ND	2.84E+01	8.33E-03	3.84E+01	3.93E+05	-2.30E+03
Human toxicity, cancer effects	CTUh	2.18E-06	2.02E-09	9.51E-08	2.76E-08	ND	ND	3.11E-10	1.00E-10	5.48E-09	2.34E-08	-1.89E-06
Human toxicity, non-cancer effects	CTUh	3.00E-05	3.74E-08	1.61E-06	2.44E-07	ND	ND	6.21E-09	1.96E-09	6.73E-08	8.50E-07	-2.00E-05
Land use related impacts/soil quality	Dimensionless	1.92E+04	3.41E-01	9.34E+02	5.12E+01	ND	ND	3.02E+00	0.00E+00	1.08E+02	1.38E+02	1.39E+04

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	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP-GHG	kg CO2e	2.04E+03	5.57E+01	4.89E+02	1.02E+02	ND	ND	8.57E-01	2.92E+00	3.98E+00	1.44E+01	-1.38E+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	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Renewable PER used as energy	MJ	3.36E+03	1.73E-02	7.54E+01	2.59E+00	ND	ND	1.11E-01	0.00E+00	1.93E+01	2.39E+01	-1.82E+03
Renewable PER used as materials	MJ	4.36E+00	7.63E-05	3.07E-01	1.14E-02	ND	ND	5.04E-04	0.00E+00	9.20E-03	4.60E-02	-1.03E+00

Total use of renewable PER	MJ	3.36E+03	1.74E-02	7.57E+01	2.60E+00	ND	ND	1.12E-01	0.00E+00	1.93E+01	2.39E+01	-1.82E+03
Non-renew. PER used as energy	MJ	2.87E+04	2.74E+00	1.06E+04	4.11E+02	ND	ND	5.98E+01	0.00E+00	1.03E+02	1.80E+02	-2.12E+04
Non-renew. PER used as materials	MJ	4.62E-03	4.56E-08	1.82E-04	6.84E-06	ND	ND	2.98E-07	0.00E+00	7.70E-06	5.27E-05	-2.52E-03
Total use of non-renewable PER	MJ	2.87E+04	2.74E+00	1.06E+04	4.11E+02	ND	ND	5.98E+01	0.00E+00	1.03E+02	1.80E+02	-2.12E+04
Use of secondary materials	Kg	0.00E+00	0.00E+00	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	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	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	0.00E+00	0.00E+00	6.75E-01	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	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Hazardous waste	Kg	0.00E+00	0.00E+00	6.30E-02	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-hazardous waste	Kg	0.00E+00	0.00E+00	4.05E+02	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	6.43E+05	0.00E+00
Radioactive waste	Kg	0.00E+00	0.00E+00	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	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Components for reuse	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.23E+07
Materials for recycling	Kg	0.00E+00	0.00E+00	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	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	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	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 CO2. "Reading example: 1.57E-03 = 1.57*10-3 = 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.

7.0 MANDATORY STATEMENTS

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.

8.0 ADDITIONAL INFORMATION

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 UMC, 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 pre-painting process lines suit any customer requirements. UMC 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-202404-27
Date of Publication	19.04.2024
Valid until	18.04.2029
Product Group Classification	UN CPC 41231
Reference year for Data	November 2022 to October 2023
Geographical Scope	Manufactured in Dubai 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: ☐ EPD Process Certification (internal) ☒ EPD Verification (external)	
Third party verifier: Mr.Luis Manuel, San Adrián, Spain Accredited by: - International Climate Intelligence System	

10.0 CONTACT INFORMATION

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Verifier Details	Name: Mr.Luis Manuel Location: San Adrián, Spain Accredited by: International Climate Intelligence System

11.0 REFERENCES

LCA Report: Life Cycle Inventory of Pre-Painted Aluminium Coil by United Metal Coating LLC.

Software: Air.e LCA Version 3.16.2.4 www.solidforest.com

Main database: Ecoinvent 3.9.1 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