ENVIRONMENTAL PRODUCT DECLARATION

Steel products: Wire rod, Deformed wire and Deformed welded wire reinforcement manufactured by DIACO

In accordance with: ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021

Products included in the EPD:

Steel products: Wire rod, Deformed wire and Deformed welded wire reinforcement manufactured by DIACO

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com

EPD of multiple products based on the average results of the product group

EPD Owner
DIACO

Programme
International EPD System
www.environdec.com

Programme operator
EPD International AB

Registration number
EPD-IES-0027651:002

Approval date
2026-03-18

Validity date
2031-03-18

EPD INTERNATIONAL EPD SYSTEM

ECO PLATFORM EPD VERIFIED

DIACO

GENERAL INFORMATION

Programme information

Programme	International EPD System
Address	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website	www.environdec.com
E-mail	support@environdec.com

Product category rules

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)	
Product Category Rules (PCR)	2019:14 Construction products (EN 15804+A2) (version 2.0.1) 2.0.1
PCR review was conducted by	The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat www.environdec.com/support.

Verification

LCA accountability	Dulce Alejandra Zaragoza Ayala, dzaragoza@cadis.earth, DIACO
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via	☑ EPD verification through an individual EPD verification ☐ EPD verification through EPD Process Certification* ☐ EPD verification through a fully pre-verified tool
Third-party verifier	Rubén Carnerero Acosta Carnerero Acosta (IK Ingeniería S.L.)
Approved by	International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier	☑ Yes ☐ No

*EPD Process Certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on www.environdec.com.

Ownership and limitations on use of EPD

Limitations

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

Ownership

The EPD Owner has the sole ownership, liability, and responsibility for the EPD.

INFORMATION ABOUT EPD OWNER

EPD Owner	DIACO
Contact person name	Flor Marina Eusse Gonzalez
Contact person e-mail	flor.eusse@diaco.com.co
Organisation address	Colombia Boyacá 150520 Planta Tuta, Tunja-Paipa, Bosiga Sur, Tuta, Boyacá.

Description of the organisation of the EPD Owner

DIACO S.A.

With operations across 17 departments, DIACO S.A. manages an integrated ecosystem of production plants, cutting and bending centers, retail outlets, scrap collection facilities, and optimized logistics ensuring nationwide coverage. Over more than six decades, DIACO has established itself as the steel manufacturer with the broadest national presence. Its practices include partnerships with recyclers, steel production through electric arc furnaces, the use of renewable energy, water optimization, carbon footprint reduction, and ISO 9001/14001 certifications.
In 2023, Grupo INICIA and Atria Advisors acquired Gerdau's shareholding, reinforcing DIACO's strategy to accelerate investments, expand its portfolio, and strengthen its leadership in recycled steel. Guided by technical excellence and corporate responsibility, DIACO aims to keep advancing sustainable construction in Colombia.


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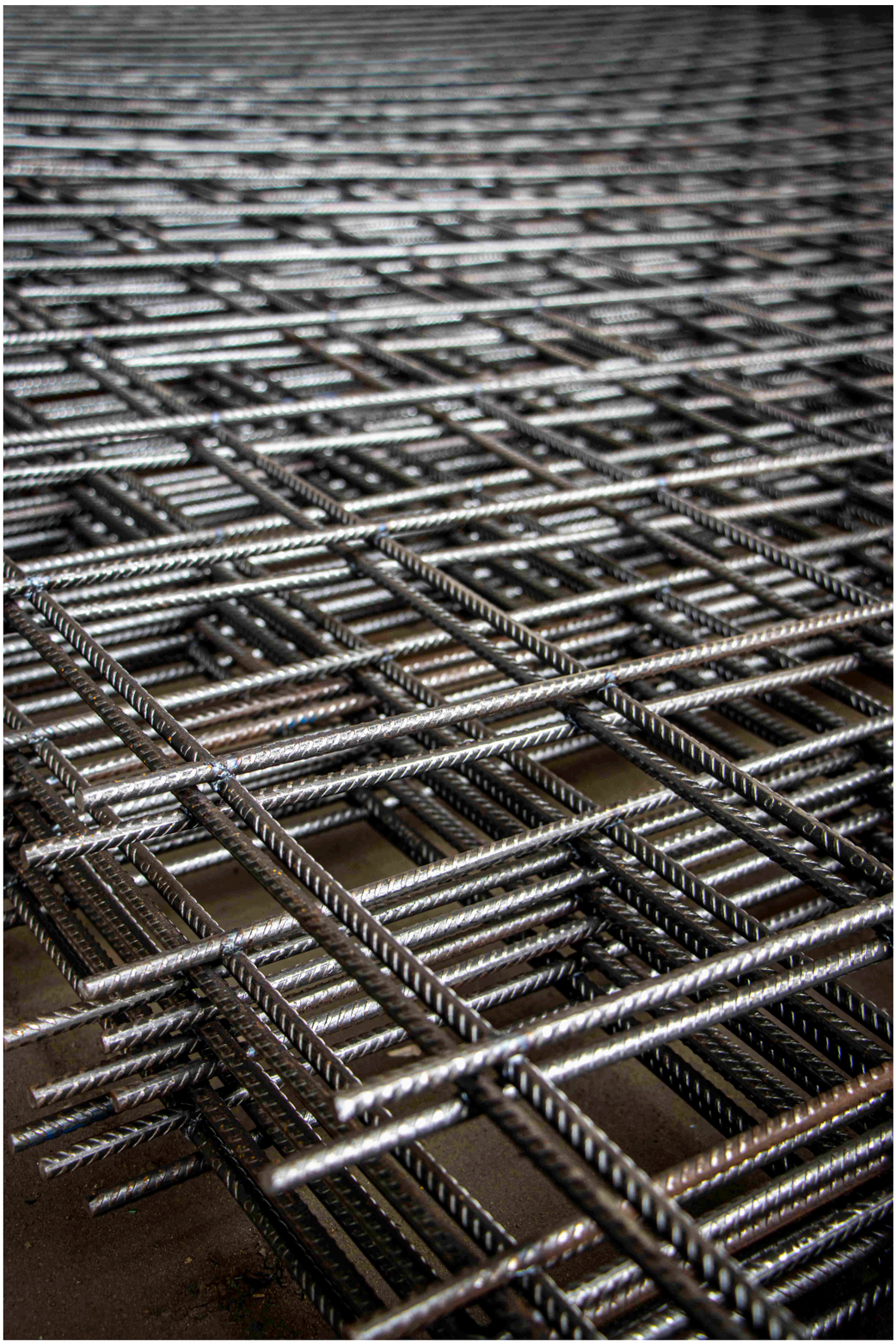
IMOCOM

PRODUCT INFORMATION

Product name	Steel products: Wire rod, Deformed wire and Deformed welded wire reinforcement manufactured by DIACO
Product identification	UN CPC 412
Product description	Wire rod Wire rod ribbed with a circular cross-section core and continuous length, featuring surface protrusions known as ribs, produced through hot rolling to ensure greater adhesion to concrete. The Wire rod ribbed offers high strength with excellent ductility and weldability. It is used in the construction sector as concrete reinforcement in structures designed for seismic resistance. The Wire rod ribbed is manufactured at the Muña plant, Colombia, and complies with the manufacturing standards NTC 2289 and ASTM A706/A706M. Wire rod plain Steel coils of mesh-grade quality. Cold drawing is applied to produce Deformed wire and Deformed welded wire reinforcement, with a maximum total area reduction of 30%. The Wire rod plain is manufactured at the Muña Plant, Colombia, and complies with the NTC 330 and ASTM A510 manufacturing standards. Deformed wire The selection of the grade of steel used as raw material depends on the diameter of the finished product and the percentage of area reduction (degree of cold work) in the drawing process, so that the mechanical properties required for the drawing are obtained. Deformed wire must be produced from smooth low carbon steel wire rod, which must meet the requirements of standard NTC 330. The Deformed wire is manufactured at the Muña Plant, Colombia. Deformed welded wire Deformed welded wire is manufactured in panels or rolls by the electric resistance welding process. It consists of a series of longitudinal and transverse profiles forming right angles to each other and welded at the points of intersection. Deformed welded wire is made of cold-worked steel wire ribbed for concrete reinforcement. On the surface it has projections that prevent the longitudinal movement of the wire in the concrete. The Deformed welded wire is manufactured at the Muña Plant, Colombia. It complies with the requirements of the NTC 5806 standard.
Technical purpose of product	DIACO produces steel reinforcement products for concrete at Muña Plant in Colombia, in accordance with national and international standards. The portfolio includes: Wire rod, Deformed wire and Deformed welded wire reinforcement, all designed to provide high strength, adhesion, and durability in reinforced concrete structures, particularly those requiring seismic resistance.
Manufacturing or service provision description	The production of Wire rod begins with the reception of billets, either from DIACO's Tuta plant (scrap-based) or imported (from scrap or virgin steel). The billets are reheated in a Bendotti furnace at ~1200 °C and rolled through a train consisting of rough stages, twelve in-line stands, and a finishing block, where their cross-section is progressively reduced. After controlling cooling, the wire rod acquires the required mechanical properties, is hot-coiled, cooled on conveyors, and then either used as raw material for other DIACO products or strapped, weighed, labeled, and stored for sale. One of its main derivatives is Deformed wire, manufactured from plain wire rod. It is unwound and fed into the Koch rolling machine, where pre-straightening, lubrication, and gradual diameter reduction in cold rolling cassettes provides the required mechanical properties and the corrugated surface. Cooling systems ensure dimensional accuracy, after which Deformed wire is labeled, and stored for distribution. Deformed wire is subsequently used as input for Deformed welded wire reinforcement, produced from longitudinal bars unwound in the Schlatter machine and transverse bars pre-straightened and cut to length

	in Vitari machines. Both are automatically positioned and joined through PLC-controlled electric resistance welding, without filler material. The mesh is automatically cut to size, bundled, tied, labeled, and transported for vertical storage.
Material properties	Volumetric mass density: 7800 kg/m^3
Manufacturing site	DIACO Muña Plant Colombia Sibaté 252047 Autopista Sur Km 25, vía Sibaté
UN CPC code	412. Products of iron or steel
Geographical scope(s)	Global
Geographical scope description	The raw materials are produced in several continents.

PRODUCT IMAGES



TECHNICAL CHARACTERISTICS AND PERFORMANCE

Technical performance

Product name	Designation Number (d)	Nominal Diameter Inches (") / (Diameter mm)	Nominal Mass (kg/m)	Nominal Diameter Tolerance (mm)	Ovality (mm)	Nominal area (mm2)	Spacing (E) (mm). Maximum and Minimum	Average Height (h)Minimum Number of Studs (mm and %d)	Total length, standard (m) and pop (m)	Total width, standard (m) and pop (m)
Wire rod	2	1/4" (6.35)	0.249	ND	ND	ND	ND	ND	ND	ND
Wire rod	3	3/8" (9.5)	0.560	ND	ND	ND	ND	ND	ND	ND
Wire rod	4	1/2" (12.7)	0.994	ND	ND	ND	ND	ND	ND	ND
Wire rod	8.5 M	8.5mm	0.446	ND	ND	ND	ND	ND	ND	ND
Wire rod	9.0 M	9.0mm	0.500	ND	ND	ND	ND	ND	ND	ND
Wire rod plain	ND	5.5 - D < 9.53	ND	+/- 0.40	0.6	ND	ND	ND	ND	ND
Deformed wire	D 4.0	4.0 mm	0.099	ND	ND	12.6	7.24 and 4.62	0.16 and 4.0%	ND	ND
Deformed wire	D 4.5	4.5 mm	0.125	ND	ND	15.9	7.24 and 4.62	0.18 and 4.0%	ND	ND
Deformed wire	D 5.0	5.0 mm	0.154	ND	ND	19.6	7.24 and 4.62	0.20 and 4.0%	ND	ND
Deformed wire	D 5.5	5.5 mm	0.187	ND	ND	23.8	7.24 and 4.62	0.25 and 4.5%	ND	ND
Deformed wire	D 6.0	6.0 mm	0.222	ND	ND	28.3	7.24 and 4.62	0.27 and 4.5%	ND	ND

Deformed wire	D 6.5	6.5 mm	0.260	ND	ND	33.2	7.24 and 4.62	0.29 and 4.5%	ND	ND
Deformed wire	D 7.0	7.0 mm	0.302	ND	ND	38.5	7.24 and 4.62	0.31 and 4.5%	ND	ND
Deformed wire	D 7.5	7.5 mm	0.347	ND	ND	44.2	7.24 and 4.62	0.34 and 4.5%	ND	ND
Deformed wire	D 8.0	8.0 mm	0.395	ND	ND	50.3	7.24 and 4.62	0.36 and 4.5%	ND	ND
Deformed wire	D 8.5	8.5 mm	0.446	ND	ND	56.8	7.24 and 4.62	0.38 and 4.5%	ND	ND
Deformed welded wire	ND	ND	ND	ND	ND	ND	ND	ND	6.00 and 3.00	2.35 and 2.0

CONTENT DECLARATION

Content declaration of multiple products	This EPD covers multiple products. The content declaration corresponds to a representative average, calculated based on the production-weighted contributions of each included product.
Hazardous and toxic substances	The product does not contain any substances from the SVHC candidate list in concentrations exceeding 0.1% of its weight.

PRODUCT CONTENT

Content name	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material[1], kg C/declared unit
Scrap	867	91.28	0	0
Iron ore	87.1			
Calcitic lime	25.6			
Anthracite	11.9			
Others	8.4			
Total	**1000**	**91.28**	**0**	**0**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2			

PACKAGING MATERIALS

Material name	Mass, kg	Mass-% (versus the product)	Biogenic material[1], kg C/declared unit
Wire	2.39	0.24	0
Labels	0.00246	0.00025	0
Total	**2.39246**	**0.24025**	**0**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2		

LCA INFORMATION

EPD based on declared or functional unit	Declared unit
Declared unit and reference flow	Steel products: Wire rod, Deformed wire and Deformed welded wire reinforcement manufactured by DIACO. Mass: 1000 kg
Conversion factor to mass	1
Are infrastructure or capital goods included in any upstream, core or downstream processes?	☐ Yes ☑ No
Data sources used for this EPD	ecoinvent database (general) ecoinvent 3.10 database
LCA Software	SimaPro 9.6
Version of the EN 15804 reference package	EF Reference Package 3.1
Characterisation methods	Global Warming Potential,GWP100 , EN 15804. Version: EF 3.1, February 2023. Acidification potential, AP, accumulated exceedence, EN 15804.Version: February 2023. Eutrophication potential (EP) Version 2.0 of the default list of indicators (valid from 2022-03-29). Photochemical ozone creation potential (POCP), ReCiPe, EN 15804. Version: February 2023. Ozone depletion potential (ODP), EN 15804. Version: February 2023. Abiotic depletion potential (ADP) for minerals and metals (non-fossil resources), ADP minerals & metals, EN 15804. Version: February 2023. Abiotic depletion potential (ADP) for fossil resources, ADP fossil resources, EN 15804. Version: August 2021. Water deprivation potential (WDP), (Available water remaining (AWARE) method), EN 15804.
Technology description including background system	The declared products are steel long products for concrete reinforcement, including wire rod, deformed wire, and deformed welded wire reinforcement, manufactured at DIACO's Muña Plant in Colombia. The products are primarily composed of steel scrap (approximately 91% by mass), with minor inputs of iron ore and auxiliary materials used in steelmaking. Production begins with the reheating of steel billets in a furnace, followed by hot rolling to obtain wire rod. Downstream processes include cold drawing to produce deformed wire and electric resistance welding to manufacture welded wire reinforcement.
Scrap (recycled material) inputs contribution level	Less than 10% of the GWP-GHG results in modules A1-A3 come from scrap inputs

SCRAP (RECYCLED MATERIAL) INPUTS DATA

Material scrap name	Material scrap value
Scrap steel	28.8, kg CO_2 eq./tonne
The share of the total scrap input that was assumed to come with an environmental burden	100 %

Data quality assessment

Description of data quality assessment and reference years	Direct data obtained from DIACO is representative for 2024. According to ISO 14044, data validity verified during the collection process to provide evidence that the quality criteria required for the intended application are met. The data quality level and criteria used were based on the Product Category Rules (GPI 5.0.1, section A.5.4), the EN 15804:2012+A2:2019/AC:2021 standard (Annex E), and the PCR Construction Products v2.0.1, section 4.6.5.Data quality assessment was carried out using the following quality levels: very good, good, fair, poor, and very poor.

DATA QUALITY ASSESSMENT

Process name	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Extraction and processing of raw materials	Collected data	EPD owner	2024	Primary data	51.4%
Consumption and generation of electricity	Collected data	EPD owner	2024	Primary data	1.19%
Transportation of raw materials, auxiliary materials and packaging	Collected data	EPD owner	2024	Primary data	10.81%
Total share of primary data, of GWP-GHG results for A1-A3					**63.4%**
Note	The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.				

ELECTRICITY USED IN THE MANUFACTURING PROCESS IN A3 (A5 FOR SERVICES)

Type of electricity mix	Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a contractual instrument	
Energy sources	Hydro	92.7%
	Wind	1.02%
	Solar	6.28%
	Biomass	0%
	Geothermal	0%
	Waste	0%
	Nuclear	0%
	Natural gas	0%

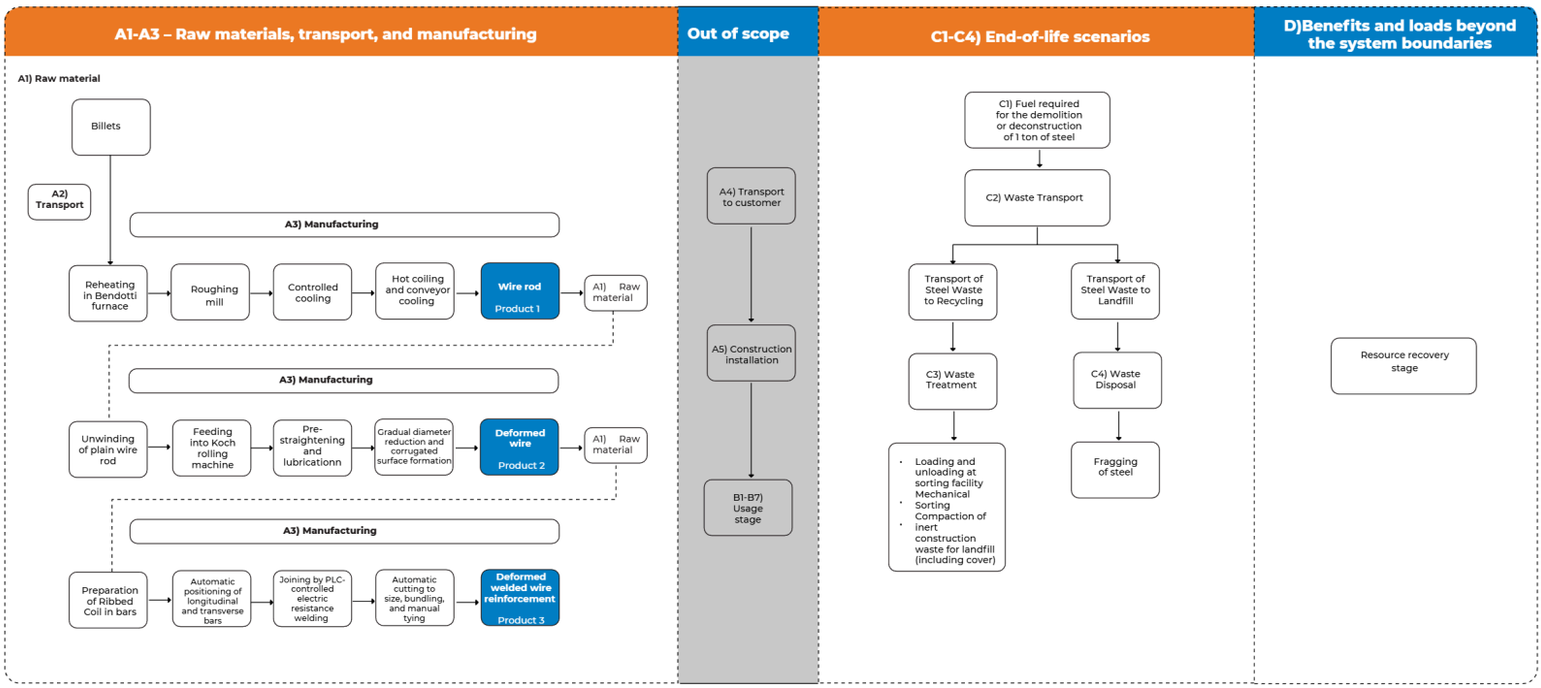
	Coal	0%
	Oil	0%
	Peat	0%
	Other	0%
Climate impact (GWP-GHG):	0.06 kg CO_2 eq./kWh	

SYSTEM BOUNDARY

Description of the System boundary	a) Cradle to gate with modules C1-C4 and module D (A1-A3 + C + D).
Excluded modules	Yes, there is an excluded module, or there are excluded modules
Justification for omission of modules	A4, A5 and B module: Optional

	Product stage			**Construction process stage**		**Use stage**							**End of life stage**				**Beyond product life cycle**
	Raw material supply	Transport	Manufacturing	Transport to site	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	Global	Global	Colombia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Colombia	Colombia	Colombia	Colombia	Colombia
Share of specific data	63.4%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	1.4%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disclaimer	The share of specific/primary data and both variations (products and sites) refer to GWP-GHG results only.																

Process flow diagram(s) related images



DEFAULT SCENARIO

Name of the default scenario	End of life default scenario
Description of the default scenario	In this study, the end-of-life treatment was modelled based on a scenario in which 80% of the steel is recovered and recycled, while the remaining 20% is sent to landfill.

Module C: End-of-life

Explanatory name of the default scenario in module C	Recycling and landfill
Brief description of the default scenario in module C	Demolition of 1 tonne of steel, 80% steel recycled and 20% landfill disposed

Module C information	Value	Unit
C1) Demolition/deconstruction of steel	1.1	kWh
C2) Transport (for products/materials not to be incinerated)	80	km
C3) Loading and unloading at sorting facility	1.8	kWh
C3) Mechanical sorting	2.2	kWh
C3) Fragging of steel	7.4	kWh
C4) Compacting inert construction waste for landfills	1.6	kWh

Module D: Beyond product life cycle

Explanatory name of the default scenario in module D	Resource recovery stage
Brief description of the default scenario in module D	Benefits from substituting virgin steel with recycled scrap, avoiding related impacts

Module D information	Value	Unit
Amount of scrap content existing the system.	80	%
Amount of scrap or recycled material contained in the product beyond the system boundary	87	%

ADDITIONAL SCENARIO 1

Name of the additional scenario	End-of-life scenario: 100% recycling
Description of the additional scenario	In this alternative scenario, end-of-life treatment was modelled based on a scenario in which 100% of the steel is recovered and recycled.

Module C: End-of-life

Description of the additional scenario in module C	In this alternative scenario, end-of-life treatment was modelled based on a scenario in which 100% of the steel is recovered and recycled.

Module D: Beyond product life cycle

Description of the additional scenario in module D	Module D does not present an alternative scenario.

ADDITIONAL SCENARIO 2

Name of the additional scenario	End-of-life scenario: 100% landfill.
Description of the additional scenario	In this alternative scenario, end-of-life treatment was modelled based on a scenario in which 100% of the steel is disposed of in a landfill.

Module C: End-of-life

Description of the additional scenario in module C	In this scenario, end-of-life treatment was modelled based on a scenario in which 100% of the steel is disposed of in a landfill.

Module D: Beyond product life cycle

Description of the additional scenario in module D	Module D does not present an alternative scenario.

ENVIRONMENTAL PERFORMANCE

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.

Mandatory environmental performance indicators according to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - total	GWP-total	kg CO_2 eq.	7.09E+2	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72E-1	6.34E+0	3.19E+0	1.08E-1	-9.87E+1
Climate change - fossil	GWP-fossil	kg CO_2 eq.	6.74E+2	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72E-1	6.34E+0	3.11E+0	1.08E-1	-9.87E+1
Climate change - biogenic	GWP-biogenic	kg CO_2 eq.	2.06E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.60E-5	2.98E-4	4.86E-2	4.66E-6	-5.99E-3
Climate change - land use and land-use change	GWP-luluc	kg CO_2 eq.	1.44E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.28E-5	2.04E-4	3.30E-2	3.72E-6	-1.03E-2
Ozone depletion	ODP	kg CFC-11 eq.	8.24E-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.85E-9	9.11E-8	4.69E-8	1.70E-9	-2.16E-7
Acidification	AP	mol H^+ eq.	3.49E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.48E-3	2.30E-2	2.71E-2	1.01E-3	-3.10E-1
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	3.86E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.51E-7	1.52E-5	1.79E-5	1.02E-7	-3.26E-3
Eutrophication aquatic marine	EP-marine	kg N eq.	9.89E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.63E-3	9.36E-3	1.15E-2	4.75E-4	-6.28E-2
Eutrophication terrestrial	EP-terrestrial	mol N eq.	1.04E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.79E-2	1.03E-1	1.26E-1	5.21E-3	-7.33E-1
Photochemical ozone formation	POCP	kg NMVOC eq.	3.28E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.33E-3	3.35E-2	3.78E-2	1.55E-3	-2.52E-1
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals[1]	kg Sb eq.	8.24E-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.55E-8	3.71E-7	1.14E-7	4.52E-9	-1.43E-5
Depletion of abiotic resources - fossil fuels	ADP-fossil[1]	MJ, net calorific value	8.70E+3	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.90E+0	8.41E+1	4.06E+1	1.42E+0	-7.91E+2
Water use	WDP[1]	m^3 world eq. deprived	7.50E+2	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.86E-3	7.62E-2	1.46E+0	1.12E-3	-6.02E+0
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																
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																
Disclaimer 1	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																

Additional mandatory environmental performance indicators

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - GWP-GHG	GWP-GHG[1]	kg CO_2 eq.	7.07E+2	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72E-1	6.34E+0	3.18E+0	1.08E-1	-9.87E+1
Acronyms	GWP-GHG = Global warming potential greenhouse gas.																
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																
Disclaimer 1	The GWP-GHG indicator is termed GWP-IOBC/GHG in the ILCD+EPD+ data format. The 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_2 is set to zero.																

Additional voluntary environmental performance indicators according to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter emissions	PM	Disease incidence	5.45E-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.98E-8	5.39E-7	6.76E-7	2.90E-8	-8.66E-6
Ionizing radiation - human health	IRP[1]	kBq U235 eq.	6.74E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.38E-4	5.74E-3	3.36E-3	1.27E-4	-2.11E-1
Eco-toxicity - freshwater	ETP-fw[2]	CTUe	9.21E+3	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.69E-1	5.83E+0	1.85E+0	4.93E-2	-3.55E+3
Human toxicity - cancer effects	HTP-c[2]	CTUh	2.06E-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.69E-10	5.25E-8	4.28E-9	1.07E-10	-2.12E-7
Human toxicity - non-cancer effects	HTP-nc[2]	CTUh	1.70E-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.59E-11	5.40E-10	2.48E-10	7.54E-12	-1.01E-5
Land-use related impacts/soil quality	SQP[2]	Dimensionless	6.65E+2	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.04E-2	3.36E-1	3.36E-1	3.02E-3	-1.02E+2
Acronyms	PM = Potential incidence of disease due to particulate matter emissions; IRP = Potential human exposure efficiency relative to U235; ETP-fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for humans; HTP-nc = Potential comparative toxic unit for humans; SQP = Potential soil quality index.																
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																
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 of these results are high or as there is limited experience with the indicator.																

Resource use indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ, net calorific value	2.14E+3	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.10E-2	1.37E-1	5.54E+1	1.27E+1	-9.31E+0
PERM	MJ, net calorific value	6.36E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	-5.09E+1	-1.27E+1	0.00E+0
PERT	MJ, net calorific value	2.21E+3	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.10E-2	1.37E-1	4.46E+0	3.19E-3	-9.31E+0
PENRE	MJ, net calorific value	9.07E+3	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.20E+0	8.94E+1	2.59E+2	5.54E+1	-8.30E+2
PENRM	MJ, net calorific value	2.69E+2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	-2.15E+2	-5.38E+1	0.00E+0
PENRT	MJ, net calorific value	9.34E+3	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.20E+0	8.94E+1	4.33E+1	1.51E+0	-8.30E+2
SM	kg	8.56E+2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	m^3	1.98E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.54E-4	3.15E-3	3.57E-2	4.47E-5	-1.58E-1
Acronyms	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water.															
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).															

Waste indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	4.75E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.36E-5	5.79E-4	2.49E-4	9.77E-6	-1.06E-2
NHWD	kg	3.00E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.43E-4	3.54E-3	3.04E-3	4.16E-5	-6.10E-1
RWD	kg	4.15E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.50E-7	2.97E-6	1.85E-6	7.28E-8	-1.34E-4
Acronyms	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed.															
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).															

Output flow indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CRU	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	kg	7.61E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	8.00E+2	0.00E+0	0.00E+0
MER	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Acronyms	CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy.															
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).															

Results for additional scenarios for modules A4-C4

Additional scenario	End-of-life scenario: 100% recycling

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - total	GWP-total	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72E-1	6.34E+0	3.98E+0	0.00E+0	ND
Climate change - fossil	GWP-fossil	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72E-1	6.34E+0	3.88E+0	0.00E+0	ND
Climate change - biogenic	GWP-biogenic	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.60E-5	2.98E-4	6.08E-2	0.00E+0	ND
Climate change - land use and land-use change	GWP-luluc	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.28E-5	2.04E-4	4.13E-2	0.00E+0	ND
Ozone depletion	ODP	kg CFC-11 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.85E-9	9.11E-8	5.86E-8	0.00E+0	ND
Acidification	AP	mol H+ eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.48E-3	2.30E-2	3.39E-2	0.00E+0	ND
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.51E-7	1.52E-5	2.24E-5	0.00E+0	ND
Eutrophication aquatic marine	EP-marine	kg N eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.63E-3	9.36E-3	1.43E-2	0.00E+0	ND
Eutrophication terrestrial	EP-terrestrial	mol N eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.79E-2	1.03E-1	1.57E-1	0.00E+0	ND
Photochemical ozone formation	POCP	kg NMVOC eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.33E-3	3.35E-2	4.72E-2	0.00E+0	ND
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals1	kg Sb eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.55E-8	3.71E-7	1.42E-7	0.00E+0	ND
Depletion of abiotic resources - fossil fuels	ADP-fossil1	MJ, net calorific value	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.90E+0	8.41E+1	5.07E+1	0.00E+0	ND
Water use	WDP1	m3 world eq. deprived	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.86E-3	7.62E-2	1.82E+0	0.00E+0	ND
Acronyms																	
Disclaimers																	
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																

Results for additional scenarios for modules A4-C4

Additional scenario	End-of-life scenario: 100% landfill.

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - total	GWP-total	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72E-1	6.34E+0	0.00E+0	5.41E-1	ND
Climate change - fossil	GWP-fossil	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72E-1	6.34E+0	0.00E+0	5.41E-1	ND
Climate change - biogenic	GWP-biogenic	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.60E-5	2.98E-4	0.00E+0	2.33E-5	ND
Climate change - land use and land-use change	GWP-luluc	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.28E-5	2.04E-4	0.00E+0	1.86E-5	ND

Ozone depletion	ODP	kg CFC-11 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.85E-9	9.11E-8	0.00E+0	8.51E-9	ND
Acidification	AP	mol H+ eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.48E-3	2.30E-2	0.00E+0	5.06E-3	ND
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.51E-7	1.52E-5	0.00E+0	5.11E-7	ND
Eutrophication aquatic marine	EP-marine	kg N eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.63E-3	9.36E-3	0.00E+0	2.38E-3	ND
Eutrophication terrestrial	EP-terrestrial	mol N eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.79E-2	1.03E-1	0.00E+0	2.61E-2	ND
Photochemical ozone formation	POCP	kg NMVOC eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.33E-3	3.35E-2	0.00E+0	7.75E-3	ND
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals1	kg Sb eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.55E-8	3.71E-7	0.00E+0	2.26E-8	ND
Depletion of abiotic resources - fossil fuels	ADP-fossil1	MJ, net calorific value	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.90E+0	8.41E+1	0.00E+0	7.12E+0	ND
Water use	WDP1	m3 world eq. deprived	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.86E-3	7.62E-2	0.00E+0	5.62E-3	ND
Acronyms																	
Disclaimers																	
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																

ADDITIONAL ENVIRONMENTAL INFORMATION

DIACO is certified under ISO 14001:2015 and ISO 9001:2015.

INFORMATION RELATED TO EPDS OF MULTIPLE PRODUCTS

Description of how the averages have been determined	The average value was determined by considering the included products and applying a weighting based on their respective production volumes.

ABBREVIATIONS

CADIS. Centre for Life Cycle Assessment and Sustainable Design

CO2. Carbon dioxide

EPD. Environmental Product Declaration

GPI. General Programme Instructions

GWP. Global Warming Potential

LCA. Life Cycle Assessment

PCR. Product Category Rules

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VERSION HISTORY

Version 001, 2026-03-18
Original version of the EPD.

Version 002, 2026-04-14
Corrected editorial mistakes.