ENVIRONMENTAL PRODUCT DECLARATION

SHAPED, CUTTED AND WELDED STEEL FOR REINFORCED CONCRETE

FERROBERICA

ALFA ACCIAI Group

EPD ITALY

ECO PLATFORM EPD VERIFIED

Based on:
PCR ICMQ-001/15 v3

EN:15804:2012+A2:2019

UNI EN ISO 14025:2010

Certification N°:
EPDITALY0460

Product CPC code:
41

Date of issue:
03/08/2023

Valid until:
03/08/2028

Declaration number:
FB_EPD_001

GENERAL INFORMATION

EPD REFERENCES

EPD OWNER: FERRO BERICA S.R.L. - VIA DELL'EDILIZIA, 22 - 36100 VICENZA (IT)

PROGRAM OPERATOR: EPDITALY, VIA GAETANO DE CASTILLIA 10, 20124 MILANO - ITALY

INDEPENDENT VERIFICATION

This declaration has been developed referring to the EPDItaly, following the last version of "Regolamento di EPDItaly"; further information and the document itself are available at: www.epditaly.it. EPD document valid within the following geographical area: Italy and other countries worldwide according to sales market conditions.

CEN standard EN 15804 served as the core PCR (PCR ICMQ-001/15 v3)
PCR review conducted by Daniele Pace, contact via info@epditaly.it

Independent verification of the declaration and data, according to UNI EN ISO 14025:2010

Third party verifier: ICMQ SpA, via De Castillia, 10 20124 Milano (www.icmq.it)

☐ EPD process certification (Internal)
☑ EPD verification (External)

Accredited by: Accredia

Environmental declarations published within the same product category, though originating from different programs, may not be comparable. In particular, EPDs of construction products may not be comparable if they do not comply with EN 15804.

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FERROBERICA

Technical support to Ferro Berica was provided by Life Cycle Engineering, Italy.
(info@studiolce.it, www.lcengineering.eu).

LCE

1. ALFA ACCIAI GROUP

For almost 70 years, the Alfa Acciai Group has been one of the leading Italian and European producers of reinforced concrete steel and wire rod, with 1,200 employees and with a total production capacity of 2.5 million tons per year and today represents a technologically advanced reality, attentive to the environment and present throughout the steel supply chain.

The Group is characterized by a marked industrial flexibility and maximum operational efficiency upstream and downstream of the smelting process, responds successfully to the continuous changes in the national and foreign steel market and to the growing attention of citizens towards environmental issues and always maintains high attention to its collaborators and customers.

ALFA ACCIAI, the Brescia-based parent company, is one of the leader and major producer of steel for reinforced concrete and wire rod in Italy and Europe.
The production process in the EAF (electric arc furnace) steel mill sites involves two EAF (electric arc furnaces) followed by 2 LF (ladle furnaces), 2 continuous casting machines (10 lines) and a shredder for proler production.
Hot rolling is equipped with two bars and spool mills and a wire rod mill. The production cycle is completed by cold rolling mills that produce welded wire mesh and recoiled wire.

ACCIAIERIA DI SICILIA located in the industrial area of Catania, has been part of the Alfa Acciai Group since 1998, is the only steel mill in Sicily and is located in the heart of the Mediterranean. It is one of the main industrial centers of the Region and is characterized by a strong export vocation thanks to its proximity to significant port infrastructures. The company stands out for its constant technological innovation and steel know-how, factors that guarantee increasingly high-quality standards, respecting the environment and the health and safety of its employees.
The production process includes an EAF (electric arc furnace), a continuous casting machine (4 lines) and a hot rolling mill to produce bars and spool.

TECNOFIL, located in Gottolengo (BS), has been part of the Alfa Acciai Group since September 2016.
The company is a drawing mill that has the largest galvanizing plant in Italy and among the largest in Europe and completes the production chain of wire rod downstream.
It produces galvanized wires and tapes, , alu-zinc and bright wire fzinc aluminum and polished wires for use in construction, household appliances, automotive and numerous other applications of everyday life.
Over the years the company has significantly expanded its overall production capacity (currently over 100,000 tons / year) and the range of products to be offered on the market.

FERRO BERICA has been part of the Alfa Acciai Group since September 2016 and has 4 operational sites located in: Vicenza, Montirone (BS), Catania and Sedegliano (UD).
The company is the largest Italian player (second in Europe) in the pre-shaping and assembly of reinforced concrete bars destinates to the main construction companies for use in structural works.
Ferro Berica thanks to the know-how acquired, reliability in supplies, competitiveness on the market and attention to quality and customer care, represents a cutting-edge production reality, equipped with latest generation machinery and with an annual production capacity of more than 300,000 tons.

THE COMPANY

Ferro Berica. Part of the Alfa Acciai Group since 1991, today the company is a cutting-edge manufacturer with annual production capacity over 400,000 tonnes, four production sites, the latest generation machinery and relationships with various trusted external companies, situated in strategic points to cover the whole of Italy.

To ensure optimum efficiency and a quality service, Ferro Berica has adopted a flexible and integrated organisational structure, achieving high efficiency throughout the production process, from the cutting and assembly phases through to implementation. An ongoing focus on service quality and customer care, means Ferro Berica can provide companies with a detailed consultation service during the planning phase.

All Ferro Berica products are made with steel from the Alfa Acciai Group, which has uniform, repeatable characteristics, enabling the optimisation of process parameters while maintaining high performance levels. Ferro Berica supports the Alfa Acciai Group's policy and focus on environmental issues, sustainability, and health and safety in the workplace through training and education.

Ferro Berica employees and contractors are the valuable resources who are crucial for the success and development of the company. As a result, the company has always invested in training for employees, with welding qualifications in line with standard EN ISO 9606-1:2017 for welding framework for masts, bulkheads and pre-assembled materials in general, and UNI EN ISO 9712:2012 certification for welding process inspectors.

SCOPE AND TYPE OF EPD

THE APPROACH USED IN THIS EPD IS "CRADLE TO GATE WITH OPTIONS" ONE

TABLE OF MODULES

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
	Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	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
Module declared	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X
Geography	IT	IT	IT	WLD	-	-	-	-	-	-	-	-	WLD	WLD	WLD	WLD	WLD
Specific data used	> 90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-products	NOT RELEVANT			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-sites	NOT RELEVANT			-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOFTWARE: SimaPro ver. 9.5

MAIN DATABASE: Ecoinvent 3.9.1

REPORT LCA: Life Cycle Assessment (LCA) for cutted, shaped and welded steel produced by Ferro Berica for EPD® purposes - Final Report

GEOGRAPHICAL SCOPE OF THE EPD: World according to sales market conditions

TYPE OF EPD: specific for cutted, shaped and welded steel products

2. THE PRODUCT

This EPD refers to construction products made of reinforced concrete steel. Shaped steel is produced through a complex manufacturing process, which includes cutting, shaping and assembly, and straightening in the case of rolls. This process is supported by specific technical programs that allow to prepare the bills of materials and identification labels for the items to be produced, manage the traceability of castings, optimize cutting and shaping operations. Finally, equipments complete with optical readers are used to continuously check the number and shape of the products, which is programmed on the basis of dimensional parameters conforming to the items to be produced. In addition to the production of shaped steel, there is the material assembled in the processing centers, which is made by qualified personnel and with certified welding processes.

Our range of pre-assembled products includes:

- Framework for tunnel boring operations;
- Framework for slurry walls complete with inserts, space-saving elements and all types of intake systems;
- Framework for large elements with mixed structures;
- Reinforcement framework for masts of any diameter, bulkheads and prefabricated structural elements.

The basic raw materials are bars and rolls produced by Alfa Acciai and Acciaierie di Sicilia.
EPD reference products have a chemical composition that complies with the national regulations of the destination countries to which they are sent.
In general, the main components of the final product are: *iron > 96%; alloying elements (e.g. manganese, silicon, carbon) approx 2%; other elements (e.g. copper, nickel, chromium), 100% complementary.*

DECLARED UNIT

According to EN:15804, the declared unit is **1 ton of shaped, cutted and welded product**

INFORMATION	DESCRIPTION
Product identification	Cutting, bending, shaping and assembly of steel for reinforced concrete.
Product features	• Shaped and assembled products (by spot welding): foundation piles, diaphragm walls, pillars, beams.
Product properties under	• Italian law DM 17/01/2018 (Tecnichal Standards for Buildings) • Quality management system compliance with the standard UNI EN ISO 9001
Plant features	Total production of EPD covered products, year 2022: Vicenza: 76 064 t Montirone (BS): 48 241 t Sedegliano (UD): 19 439 t Catania: 31 827 t
	Main operating machines: Vicenza: n.5 bar cutting line, n.8 bar shaping, n.8 multifunction (streitening, cutting and bending) machines from coils, n.3 foundation pile machines Montirone: n.3 bar cutting line, n.4 bar shaping, n.6 multifunction (streitening, cutting and bending) machines from coils, n.6 foundation pile machines Sedegliano: n.2 bar cutting line, n.2 bar shaping, n.6 multifunction (streitening, cutting and bending) machines from coils, n.2 foundation pile machines Catania: n.2 bar cutting line, n.4 bar shaping, n.5 multifunction (streitening, cutting and bending) machines from coils, n.2 foundation pile machines
	No use water for the production cycle.

ENVIRONMENTAL PERFORMANCE

The detailed environmental performance (in terms of use of resources, pollutant emissions and waste generation) is presented for the three phases, Upstream, Core and Downstream and related sub-phases (A1-A2-A3-A4-C1-C2-C3-C4-D) per each site. The numbers reported in the following tables are the outcome of rounding. For this reason total results could slightly differ from the sum of contributions of the different phases. The energy sources behind the electricity grid used in manufacturing is the italian residual mix 0,457 kg CO_2 eq./kWh (AIB report May 2023) to which LCE adds emissions related to network losses and transformation.

ENVIRONMENTAL IMPACTS - VICENZA

TABLE OF MODULES POTENTIAL ENVIRONMENTAL IMPACTS	UNITS / D.U.	UPSTREAM	CORE PROCESS			DOWNSTREAM					
		A1	A2	A3	A1:A3	A4	C1	C2	C3	C4	D
GWP	kg CO_2 eq	6,95E+02	9,27E+00	5,78E+00	**7,10E+02**	1,15E+01	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
GWP,f	kg CO_2 eq	6,94E+02	9,27E+00	5,77E+00	**7,09E+02**	1,15E+01	5,38E+01	1,82E+01	2,35E+00	2,78E-01	1,54E+02
GWP,b	kg CO_2 eq	5,21E-01	6,81E-04	2,18E-03	**5,24E-01**	8,48E-04	3,94E-03	1,34E-03	7,09E-03	3,59E-05	1,44E-02
GWP,luluc	kg CO_2 eq	2,19E-01	1,79E-04	6,72E-04	**2,19E-01**	2,23E-04	2,16E-03	3,52E-04	5,79E-03	1,36E-05	1,41E-02
GWP,ghg	kg CO_2 eq	6,95E+02	9,27E+00	5,78E+00	**7,10E+02**	1,15E+01	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
ODP	kg CFC11 eq	1,39E-05	1,98E-07	3,89E-07	**1,44E-05**	2,46E-07	8,29E-07	3,88E-07	1,44E-08	4,02E-09	2,77E-06
AP	mol H+ eq	2,15E+00	1,83E-02	3,02E-02	**2,20E+00**	2,28E-02	5,04E-01	3,59E-02	1,12E-02	2,51E-03	5,73E-01
EP,f	kg P eq	1,33E-02	7,18E-06	2,66E-05	**1,33E-02**	8,95E-06	4,50E-05	1,41E-05	1,16E-04	9,54E-07	6,48E-03
EP,m	kg N eq	4,74E-01	6,42E-03	8,63E-03	**4,89E-01**	7,99E-03	2,37E-01	1,26E-02	2,16E-03	1,14E-03	1,13E-01
EP,t	mol N eq	5,18E+00	6,67E-02	8,67E-02	**5,33E+00**	8,31E-02	2,57E+00	1,31E-01	2,38E-02	1,24E-02	1,31E+00
POCP	kg NMVOC eq	2,07E+00	3,08E-02	5,01E-02	**2,15E+00**	3,84E-02	7,57E-01	6,06E-02	7,15E-03	3,71E-03	7,00E-01
ADPE*	kg Sb eq	1,43E-04	3,14E-07	4,78E-07	**1,44E-04**	3,92E-07	2,21E-06	6,18E-07	6,57E-08	1,07E-08	1,30E-03
ADPF*	MJ	1,06E+04	1,19E+02	2,37E+02	**1,10E+04**	1,49E+02	6,80E+02	2,35E+02	3,96E+01	3,48E+00	1,88E+03
WDP*	m^3	1,87E+02	1,12E-01	1,31E+00	**1,88E+02**	1,39E-01	8,92E-01	2,20E-01	4,19E-01	4,82E-03	1,80E+01

Additional environmental impact indicators are computed in the LCA report but not reported in the EPD.
*The results of this enviromental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

GWP Global warming potential, total
GWP,f Global warming potential, fossil
GWP,b Global warming potential, biogenic
GWP,luluc Global warming potential, land use & land use change
ODP Ozone depletion potential
AP Acidification Potential
EP,f Eutrophication potential, freshwater
EP,m Eutrophication potential, marine
EP,t Eutrophication potential, terrestrial
POCP Photochemical ozone creation potential
ADPE Abiotic depletion potential minerals & metals
ADPF Abiotic depletion potential fossil fuels
WDP Water use deprivation potential

RESOURCE USE PER DECLARED UNIT - VICENZA

USE OF RENEWABLE MATERIAL RESOURCES	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
PERE	[MJ]	5,94E+02	3,20E-01	1,18E+00	**5,96E+02**	3,98E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	5,94E+02	3,20E-01	1,18E+00	**5,96E+02**	3,98E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PENRE	[MJ]	1,07E+04	1,23E+02	2,43E+02	**1,11E+04**	1,53E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
PENRM	[MJ]	0,00E+00	0,00E+00	1,22E+00	**1,22E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	1,07E+04	1,23E+02	2,44E+02	**1,11E+04**	1,53E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
SM	[kg]	1,46E+03	0,00E+00	0,00E+00	**1,46E+03**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	5,00E+00	5,09E-03	3,65E-02	**5,04E+00**	6,33E-03	3,44E-02	1,00E-02	1,76E-02	1,82E-04	3,60E-01

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 raw materials

RSF Use of renewable secondary fuels

NRSF Use of non-renewable secondary fuels

FW Use of net fresh water

OUTPUT FLOWS AND WASTE CATEGORIES - VICENZA

WASTE GENERATION AND TREATMENT	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
HWD	[kg]	2,72E+00	0,00E+00	4,00E-02	**2,76E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NHWD	[kg]	7,99E+01	0,00E+00	0,00E+00	**7,99E+01**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+02	0,00E+00
RWD	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	2,12E+02	0,00E+00	1,28E+01	**2,25E+02**	0,00E+00	0,00E+00	0,00E+00	9,00E+02	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EE	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

HWD Hazardous waste disposed
NHWD Non-hazardous waste disposed
RWD Radioactive waste disposed
CRU Components for re-use
MFR Materials for recycling
MER Materials for energy recovery
EE Exported energy

ENVIRONMENTAL IMPACTS - MONTIRONE (BS)

TABLE OF MODULES POTENTIAL ENVIRONMENTAL IMPACTS	UNITS / D.U.	UPSTREAM	CORE PROCESS			DOWNSTREAM					
		A1	A2	A3	A1:A3	A4	C1	C2	C3	C4	D
GWP	kg CO_2 eq	6,93E+02	1,03E+00	1,52E+00	**6,95E+02**	1,17E+01	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
GWP,f	kg CO_2 eq	6,92E+02	1,03E+00	1,52E+00	**6,94E+02**	1,17E+01	5,38E+01	1,82E+01	2,35E+00	2,78E-01	1,54E+02
GWP,b	kg CO_2 eq	5,21E-01	7,57E-05	2,46E-03	**5,23E-01**	8,62E-04	3,94E-03	1,34E-03	7,09E-03	3,59E-05	1,44E-02
GWP,luluc	kg CO_2 eq	2,18E-01	1,99E-05	9,11E-04	**2,19E-01**	2,27E-04	2,16E-03	3,52E-04	5,79E-03	1,36E-05	1,41E-02
GWP,ghg	kg CO_2 eq	6,93E+02	1,03E+00	1,52E+00	**6,95E+02**	1,17E+01	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
ODP	kg CFC11 eq	1,38E-05	2,20E-08	9,32E-09	**1,38E-05**	2,50E-07	8,29E-07	3,88E-07	1,44E-08	4,02E-09	2,77E-06
AP	mol H+ eq	2,15E+00	2,03E-03	1,28E-02	**2,16E+00**	2,31E-02	5,04E-01	3,59E-02	1,12E-02	2,51E-03	5,73E-01
EP,f	kg P eq	1,32E-02	7,99E-07	3,62E-05	**1,33E-02**	9,09E-06	4,50E-05	1,41E-05	1,16E-04	9,54E-07	6,48E-03
EP,m	kg N eq	4,73E-01	7,13E-04	5,75E-03	**4,80E-01**	8,12E-03	2,37E-01	1,26E-02	2,16E-03	1,14E-03	1,13E-01
EP,t	mol N eq	5,17E+00	7,41E-03	6,29E-02	**5,24E+00**	8,44E-02	2,57E+00	1,31E-01	2,38E-02	1,24E-02	1,31E+00
POCP	kg NMVOC eq	2,06E+00	3,43E-03	1,57E-02	**2,08E+00**	3,90E-02	7,57E-01	6,06E-02	7,15E-03	3,71E-03	7,00E-01
ADPE*	kg Sb eq	1,43E-04	3,49E-08	5,10E-08	**1,43E-04**	3,98E-07	2,21E-06	6,18E-07	6,57E-08	1,07E-08	1,30E-03
ADPF*	MJ	1,06E+04	1,33E+01	1,17E+01	**1,06E+04**	1,51E+02	6,80E+02	2,35E+02	3,96E+01	3,48E+00	1,88E+03
WDP*	m^3	1,87E+02	1,24E-02	7,25E-01	**1,87E+02**	1,42E-01	8,92E-01	2,20E-01	4,19E-01	4,82E-03	1,80E+01

Additional environmental impact indicators are computed in the LCA report but not reported in the EPD.
*The results of this enviromental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

GWP Global warming potential, total
GWP,f Global warming potential, fossil
GWP,b Global warming potential, biogenic
GWP,luluc Global warming potential, land use & land use change
ODP Ozone depletion potential

AP Acidification Potential
EP,f Eutrophication potential, freshwater
EP,m Eutrophication potential, marine
EP,t Eutrophication potential, terrestrial
POCP Photochemical ozone creation potential

ADPE Abiotic depletion potential minerals & metals
ADPF Abiotic depletion potential fossil fuels
WDP Water use deprivation potential

RESOURCE USE PER DECLARED UNIT - MONTIRONE (BS)

USE OF RENEWABLE MATERIAL RESOURCES	UNITS / D.U.	UPSTREAM	CORE PROCESS			DOWNSTREAM					
		A1	A2	A3	A1:A3	A4	C1	C2	C3	C4	D
PERE	[MJ]	5,92E+02	3,55E-02	1,64E+00	**5,94E+02**	4,05E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	5,92E+02	3,55E-02	1,64E+00	**5,94E+02**	4,05E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PENRE	[MJ]	1,07E+04	1,37E+01	1,11E+01	**1,07E+04**	1,56E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
PENRM	[MJ]	0,00E+00	0,00E+00	8,29E-01	**8,29E-01**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	1,07E+04	1,37E+01	1,19E+01	**1,07E+04**	1,56E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
SM	[kg]	1,46E+03	0,00E+00	0,00E+00	**1,46E+03**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	4,99E+00	5,65E-04	2,15E-02	**5,01E+00**	6,44E-03	3,44E-02	1,00E-02	1,76E-02	1,82E-04	3,60E-01

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 raw materials

RSF Use of renewable secondary fuels

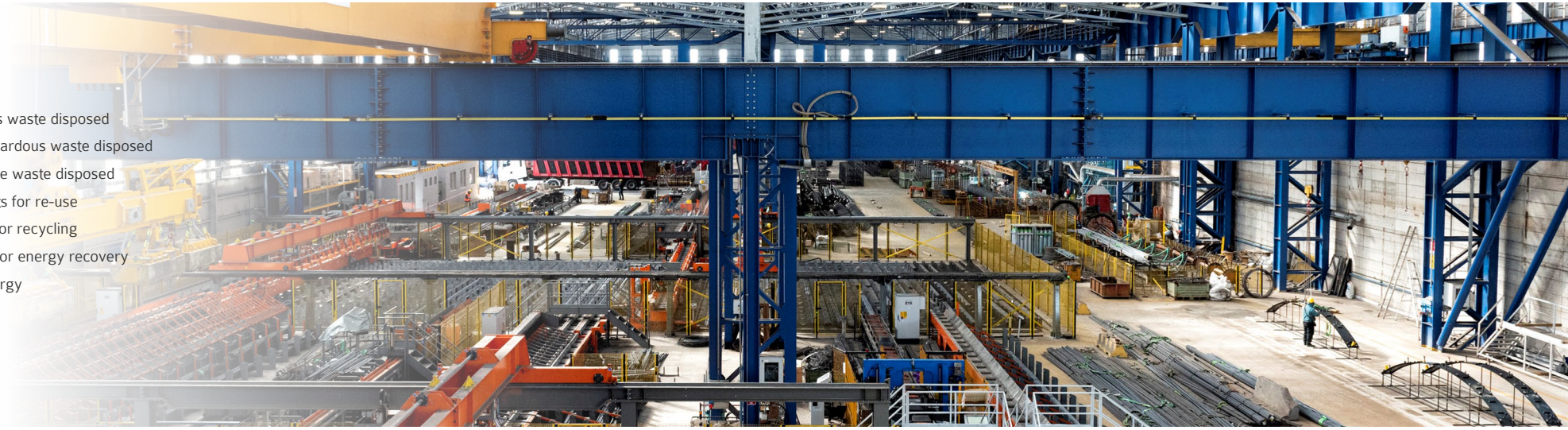
NRSF Use of non-renewable secondary fuels

FW Use of net fresh water

OUTPUT FLOWS AND WASTE CATEGORIES - MONTIRONE (BS)

WASTE GENERATION AND TREATMENT	UNITS / D.U.	UPSTREAM	CORE PROCESS			DOWNSTREAM					
		A1	A2	A3	A1:A3	A4	C1	C2	C3	C4	D
HWD	[kg]	2,72E+00	0,00E+00	0,00E+00	**2,72E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NHWD	[kg]	7,99E+01	0,00E+00	0,00E+00	**7,99E+01**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+02	0,00E+00
RWD	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	2,12E+02	0,00E+00	1,13E+01	**2,23E+02**	0,00E+00	0,00E+00	0,00E+00	9,00E+02	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EE	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

HWD Hazardous waste disposed
NHWD Non-hazardous waste disposed
RWD Radioactive waste disposed
CRU Components for re-use
MFR Materials for recycling
MER Materials for energy recovery
EE Exported energy



ENVIRONMENTAL IMPACTS - SEDEGLIANO (UD)

TABLE OF MODULES POTENTIAL ENVIRONMENTAL IMPACTS	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
GWP	kg CO_2 eq	7,01E+02	2,37E+01	1,53E+00	**7,27E+02**	7,87E+00	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
GWP,f	kg CO_2 eq	7,01E+02	2,37E+01	1,52E+00	**7,26E+02**	7,87E+00	5,38E+01	1,82E+01	2,35E+00	2,78E-01	1,54E+02
GWP,b	kg CO_2 eq	5,21E-01	1,74E-03	1,70E-04	**5,23E-01**	5,78E-04	3,94E-03	1,34E-03	7,09E-03	3,59E-05	1,44E-02
GWP,luluc	kg CO_2 eq	2,19E-01	4,58E-04	6,03E-05	**2,19E-01**	1,52E-04	2,16E-03	3,52E-04	5,79E-03	1,36E-05	1,41E-02
GWP,ghg	kg CO_2 eq	7,01E+02	2,37E+01	1,53E+00	**7,27E+02**	7,87E+00	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
ODP	kg CFC11 eq	1,40E-05	5,05E-07	3,70E-09	**1,45E-05**	1,68E-07	8,29E-07	3,88E-07	1,44E-08	4,02E-09	2,77E-06
AP	mol H+ eq	2,18E+00	4,67E-02	9,28E-03	**2,24E+00**	1,55E-02	5,04E-01	3,59E-02	1,12E-02	2,51E-03	5,73E-01
EP,f	kg P eq	1,34E-02	1,84E-05	2,80E-06	**1,34E-02**	6,10E-06	4,50E-05	1,41E-05	1,16E-04	9,54E-07	6,48E-03
EP,m	kg N eq	4,81E-01	1,64E-02	4,65E-03	**5,02E-01**	5,45E-03	2,37E-01	1,26E-02	2,16E-03	1,14E-03	1,13E-01
EP,t	mol N eq	5,26E+00	1,70E-01	5,03E-02	**5,48E+00**	5,67E-02	2,57E+00	1,31E-01	2,38E-02	1,24E-02	1,31E+00
POCP	kg NMVOC eq	2,10E+00	7,87E-02	1,24E-02	**2,19E+00**	2,62E-02	7,57E-01	6,06E-02	7,15E-03	3,71E-03	7,00E-01
ADPE*	kg Sb eq	1,43E-04	8,03E-07	1,93E-08	**1,43E-04**	2,67E-07	2,21E-06	6,18E-07	6,57E-08	1,07E-08	1,30E-03
ADPF*	MJ	1,07E+04	3,05E+02	2,64E+00	**1,10E+04**	1,01E+02	6,80E+02	2,35E+02	3,96E+01	3,48E+00	1,88E+03
WDP*	m^3	1,87E+02	2,86E-01	4,17E-02	**1,87E+02**	9,50E-02	8,92E-01	2,20E-01	4,19E-01	4,82E-03	1,80E+01

Additional environmental impact indicators are computed in the LCA report but not reported in the EPD.
*The results of this enviromental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

GWP Global warming potential, total
GWP,f Global warming potential, fossil
GWP,b Global warming potential, biogenic
GWP,luluc Global warming potential, land use & land use change
ODP Ozone depletion potential
AP Acidification Potential
EP,f Eutrophication potential, freshwater
EP,m Eutrophication potential, marine
EP,t Eutrophication potential, terrestrial
POCP Photochemical ozone creation potential
ADPE Abiotic depletion potential minerals & metals
ADPF Abiotic depletion potential fossil fuels
WDP Water use deprivation potential

RESOURCE USE PER DECLARED UNIT - SEDEGLIANO (UD)

USE OF RENEWABLE MATERIAL RESOURCES	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
PERE	[MJ]	5,99E+02	8,17E-01	1,07E-01	**6,00E+02**	2,72E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	5,99E+02	8,17E-01	1,07E-01	**6,00E+02**	2,72E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PENRE	[MJ]	1,08E+04	3,14E+02	2,27E+00	**1,11E+04**	1,04E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
PENRM	[MJ]	0,00E+00	0,00E+00	4,37E-01	**4,37E-01**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	1,08E+04	3,14E+02	2,71E+00	**1,11E+04**	1,04E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
SM	[kg]	1,46E+03	0,00E+00	0,00E+00	**1,46E+03**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	5,00E+00	1,30E-02	1,29E-03	**5,01E+00**	4,32E-03	3,44E-02	1,00E-02	1,76E-02	1,82E-04	3,60E-01

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 raw materials

RSF Use of renewable secondary fuels

NRSF Use of non-renewable secondary fuels

FW Use of net fresh water

OUTPUT FLOWS AND WASTE CATEGORIES - SEDEGLIANO (UD)

WASTE GENERATION AND TREATMENT	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
HWD	[kg]	2,72E+00	0,00E+00	7,00E-02	**2,79E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NHWD	[kg]	7,97E+01	0,00E+00	0,00E+00	**7,97E+01**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+02	0,00E+00
RWD	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	2,12E+02	0,00E+00	1,26E+01	**2,24E+02**	0,00E+00	0,00E+00	0,00E+00	9,00E+02	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EE	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

HWD Hazardous waste disposed
NHWD Non-hazardous waste disposed
RWD Radioactive waste disposed
CRU Components for re-use
MFR Materials for recycling
MER Materials for energy recovery
EE Exported energy

ENVIRONMENTAL IMPACTS - CATANIA

TABLE OF MODULES POTENTIAL ENVIRONMENTAL IMPACTS	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
GWP	kg CO_2 eq	6,94E+02	2,46E-03	8,45E-02	**6,94E+02**	1,60E+01	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
GWP,f	kg CO_2 eq	6,93E+02	2,46E-03	8,43E-02	**6,93E+02**	1,60E+01	5,38E+01	1,82E+01	2,35E+00	2,78E-01	1,54E+02
GWP,b	kg CO_2 eq	4,39E-01	1,80E-07	1,56E-04	**4,39E-01**	1,18E-03	3,94E-03	1,34E-03	7,09E-03	3,59E-05	1,44E-02
GWP,luluc	kg CO_2 eq	2,17E-01	4,75E-08	5,46E-05	**2,17E-01**	3,10E-04	2,16E-03	3,52E-04	5,79E-03	1,36E-05	1,41E-02
GWP,ghg	kg CO_2 eq	6,94E+02	2,46E-03	8,45E-02	**6,94E+02**	1,60E+01	5,38E+01	1,82E+01	2,36E+00	2,78E-01	1,54E+02
ODP	kg CFC11 eq	1,42E-05	5,24E-11	4,16E-09	**1,42E-05**	3,41E-07	8,29E-07	3,88E-07	1,44E-08	4,02E-09	2,77E-06
AP	mol H+ eq	2,28E+00	4,84E-06	2,90E-04	**2,28E+00**	3,16E-02	5,04E-01	3,59E-02	1,12E-02	2,51E-03	5,73E-01
EP,f	kg P eq	1,33E-02	1,90E-09	2,04E-06	**1,33E-02**	1,24E-05	4,50E-05	1,41E-05	1,16E-04	9,54E-07	6,48E-03
EP,m	kg N eq	4,26E-01	1,70E-06	6,10E-05	**4,26E-01**	1,11E-02	2,37E-01	1,26E-02	2,16E-03	1,14E-03	1,13E-01
EP,t	mol N eq	4,73E+00	1,77E-05	5,14E-04	**4,73E+00**	1,15E-01	2,57E+00	1,31E-01	2,38E-02	1,24E-02	1,31E+00
POCP	kg NMVOC eq	1,99E+00	8,16E-06	1,23E-03	**1,99E+00**	5,33E-02	7,57E-01	6,06E-02	7,15E-03	3,71E-03	7,00E-01
ADPE*	kg Sb eq	2,31E-04	8,33E-11	6,00E-08	**2,31E-04**	5,43E-07	2,21E-06	6,18E-07	6,57E-08	1,07E-08	1,30E-03
ADPF*	MJ	1,05E+04	3,16E-02	3,12E+00	**1,05E+04**	2,06E+02	6,80E+02	2,35E+02	3,96E+01	3,48E+00	1,88E+03
WDP*	m^3	1,29E+02	2,96E-05	3,18E-02	**1,29E+02**	1,93E-01	8,92E-01	2,20E-01	4,19E-01	4,82E-03	1,80E+01

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RESOURCE USE PER DECLARED UNIT - CATANIA

USE OF RENEWABLE MATERIAL RESOURCES	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
PERE	[MJ]	6,09E+02	8,47E-05	8,30E-02	**6,09E+02**	5,52E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	6,09E+02	8,47E-05	8,30E-02	**6,09E+02**	5,52E-01	1,35E+00	6,28E-01	4,34E+00	1,55E-02	1,06E+02
PENRE	[MJ]	1,05E+04	3,26E-02	1,34E+00	**1,05E+04**	2,12E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
PENRM	[MJ]	0,00E+00	0,00E+00	1,84E+00	**1,84E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	1,05E+04	3,26E-02	3,19E+00	**1,05E+04**	2,12E+02	7,00E+02	2,42E+02	4,01E+01	3,57E+00	1,89E+03
SM	[kg]	1,38E+03	0,00E+00	0,00E+00	**1,38E+03**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	3,66E+00	1,35E-06	9,73E-04	**3,66E+00**	8,79E-03	3,44E-02	1,00E-02	1,76E-02	1,82E-04	3,60E-01

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 raw materials

RSF Use of renewable secondary fuels

NRSF Use of non-renewable secondary fuels

FW Use of net fresh water

OUTPUT FLOWS AND WASTE CATEGORIES - CATANIA

WASTE GENERATION AND TREATMENT	UNITS / D.U.	UPSTREAM	CORE PROCESS		A1:A3	DOWNSTREAM					
		A1	A2	A3		A4	C1	C2	C3	C4	D
HWD	[kg]	1,52E-02	0,00E+00	1,20E-02	**2,72E-02**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NHWD	[kg]	1,10E+02	0,00E+00	0,00E+00	**1,10E+02**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+02	0,00E+00
RWD	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	1,27E+02	0,00E+00	1,21E+01	**1,39E+02**	0,00E+00	0,00E+00	0,00E+00	9,00E+02	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EE	[MJ]	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

HWD Hazardous waste disposed
NHWD Non-hazardous waste disposed
RWD Radioactive waste disposed
CRU Components for re-use
MFR Materials for recycling
MER Materials for energy recovery
EE Exported energy

3. CALCULATION RULES

The environmental burden of the product has been calculated according to EN 15804:2012+A2:2019[1] and PCR ICMQ-001/15 v3. This declaration is a cradle to gate with options EPD type, based on the application of Life Cycle Assessment[2] (LCA) methodology to the whole life-cycle system.
In the whole LCA model, infrastructures and production equipments are not taken into account.
Cutted, shaped, welded steel products at plant level were described by using specific data from manufacturing facilities placed in Vicenza, Montirone (BS), Sedegliano (UD) and Catania for year 2022. This EPD reports the single plants results.
Customized LCA questionnaires were used to gather in-depth information about all aspects of the production system (for example, raw materials contents and specifications, pre treatments, process efficiencies, air and water emissions, waste management), in order to provide a complete picture of the environmental burden of the system from raw materials supply (A1) to Transport (A2) and Manufacturing (A3).
The use phase was not considered according to EN:15804 and PCR ICMQ-001/15 v3, while transport to final destination (A4) and end of life phases (C1-C2-C3-C4-D) were considered. The product is designed for being incorporated into concrete structures. Therefore, in nominal installation and operating conditions, no emissions to air nor to water shall occur.

According to ISO 14040 and 14044, allocation is avoided whenever possible by dividing the system into sub-systems. When allocation cannot be avoided physical properties are used to drive flow analysis.

Data quality has been assessed and validated during data collection process.

According to EN:15804 the applied cut-off criterion for mass and energy flows is 1%.

[1]EN 15804:2012+A2:2019 Sustainability of construction works - Environmental product declarations Core rules for the product category of construction products.

[2]The LCA methodology is standardized at international level by ISO 14040 and ISO 14044.

4. SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

UPSTREAM PROCESS

- A1 — Raw material and Energy production

CORE MODULE

- Supplying transport
- Internal handling
- A2 — Ancillary materials and activities
- A3 — Air emission
- Waste management

DOWNSTREAM PROCESS

- A4 — Distribution
- C1 — De-construction demolition
- C2 — Transport
- C3 — Waste processing
- C4 — Disposal
- D — Reuse - Recovery - Recycling potential

Broad scheme of hot-rolled reinforcing steel for concrete production, in which the main activities included in the system boundaries, are listed and divided in the three subsystems: ***UPSTREAM*** *Process,* ***CORE*** *Module and* ***DOWNSTREAM*** *Process.*

UPSTREAM PROCESS

Scheme of the considered system boundaries (upstream processes).

Hot and cold rolled steel production

Specific secondary materials pre-treatments, where appropriate

Generation of electricity and other fuels from primary and from secondary energy resources (excluding waste treatments)

A1 - Raw Materials Supply

CORE PROCESS

A2 - Transportation

Raw materials transportation from production or collection facilities to the production plant and internal transportation

A3 - Manufacturing

Packaging materials

Plant production, including utilities

Treatment of waste generated from the manufacturing processes

DOWNSTREAM PROCESS

A4
Distribution

Transport to the customers (general market average). Distances estimated considering the transported quantities and the distances from the different plants to the clients. Most of the clients are in the italian country and a small portion abroad.

The means of transport used to deliver the products are truck and train. The main truck class emissions are modeled with Ecoinvent datasets for lorry >32 t, Euro 4, 5 and 6.

C1
De-construction demolition

Dismantling and demolition operations required to remove the product from the building. Initial onsite sorting of the materials is included as well.

C2
Transport

Transportation of the discarded product as part of the waste processing (to recycling site or to a final disposal site).

C3
Waste processing

Waste processing, including collection of waste fraction from deconstruction and waste processing of material flows intended for reuse, recycling and energy recovery.

C4
Disposal

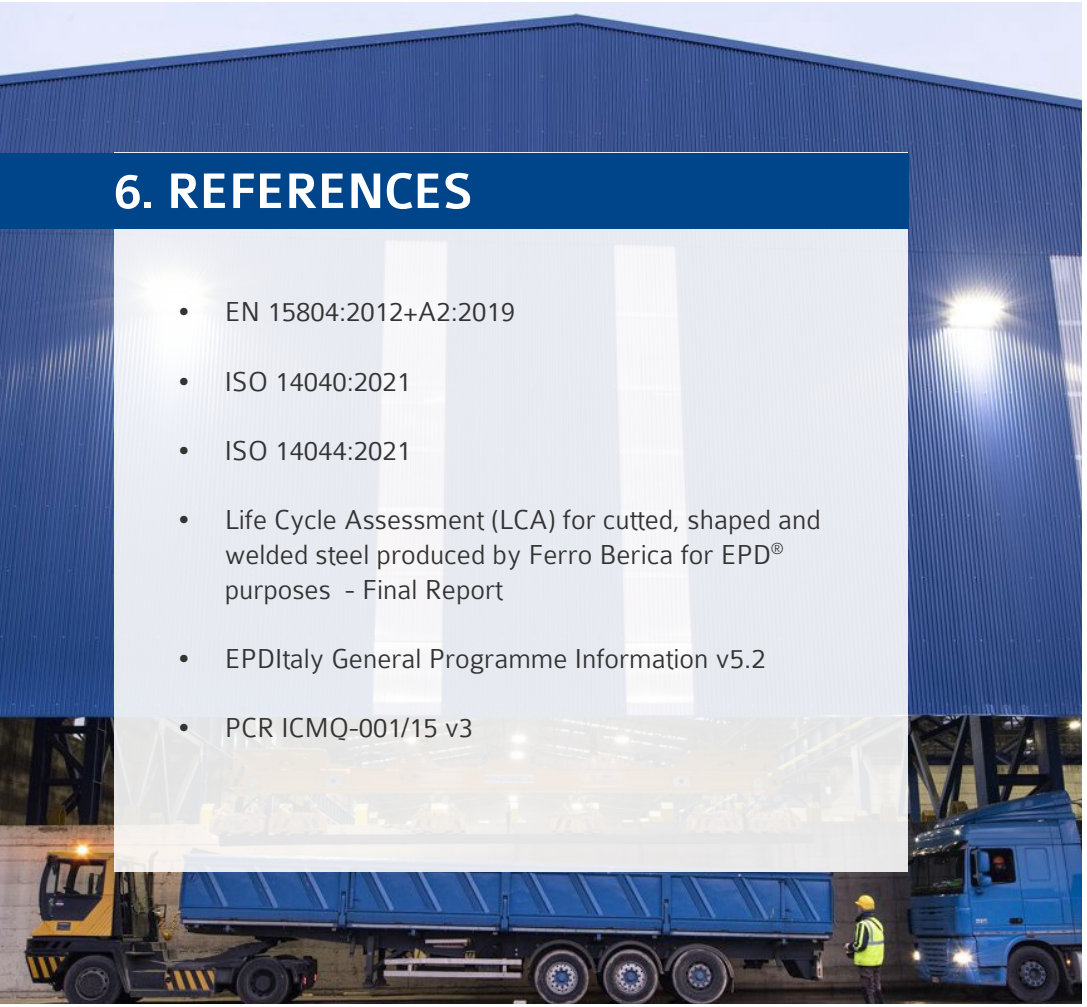
Waste disposal including physical pre-treatment and management of the disposal site.

D
Reuse - Recovery - Recycling potential

Environmental impacts associated to waste use after the investigated system (including recycling).

In this module impacts arising from steel recycling are accounted, including avoided impacts associated to primary steel production. The result is expressed as net value between direct impact (i.e. recycling steel in EAF furnace) and avoided impact (i.e. producing steel from iron ore in BOF furnace).

5. OTHER OPTIONAL ADDITIONAL ENVIRONMENTAL INFORMATION



6. REFERENCES

- EN 15804:2012+A2:2019
- ISO 14040:2021
- ISO 14044:2021
- Life Cycle Assessment (LCA) for cutted, shaped and welded steel produced by Ferro Berica for EPD® purposes - Final Report
- EPDItaly General Programme Information v5.2
- PCR ICMQ-001/15 v3

OTHER ENVIRONMENTAL CHARACTERISTICS OF FERRO BERICA PLANT

Ferro Berica is sensitive to environmental aspects and for this reason it develops, year after year, procedures and practices aimed at minimizing the impact on the surrounding environment.

The production cycle of cutting and shaping does not involve the use of water or any hazardous substance. Thanks to the use of advanced production programs and thanks to modern automatic systems, the entire production cycle of Ferro Berica is oriented towards minimizing scrap.

Scrap is 100% recyclable, normally it does not come into contact with any type of dangerous substance, so it does not require special treatments.

The transport and delivery of the shaped and assembled material at the customers' construction sites, are planned and coordinated with the transport of the raw material that comes from Alfa Acciai or Acciaierie di Sicilia, thus reducing the emission of CO_2 and fine dust.

"Car sharing" is used by some of the employees for the home-work transfer.

The paper documents provided to the customer are reduced to a minimum. Most of them are not printed but made available through a web portal from which the customer can view and download them.

Since 2018, the Vicenza plant has been equipped with a runoff water decantation plant (the so-called first rain water).