Environmental Product Declaration

Acciaierie d'Italia
Steel Forward

In accordance with
ISO 14025 and EN 15804:2012+A2:2019 for:

Hot rolled coils

from

Acciaierie d'Italia S.p.A.

EPD®

ECO PLATFORM EPD VERIFIED

RINA

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-11718
Publication date:	2023-12-19
Valid until:	2028-12-19

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

Content

1. General information

1.1. EPD, PCR, LCA Information

EPD Information	
Programme	The International EPD® System www.environdec.com info@environdec.com
Programme operator	EPD International AB Box 210 60 SE-100 31 Stockholm, Sweden
Declaration holder	Acciaierie d'Italia Viale Certosa 239, Milan, Italy www.acciaierieditalia.com
Product	Hot rolled coils
CPC Code	412 Products of iron or steel
Geographical Scope	Global
Reference standards	ISO 14025:2006; EN 15804:2012+A2:2019
Reference period	2022-01-01 – 2022-12-31

Product Category Rules (PCR)	
Reference PCR	"Construction Products" 2019:14, Version 1.2.5
Data of Issue	2022-11-01 (VALID UNTIL 2024-12-20)

Third-party verification	
Demonstration of verification	External, accredited certification body independent verification
Third party verifier	RINA Services S.p.A, accredited by Accredia (Registration number 0002VV)
Follow-up procedure	Follow-up procedure of data during EPD validity does not involve third-party verifier

Life cycle assessment (LCA)	
Title	Hot rolled coils
Reference standards	ISO 14040/44 standard
LCA accountability	Maria Chiara Caruso, Marcello Casa, Vincenzo Lariccia – Rina Consulting S.p.A.

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

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

2. Company information

2.1. Owner of the EPD

Acciaierie d'Italia S.p.A.
sostenibilita@acciaierieditalia.com

2.2. Contact

To get more information regarding this product declaration and/or related configurations to contact sostenibilita@acciaierieditalia.com.

2.3. Description of the organization

Acciaierie d'Italia is one of the largest Italian industrial groups and one of the most important integrated-cycle steel producers at European level.
Our mission is to produce the steel for the leading sectors of Italian and European industry: automotive, buildings and bridges, construction, furniture, packaging, ship.
At the Taranto plant the complete steel manufacturing cycle is carried out for most of the products of the portfolio. Hot rolled heavy plates, hot rolled coils and hot dip galvanized thin coils are prepared for the customer. Important sites, due to their strategic location in the north of Italy namely Genoa, Novi Ligure and Racconigi, are also terminals of high quality verticalized products like tin coated cold rolled strip for packaging and beverage, hot dip galvanized cold rolled strips specialized for the automotive sector and structural pipes.
Taranto plant is strictly connected with the most important merchant harbor in the south of Italy from which the steel products can be delivered around all the Mediterranean Sea and to the world.
Steel production is based on the use of iron ore as a raw material. However, ADI uses approximately 19% of scrap steel in conjunction with steel production.
When scrap steel is used instead of virgin raw materials in steelmaking, the carbon dioxide emissions originating in steel production decrease accordingly. Steelmaking at Acciaierie d'Italia uses scrap material from ADI's own production processes and material sourced on the scrap steel market.
At AdI, steelmaking processes have been continuously improved and the latest state of the art equipment has been installed for improving the environmental impact of the production processes. Most of the energy used in ore-based steel production comes from coal, which is used as a reducing agent in iron-making. The mineral products formed in s iron and steel production processes and the by-products generated in the coking process are recycled as industrial raw material or material to replace virgin resources. A high percentage of the dust originating in various processes is returned to the process to reduce waste and improve material efficiency.
Steel is a fully recyclable material for infinite times without losing any of its original properties. Therefore, it is never consumed but continuously transformed through recycling processes that make it a permanent material, contributing substantially to the development of a circular economy.

2.4. Product-related or management system-related certifications

Acciaierie d'Italia has a management system certified according to ISO 14001 (Environment), ISO 50001 (Energy) (only Taranto plant), ISO 9001 & IATF 16949:2016 (Quality), ISO 45001 (Health and Safety) and SA8000 (Social Responsibility).

2.5. Name and location of production site

Hot rolled coils are manufactured at:

- Taranto Plant: Via Appia SS km 648, 74123 Taranto (TA) - Italy

3. Product information

Hot rolled coils can be used in several application fields. Structural, pressure equipment, gas cylinders, furniture's tubes, shipbuilding, drawing, high strength components in automotive and mechanical engineering, are only some of the main applications which is worth remembering. To meet the typical requirements of the uses for which they are intended, the coils are mainly made of Carbon-Manganese steel while Niobium micro alloyed steels (HSLA) are used for the most critical uses. The strength ranges of the products mentioned above have yields ranging from 185 to 420 MPa and tensile strengths that can exceed 600 MPa. Black coils can undergo a process of chemical removal of the superficial iron oxide using hydrochloric acid (pickling) and be marketed as "pickled" with resistance ranges like those of black coils.

Facilities Hot rolled coils	
Production lines (nr.):	2
Production capability (mt/year):	9 000 000

Dimensional ranges			
	Wide strips	**Narrow strips**	**Cut sheets**
Thickness (mm)	1,8 - 12,0	1,8 - 10	1,8 - 12,0
Width (mm)	850 – 2 040	15 - 599	600 – 2 040
Internal diameter (mm)	610 or 762	508 or 610 or 762	-
Length (mm)	-	-	500 – 12 500

Main reference quality standard		
Applications	**Standard**	**Steel grade**
Structural steels	EN 10025-2	S185, S235, S275, S355
Steels with atmospheric corrosion resistance	EN 10025-5	S355J0WP
High yield strength steels for cold forming	EN 10149-2	S315, S355, S420
Steels for pressure purposes	DIN EN 10025-2 AD/00 MERKBLATT W1 EN 10028-2	S235; S275 P235, P265, P295, P355GH
Steels for cold forming	EN 10111	DD11; DD12; DD13; DD14;
Steels for cold rerolling, antifluting	Internal ADI standard	RH20; RH40; FE K0GZ
Steels for furniture pipes	Internal ADI standard	HTMO315; HTMO355
Teardrops and Chequered steels	EN 10025 (mainly)	S185, S235, S275
Shipbuilding	Main international standards (RINA, Bureau Veritas, LLOYD'S REG.)	Grado A, AH36, DH36
Automotive	Main automotive standards	

- Other standards can also be supplied (i.e., SAE J403, ASTM, API 5L, EN ISO 3183).
- Suitability for galvanizing according to request.

4. LCA information

Functional unit / declared unit: 1000 kg of Hot rolled coils

Reference service life: Not applicable

Time representativeness: Data input was collected in May 2023-July 2023, based on data related to the year 2022.

Database(s) and LCA software used: Ecoinvent v3.8, GaBi database, GaBi Software v.10.6

Description of system boundaries:

Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D).
Hot rolled coils are used for multiple applications; for this reason, Modules A4 and A5 have not been considered, together with Modules B.
The coils are produced in the Taranto plants according to the production process shown in Figure 1 and described hereafter.

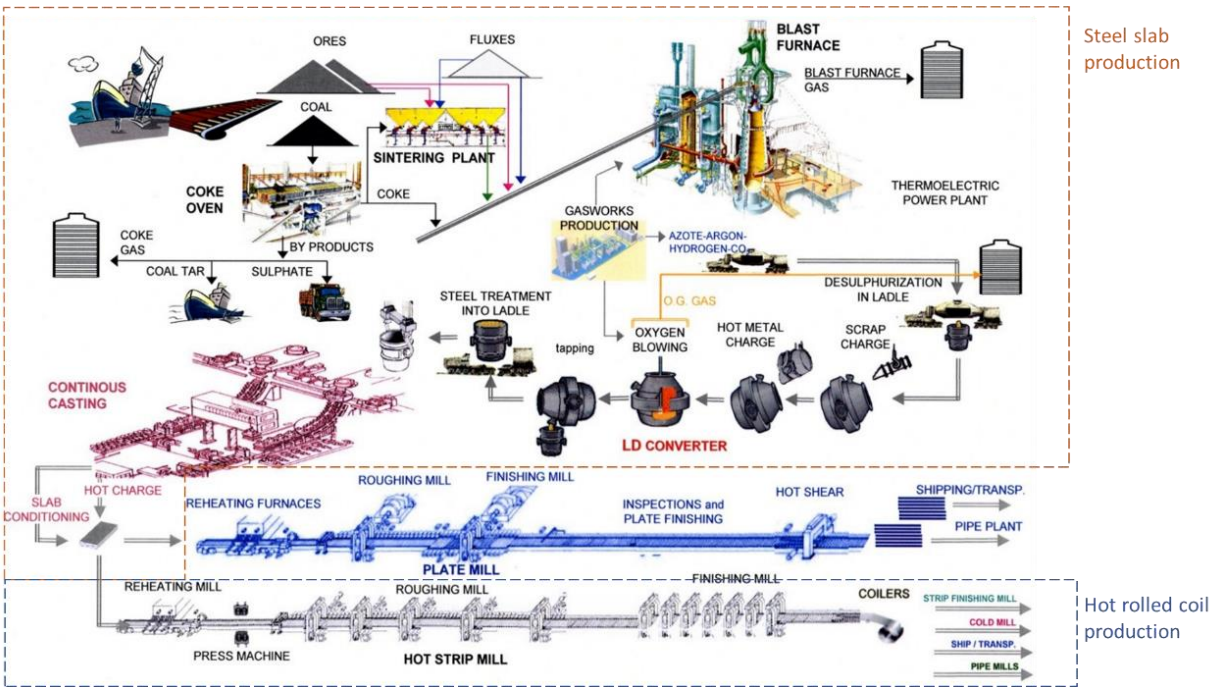


Figure 1: Steel slab and hot rolled coil production in Taranto plant

All the steel products realized in Taranto plant derive from the production of the steel slab, which is the result of the steel-making process; therefore, the manufacturing process starts with the production of the steel slabs according to the following process:

1) **Raw materials**, such as iron ores and coals, reach Taranto Port and are sent to Taranto plant, where they are stored and handled in primary stockyards;
2) Before being utilized in blast furnaces, coals picked up from parks and properly mixed go through a distillation process that transform them into **carbon coke**, that is then used in blast furnace for production of hot metal or pig iron from the iron ores;
3) The iron ores, along with other materials is treated in the **sintering plant** and transformed into sinter to feed the blast furnace, the heart of the steel cycle;

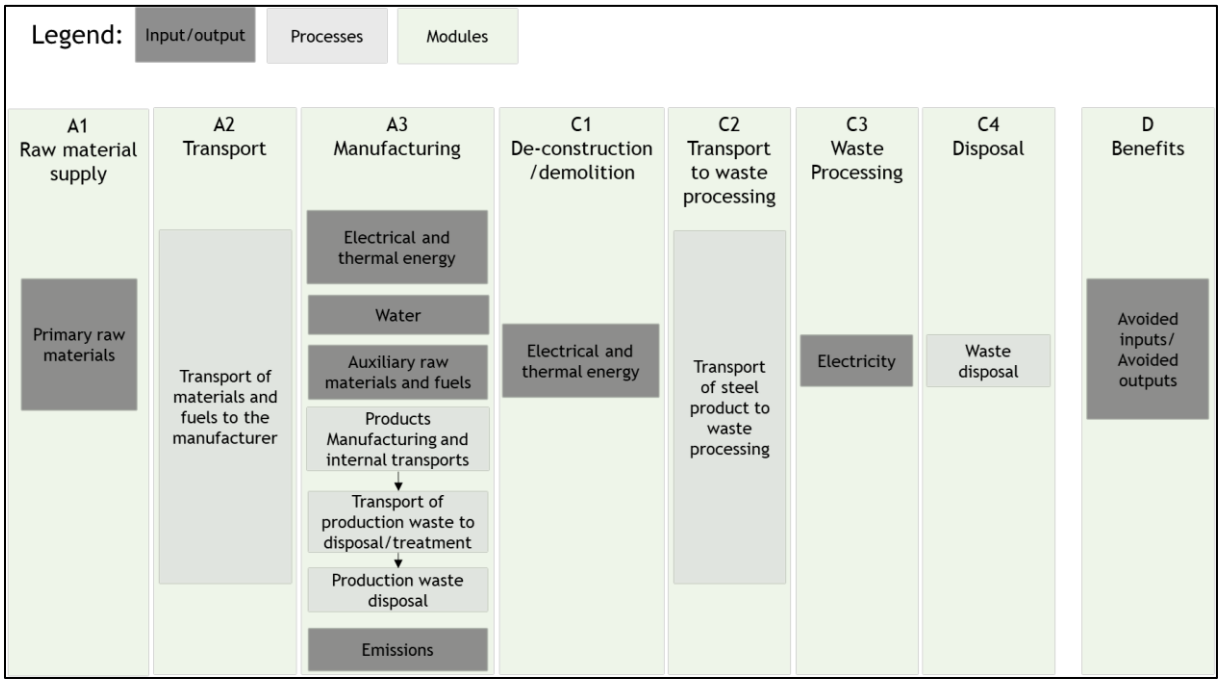
4) Blast furnaces produce **hot metal or pig iron**, the metal alloy of iron and carbon (Fe-C), that in the same plant are made subservient to process and automation control systems, which allow supervision and process control;

5) Pig iron is an iron alloy, composed of iron and a small percentage of carbon. The hot metal (liquid pig iron) is transferred into the steel mill, to be transformed into **steel**, through a process that uses huge converters into which the hot metal is poured. Oxygen insufflation allows then the reduction of the carbon content;

6) The liquid steel is transferred to the continuous casting plants where it is poured into **ingot molds**, inside which the solidification process gests started. The obtained semi-finished product is called slab.

Finally, **hot rolled coils** are produced in dedicated hot strip mills. The mills allow the incoming slab to be preheated from ambient temperature up to a temperature of approximately 1 250°C. This high temperature allows the material to reach the level of deformability as necessary for the subsequent pressing and rolling operations, in order to achieve the thickness reduction. Indeed, the material loaded inside the furnace is heated and then "pushed" on the rolling table to start the rolling process, which ends with finishing mill and winding steps.

System diagram:



Module A1 includes the supply of all raw materials, considering their extraction and processing. Raw materials are completely used for the production of the steel slabs and can be listed as follows:

- Iron ores
- Solid Pig iron
- Fluxes
- Ferroalloys
- Materials for treatment in BOF
- Lime
- Limestone
- Fossils
- Coke
- PCI
- Iron scrap

Module A2 includes the data on transportation of the materials to the manufacturing site, by means of different transport typologies, i.e., ship, train, lorry. Transports by ships are exclusively made for the raw materials supply, whilst auxiliary materials are supplied by lorry, except for a small number of refractories coming from China by ship.

Module A3 regards the entire manufacturing process of the product. This module includes all the inputs/outputs related to the activities and processes taking place in the manufacturing site and is modelled through specific data.
For each production step, data referred to Module A3 include: the list of ancillary and gaseous materials utilized, the electrical and thermal energy inputs, the water consumption, other materials internally used, steel industry gases outputs, emissions into air, water and soil, waste. Machines, infrastructure, construction, production equipment, and tools, as well as input and output flows related to their scheduled maintenance and repair activities, have not been included in the system boundary. All the machines are powered by electrical and thermal energy. Electrical energy is modelled considering that 6,6% of electricity is purchased by the national grid and 93,4% of electricity is produced within the AdI group plant in Taranto by AdI Energy (ADIE), which converts steel-making process gases (i.e., Blast Furnace Gas, Coke Oven Gas and Oxygen Converter Gas) into electrical energy. The energy conversion process has also been modelled as a stand-alone production step.

Module C1 concerns the deconstruction phase of the product after its usage. The product can have multiple applications and it is generally removed through a cold shearing/cutting process. In particular, this stage has been modelled considering the energy consumption to cut a material with 485 MPa UTS (Ultimate Tensile Strength) and τ / σ equal to 0,8. Three different techniques have been modelled with different weight: mechanical shear with electric motor drive (20%), mechanical shear with diesel motor drive (20%), mechanical shear with electrohydraulic drive (60%).
A recovery percentage of the material at its end of life equal to 95% has been assumed.

Module C2 includes the data on transportation of dismantled product to the waste treatment site. Considering that the product can have multiple applications, the transports to waste processing or disposal are different for each use. Therefore, C2 stage is modelled assuming that 1000 kg of steel product is sent to waste processing site, which is assumed to be 100km far. Assumed truck is a Euro 5, 28 - 32t gross weight truck.

Module C3 is included in the system boundary. Waste treatment of steel basically consists in steel sorting and shredding, before sending the steel scrap to further recycling treatments. For this reason, even if this is an activity AdI has no control over it, energy consumptions related to steel sorting and shredding has been considered. In particular, a value of electric consumption equal to 0,075 kWh/kg of treated steel has been assumed according to Norgate T. (2013)[1].

Regarding the disposal and the recycling potential, the proportion of the steel material in the product that is recycled in a subsequent system is equal to 95% w/w[2]. Therefore, **Module C4** is modelled considering that 5% w/w of steel waste is not reused or recycled, but it is sent to landfill as inert material.

Module D includes the reuse, recovery and/or recycling potentials, expressed as net impacts and benefits. In particular, Module D has been modelled by considering the environmental benefits deriving from 4 different contributions:

1. post-consumer steel waste
2. Gas by-products for energy production
3. Sold by-products
4. Waste to recovery/reuse

[1] Norgate T. (2013) Metal recycling: The need for a life cycle approach. EP135565, CSIRO, Australia
[2] Product Environmental Footprint Guidance: Annex C – List of Default Values for A, R1, R2, R3 and Qs/Qp available at https://ec.europa.eu/environment/eussd/smgp/pdf/PEFCR_guidance_v6.3.pdf
https://ec.europa.eu/environment/eussd/smgp/pdf/2019-06-28_PEFCR_Metal_Sheets_final.pdf

More information: Purchased and self-produced electricity used in the manufacturing process of module A3 accounts for around 23% of the GWP-GHG results of modules A1-A3.

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

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	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	GLO	GLO, EU, IT	GLO, EU, IT	-	-	-	-	-	-	-	-	-	IT, GLO	IT, GLO	IT, GLO	EU, GLO	IT, EU, GLO
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-
(X = declared module; ND = module Not Declared)																	

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Fe	993,82	99,38	0
C	0,64	0,06	0
Mn	3,84	0,38	0
Others	1,69	0,17	0
TOTAL	1 000	100	-

No packaging materials are here presented because the Hot Rolled Coils are sold unpacked.

The list of components does not include products included in the “Candidate List of Substances of Very High Concern for Authorizations” by European Chemicals Agency (ECHA).

4.1. Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

Results per 1000 kg of Hot rolled coil										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	3,45E+02	2,22E+02	2,22E+03	2,78E+03	3,55E-04	6,56E+00	3,04E+01	2,63E-01	-1,72E+03
GWP-biogenic	kg CO_2 eq.	6,26E-01	2,62E-01	1,54E+00	2,43E+00	3,23E-06	2,30E-02	4,89E-01	1,72E-04	-1,06E+00
GWP-luluc	kg CO_2 eq.	1,01E+00	4,49E-02	4,32E-02	1,10E+00	8,73E-08	4,40E-02	1,08E-02	2,54E-04	-2,64E-01
GWP-total	kg CO_2 eq.	3,47E+02	2,22E+02	2,22E+03	2,79E+03	3,58E-04	6,62E+00	3,09E+01	2,63E-01	-1,72E+03
ODP	kg CFC 11 eq.	7,42E-05	1,30E-11	5,05E-06	7,92E-05	3,34E-11	6,42E-13	6,22E-10	1,07E-07	-5,97E-05
AP	mol H^+ eq.	2,86E+00	7,92E+00	2,79E+00	1,36E+01	1,90E-06	2,12E-02	4,21E-02	2,48E-03	-6,14E+00
EP-freshwater	kg P eq.	6,05E-01	7,05E-05	3,59E-02	6,41E-01	5,81E-09	2,34E-05	1,48E-04	2,41E-05	-6,03E-01
EP-marine	kg N eq.	5,13E-01	2,10E+00	6,46E-01	3,26E+00	8,00E-07	9,65E-03	1,24E-02	8,62E-04	-1,41E+00
EP-terrestrial	mol N eq.	5,15E+00	2,30E+01	7,22E+00	3,54E+01	8,75E-06	1,08E-01	1,33E-01	9,42E-03	-1,53E+01
POCP	kg NMVOC eq.	1,40E+00	5,86E+00	2,95E+00	1,02E+01	2,38E-06	1,90E-02	3,28E-02	2,74E-03	-7,34E+00
ADP - minerals & metals*	kg Sb eq.	4,81E-04	8,51E-06	3,20E-04	8,10E-04	1,38E-10	6,59E-07	8,83E-06	6,01E-07	-2,33E-02
ADP-fossil*	MJ	2,51E+04	2,68E+03	5,41E+03	3,32E+04	4,95E-03	8,58E+01	4,30E+02	7,38E+00	-2,49E+04
WDP*	m^3	1,15E+02	4,56E-01	1,92E+02	3,07E+02	8,60E-05	7,31E-02	1,23E+01	3,39E-01	-1,48E+02
Acronyms	**GWP-fossil** = Global Warming Potential fossil fuels; **GWP-biogenic** = Global Warming Potential biogenic; **GWP-luluc** = Global Warming Potential land use and land use change; **ODP** = Depletion potential of the stratospheric ozone layer; **AP** = Acidification potential, Accumulated Exceedance; **EP-freshwater** = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; **EP-marine** = Eutrophication potential, fraction of nutrients reaching marine end compartment; **EP-terrestrial** = Eutrophication potential, Accumulated Exceedance; **POCP** = Formation potential of tropospheric ozone; **ADP-minerals & metals** = Abiotic depletion potential for non-fossil resources; **ADP-fossil** = Abiotic depletion for fossil resources potential; **WDP** = Water (user) deprivation potential, deprivation-weighted water consumption									

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

4.2. Additional mandatory and voluntary impact category indicators

Results per 1000 kg of Hot rolled coil										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[3]	kg CO_2 eq.	3,46E+02	2,22E+02	2,22E+03	2,79E+03	3,55E-04	6,60E+00	3,04E+01	2,63E-01	-1,71E+03

4.3. Resource use indicators

Results per 1000 kg of Hot rolled coil										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	4,96E+02	1,60E+01	2,64E+02	7,76E+02	2,42E-03	5,95E+00	3,68E+02	6,40E-02	-9,94E+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
PERT	MJ	4,96E+02	1,60E+01	2,64E+02	7,76E+02	2,42E-03	5,95E+00	3,68E+02	6,40E-02	-9,94E+02
PENRE	MJ	2,51E+04	2,69E+03	5,41E+03	3,32E+04	4,95E-03	8,61E+01	4,30E+02	7,38E+00	-2,49E+04
PENRM	MJ	1,23E-01	0,00E+00	4,63E-02	1,69E-01	0,00E+00	0,00E+00	0,00E+00	1,29E-03	-8,00E-01
PENRT	MJ	2,51E+04	2,69E+03	5,41E+03	3,32E+04	4,95E-03	8,61E+01	4,30E+02	7,39E+00	-2,49E+04
SM	kg	0,00E+00	0,00E+00	2,57E+02	2,57E+02	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
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
FW	m^3	2,68E+00	2,23E-02	4,36E+00	7,06E+00	2,25E-06	6,87E-03	3,25E-01	7,88E-03	-3,46E+00
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 re-sources; SM = Use of secondary material; **RSF** = Use of renewable secondary fuels; **NRSF** = Use of non-renewable secondary fuels; **FW** = Use of net fresh water									

[3] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

4.4. Waste indicators

Results per 1000 kg of Hot rolled coil										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	7,83E-13	1,11E-08	1,27E-06	1,28E-06	5,95E-13	4,56E-10	9,09E-08	0,00E+00	-1,88E-06
Non-hazardous waste disposed	kg	4,11E-06	2,59E-01	1,02E+00	1,28E+00	3,12E-06	1,40E-02	4,77E-01	0,00E+00	-1,13E+00
Radioactive waste disposed	kg	1,66E-07	3,12E-03	2,41E-02	2,72E-02	1,26E-07	1,60E-04	1,93E-02	0,00E+00	-9,03E-04

4.5. Output flow indicators

Results per 1000 kg of Hot rolled coil										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00E+00	0,00E+00	2,09E+02	2,09E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	0,00E+00	0,00E+00	1,96E-02	1,96E-02	0,00E+00	0,00E+00	9,50E+02	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	8,89E-01	8,89E-01	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	7,31E+03	7,31E+03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

4.6. Other environmental performance indicators

Results per 1000 kg of Hot rolled coil										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Particulate matter	Disease incidences	2,24E-05	1,35E-04	1,55E-05	1,73E-04	4,54E-11	1,23E-07	3,65E-07	4,85E-08	-8,72E-05
Ionising radiation, human health	kBq U235 eq.	3,75E+01	4,58E-01	6,85E+00	4,48E+01	3,30E-05	2,41E-02	3,57E+00	3,27E-02	4,09E+01
Ecotoxicity, freshwater	CTUe	4,26E+04	1,87E+03	2,29E+03	4,68E+04	2,82E-03	6,08E+01	2,40E+02	4,67E+00	-4,92E+04
Human toxicity, cancer	CTUh	2,07E-06	3,47E-08	4,74E-07	2,58E-06	9,59E-14	1,25E-09	7,23E-09	1,18E-10	1,08E-05
Human toxicity, non-cancer	CTUh	4,25E-06	1,64E-06	3,41E-05	4,00E-05	2,28E-12	7,68E-08	2,08E-07	3,05E-09	-3,55E-05
Land Use	Pt	2,88E+03	4,25E+01	4,52E+02	3,38E+03	1,79E-03	3,63E+01	2,33E+02	1,54E+01	-3,99E+03

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