ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 for:

SPECIAL STEEL WIRE ROD

from Caleotto S.p.A.

CALEOTTO

EPD®
THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM EPD VERIFIED

Programme:
The International EPD® System, www.environdec.com

Programme operator:
EPD International AB

Valid until:
2029-04-16

Publication date:
2024-04-16

EPD registration number:
EPD-IES-0014183

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

GENERAL INFORMATION

PROGRAMME INFORMATION

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	**www.environdec.com**
E-mail:	**info@environdec.com**

Accountabilities for PCR, LCA and independent, third-party verification

PRODUCT CATEGORY RULES (PCR)

PCR: 2015:03, versione 2.1.1, 'International EPD® System
"Basic iron or steel products & special steels, except construction steel products"

PCR review was conducted by: Gorka Benito Alonso, IK INGENIERIA, g.benito@ik-ingenieria.com

LIFE CYCLE ASSESSMENT (LCA)

LCA accountability: Caleotto S.p.A.

THIRD-PARTY VERIFICATION

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

[✓] EPD verification by accredited certification body

Third-party verification: ICMQ Spa is an approved certification body accountable for the third-party verification

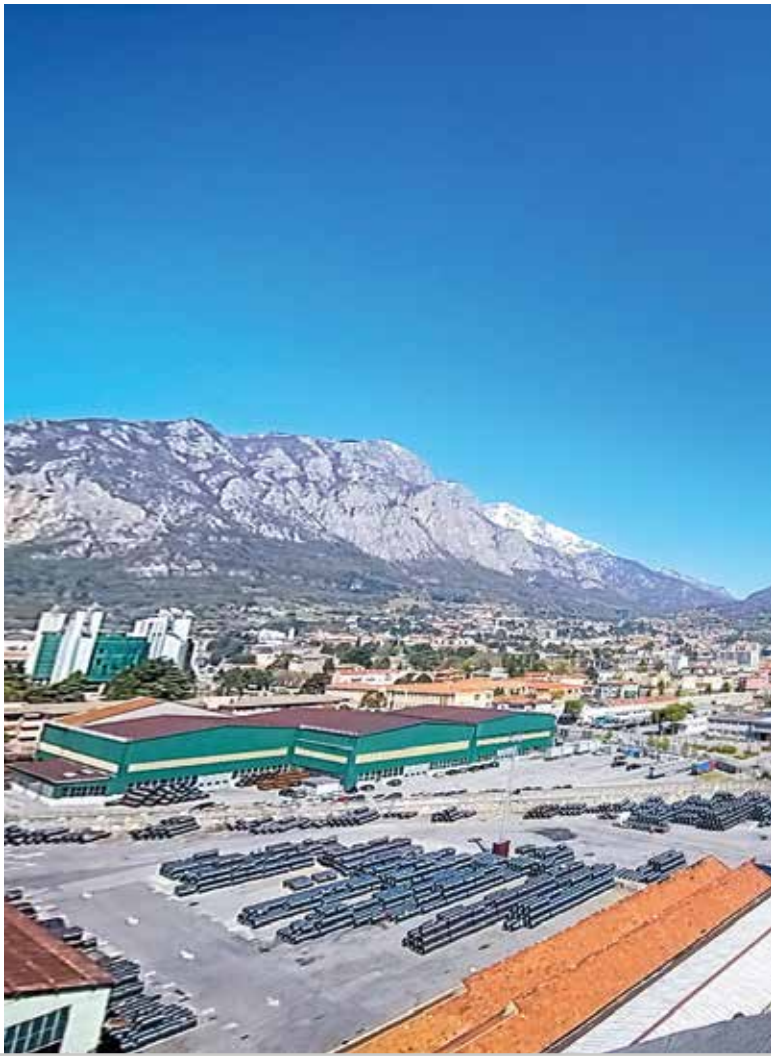
The certification body is accredited by: Accredia

Procedure for follow-up of data during EPD validity involves third party verifier:

[ ] Yes [✓] No

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.



COMPANY INFORMATION

Owner of the EPD:
Caleotto SpA

Contact:
Eric Filippini, 030 99961,
eric.filippini@it.feralpigroup.com

Description of the organisation:

Feralpi Group is one of Europe's leading steel producer in Europe and it is specialized for both construction and special steel production. From the head company Feralpi Siderurgica, founded in 1968 in Lonato del garda (Brescia), a strong path of growth has given rise to an international Group, diversified, verticalized upstream and downstream in the production and marketing chain.
Caleotto S.p.A is a 100% subsidiary of Feralpi Group, it focuses its activity on the commercialization of high quality wire rod, with a particular aptitude for providing a high quality customer service. Arlenico SpA is a 100% subsidiary of Caleotto S.p.A, it is responsible for managing the Lecco plant and performing the transformation production role through the hot rolling process of steel billets.

Product-related or management system-related certifications:

CALEOTTO SPA

- UNI EN ISO 9001:2015
- UNI EN ISO 14064-1:2019
- IATF 16949:2016

Name and location of production site:
Caleotto SpA
- Stabilimento Arlenico Spa - Via Arlenico, 22 23900 Lecco LC - IT

PRODUCT INFORMATION

Product name:
Caleotto SpA
Special steel wire rod

Product identification:
Special steel in wire rod (example applicable standars: EN ISO 16120/1-4, EN ISO 683/1-4, EN 10025/2, EN ISO 14341, EN ISO 16834, UNI EN 10263/1-4, DIN 17115)

Product description:
Steel coming from post and pre consumer steel scraps produced in electric arc furnace route (EAF) and hot rolling process. Example of special steel produced include: Medium and High Carbon steels, Structural steels, Free-cutting steels, Steels for welding, springs, Cold Heading, Chains, Quenched and Tempered steels and Case-hardening steels.

Wire rod: Diameter: from 4,5 to 26,0 mm
and Weight: from 1400 kg up to 1850 kg.

UN CPC code:
412

Geographical scope:
Global

LCA INFORMATION

Functional unit / declared unit: 1 ton of steel
Reference service life: Not applicable
Time representativeness: 2022
Database(s) and LCA software used: Ecoinvent 3.8 and SimaPro Developer 9.3.0.2, EF 3.1
Description of system boundaries: cradle to gate

System diagram:

LIFE-CYCLE STAGE	INFORMATION MODULES
Upstream	Purchase of raw material
	Purchase of packaging
	Purchase of auxiliary materials
Core	Transport of products to Calvisano plants
	Plant consumption for raw material processing
	Production of plant waste

Description of system boundaries:
cradle to gate

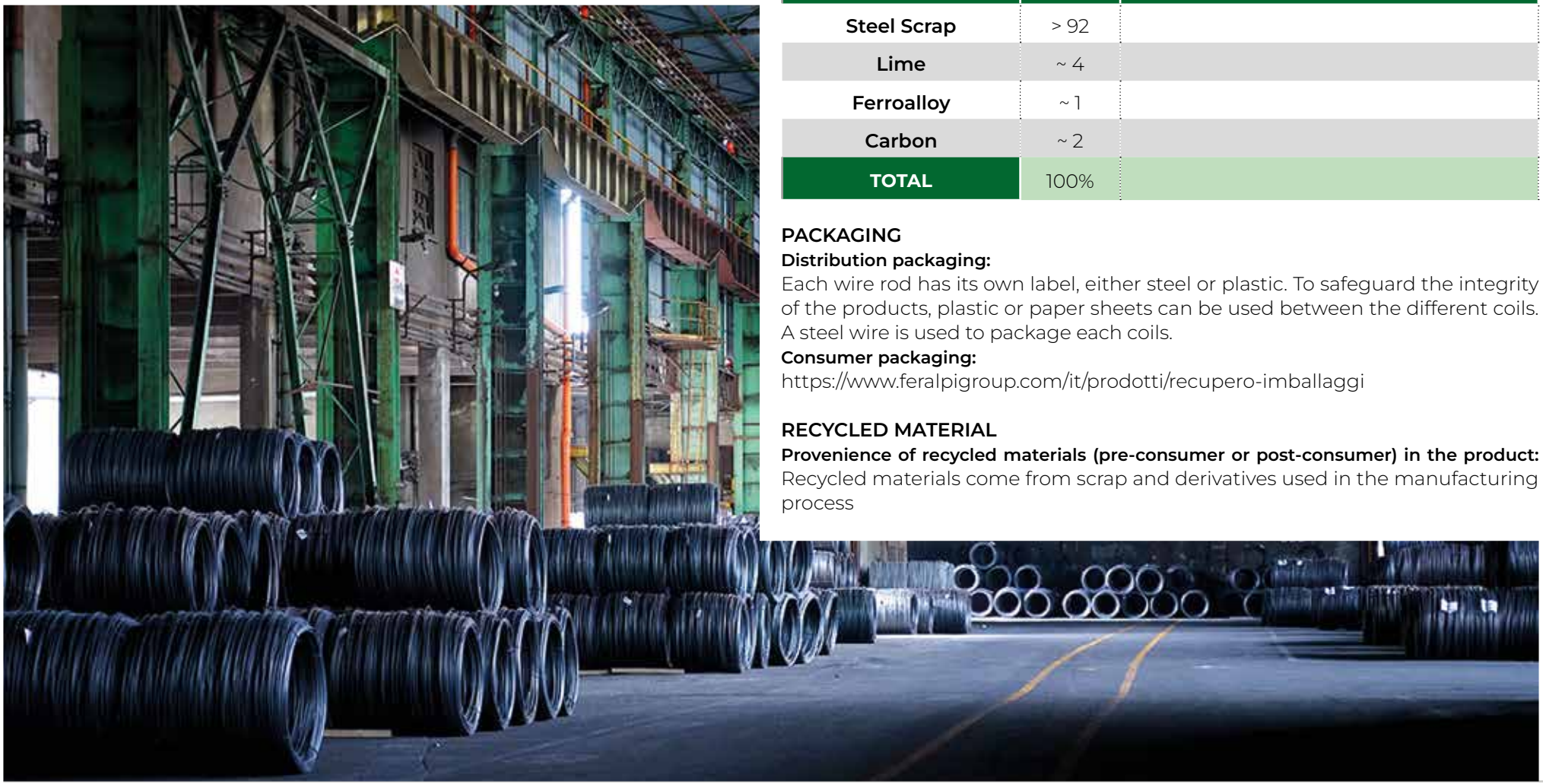
Excluded lifecycle stages:
Cut-off thresholds have been applied for:
- The processing of production equipment, construction, and other capital goods;
- Personnel travel to the workplace by company vehicle and research and development activities;
- The production of production machinery, buildings, and other company infrastructure.

Data proxy: The threshold permitted by PCR to use in the study up to a maximum 10% of general data (not selected) is respected for all impact categories.

More information: https://www.feralpigroup.com

Name and contact information of LCA practitioner: Aequilibria Srl – SB, info@aequilibria.com - www.aequilibria.com

CONTENT DECLARATION



PRODUCT

PRODUCT COMPONENTS	%	ENVIRONMENTAL / HAZARDOUS PROPERTIES
Steel Scrap	> 92	
Lime	~ 4	
Ferroalloy	~ 1	
Carbon	~ 2	
TOTAL	100%	

PACKAGING

Distribution packaging:
Each wire rod has its own label, either steel or plastic. To safeguard the integrity of the products, plastic or paper sheets can be used between the different coils. A steel wire is used to package each coils.

Consumer packaging:
https://www.feralpigroup.com/it/prodotti/recupero-imballaggi

RECYCLED MATERIAL

Provenience of recycled materials (pre-consumer or post-consumer) in the product:
Recycled materials come from scrap and derivatives used in the manufacturing process

RESULTS OF THE ENVIRONMENTAL PERFORMANCE INDICATORS

The energy sources behind the electricity grid used in manufacturing is the italian residual mix 0,55 kg CO_2 eq./kWh (AIB report May 2023) with Life Cycle Engineering post-elaborations.

IMPACT CATEGORY INDICATORS

PARAMETER		UNIT	UPSTREAM	CORE	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	6,27E+02	2,12E+02	**8,38E+02**
	Biogenic	kg CO_2 eq.	3,04E+00	4,19E-02	**3,08E+00**
	Land use and land transformation	kg CO_2 eq.	3,46E-01	1,96E-02	**3,65E-01**
	TOTAL	kg CO_2 eq.	6,30E+02	2,12E+02	**8,42E+02**
Ozone layer depletion (ODP)		kg CFC 11 eq.	8,18E-05	3,97E-05	**1,22E-04**
Acidification potential (AP)		mol H^+ eq.	2,81E+00	5,13E-01	**3,32E+00**
Eutrophication potential (EP)	Aquatic freshwater	kg P eq.	1,75E-01	1,84E-02	**1,93E-01**
	Aquatic marine	kg N eq.	5,31E-01	1,03E-01	**6,34E-01**
	Aquatic terrestrial	mol N eq.	5,64E+00	1,12E+00	**6,76E+00**
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	1,73E+00	3,69E-01	**2,10E+00**
Abiotic depletion potential (ADP)*	Metals and minerals	kg Sb eq.	7,21E-03	1,36E-04	**7,34E-03**
	Fossil resources	MJ, net calorific value	8,76E+03	3,09E+03	**1,19E+04**
Water deprivation potential (WDP)*		m^3 world eq. deprived	1,42E+02	1,19E+01	**1,54E+02**

* 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.

RESOURCE USE INDICATORS

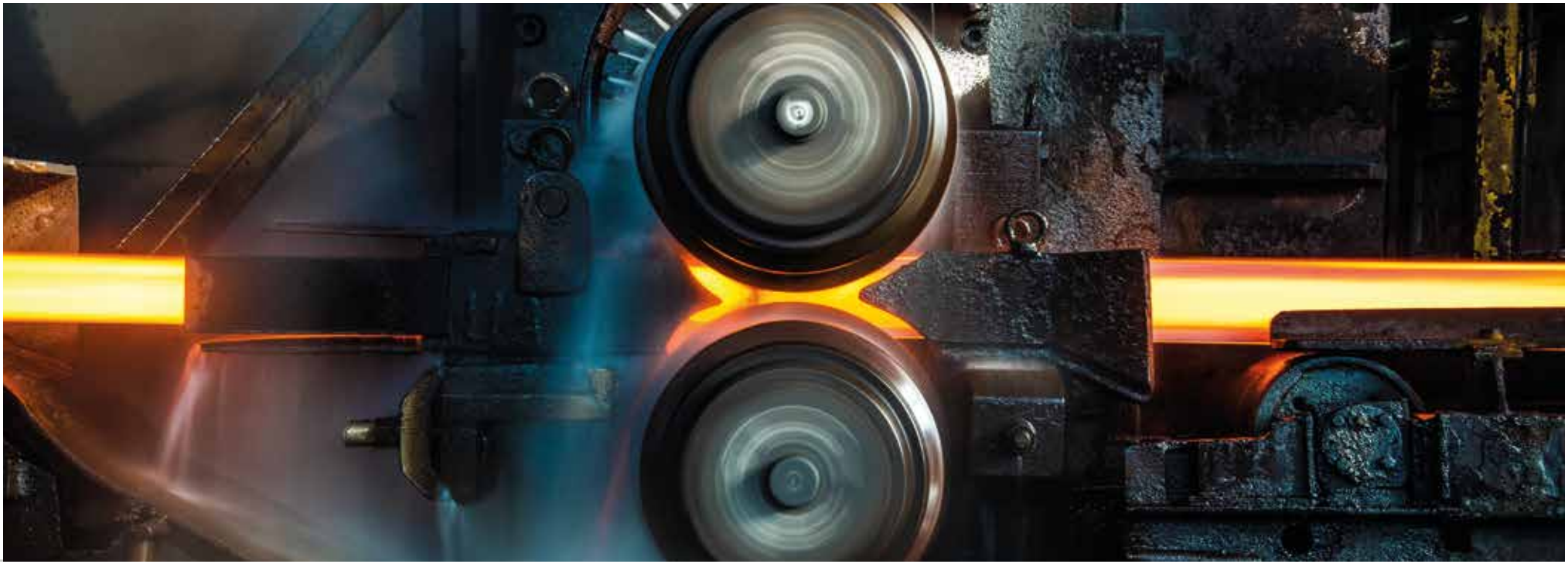
PARAMETER		UNIT	UPSTREAM	CORE	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	8,29E+02	8,10E+01	**9,10E+02**
	Used as raw materials	MJ, net calorific value	0,00E+00	0,00E+00	**0,00E+00**
	TOTAL	MJ, net calorific value	8,29E+02	8,10E+01	**9,10E+02**
Primary energy resources Non-renewable	Use as energy carrier	MJ, net calorific value	9,42E+03	3,39E+03	**1,28E+04**
	Used as raw materials	MJ, net calorific value	0,00E+00	0,00E+00	**0,00E+00**
	TOTAL	MJ, net calorific value	2,77E+03	6,13E+03	**1,28E+04**
Secondary material (optional)		kg	0,00E+00	0,00E+00	**0,00E+00**
Renewable secondary fuels (optional)		MJ, net calorific value	0,00E+00	0,00E+00	**0,00E+00**
Non-renewable secondary fuels (optional)		MJ, net calorific value	0,00E+00	0,00E+00	**0,00E+00**
Net use of fresh water (optional)		m^3	2,23E+00	1,14E+00	**3,52E+00**

WASTE INDICATORS (OPTIONAL)

PARAMETER	UNIT	UPSTREAM	CORE	TOTAL
Hazardous waste disposed	kg	2,45E-02	1,66E-01	**1,90E-01**
Non-hazardous waste disposed	kg	1,20E+02	4,12E+01	**1,62E+02**
Radioactive waste disposed	kg	2,57E-02	4,32E-03	**3,01E-02**

OUTPUT FLOW INDICATORS (OPTIONAL)

PARAMETER	UNIT	UPSTREAM	CORE	TOTAL
Components for reuse	kg	0,00E+00	0,00E+00	**0,00E+00**
Material for recycling	kg	1,12E+02	0,00E+00	**1,12E+02**
Materials for energy recovery	kg	0,00E+00	0,00E+00	**0,00E+00**
Exported energy, electricity	MJ per energy carrier	0,00E+00	0,00E+00	**0,00E+00**
Exported energy, thermal	MJ per energy carrier	0,00E+00	0,00E+00	**0,00E+00**



ADDITIONAL ENVIRONMENTAL INFORMATION

Caleotto is committed to the Feralpi Group's ESG targets regarding increasingly decarbonised, sustainable steel, as part of a solid contribution to transitioning towards development models that are more inclusive, efficient and better for the environment.

Recycled content of products = 94,4%.
The methodology adopted refers to the procedures of the ICMQ CP DOC 262 rev. 2 of 12/10/2022.

PRODUCT TYPE	PRODUCT NAME	RECYCLED MATERIAL			RECOVERED MATERIAL (%)	BY-PRODUCT MATERIAL (%)	TOTAL CONTENT OF RECYCLED, RECOVERED BY-PRODUCT MATERIAL (%)
		TOTAL (%)	PRE-CONSUMER (%)	POST-CONSUMER (%)			
Production of steel billets for reinforcing and special	Billets	94,4	n.p.d.	94,4	n.p.d.	n.p.d.	94,4

ADDITIONAL SOCIAL AND ECONOMIC INFORMATION

Lecco, 1896. The first factory in Italy specialising in the wire rod manufacturing was established by Lecco entrepreneurs united by a passion for the business, and the desire to produce steel to supply the numerous drawing mills with quality steel, and to develop the local region. First, it was a company about people, families which served the local drawing mills rooted in the community, but it was in no way unenterprising. The drive to use increasingly innovative technologies continually transformed the business, changing from steam power to electricity for example, through to the first steelmaking, coal-powered furnaces ahead of their time, thanks to the automation of the production cycle. The original name of Acciaieria & Ferriera del Caleotto was increasingly viewed as the cathedral of Lecco steelmaking. Throughout the 20th century, the company supported developments in the area and the community, contributing significantly to the Italian economy.
After overcoming difficult decades spanning the two millennia, Caleotto regained momentum by preserving its expertise and embracing technological and engineering progress, continuing to serve the market with a tradition of over 125 years. Caleotto represents the final point of the Feralpi Group's industrial chain in the special steels sector, thanks to rolling mill operations on semi-finished products supplied by Acciaierie di Calvisano. Caleotto and Acciaierie di Calvisano are the key companies to Feralpi Group's specialties business unit, forming a combination that serves the automotive and engineering sectors with speed, flexibility, traceability and quality. The integrated production process, and the sharing of knowledge and xpertise along the entire process, achieve the high standards required for special steel applications. Industrial synergy also makes it possible to monitor all production phases, capture data and, thanks to data analysis, define actions to optimise process management. Recent investment has focused on achieving a high-quality product in terms of size tolerances, mechanical characteristics and coil formation. Caleotto recaptures centuries-old Lecco manufacturing tradition, and applies it to national and international markets using cutting-edge technologies. Using steel supplied by the Feralpi Group is a guarantee of high standards for customers in relation to the product, process, service and support.

REFERENCES

- General Programme Instructions of the International EPD® System. Version 3.0.1
- PCR: "Basic iron or steel products & special steels, except construction steel products", 2015:03, version 2.1.1
- Report Generale CFP SA_EPD_FER-22-M30_LONATO-CALVISANO-CALEOTTO
- Report specifico vergella speciale - CALEOTTO
- ISO 14040:2007 – Environmental management - Life cycle assessment - Principles and framework
- ISO 14044:2007 – Environmental management - Life cycle assessment - Requirements and guidelines

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

UPSTREAM

- Scrap pretreatment
- Shredding
- Sorting
- Raw material and Energy production

CORE

- Supplying transport
- Hot rolling processes
- Packaging
- Internal handling
- Ancillary materials and activities
- Air emission
- Water emission
- Waste management

DOWNSTREAM

- Transport
- De-construction demolition
- Transport
- Waste processing
- Disposal
- Reuse - Recovery Recycling potential

Broad scheme of cold rolled steel 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

UPSTREAM | **CORE** | **DOWNSTREAM**

Steel scrap collection (shredded both in external and internal plants) and other raw materials production

Specific secondary materials pre-treatments, where appropriate

Production of alloy elements

Scheme of the considered system boundaries (Upstream processes)

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

CORE PROCESS

UPSTREAM | **CORE** | **DOWNSTREAM**

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

Scheme of the considered system boundaries (core processes)

Steel mill production, including utilities

Hot and cold rolling

Packaging materials
Internal transportation

Treatment of waste generated from the manufacturing processes

DOWNSTREAM PROCESS

Transport

Transport to the customers (general market average).

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.

Transport

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

Waste processing

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

Disposal

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

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