ENVIRONMENTAL PRODUCT DECLARATION

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

Steel reinforcement products for concrete – Norwegian production from Celsa Steel Service AS

Programme: The International EPD® System, environdec.com
Programme operator: EPD International AB
EPD registration number: S-P-00306
Publication date: 2012-04-26
EPD version: 2020-08-19
Valid until: 2025-08-14
Geographical coverage: Norway
Climate change: 388 kg CO_2 eq./tonne, (A1 to A3)

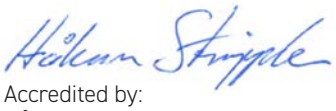
An EPD should provide current information and may be updated if conditions change.
The stated validity is therefore subject to the continued registration and publication at environdec.com

celsa steelservice

Fornybart armeringsstål produsert med vannkraft og kjærlighet.

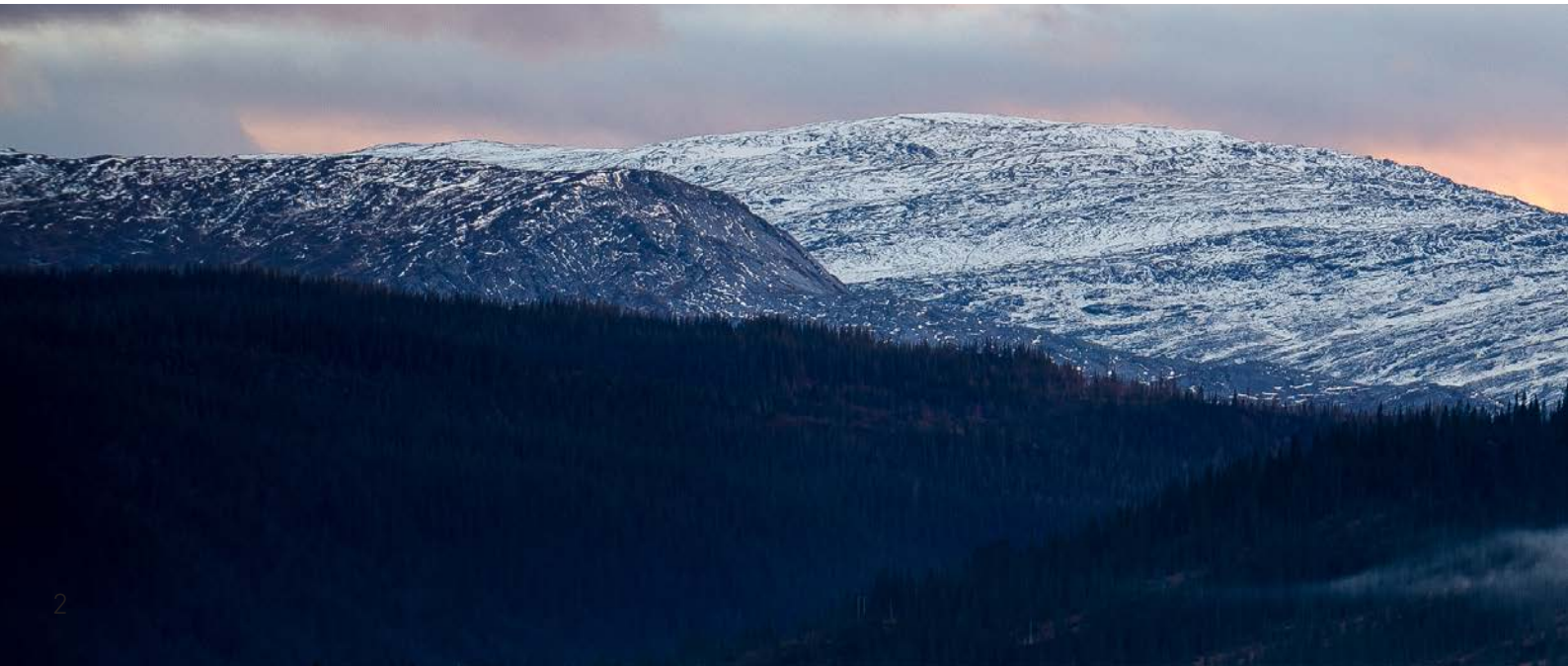
GENERAL INFORMATION

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

CEN standard EN 15804:2012+A2:2019 serves as the Core Product Category Rules (PCR)	
Product category rules (PCR): PCR 2019:14 Construction products version1.0	
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.	
Independent third-party verification of the declaration and data, according to ISO 14025:2006:	
☐ EPD process certification	EPD verification
Third party verifier: Håkan Stripple at IVL Swedish Environmental Research Institute P.O. Box 53021, SE-400 14 Gothenburg, Sweden Hakan.Stripple@IVL.se  Accredited by: Håkan Stripple is an independent individual verifier in the International EPD® System.	
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 from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. It should be noted in particular that there are differences between the present version of EN 15804 and the earlier version. For further information about comparability, see EN 15804 and ISO 14025.



Company information

CELSA Nordic & CELSA Steel Service Norge

CELSA Nordic is a producer of steel reinforcement products in the Nordic countries and is part of the Spanish privately owned company CELSA GROUP since 2007. CELSA Nordic melt shop and rolling mill is located in the northern part of Norway, in the city called Mo i Rana. The steel reinforcement products are distributed through the company's downstream reinforcing services, CELSA Steel Service. CELSA Steel service is located in Norway, Sweden, Denmark, and Finland.

CELSA Steel Service manufactures and sells reinforcing products and services to the Norwegian concrete construction industry. The production sites in Oslo, Drammen, Kristiansand, Bergen, Ålesund, Trondheim, and Tromso are situated close by the most active and populated construction areas in Norway, minimizing transportation distances.

CELSA Steel Service is one of the largest manufacturer of concrete reinforcing products in Norway. Our ambition and aim is to increase productivity and safety by using a larger extent of prefabricated reinforcement solutions instead of cutting and bending reinforcement on site. Prefabrication and special welded elements are possible to manufacture in cooperation with the client and with the help of 3D-drawings and analysis.

ABOUT THE EPD

This EPD is based on a Life Cycle Assessment (LCA) and provides information that can be used in order to put into perspective different steel sourcing.

Methodology

The environmental impact of CELSA Steel Service products has been calculated according to the rules of the EPD (Environmental Product Declaration) International program. EN 15804:2012 + A2:2019 and PRODUCT CATEGORY RULES (PCR) 2019:14, version 1.0, Construction Products are the basis for the calculation of the life cycle assessment (LCA) from the cradle to the end-of-life stage. The environmental impacts from processes common to all products in the same country, i.e. the steel mill, the transport to customers and the end-of-life stage, for Finland and Denmark also most of the transport from Mo i Rana, make up between 85 % and 90 % of the total impacts from the product chain, depending on the specific country and measured as GWP-fossil. From this, we estimate that the variance between different products from different production sites is within ± 10 %

Input data

Site-specific data on use of fuels and commodities provided by CELSA Armeringsstål AS has been used for the steel production in Norway. Site-specific data from CELSA Steel Service is used for the core processes. Site-specific data is from 2019. Electricity consumption data according to country averages has been used for electricity consumed. Specific data from the suppliers has been collected wherever possible. Otherwise, generic data has been collected from commercial databases, mainly from the GaBi professional database (thinkstep AG).

By the selection of data, the geographical location of each supplier has been considered to the extent possible. For by-products, economic allocation based on the relative revenues from the allocable products is applied. For the steel works, the national consumption mix in Norway is applied. Norwegian Consumption Mix used has a GWP value of 0.031 kg CO_2 eq./kWh.

The quality of the inventory data for energy and commodities has been assessed against the criteria of the UN Environment Global Guidance on LCA database development (EUROPEAN COMMITTEE FOR STANDARDIZATION (2019), Annex E). These criteria are geographical, technical and temporal representativeness.
For most of the commodities and energy wares, which cause significant environmental impacts, the data quality is good, with a few occasional exceptions, where the data quality is fair.

Declared unit

Reinforcement steel is normally sold by weight and therefore the declared unit is set to 1 tonne reinforcement steel.

Raw material

The EPD considers reinforcement steel made out of hot rolled products, transformed into straight ribbed bars, cut and bent, mesh, and combinations of these (special welded products). The production of low-alloyed steel from scrap and additional alloying metals is done in an electric arc furnace (EAF).

Scrap is transported from Norway (approx. 62 %) and imports (approx. 38 %) from Sweden, Denmark and Finland to the steel works in Mo i Rana, Norway. After hot rolling, the products are transported to production sites in Norway where they are worked into reinforcement products.

System boundaries

The system boundaries are described in the system diagram and in the table in the section LCA information.

The Environmental Product Declaration (EPD) shows the environmental performance of the product through its life cycle stages from cradle to end-of-life. The life cycle stages are upstream processes (A1), transportation to national production sites (A2), core processes (A3) and end-of-life processes (C1 – C4). The upstream processes include steelmaking processes and the core processes include processing activities from coils and straight bars to project specific reinforcement steel.

The raw material is transported to the production sites from the steelworks as coils and straightened bars by ship to the production sites in Oslo, Drammen, Kristiansand, Bergen, Ålesund, Trondheim and Tromsø. There is also a production site directly at Mo i Rana. The tonnage-weighted average delivery distance to customers is 106 km by truck (module A4).

Scope

The objective of the life cycle assessment is to provide the basic environmental data necessary to prepare the EPD, i.e. to give an environmental profile of the manufacturing of CELSA´s steel reinforcement products. The aim of the LCA report and the EPD is to be a useful tools for different actors in the construction and real estate sector, (business to business). The system is of the type cradle to gate with options, modules C1 - C4 and module D, as defined by EN 15804:2012+A2:2019.

The product chain starts with shredding of the steel scrap (if any) and the transport of the scrap to the steel works. Commodities and energy are followed upstream to their origin in natural resources. The product chain ends with the recovery of reinforcement steel from crushed concrete from the demolition of a construction. Benefits and loads beyond the system boundaries (resource recovery stage) are also included.

Additional information

Product contains no substances in the REACH Candidate list. Products contain no substances in the Norwegian priority list. The estimated impact results are only relative statements, which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

EPD of construction products may not be comparable if they do not comply with EN15804.

Verification

CEN standard EN 15804 serves as the Core Product Category Rules (PCR). Independent third-party verification of the declaration and data, according to ISO 14025:2006:

PRODUCT INFORMATION

Name and location of production site(s)

Oslo, Drammen, Kristiansand, Bergen, Ålesund, Trondheim, and Tromsø

Product-related or management system-related certifications

Material Standards: NS 3576-3 (1, 3 and 4) and EN 10080:2005Product Certificates: 961220 (KONTROLLRÅDET Supplier CELSA Armeringsstål AS: OSHAS 18001, ISO 14001, EMAS

Registrations in other environmental assessment systems

ECOproduct

UN CPC code

41241 and 41242

Material Characteristics

Product diameter range from 4 mm to 40 mm
Yield stress, Re ⩾ 500 MPa - Rm/Re ⩾ 1.15
Elongation Agt ⩾ 7.5 %
Density 7700 kg/m^3

Product name and identification

Steel reinforcement products for concrete

Included products and description

Products range from cut and bent, mesh (Mo I Rana), BAMTEC® (Oslo), to an extensive production of prefabricated reinforcement elements (special welded products).

Other Certifications at CELSA Steel Service AS

ISO 9001, ISO 14001

Product content (weight %)

Iron 98–99
Carbon 0.05–0.2
Manganese 0.3–0.7
Silicon 0.2

LCA INFORMATION

Declared unit

Per tonne of reinforcement products.

Reference service life

Not applicable

Time representativeness

Specific data for CELSA's core processes and for the manufacture of several major additives and commodities was collected as annual average data for the year 2019. Generic data for modes of transport and for materials, for which specific data was not available, has 2019 as reference year. Data for energy wares from primary energy sources has 2016 as reference year.

Database(s) and LCA software used

LCA software GaBi ts version 9.2 (thinkstep AG) with its Professional Database version 8.7, service pack 40.

Description of system boundaries

Cradle to gate with modules C1-C4, module D and with optional module A4.

More information

This LCA comprises products, which are convertedfrom rolled steel bars in Norway. Steel bars which are sold without further processing are not included. The eight production sites of CELSA Steel Service in Norway have different turnovers and offer different types of products, use different types and quantities of energy and commodities per tonne of product, and have different transport routes of steel bars from Mo i Rana.

In order to calculate data for an average reinforcement product, the total use of each type of energy and each type of commodity for all sites was divided by the total output of products from all sites. For transports, tonnage-weighted average transport distances were calculated for ship routes and for truck routes.

Cut-off criteria

The principle is zero cut-off. All raw materials, all commodities, all energy inputs and all waste-treatment processes, for which specific, generic or (as a last possibility) estimated data could be obtained, are included. Commodities for which no data at all could be found, amount to less than 1 % weight.

Allocation

In the base case, the environmental impacts of the recycled scrap used in module A1 are allocated to the product from which the scrap was obtained. The environmental burdens of transport to the steel mill in Mo i Rana and of scrap shredding are allocated to the declared product. As additional information, the content of preconsumer scrap and the climate impact of virgin production of the steel corresponding to the primary preconsumer scrap is also calculated and reported.

Otherwise as a rule, economic allocation based on the relative revenues from the allocatable products is applied. This in principle also applies to recyclable steel waste from module A3, which is regarded as a co-product. The environmental impact thus allocated to the scrap is 0.4 %, which is disregarded.

Source of electricity for the manufacture (A3)

Electricity for the manufacture in Norway is supplied from the Norwegian average consumption mix.

Norwegian average consumption mix, low-voltage grid (< 1kV)

Primary energy source	Contribution (%)
Hydro power	96.43
Wind power	1.42
Biomass + biogas	0.03
Waste incineration	0.26
Fossil sources, mainly natural gas	1.86
Climate impact, kg CO_2 equiv./kWh	**0.031**

Scenarios

Transports to building sites (A4)

For deliveries of reinforcement products to building sites in Norway an average distance of 106 km by truck is used to calculate the environmental impacts, based on data from CELSA Steel Service in Norway.

Transport of reinforcement products from the site of production to the building site in Norway

Mode of transport	Type of vehicle (Gross weight, tonnes)	Payload capacity (tonnes)	Cap. use (%)	Distance (km)	Fuel consumpt (l/tkm)
Truck, Euro 6	26-28	18.4	70	106	0.024

End-of-life (C1-C4)

C1. Demolition

For the extraction of reinforcement steel from concrete, when a concrete construction is demolished, diesel-powered machinery is assumed. Diesel consumption, specifically allocated to the reinforcement steel, is reported by Erlandsson et al (2015).

C1. Recovery of reinforcement steel from crushed concrete per 1 tonne of steel

Diesel use, kWh (l)	Losses by recovery (%)
1.1 (0.11)	5 [1)]

1) Estimated

C2. Transport to scrap yards or recycling facilities

The same scenario as for A4 transport to building sites.

C3 Waste processing

A fraction of the recovered steel is fragmented (shredded). This is considered to be part of the life cycle of the product for which the scrap is used as a raw material and is modelled in A1 as part of the production of the raw material steel.

C4. Disposal

No further disposal processes except sorting and classification are necessary.

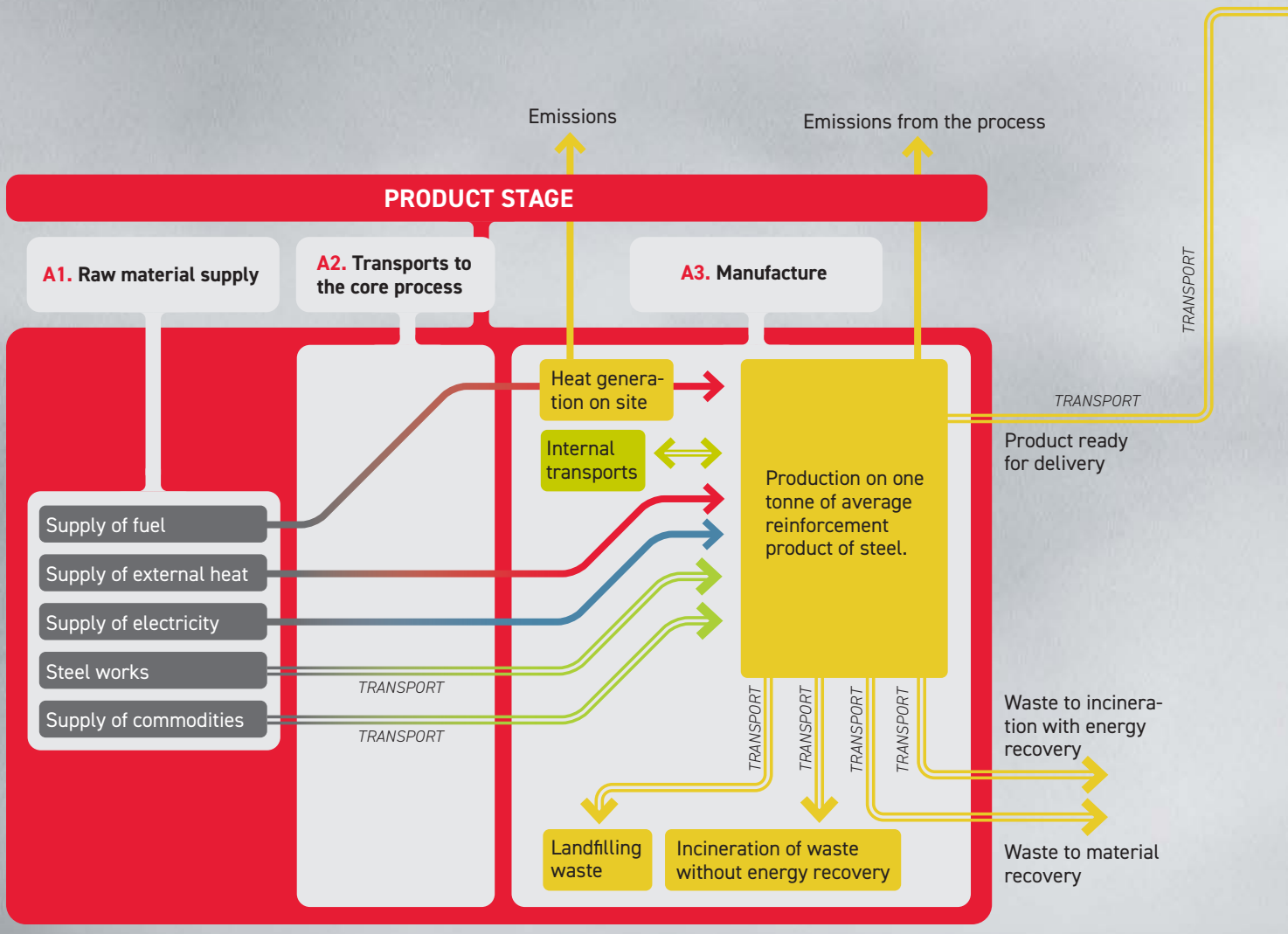
Benefits and loads beyond the system boundaries (D)

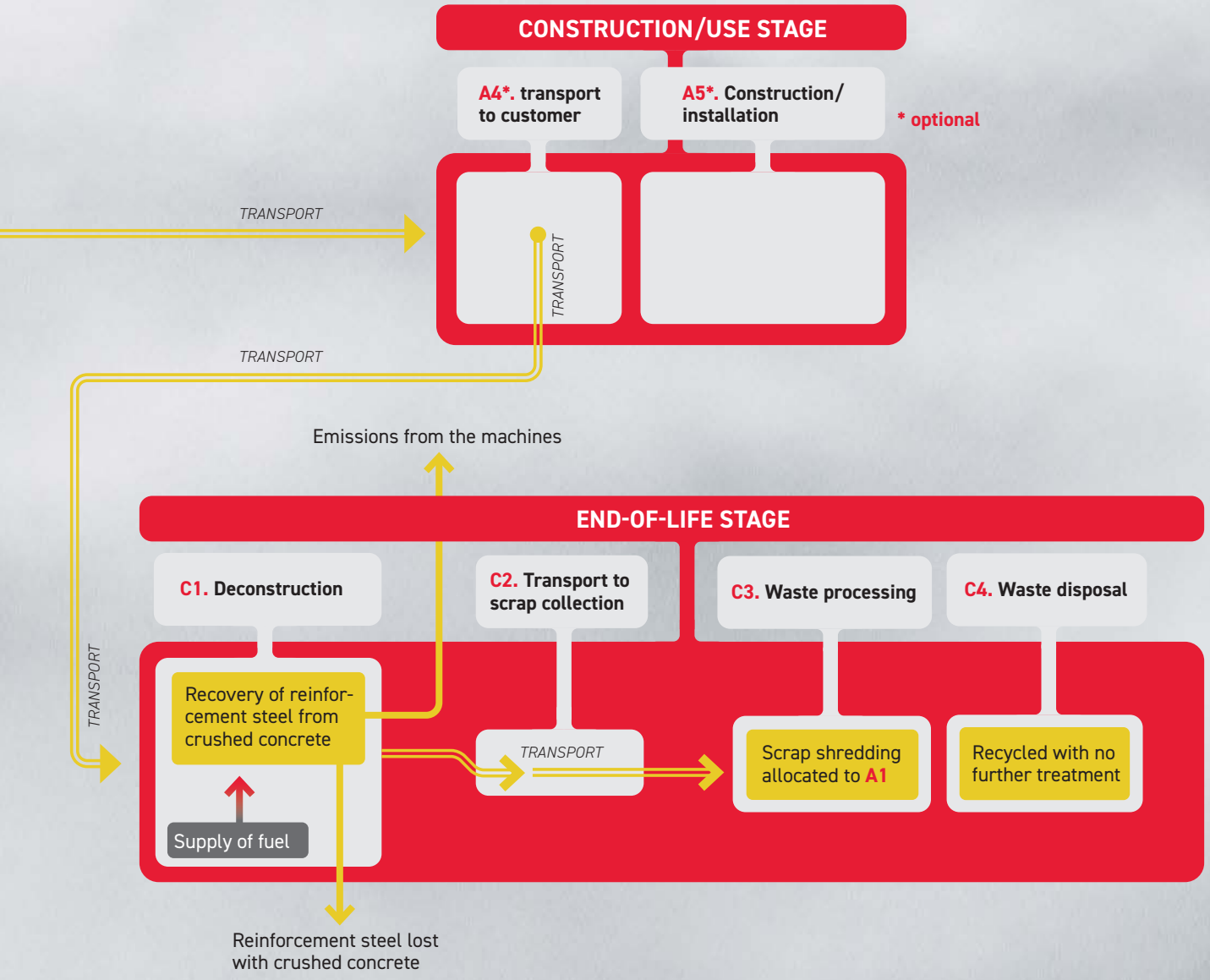
Losses by recovery of steel from crushed concrete, per 1 tonne of steel in the building.

	Quantity (kg)
Substitution of raw material	-50

The load to replace these losses is calculated as the environmental impacts of producing the equivalent quantity of cold rolled steel coil via the blast furnace route. Generic data for EU28 is used for this calculation.

SYSTEM DIAGRAM





BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY

D

No benefits beyond the benefits discounted by the use of scrap as raw material in A1. Loads corresponding to the loss of steel in C1.

SYSTEM BOUNDARIES (A1 TO D)

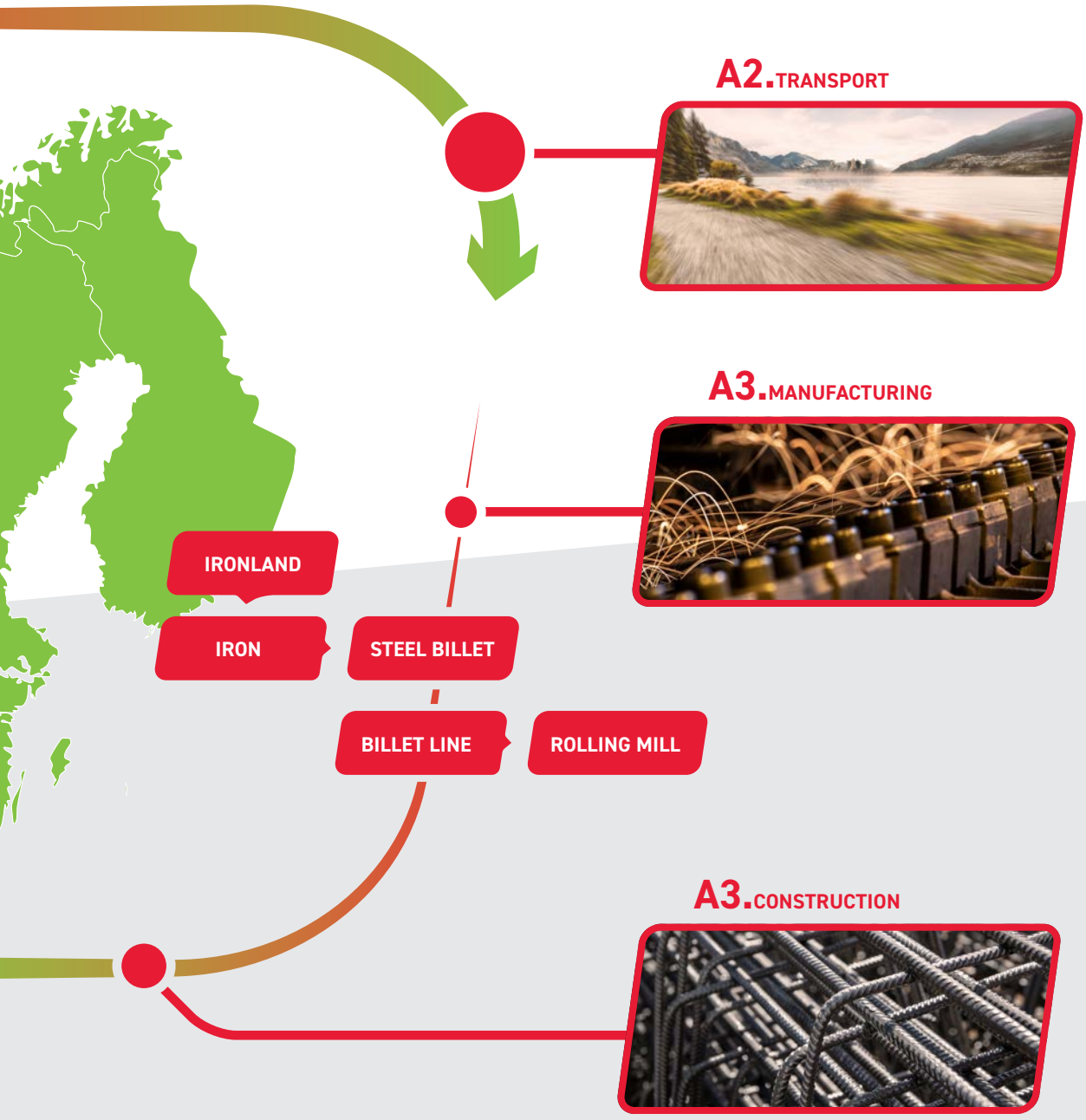
A1. RAW MATERIALS & SCRAP

D. RECYCLING

Ironsand, coal, limestone, scrap.

C4. DISPOSAL

C3. SCRAP PROCESSING


A2. TRANSPORT
A3. MANUFACTURING
IRONLAND
IRON
STEEL BILLET
BILLET LINE
ROLLING MILL
A3. CONSTRUCTION

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

	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	x	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	NO/ EU/ GLO	NO	NO	NO	-	-	-	-	-	-	-	-	NO	NO	NO	NO	EU
Specific data	60 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	10 % or less					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	10 % or less					-	-	-	-	-	-	-	-	-	-	-	-

Content information of the steel

Steel	Weight (kg)	Post-consumer material (weight-%)	Renewable material (weight-%)
Iron	980 – 990	73	0
Carbon	0.5 - 2		0
Manganese	3 - 7		0
Silicon	2		0
TOTAL	1000	73	0

Environmental Information

For construction services, the total value of A1-A3 shall be replaced with the total value of A1-A5.

The indicators are calculated with the characterisation factors published by the Joint Research Centre (ILCD 2013), as they can be accessed in GaBi (thinkstep AG) in the data set Environmental quantities/EN15804+A2. This also follows the current PCR.

Potential environmental impact – mandatory indicators according to EN 15804

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	357	30.5	0.18	388	7.48	0.344	7.1			122
GWP-biogenic	kg CO_2 eq.	8.98	0.0807	5.1	14.2	0.41	0.00354	0.389			0.632
GWP-luluc	kg CO_2 eq.	0.623	0.000913	0.00139	0.625	0.0607	0.00271	0.0577			0.0247
GWP-total	kg CO_2 eq.	367	30.6	5.28	402	7.95	0.350	7.55			123
ODP	kg CFC 11 eq.	2.23E-06	3.09E-15	1.2E-16	2.23E-06	1.38E-15	6.13E-17	1.31E-15			1.55E-14
AP	mol H^+ eq.	1.1	0.578	0.00428	1.7	0.00876	0.00341	0.00833			0.32
EP-freshwater	kg PO_4^{3-} eq.	0.0200	1.95E-05	4.32E-06	0.0200	6.99E-05	3.13E-06	6.65E-05			0.000186
EP-freshwater	kg P eq.	0.00652	6.35E-06	1.41E-06	0.00653	2.28E-05	1.02E-06	2.17E-05			6.06E-05
EP-marine	kg N eq.	0.454	0.292	0.00147	0.747	0.00271	0.00164	0.00258			0.0675
EP-terrestrial	mol N eq.	5	3.2	0.0166	8	0.0322	0.0181	0.0306			0.715
POCP	kg NMVOC eq.	1.23	0.785	0.00432	2.02	0.00728	0.0048	0.00691			0.236
ADP-minerals & metals*	kg Sb eq.	0.000155	9.17E-07	1.58E-08	0.000156	6.89E-07	3.07E-08	6.5E-07			3.21E-05
ADP-fossil*	MJ	1930	414	2.29	2346	100	4.46	95			1130
WDP	m^3	80	0.1	0	80	0.08	0.004	0.07			2.5

** 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.*

Potential environmental impact – additional mandatory and voluntary indicators

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	C1	C2	C3	C4	D
GWP-GHG [1]	kg CO_2 eq.	357	30.5	0.18	388	7.48	0.344	7.1			122
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017											

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Use of resources

Results per functional or declared unit

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	C1	C2	C3	C4	D
PERE	MJ	3950	1.33	0.132	3951	5.78	0.258	5.5			18.3
PERM	MJ	5.7			5.7						
PERT	MJ	3956	1.33	0.132	3957	5.78	0.258	5.5			18.3
PENRE	MJ	2050	415	2.3	2467	100	4.48	95.4			1145
PENRM	MJ	0.42			0.42						
PENRT	MJ	2050	415	2.3	2468	100	4.48	95.4			1145
SM	kg	1140			1140						
RSF	MJ				0						
NRSF	MJ	894			894						
FW	m^3	60	0.00	0.00	60	0.007	0.0003	0.006			0.1
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 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										

[1)] *Municipal waste*

Waste production

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0.331	5.19E-08	1.1E-07	0.331	4.64E-06	2.07E-07	4.41E-06			9.31E-05
Non-hazardous waste disposed	kg	225	0.908	0.0489	226	0.485	50	0.461			3.16
Radioactive waste disposed	kg	0.0448	0.000446	1.11E-05	0.0453	0.000185	8.25E-06	0.000176			1.02E-05

Output flow

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	C1	C2	C3	C4	D
Components for re-use	kg										
Material for recycling	kg	155		27.2	182					950	
Materials for energy recovery	kg	0.573			0.573						
Exported energy, electricity	MJ										
Exported energy, thermal	MJ										

The result tables shall only contain values or the letters "ND" (Not Declared). It is not possible to specify ND for mandatory indicators. ND shall only be used for voluntary parameters that are not quantified because no data is available.

Information on biogenic carbon content

Biogenic carbon content	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2

Additional information

Content and potential climate impact of preconsumer scrap

Of the steel scrap used as charge for the steel mill ca. 27 % consists of preconsumer steel scrap and 0.42 % of preconsumer cast iron. Of the steel scrap an estimated share of 46 % originates from scrap-based steel. The rest of the preconsumer steel scrap and the entire quantity of preconsumer cast iron scrap are produced from iron ore via the blast-furnace route. Generic, average data for steel production in Europe is used to calculate the potential climate impact, GWP-fossil, of producing these steel and iron quantities. The result is reported in the table. The climate impact, GWP-fossil, of manufacturing the quantities of pre-consumer scrap used per declared unit, 1 tonne of reinforcement product.

	Quantity (kg)	GWP-fossil (kg CO_2 eq.)
Ore-based steel, blast-furnace route, cold rolled	164	400
Scrap-based engineering steel, electric-arc furnace route	140	146
Cast iron, ore based	4.7	7.5

COMMITMENT TOWARDS SUSTAINABILITY

At Celsa Nordic, we recycle nearly 700 000 tonnes of scrap steel each year. This has made us one of the largest recycling companies in the Nordic countries.

We take this responsibility very seriously. Sustainability development is based on our commitment to improve the quality of life in today´s society without compromising the ability to meet the needs of future generations. Therefore, CELSA Nordic has developed a sustainability roadmap to integrate sustainability polices into the decision-making process to reduce our overall environmental impact. We have defined four sustainability pillars, each of which has their own set of sustainability targets.

We believe in our mission to help define steel as an environmentally sound building material, and to help companies improve the environmental credentials of their projects.

This means that we provide value throughout our entire product and service value chain in an environmentally efficient way all over the Nordic countries.

We firmly believe that innovation will enable us to serve our customers in the best possible way, with a top-class product that is highly efficient and suited to their needs. If we want to remain leaders, we must trust in innovation as we have done so far.

CELSA Nordic has been a pioneer in terms of environmental commitment in the Steel industry in Europe and are devoted to retain that position in the future.

WE EMBRACE SUSTAINABILITY

Our mission is to redefine steel as an enviromentally sound building material, and to help companies improve the eco-friendly credentials of their projects.

We have defined four suitability pillars where each one of them have their set of suitability targets;

CO_2-emissions

Local emissions

By-products

Fossil free transport

SUSTAINABILITY GOALS

	Goals 2030	Goals 2050
CO_2 CO_2-emissions	**50%** reduction of CO_2	**ZERO** CO_2-emissions
Local emissions	**50%** reduction of local emissions	**70%** reduction of local emissions
By-products	Closing the **LOOP** Zero waste	
Fossil-free transport	**50%** reduction of CO_2	**Fossil-FREE**

Circular Economy and Recycling

CELSA Nordic takes the principles of the circular economy as a working philosophy. Currently, all the activities of the companies of the group are developed according to these principles. Returning products to their life cycle is our priority.

Annually, we recycle nearly 700 000 tonnes of scrap. Thus, we avoid the accumulation of waste in landfills and obtain high value steel products for society preserving natural resources.

The products manufactured in the CELSA Nordic plants are eternally recyclable. The waste management inherent to the steelmaking process has become one of CELSA Nordics priorities in recent years. These generated materials are considered co-products because of their high intrinsic value and their capacity to be used as secondary raw materials for other industrial processes.

Steel is one of the most recyclable and recycled materials in the world. It can be recycled continuously without losing its properties.

Thanks to its magnetic properties, it can be easily recovered for recycling. CELSA Nordic reuses, recycles and values more than 90 % of the remaining waste it generates. Making steel from scrap reduces energy consumption by almost 75 %. Recycling of scrap reduces the consumption of raw materials in the manufacturing of steel by 90 %.


"We believe in a sustainable development that provides future generations a better future"

Environment and energy

The protection and improvement of the environment are essential to us. Every day we try to improve our methods and installations by establishing controls, looking for new applications for the reuse or valorization of our waste and investing in technological improvements that benefit the environment. Our plants stand out for their recycling capacity.

CELSA Nordic aims for excellence in environmental management. Hence, in recent years we have been working on implementing the most demanding environmental management systems in our parent companies such as the European EMAS.

Health and Safety

In CELSA Nordic, we are committed to achieving a safe and healthy work environment for all the people who work with us. Our goal is to become an organization where we all believe in the value of our safety and of our colleagues.

Beyond compliance with the legal requirements in terms of occupational risk prevention, in CELSA Nordic we have incorporated into our Occupational Health and Safety Management System a series of programs that allow us to move towards our objective of Zero Accidents.

Environmental policy

- Comply with the legal obligations and requirements in the areas we operate. Information, collaboration and transparency with the Administrations.
- Consider the needs and expectations of the stakeholders. Enter into commitments and voluntary agreements with our closest communities in environmental improvement projects and in the dissemination and training of workers and neighbors in an environmental matter.
- Work with different environmental management systems, certified and adapted to the nature of our activities that ensure care and respect for the environment by encouraging each person in our organization to act in an environmentally responsible manner.
- Apply continuous improvement in all our processes and develop and invest in new technologies that allow us to prevent and minimize atmospheric emissions, generation of waste and inefficient use of resources. Consider the life cycle of the product to determine environmental aspects and impacts.
- Promote commitment and an environmentally responsible performance of our suppliers, contractors and subcontractors, which in this regard are the decisive factor of choice
- Promote the recovery, recycling and reuse of our products and work with our clients in raising awareness of the steel life cycle. Participate in initiatives that promote the use of environmentally responsible products

Environmental Principles

- Effective and responsible use of natural resources and energy.
- Systematic appliance of continuous improvement and prevention of pollution in the management of processes that include the establishment and periodic review of environmental objectives and goals.
- Develop a productive system that respects the environment and complies with the legal obligations and commitments and voluntary agreements signed by CELSA Group™ related to its environmental aspects.
- Encourage the implementation of the waste hierarchy in a manner that favors the following management processes: prevention, minimization, reusing, recycling, energy valorization and leaving landfill disposal as a residual management channel.
- Consider and minimize the impact of environmental aspects from the extraction of raw materials to the end-of-life conditions of the equipment, the facilities and the manufactured products, by using the best available and affordable technologies of the company.
- Develop the environmental commitment of each person that will be linked to our business including management, employees, contractors, customers and suppliers, making awareness, information and training an essential tool
- Communicate in an open and transparent way our environmental performance with all the interested parties with the objective of achieving an environmentally respectful integration in our environment.

People and Society

Our commitment to people and society is absolute. We believe in equal opportunities, in the diversity of our people and in the integration of all people who want to be part of the Group. We are proud to have people from different places, races, ideologies, nationalities, religions and abilities.

Not only that, but in CELSA Nordics we promote work-life balance policies and we fully respect the personal and family life of all the employees.

Commitment to the community

Within the framework of our commitment to the community, we are firmly devoted to promoting training projects that result in personal and professional development, not only of those people who make up our organization, but also of those students who aspire to be part of it in the future. We show full respect to the local cultures of the countries and communities where we operate, contributing to their development and aiming to achieve a sustainable and beneficial activity for society.

Code of Ethics and Professional Conduct

CELSA Nordics has a Code of Ethics and Professional Conduct that governs the behavior guidelines of each employee who is part of the Group.

Compliance with the Code is the responsibility of each person, who, through their conduct, must respect the laws, values, principles and rules of the Code, as well as other existing provisions or those that may exist in the future. Likewise, the Code contemplates that employees promote that the subsidiaries and affiliates of CELSA Nordics as well as their suppliers and interest groups, are governed by standards of conduct and values analogous to those established in this Code.

You may find more information about CELSA Nordic Sustainability & Environmental work at:
www.celsanordic.com & celsa-steelservice.no

Differences versus previous versions

Since the previous version of this EPD was published, a completely revised versions of the standard EN 15804 and of the construction PCR have been published and applied. The environmental impact indicators to be used have been revised and partly completely changed, as have the rules prescribing which modules are mandatory to declare. A general comparison of the present updated EPD with the previous one is thus not feasible. However, the climate impact indicator, GWP-fossil, is essentially the same as before. For this impact indicator, a comparison with the previous EPD is presented in the table below.

Comparison of the modules A1 – A4 of the updated EPD with the previous version of this EPD for the impact category climate change (GWP-fossil). The value in the current EPD is thus decreased by the value in the previous EPD. A positive difference thus gives an increase in relation to the previous EPD.

	A1	A2	A3	A4	Total A1 – A4
Change (%)	+7.5	+28	-97	-74	+1.4

The change in A1 is caused by small increases in the inventories of several supply chains, found during the course of the updates and in one case when weak generic data could be replaced by specific data.

The increase in A2 cannot be explained by a change of the transport pattern. Actually, a decrease would have been expected, since part of the reinforcement products are now manufactured at a site in Mo i Rana close to the steel mill with a shorter average transport distance from the steel mill to the manufacturing sites as a consequence. It seems that the models used to describe ship transports return a higher fuel consumption and a higher climate impact per tkm than the earlier versions.

The large decrease in GWP fossil in A3 is due to shift from fossil fuel oil to a biofuel.

The decrease in A4 is due to a changed transport pattern with shorter delivery distances to customers than before.

General information

EPD Programme
The International EPD® System.
For more information, www.environdec.com

Programme operator
EPD International AB, Box 210 60 SE-100 31 Stockholm Sweden

PCR review conducted by
The Technical committee of the International EPD® System

Declaration number: S-P-00306

Product category rules: PCR 2019:14 Construction products version 1.0

Central Product Classification
CPC 4126, drawn and folded products of iron or steel

Publication date: 2012-04-26
EPD Version: 2020-08-19
Valid until: 2025-08-14

Owner:
CELSA Steel Service AS
Head office:
Vitaminveien 5b,
Postboks 59 Grefsen,
0409 Oslo Norway
celsa-steelservice.com

Contact
Espen Marthinsen
e-mail: espen.marthinsen@celsa-steelservice.com
Phone: +47 917 92 772

Declared unit
The functional unit is 1 tonne of an average processed steel reinforcement product ready for delivery at the factory gate. It is thus a declared functional unit according to the definition and terminology of the Product Category Rules

Geographical coverage: Norway

References

- EPD International (2019): General Programme Instructions of the International EPD® System. Version 3.01.
- EPD International AB (2019), www.environdec.com.
- Erlandsson M, Peterson D: Klimatpåverkan för byggnader med olika energiprestanda. Underlagsrapport till kontrollstation 2015. För Energimyndigheten och Boverket. IVL Svenska Miljöinstitutet, rapport nr U5176, 27 maj 2015, första version daterad 10 maj 2015.
- EUROPEAN COMMITTEE FOR STANDARDIZATION (2019), European Standard EN15804:2012+A2 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.

External verification by

Håkan Stripple
IVL Swedish Environmental Research Institute
Tel. dir. +46 (0)10 788 67 92
e-mail: Hakan. Stripple@IVL.se

Practitioner

This environmental declaration is prepared by Mats Almemark July 2020.

IVL Swedish Environmental Research Institute- independent qualified environmental competence.

www.ivl.se
Phone +46 10 788 65 00
e-mail: mats.almemark@ivl.se

2020-08-19

celsa steelservice

EPD®