

Environmental Product Declaration



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

Stålprofil concept SP 700

with profiles in carbon steel

EPD of multiple products, based on the average results of the product group. Included products are described in Section "Products covered by the EPD"

from

Stålprofil PK AB



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

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): PCR 2019:14 Construction products., version 1.3.4

PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com 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.

Life Cycle Assessment (LCA)

LCA accountability: Lisa Hallberg, IVL Swedish Environmental Research Institute

Third-party verification

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

EPD verification by individual verifier

Third-party verifier: David Althoff Palm, Dalemarken AB



Approved by: The International EPD® System

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

Yes No

[Procedure for follow-up the validity of the EPD is at minimum required once a year with the aim of confirming whether the information in the EPD remains valid or if the EPD needs to be updated during its validity period. The follow-up can be organized entirely by the EPD owner or together with the original verifier via an agreement between the two parties. In both approaches, the EPD owner is responsible for the procedure being carried out. If a change that requires an update is identified, the EPD shall be re-verified by a verifier]

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.

Company information

Owner of the EPD

Stålprofil PK AB
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Contact

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Johan Hafström (johan@stalprofil.se)

Description of the organisation

Stålprofil develops, tests and delivers profile systems with non-insulated, thermal insulated and fire-insulated profiles in steel, galvanised steel and stainless steel for glazed door, sliding door, wall, window and curtain wall sections. The sections can also be bullet-, burglary- and explosion resistant. Tests for various resistance are being carried out towards different EN standards at EN 17025 accredited laboratories

Stålprofil was founded in 1987 by Per-Uno Hafström in Vårgårda. Today our office and production are located in Uddevalla. Stålprofil total net sales in 2023 was mEUR 11,4. We currently employ about 30 people.

Stålprofil is now the perfect blend of yesterday and today – where experience and young, curious employees drive and refine our business and products together. We are a quick, skilled and reliable supplier that always has a focus on customers.

Since 2010 we belong to Indutrade, an international technology and industrial business group that consists of more than 200 companies around the world. Indutrade business philosophy is based on entrepreneurship and decentralised leadership. This is the key to Indutrade success and have been so ever since the start in 1978.

Product-related or management system-related certifications

Stålprofil PK AB is ISO 9001:2015 and ISO 14001:2015 certified since 2021. Certification is made RI.SE. This is endorsing our commitment to quality, continuous improvement, and environmental responsibility.

Name and location of production site

Stålprofil PK AB, Uddevalla, Sweden

Product information

Product name

Stålprofil concept SP 700 is steel profiles made of carbon steel with fire resistant insulation. Stålprofil concept SP 700 consists of Stålprofil system SP 76500, SP 77000, SP 79000 and SP 711000, which are covered in this EPD.

Product description

Stålprofil concept SP 700 has fire resistant insulated profiles for glazed doors, sliding doors, partition walls and window sections. The systems have been tested for e.g. fire resistance (EI and EW), smoke resistance etc. and are documented and approved by notified bodies. Tests are being carried out according to various EN standards at EN 17025 accredited laboratories.

Products covered by the EPD

This EPD is based on the average results of the product group Stålprofil concept SP 700. The average results are obtained based on the weighted average composition of the steel profiles. The weighting of the composition was based on the annual production volumes of the steel profiles included in this product group. The results of this EPD are therefore not specific for one configuration of the steel profile but represents the products as a group. Variation in the results between the included products are presented in the result section of this EPD.

Stålprofil concept SP 700 consists of the following Stålprofil systems;

- Stålprofil system SP 76500
- Stålprofil system SP 77000
- Stålprofil system SP 79000
- Stålprofil system SP 711000

The following profiles under the Stålprofil systems listed above are covered by this EPD;

SP 76511, SP 76512, SP 76513, SP 76520, SP 76521, SP 76522, SP 76525, SP 76513-T25, SP 76511/785, SP 76512/785, SP 76513/785, SP 76521/785, SP 76525/785, SP 76521/720/25, SP 76522/720/25, SP 77011/30, SP 77012/30, SP 77013/30, SP 77020/30, SP 77021/30, SP 77022/30, SP 77012/785/30, SP 77013/785/30, SP 77021/785/30, SP 79011, SP 79012, SP 79013, SP 79020, SP 79021, SP 79022, SP 79025, SP 79011/785, SP 79012/785, SP 79013/785, SP 79021/785, SP 79021/730/50 and SP 711021

Manufacturing process

Stålprofil concept SP 700 with fire resistant insulated profiles are produced in our factory in Uddevalla, Sweden. The special formed profiles are connected with the required insulation through an automated and advanced welding process. Stålprofil profiles are packed and being delivered in bundles together with the appropriate accessories to manufactures of sections. Manufacturers of sections in Stålprofil systems are being under third party control according to national building legislations.

UN CPC code

42190

LCA information

Declared unit

1 kg of product

Reference service life

Not applicable

Description of system boundaries

The system boundary used in this EPD is called cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional modules are A4 and A5. The modules B1-B7 are not covered. This is referred to as Type B in the PCR.

Time representativeness

The product manufacturing corresponds to the year 2022.

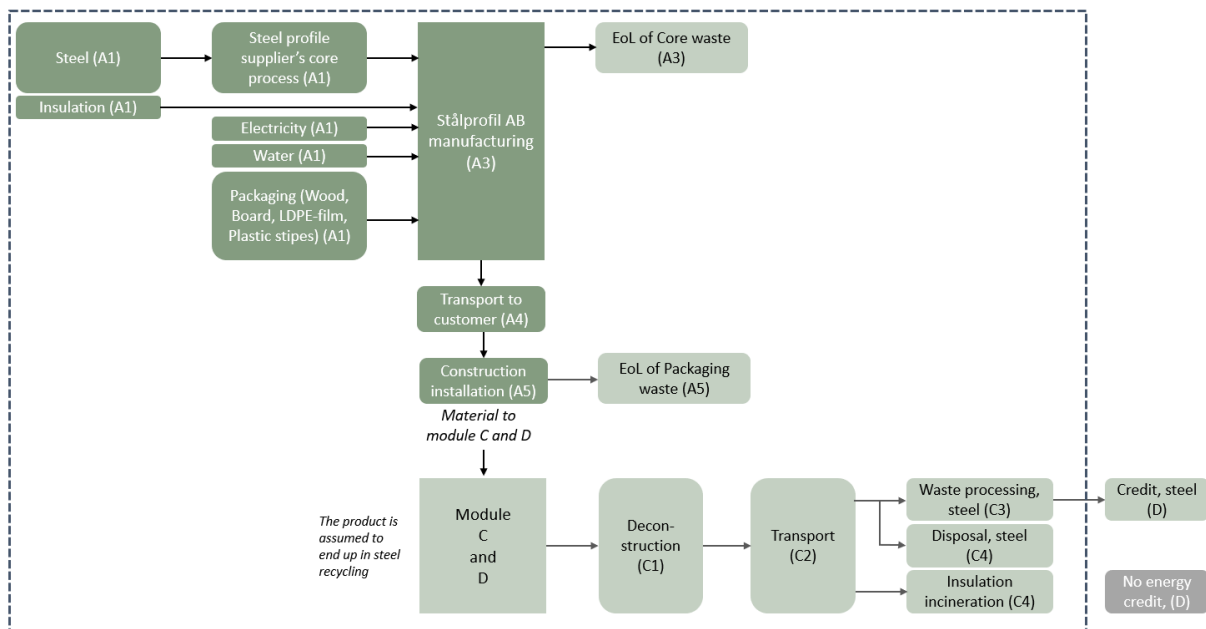
Database(s) and LCA software used

The LCA was modelled using the LCA software LCA for Experts and corresponding database (2023.2) provided by Sphera.

Geographical scope

Sweden

System diagram



- Module A1: Production, including transport, of raw materials and generation of energy
- Module A2: Transportation of raw materials to Stålprofil's manufacturing site
- Module A3: Manufacturing of steel profiles and management of production waste
- Module A4: Transport of product to customer or installation site

- Module A5: The installation stage, only considers the waste management process (incineration with energy recovery) of the packaging during installation, not the installation itself
- Module C1: Deconstruction of the product
- Module C2: Transport to waste processing and disposal
- Module C3: Waste processing of the product, to be sent to steel recycling
- Module C4: Disposal of the remaining part of the product in a landfill, and the insulation assumed to be burnt out in the steel recycling
- Module D: Benefits from recycling of the steel

Allocation

The pre-consumer scrap is used in the production of steel. The environmental burden from the use of this scrap is allocated based on economic value by making a conservative assumption equal to 5% of virgin blast furnace based cold rolled carbon steel.

The production of the steel profiles also generates scrap and co-product allocation based on economic value has been applied. The applied allocation factor for this scrap is 1.2%.

Cut-off criteria

The maximum cut-off criteria established by the PCR and EN 15804 standard is 1% of all material and energy flows to a single unit process and 5% of total inflows (mass and energy) to the upstream and core module. No cut-offs exceeding this limit have been made.

Inclusion of infrastructure and capital goods

Infrastructure and capital goods are not included in any of the modules covered in this EPD.

Transportation

The transport activities covered are the transport of raw materials and packaging, waste from the production site, transport of product to customer/building site and transport within module C. The transports are carried out through heavy trucks.

Energy use

Stålprofil's supplier of steel profiles uses both electricity and heat. The electricity mix is 95% fossil and 5% other renewable sources, corresponding to a GWP-GHG of 0.47 kg CO₂eq/kWh. District heat from wood chips is used as heat source.

The source of electricity used at Stålprofil's manufacturing site is hydropower, corresponding to a GWP-GHG of 0.014 kg CO₂eq/kWh. District heat from biomass is used as heat source.

Scenario for module A4

The product is transported to the customer or building site at an average distance of 250 km using a 28-32 ton truck with a load capacity of 85%. No empty return is considered.

Scenario for module A5

Module A5 is the installation of the product. However, module A5 in this EPD only covers the waste management of the product packaging after the product is installed. The packaging of the product consists of wood, board and plastics which are treated by incineration with energy recovery. The biogenic carbon dioxide stored in the packaging is neutralised by the biogenic carbon dioxide emissions considered generated at the incineration.

Scenario for module C1

The product is being deconstructed by a machine powered by diesel.

Scenario for module C2

The waste is transported to waste processing (C3) and disposal (C4) at a distance of 150 km using a 20-26 ton truck with a load capacity of 85%. No empty return is considered.

Scenario for module C3

85% of the product is assumed to be processed in order to be sent for recycling in an electric arc furnace (EAF). The attached insulation material is then burnt out in the steel smelter and this part is assigned to module C4 without energy recovery.

Scenario for module C4

15% of the product is assumed to be disposed of as construction waste in a landfill. The burning of the insulation material in the steel recycling process (C3) is also accounted for in C4 since no energy is recovered.

Scenario for module D

The environmental benefit of the recycled steel is gained through the avoided production of primary steel. This benefit is already considered in the data set "value of scrap" from worldsteel, corresponding to -1.7 kg CO₂eq per kg of scrap in module D. The net flow of the recycled steel being credited in module D corresponds to 0.6 kg.

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

Life cycle stage	Module		Modules declared	Geography	Specific data used	Variation - products	Variation - sites
Product stage	Raw material supply	A1	X	EU	8%	3%	0%
	Transport	A2	X	SE			
	Manufacturing	A3	X	SE			
Construction process stage	Transport	A4	X	SE	-	-	-
	Construction installation	A5*	X	SE	-	-	-
Use stage	Use	B1	ND	-	-	-	-
	Maintenance	B2	ND	-	-	-	-
	Repair	B3	ND	-	-	-	-
	Replacement	B4	ND	-	-	-	-
	Refurbishment	B5	ND	-	-	-	-
	Operational energy use	B6	ND	-	-	-	-
	Operational water use	B7	ND	-	-	-	-
End of life stage	De-construction demolition	C1	X	SE	-	-	-
	Transport	C2	X	SE	-	-	-
	Waste processing	C3	X	SE	-	-	-
	Disposal	C4	X	SE	-	-	-
Resource recovery stage	Reuse-Recovery-Recycling-potential	D	X	SE	-	-	-

X: Module Declared

ND: Module not declared

*A5 is partly declared i.e. only waste management of the packaging materials is covered. The "uptake" of biogenic CO₂ in the production phase of the packaging materials (A1) is here in A5 "neutralised" by the biogenic CO₂ generated at incineration.

Content information

The content declaration is presented per declared unit, which is 1 kg of steel profile.

MIN, MAX or AVERAGE	Product components	Material amount	Post-consumer recycled material (1)	Biogenic material (2)	
		kg/kg product	weight-% of product	weight-% of product	kg C/kg product
Average product declared in the EPD	Steel, cold rolled	0.81	1.5%	0%	0
	Insulation (Promatect)	0.19	0.0%	1.0%	0.001
	Total	1.00	1.5%	1.0%	0.001
MIN	Steel, cold rolled	0.73	1.3%	0%	0
	Insulation (Promatect)	0.27	0.0%	1.4%	0.002
	Total	1.00	1.3%	1.4%	0.002
MAX	Steel, cold rolled	0.88	1.6%	0%	0
	Insulation (Promatect)	0.12	0.0%	0.6%	0.001
	Total	1.00	1.6%	0.6%	0.001

- (1) The post-consumer recycled material is associated with the post-consumer steel scrap input to the steel production. For the insulation post-consumer material is not relevant.
- (2) The Promatect insulation contains about 5% biogenic material in terms of paper fibers

Packaging materials	Amount		Biogenic material
	kg/kg product	weight-% of product	kg C/kg product
Wood	0.008	0.8%	0.0034
Board	0.003	0.3%	0.0019
LDPE-film	0.001	0.1%	0
PP-stripes	0.001	0.1%	0
Total	0.01	1.3%	0.005

The products do not contain any of the substances of very high concern (SVHC) regulated by the Regulation (EC) No 1907/2006 (REACH) or the Regulation (EC) No 1272/2008 of European parliament.

Results of the environmental performance indicators

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Usage of results from A1-A3 without considering the results of module C is not encouraged.

Potential environmental impact – mandatory indicators according to EN 15804+A2 (LCIA version EF 3.1)

Results per declared unit: 1 kg of product										
Indicator		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Global warming potential (GWP)	Climate Change - fossil	kg CO2 eq	2.57E+00	1.68E-02	6.37E-03	4.16E-04	1.01E-02	1.75E-02	1.79E-03	-1.05E+00
	Climate Change - biogenic	kg CO2 eq	-1.98E-02	4.60E-05	1.70E-02	1.20E-06	2.68E-05	4.03E-03	5.54E-06	2.24E-04
	Climate Change - land use and land use change (LULUC)	kg CO2 eq	2.04E-03	1.84E-04	7.90E-08	3.88E-06	8.61E-05	2.66E-05	5.66E-06	-1.40E-04
	Climate Change - total	kg CO2 eq	2.57E+00	1.71E-02	2.35E-02	4.14E-04	1.03E-02	3.08E-02	1.74E-03	-1.05E+00
Depletion potential of the stratospheric ozone layer (ODP)		kg CFC-11 eq	2.94E-10	2.82E-18	9.90E-16	3.67E-17	1.34E-18	7.13E-14	4.63E-15	1.42E-12
Acidification potential (AP)		mole H+ eq	5.60E-03	2.43E-05	4.25E-06	2.98E-06	1.18E-05	4.35E-05	1.29E-05	-2.58E-03
Eutrophication potential (EP)	Freshwater	kg P eq	5.80E-06	1.27E-07	5.51E-10	1.53E-09	3.12E-08	7.99E-08	3.67E-09	-2.46E-07
	Marine	kg N eq	1.30E-03	7.97E-06	1.02E-06	1.48E-06	3.93E-06	1.96E-05	3.34E-06	-4.14E-04
	Terrestrial	mole N eq	1.41E-02	1.03E-04	1.86E-05	1.64E-05	4.74E-05	2.13E-04	3.67E-05	-3.71E-03
Formation potential of tropospheric ozone (POCP)		kg NMVOC eq	4.77E-03	1.86E-05	2.74E-06	2.82E-06	1.01E-05	5.18E-05	1.01E-05	-1.68E-03
Abiotic depletion potential (ADP)	Minerals and metals*	kg Sb eq	5.38E-07	1.68E-09	1.35E-11	2.72E-11	8.05E-10	2.93E-09	8.42E-11	-5.97E-06
	Fossil resources*	MJ	2.97E+01	2.21E-01	5.09E-03	5.70E-03	1.40E-01	3.08E-01	2.42E-02	-1.05E+01
Water scarcity potential (WDP)*		m3	4.84E-02	2.44E-04	2.49E-03	4.83E-06	9.13E-05	2.61E-02	2.00E-04	0.00E+00

* 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.

Additional mandatory impact category indicators

Results per declared unit: 1 kg of product										
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D	
Global warming potential (GWP)	GWP-GHG ⁽¹⁾	kg CO2 eq	2.57E+00	1.68E-02	6.37E-03	4.16E-04	1.01E-02	1.73E-02	1.79E-03	-1.05E+00

- (1) 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 CO₂ is set to zero.

Resource use indicators

Results per declared unit: 1 kg of product										
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D	
Primary energy resources – Renewable	Used as energy carrier (PERE)	MJ	3.79E+00	2.33E-02	1.42E-03	4.03E-04	7.81E-03	1.10E-01	3.95E-03	4.14E-01
	Used as raw materials (PERM)	MJ	3.39E-01	0.00E+00	-1.29E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total (PERT)	MJ	4.13E+00	2.33E-02	-1.28E-01	4.03E-04	7.81E-03	1.10E-01	3.95E-03	4.14E-01
Primary energy resources – Non-renewable	Used as energy carrier (PENRE)	MJ	2.96E+01	2.22E-01	5.09E-03	5.71E-03	1.40E-01	3.08E-01	2.43E-02	-1.05E+01
	Used as raw materials (PENRM)	MJ	9.33E-02	0.00E+00	-7.89E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total (PENRT)	MJ	2.97E+01	2.22E-01	5.01E-03	5.71E-03	1.40E-01	3.08E-01	2.43E-02	-1.05E+01
Use of secondary material (SM)	kg	9.96E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Use of renewable secondary fuels (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	
Use of non renewable secondary fuels (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	
Net use of fresh water (FW)	m3	6.09E-03	2.99E-05	5.92E-05	4.44E-07	8.94E-06	6.62E-04	6.13E-06	0.00E+00	

Waste indicators

Results per declared unit: 1 kg of product									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1.69E-05	1.15E-11	0.00E+00	2.11E-14	7.06E-12	0.00E+00	5.28E-13	-7.84E-08
Non-hazardous waste disposed (NHWD)	kg	3.21E-02	5.08E-05	3.00E-04	8.23E-07	2.08E-05	2.59E-02	1.21E-01	1.27E-01
Radioactive waste disposed (RWD)	kg	5.69E-05	3.33E-07	4.24E-07	7.39E-09	1.70E-07	3.33E-05	2.77E-07	1.15E-06

Output flow indicators

Results per declared unit: 1 kg of product									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use (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
Materials for recycling (MFR)	kg	2.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-01	0.00E+00	0.00E+00
Material for energy recovery (MER)	kg	3.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported electrical energy (EEE)	MJ	7.54E-02	0.00E+00	1.17E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported thermal energy (EET)	MJ	7.13E-01	0.00E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Variation between products

This EPD covers the steel profile products with system SP 76500, SP 77000, SP 79000, and SP 711000. The products can have different configurations in terms of dimensions.

When declaring the results of the environmental impact indicators, it is mandatory to declare the variation between the included products from A to C for each environmental impact indicator if the variation is more than 10%.

The table below shows the variation of the results between the included products from A to C. The variation is calculated by using the difference between the lowest and highest results.

Indicator	Unit	Variation (%)
GWP-GHG	kg CO ₂ eq.	5%
GWP-fossil	kg CO ₂ eq.	5%
GWP-biogenic	kg CO ₂ eq.	8%
GWP-LULUC	kg CO ₂ eq.	1%
GWP-total	kg CO ₂ eq.	5%
ODP	kg CFC-11 eq.	-27%
AP	mole H ⁺ eq.	10%
EP-freshwater	kg P eq.	-23%
EP-marine	kg N eq.	6%
EP-terrestrial	mole N eq.	6%
POCP	kg NMVOC eq.	9%
ADP- Minerals and metals	kg Sb eq.	19%
ADP-fossil	MJ	5%
WDP	m ³	-23%

Additional social information

Since 2010 Stålprofil belongs to Indutrade, an international technology and industrial business group that consists of more than 200 companies around the world.

Stålprofil is committed to follow Indutrade long-term sustainable business managing companies with an eye on the future. Indutrade's sustainability strategy represents a shared commitment that the businesses within the group continuously develop and improve in ways that are economically, environmentally and socially responsible. The sustainability strategy is built around three key elements: People, Environment and Products & customers – with 2030 objectives set within each area. Stålprofil utilize the groups Code of Conduct as well as the groups Code of Conduct for Suppliers and Partners. Whistleblowing is also provided on a group level. Indutrade has signed the UN's Global Compact sustainability initiative (UNGC).

Stålprofil has also made the self-declaration SIS/TS 2:2021 for SS-EN ISO 26000:2021 showing the organization's social responsibility to maximize the contribution to sustainable development. The seven key principles of ISO 26000 views the roots of socially responsible behaviour: Accountability, Transparency, Ethical behaviour, Respect for stakeholder interests, Respect for the rule of law, Respect for international norms of behavior and Respect for human rights. ISO 26000 also identifies seven core subjects of social responsibility; Organizational governance, Human rights, Labor practices, The Environment, Fair operating practices, Consumer issues as well as Community involvement and development. Each subject covers a variety of issues.

References

General Programme Instructions of the International EPD[®] System. Version 4.0.

PCR 2019:14 Construction products. Version 1.3.4 (2024-04-30)

CEN European Committee for Standardisation (2021). EN15804:2012+A2:2019/AC:2021 (CEN 2021), Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

LCA for experts Software System and database for Life Cycle Engineering, sphaera, Leinfelden-Echterdingen, Germany

Hallberg, L., LCA methodology report – Stålprofil EPDs, as basis for publication of EPD, May 2024

