ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	Welser Profile GmbH
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
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Valid to	16.04.2030

Welser profiles made of galvanized steel

Welser Profile GmbH

Institut Bauen und Umwelt e.V.

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1. General Information

Welser Profile GmbH

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-WLP-20250160-IBA1-EN

This declaration is based on the product category rules:

Structural steels, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

17.04.2025

Valid to

16.04.2030

Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)

Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Welser profiles made of galvanized steel

Owner of the declaration

Welser Profile GmbH
Am Welser Platz 1
3264 Gresten
Austria

Declared product / declared unit

1 tonne of average Welser profiles made of galvanized steel

Scope:

This Environmental Product Declaration refers to a declared unit of 1 tonne average Welser profiles made of galvanized steel. The product represents an average of the two production sites in Gresten (Austria) and Bönen (Germany) produced in the reference year 2023. All produced variants are considered as a yearly average.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally

Dr. Matthew Fishwick,
(Independent verifier)

2. Product

2.1 Product description/Product definition

Roll-formed profiles from Welser Profile consist of galvanized steel, which is ordered from suppliers in accordance with customer specifications. Welding, joining, perforating, bending, drilling and other processes are used in the course of profile production, in addition to the actual shaping.

Profiles made of galvanized steel can be manufactured in material thicknesses from 0.3 mm to 7.0 mm, and the lengths of the profiles vary between 0.3 m and 27.0 m.

Sections are further processed and installed by the customer; they are to be assessed as semi-finished products.

The respective national regulations apply to the use of the product. In Austria, for example, these are the building regulations of the federal states and the technical regulations resulting from these regulations.

2.2 Application

The areas of application for the declared product encompass numerous industries and sectors, such as:

- Mobility
- Agricultural technology
- Construction
- Power generation
- Industrial engineering

Profiles can be installed in trailers, chicken coops, photovoltaic substructures, elevators or control cabinets.

Due to the wide range of design options, profiles made of galvanized steel are used throughout the world in various shapes. The manufacturing process remains the same: they are formed by roll-forming. The shape and design of the profile are crucial for its use.

2.3 Technical Data

The data listed in the declaration of performance are definitive:

Constructional data

Name	Value	Unit
Material thickness of the profile	0.3 – 7.0	mm
Weight per meter	0.04 - 49	kg/m
Width of the steel strip before forming	20 – 1000	mm

Due to the variety of shapes, material thicknesses and sizes, the declared unit is defined as one tonne of average Welser profiles.

Performance values of the product in accordance with the declaration of performance in relation to its essential characteristics per:

DIN EN 10149-2:2013-12, Hot rolled flat products made of high yield strength steels for cold forming – Part 2: Technical delivery conditions for thermomechanically rolled steels

DIN EN 10149-3:2013-12, Hot rolled flat products made of high yield strength steels for cold forming – Part 3: Technical delivery conditions for normalized or normalized rolled steels

DIN EN 10143:2006-09, Continuously hot-dip coated steel sheet and strip – Tolerances on dimensions and shape

DIN EN 10346:2015-10, Continuously hot-dip coated steel flat products for cold forming – Technical delivery conditions

DIN EN 10152:2017-06, Electrolytically zinc coated cold rolled steel flat products for cold forming – Technical delivery conditions

DIN EN 10162:2003-12, Cold-rolled steel sections – Technical delivery conditions – Dimensional and cross-sectional tolerances

DIN EN ISO 1461:2022-12, Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods

VDA 239-100, Material specification, Sheet Steel for Cold Forming (05/2016)

2.4 Delivery status

Profiles made of galvanized steel are supplied to customers in the driest possible condition. However, there may be residues of cooling lubricant or lubricant from tools. The profiles are delivered in bundles, on pallets, or in special packaging.

2.5 Base materials/Ancillary materials

The declared product refers to various versions of the raw material, e.g. hot-dip galvanized steel, zinc-magnesium coated steel, zinc-iron coated steel and electrolytically galvanized steel. The coatings can themselves be coated with chemical passivation or oiling from the pre-material supplier for improved corrosion protection.

The basic material for profiles made of galvanized steel is steel with material thicknesses of 0.3 - 7 mm. These are electrolytically or hot-dip galvanized in the steelworks. The coatings here are between 2.5 µm and 10 µm for electrolytically galvanized steel and 7 µm to 70 µm for hot-dip galvanized steel. The steels are unalloyed or low-alloy carbon steels with tensile strength of up to 1500 MPa for hot-dip galvanized material and up to 1700 MPa for electrolytically galvanized material.

Auxiliary materials such as lubricants, gases, water, wires for welding, zinc paint and wires for post-galvanizing may be used in the manufacturing of profiles.

Tools for the production of sections are assembled from tool steels and other types of metal and are roughly divided into rolling tools, punching tools, bending tools and cutting tools. Various gauges and test parts are also used as tools for quality control.

The product contains substances on the ECHA list of substances of very high concern (SVHC) for Authorization (07.11.2024) above 0.1 % by weight: **No**.

The product contains other carcinogenic, mutagenic, reprotoxic (CMR) substances of category 1A or 1B, which are not on the candidate list, above 0.1 % by weight in at least one sub-product: **No**.

Biocidal products have been added to this construction product or it has been treated with biocidal products (it is, therefore, a treated product within the meaning of the Biocidal Products

Regulation (EU) No. 528/2012): **No**.

2.6 Manufacture

At Welser Profile, it is checked whether a section can be manufactured based on the customer's request. This depends on the shape, material properties (steel grade, thickness, width) and functionalities (holes, notches, drill holes, etc.) of the profile.

The tools at Welser Profile are individually designed and manufactured to order. Various processes are used in tool production, such as turning, milling, eroding, cutting, drilling and additive processes. Various materials are also used, including tool steels and machining steels, bronzes, aluminium and plastics.

Various tools are used in the machining process: A roller set is used for roll-forming, and punching tools are used for making holes or recesses and for cutting the profiles. These tools are manufactured in-house by Welser Profile and are taken into account for this declaration via the weight and processing times.

The steel strip used for roll-forming is supplied in coils. These are split into strips with the specified widths for the profiles and then rolled up again into coils. Roller shear blades are used for this.

Roll-forming is carried out on roll-forming lines consisting of various machines. The steel strip is placed on the reel as a ring and unwound. It passes through an accumulator, a straightening machine, a pre-punching press and loop pits until it enters a sequence of modular pairs of rollers, where it is formed in stages. After optional welding with post-finishing of the weld seam for corrosion protection, the profile is precisely aligned and then cut off with a saw cut or punch cut. The sections are packed in bundles and sent to the customer for further processing or finalized internally.

Possible finalization steps include bending, laser cutting, laser welding, milling, drilling, cutting to length or riveting. This also produces assemblies to be processed into finished products at the customer's premises.

In the processes used, the material is always processed cold, which means that no additional energy is required for heating. The machines are powered exclusively by electricity.

2.7 Environment and health during manufacturing

The sites in Gresten (Austria) and Bönen (Germany) are certified to *ISO 9001, IATF 16949, ISO 14001, ISO 50001* and *ISO 45001*.

No substances are used that are subject to restrictions or bans, work areas are set up in accordance with the aforementioned standards and are regularly evaluated.

2.8 Product processing/Installation

The profiles are used by customers in accordance with their specifications. Welser Profile supplies the profiles in accordance with customer requirements in terms of dimensions and material but has no influence on the use of the profile.

2.9 Packaging

The declared product is supplied in customized packaging. The packaging that represents the best solution in terms of transport protection, corrosion protection, storage duration and further processing is selected in advance based on customer specifications. The profiles are delivered in bundles, on pallets or in special packaging.

2.10 Condition of use

The state of use of the declared product is highly dependent on the intended use. They are usually installed as components in more complex constructions made of different materials. Profiles are often used here as load-bearing or connecting components and are usually no longer recognizable from the outside in the use phase of a structure.

2.11 Environment and health during use

The impact of the declared product on the environment and health also depends heavily on the area of application. The declared product is not expected to pose any risk to the environment or health if it is installed in accordance with its intended use.

2.12 Reference service life

The service life can vary greatly and is influenced by use and environmental conditions. When used in an industrial environment, a service life of 50 to 100 years can be assumed. A duration of 10 to 15 years is realistic for use in the mobility sector.

In the field of energy generation, a service life of 25 years is specified for photovoltaic systems, with the assumption that the substructure can be used for much longer than other components such as solar modules or electrotechnical components.

2.13 Extraordinary effects

Fire

The declared product is resistant to fire and only loses its strength after prolonged exposure to heat.

Water

The declared product is resistant to water.
The duration of exposure is particularly important here. After prolonged exposure and without drying, white rust develops on galvanized profiles, which means that the zinc layer protecting against corrosion slowly dissolves. If the zinc coating becomes detached after further exposure to moisture, the base material of the steel is attacked, so materials that are more resistant to corrosion should be selected if prolonged contact with water is expected.

Mechanical destruction

Mechanical destruction of the declared product is only possible with high forces and loads. The mechanical stability of profiles depends on the material thickness, material grade, and the shaping introduced. These give the sections additional stability. The toughness of steel tolerates forming without immediately causing a section to break or crack.

2.14 Re-use phase

The declared product can either be reused or recycled and returned to the steel industry as a secondary raw material via recycling companies.

2.15 Disposal

The declared product can be used entirely as a recycled raw material. The waste code according to the European Waste Catalogue is 17 04 05, and the waste type is marked with the code number 35103 in accordance with the Austrian "Abfallverzeichnisverordnung" (Waste Catalogue Ordinance).

2.16 Further information

Further information can be found on the website:
www.welser.com

3. LCA: Calculation rules

3.1 Declared Unit

The EPD refers to a declared unit of 1 tonne of average Welser profiles made of galvanised steel.

Declared unit and mass reference

Name	Value	Unit
Declared unit	1	t

For the declared average of the profiles, the inputs and outputs for the production year 2023 were considered. The declared product represents an average of the two production sites in Gresten (Austria) and Bönen (Germany). The production process at the two sites is quite similar and deviations mostly result from the different sourcing of steel. An analysis of the fluctuation margin shows a good representativity of the average for both sites.

3.2 System boundary

The life cycle assessment of Welser profiles includes a cradle-to-gate analysis of the products' potential environmental impacts with modules C1–C4 and module D (A1–A3, + C + D). Subsequent life cycle phases are part of the analysis:

Module A1-A3 | Production stage
The production stage includes the upstream burdens of raw material supply, their transports and the processing at the manufacturing plants of Welser Profile, located in Gresten (Austria) and Bönen (Germany). Processing at Welser Profile includes various steps such as roll-forming, punching, cutting, joining or steel section bending. The production site in Austria is partly supplied with electricity from the photovoltaic system at site, the rest is externally purchased electricity generated from 100 % renewable sources (GWP-total = 0.0062 kg CO2e/kWh). Also, the site in Germany is supplied with 100 % green electricity (GWP-total = 0.0062 kg CO2e/kWh). While the Austrian site uses thermal energy from district heating based on biomass and from light fuel oil, the German site is supplied with thermal energy from natural gas. The environmental burdens from the production of the packaging are also considered in module A1-A3.

Module C1 | Deconstruction and demolition
The end-of-life scenario considers the deconstruction of the end product. Referring energy demand is considered to be negligible, resulting in a declaration of '0' in module C1.

Module C2 | Transport to disposal
The transport to the disposal of the material is estimated declaring a 50 km radius to the waste treatment.

Module C3 | Waste processing
Product flows that reach Module D for recycling reach the end-of-waste state in C3 and thus leave the product system. The energy demand for the shredding and sorting of the steel scrap is considered to be negligible and hence not considered in Module C3.

Module C4 | Disposal
Module C4 refers to the emissions from the disposal of the losses from waste processing. The chosen scenario therefore includes the environmental burdens of landfilling of 5 % of the metals.

Module D | Benefits and loads beyond the system boundary
Module D declares the recycling of the recovered steel components (95 % of the product). It includes the potential for substituting primary steel.

3.3 Estimates and assumptions

All assumptions are verified through detailed documentation and correspond to the best possible representation of reality based on the available data. Regional applicability of the used background data refers to average data under European or Austrian/German conditions taken from the *MLC*-database.

3.4 Cut-off criteria

The LCA model covers all available input and output flows, which can be represented based on robust data. Data gaps are filled with conservative assumptions from average data (when available) or with generic data and are documented accordingly. Only data with a contribution lower than 1 % were cut off. Thus, no data were neglected, of which a substantial impact is to be expected. All relevant data were collected comprehensively. Cut-off material and energy flows were chosen carefully based on their expected quantitative contribution as well as potential environmental impacts. Thus, it can be assumed that the sum of all neglected input flows does not account for more than 5 % of the total material, water and energy flows. Environmental impacts of machines and infrastructure were not included.

3.5 Background data

This study uses generic background data for the evaluation of upstream environmental impacts from *MLC*-database 2024.2 and is modelled in *LCA FE*-software version 10.9.

3.6 Data quality

Data collection is based on sector-specific questionnaires. It follows an iterative process of clarifying questions via e-mail, telephone calls or web meetings. Intensive discussions between Welser Profile GmbH and Daxner & Merl result in an accurate mapping of product-related material and energy flows. This leads to a high quality of foreground data collected. Data collection relies on a consistent process according to *ISO 14044*. The technological, geographical and time-related representativeness of the data base are kept in mind when selecting background data. Whenever specific data were missing, either generic datasets or representative average data were used instead. The implemented *MLC* background datasets are not more than ten years old, except for the dataset for POM. Due to a lack of more actual data for POM, the industry publication of Plastics Europe from 2010 is part of this analysis. In the absence of more recent data, this data set serves as a conservative approximation with a very small impact on the overall result.

3.7 Period under review

Foreground data were collected in the 2023 production year, and are based on the volumes produced on an annual basis.

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Austria

3.9 Allocation

Background data for the supply chain of steel are published by worldsteel and *Eurofer* (*MLC*-databases). Representing an average of the global or European steel industry, *worldsteel* or

Eurofer background datasets ensure a good geographical and technological representation of steel production. All worldsteel and Eurofer datasets are modelled according to the worldsteel LCA methodology, applying the system expansion approach for the allocation of co-products from steel production. As a result, these datasets are not fully compliant with the requirements of *EN 15804*, which emphasises the so-called partitioning approach applying a subdivision of environmental impacts according to their physical relationships. Due to their high representativeness, the worldsteel and Eurofer data were used to calculate the LCA.
Scrap input is regarded as burden-free. To calculate the net flows, the mass of external steel scrap used in the production, is subtracted from the total mass of the product.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.
The *MLC* 2024.2 background database in the *LCA FE*-software-version 10.9 was used to calculate the LCA.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

The declared product does not contain any biogenic carbon.

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	8.8	kg C

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

The carbon stored in the packaging was taken into account as 'CO_2-neutral'. This means that the storage effect of the carbon bound in the packaging is not included in the calculation and is considered to be emitted immediately.

Installation into the building (A5)

The End of Life of product packaging is not declared in module A5.

Name	Value	Unit
Packaging (wood)	18.8	kg
Packaging (cardboard)	0.6	kg
Packaging (PE)	0.3	kg
Packaging (OSB plate)	0.2	kg
Packaging (PET)	0.2	kg
Packaging (paper)	0.1	kg
Packaging (MDF)	0.1	kg
Packaging (PP)	0.1	kg

End of life (C1 - C4)

Name	Value	Unit
Collected separately waste type (steel)	1000	kg
Recycling 95 %	950	kg
Landfilling 5 %	50	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit
Net flow of steel scrap	882	kg

5. LCA: Results

The following table contains the LCA results for a declared unit of 1 tonne Welser profiles made of galvanised steel based on the publication 3.1 of the JRC of the European Commission.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 tonne average Welser profiles made of galvanized steel

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO_2 eq	2.78E+03	0	3.86E+00	0	1.04E+00	-1.52E+03
Global Warming Potential fossil fuels (GWP-fossil)	kg CO_2 eq	2.77E+03	0	3.79E+00	0	1.04E+00	-1.53E+03
Global Warming Potential biogenic (GWP-biogenic)	kg CO_2 eq	2.9E+00	0	9.04E-03	0	3.48E-03	9.03E+00
Global Warming Potential luluc (GWP-luluc)	kg CO_2 eq	8.63E-01	0	6.36E-02	0	4.53E-03	-2.04E-01
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11 eq	1.36E-05	0	5.58E-13	0	3.24E-12	2.06E-09
Acidification potential of land and water (AP)	mol H^+ eq	7.45E+00	0	1.34E-02	0	6.49E-03	-3.75E+00
Eutrophication potential aquatic freshwater (EP-freshwater)	kg P eq	1.19E-01	0	1.62E-05	0	2.11E-06	-3.57E-04
Eutrophication potential aquatic marine (EP-marine)	kg N eq	1.61E+00	0	6.22E-03	0	1.57E-03	-6.02E-01
Eutrophication potential terrestrial (EP-terrestrial)	mol N eq	1.73E+01	0	6.99E-02	0	1.73E-02	-5.4E+00
Formation potential of tropospheric ozone photochemical oxidants (POCP)	kg NMVOC eq	5.92E+00	0	1.28E-02	0	4.94E-03	-2.45E+00
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq	4.27E-02	0	3.3E-07	0	6.98E-08	-8.68E-03
Abiotic depletion potential for fossil resources (ADPF)	MJ	3.11E+04	0	4.99E+01	0	1.73E+01	-1.52E+04
Water use (WDP)	m^3 world eq deprived	2.15E+02	0	5.86E-02	0	1.27E-01	-1.03E+02

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 tonne average Welser profiles made of galvanized steel

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier (PERE)	MJ	2.38E+03	0	4.3E+00	0	2.56E+00	6.01E+02
Renewable primary energy resources as material utilization (PERM)	MJ	3.27E+02	0	0	0	0	0
Total use of renewable primary energy resources (PERT)	MJ	2.71E+03	0	4.3E+00	0	2.56E+00	6.01E+02
Non renewable primary energy as energy carrier (PENRE)	MJ	3.16E+04	0	4.99E+01	0	1.73E+01	-1.52E+04
Non renewable primary energy as material utilization (PENRM)	MJ	1.99E+01	0	0	0	0	0
Total use of non renewable primary energy resources (PENRT)	MJ	3.16E+04	0	4.99E+01	0	1.73E+01	-1.52E+04
Use of secondary material (SM)	kg	1.86E+02	0	0	0	0	8.82E+02
Use of renewable secondary fuels (RSF)	MJ	0	0	0	0	0	0
Use of non renewable secondary fuels (NRSF)	MJ	0	0	0	0	0	0
Use of net fresh water (FW)	m^3	2.88E+01	0	4.79E-03	0	3.85E-03	-1.55E+02

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 tonne average Welser profiles made of galvanized steel

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1.31E+01	0	1.91E-09	0	4.11E-09	-1.14E-04
Non hazardous waste disposed (NHWD)	kg	1.24E+02	0	8.15E-03	0	5.01E+01	1.84E+02
Radioactive waste disposed (RWD)	kg	1.39E-01	0	9.09E-05	0	2.34E-04	1.67E-03
Components for re-use (CRU)	kg	0	0	0	0	0	0
Materials for recycling (MFR)	kg	1.18E+02	0	0	9.5E+02	0	0
Materials for energy recovery (MER)	kg	0	0	0	0	0	0
Exported electrical energy (EEE)	MJ	0	0	0	0	0	0
Exported thermal energy (EET)	MJ	0	0	0	0	0	0

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 tonne average Welser profiles made of galvanized steel

Parameter	Unit	A1-A3	C1	C2	C3	C4	D

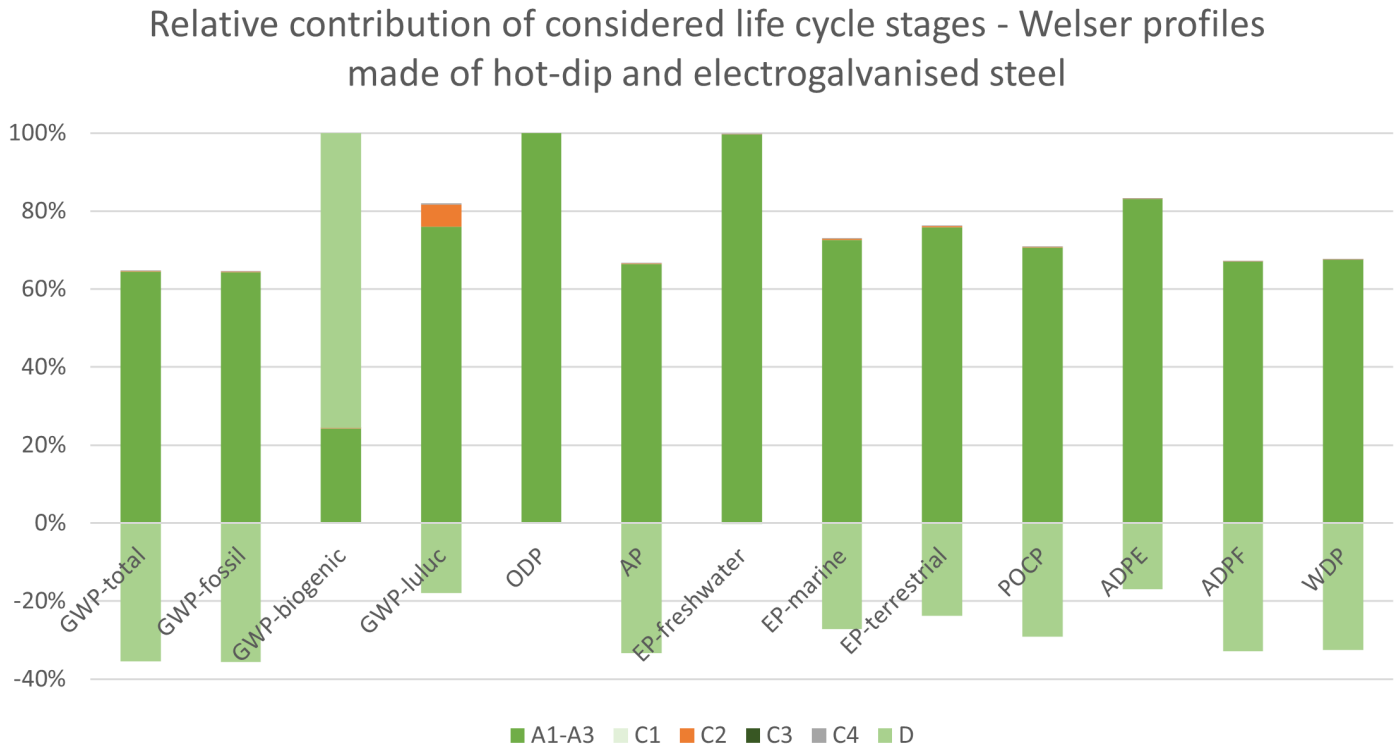
Incidence of disease due to PM emissions (PM)	Disease incidence	ND	ND	ND	ND	ND	ND
Human exposure efficiency relative to U235 (IR)	kBq U235 eq	ND	ND	ND	ND	ND	ND
Comparative toxic unit for ecosystems (ETP-fw)	CTUe	ND	ND	ND	ND	ND	ND
Comparative toxic unit for humans (carcinogenic) (HTP-c)	CTUh	ND	ND	ND	ND	ND	ND
Comparative toxic unit for humans (noncarcinogenic) (HTP-nc)	CTUh	ND	ND	ND	ND	ND	ND
Soil quality index (SQP)	SQP	ND	ND	ND	ND	ND	ND

The additional and optional impact categories according to *EN 15804*+A2 are not declared, as the uncertainty of these indicators is to be classified as high.

Disclaimer – for the indicators 'abiotic depletion potential for non-fossil resources', 'abiotic depletion potential for fossil resources', 'water (user) deprivation potential, deprivation-weighted water consumption'.
The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

6. LCA: Interpretation

The following interpretation contains a summary of the LCA results referenced to a declared unit of 1 tonne Welser profiles made of galvanised steel.



A comparison of the individual lifecycle phases results in a clear dominance of the production phase (Modules A1–A3). The environmental impact in the production phase is mainly dominated by the supply chain of the purchased steel input material.

As a result of product recyclability, the material removed at the end of life can substitute primary steel. Module D shows the recycling potential of steel at the end of its product life. This results in benefits from the substitution of primary steel.

The environmental impact of the transport of the products to recycling (C2) as well as landfilling of the losses at the end of life (C4) represents a minor contribution to the overall environmental impact of the product.

In summary, the environmental impacts from the upstream supply chains of sheet metals can be identified as key factors in the life cycle assessment of the Welser profiles. These are modelled using supplier-specific data when possible, therefore, it can be assumed that the results show a good representativeness.

The production sites differ mainly in the sourcing of steel sheets. A comparison of the environmental impacts of the different profiles produced either in Austria or Germany shows a deviation of the potential global warming total (GWP-total) of less than 6 %. Based on that range, the declared results are considered representative for both production sites.

The considered zinc layer thickness is based on supplier EPDs and worldsteel background data and is representative for the possible range of Welser profiles. The variance in environmental impacts due to differing zinc layer thicknesses is not substantial.

7. Requisite evidence

Not relevant for this EPD

8. References

Standards

EN 10149
DIN EN 10149-2:2013-12, Hot rolled flat products made of high yield strength steels for cold forming – Part 2: Technical delivery conditions for thermomechanically rolled steels.

DIN EN 10149-3:2013-12, Hot rolled flat products made of high yield strength steels for cold forming – Part 3: Technical delivery conditions for normalized or normalized rolled steels.

EN 10143
DIN EN 10143:2006-09, Continuously hot-dip coated steel sheet and strip – Tolerances on dimensions and shape.

EN 10346
DIN EN 10346:2015-10, Continuously hot-dip coated steel flat products for cold forming – Technical delivery conditions.

EN 10152
DIN EN 10152:2017-06, Electrolytically zinc coated cold rolled steel flat products for cold forming – Technical delivery conditions.

EN 10162
DIN EN 10162:2003-12, Cold-rolled steel sections – Technical delivery conditions – Dimensional and cross-sectional tolerances.

EN 15804
EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works - Environmental Product Declarations-Core rules for the product category of construction products.

IATF 16949
IATF 16949:2016, Quality management system requirements for automotive and relevant service parts organizations.

ISO 1461
DIN EN ISO 1461:2022-12, Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods.

ISO 9001
DIN EN ISO 9001:2015-11, Quality management systems — Requirements.

ISO 14001
DIN EN ISO 14001:2015-11, Environmental management systems – Requirements with guidance for use.

ISO 14025
EN ISO 14025:2011, Environmental labels and declarations Type III environmental declarations Principles and procedures.

ISO 14044
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Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Programme holder

Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Author of the Life Cycle Assessment

Daxner & Merl GmbH
Schleifmühlgasse 13/24
1040 Wien
Austria

+43 676 849477826
office@daxner-merl.com
www.daxner-merl.com

Owner of the Declaration

Welser Profile GmbH
Am Welser Platz 1
3264 Gresten
Austria

+437443800-0
at@welser.com
www.welser.com