

Environmental Product Declaration



EPD of multiple products, based on worst-case results
In accordance with ISO 14025:2006 for:

Stainless steel pipe from rolling machine

from

RIVIT SpA SB



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|--------------------------|---|
| Programme: | The International EPD® System, www.environdec.com |
| Programme operator: | EPD International AB |
| EPD registration number: | EPD-IES-0017978 |
| Publication date: | 2025-02-27 |
| Valid until: | 2030-02-26 |

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



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 |

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| Accountabilities for PCR, LCA and independent, third-party verification |
| Product Category Rules (PCR) |
| PCR 2023:01 v.1.0.1 Fabricated metal products, except construction products |
| PCR review was conducted by: <i>The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Hudai Kara. The review panel may be contacted via the Secretariat www.environdec.com/contact</i> |
| Life Cycle Assessment (LCA) |
| LCA accountability: <i>RIVIT SpA SB</i> |
| Third-party verification |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input checked="" type="checkbox"/> EPD verification by accredited certification body Third-party verification: Bureau Veritas Italia SpA The certification body is accredited by: Accredia, accreditation number 009VV |
| Procedure for follow-up of data during EPD validity involves third-party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 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 ISO 14025.

Company information

Owner of the EPD: RIVIT SpA SB.

Contact: a.ungredda@rivit.com

Description of the organisation: Rivit is a leading manufacturer of pipes and fittings made of stainless steel and special alloys. Founded in 1960, it offers a wide range of products with diameters ranging from 88 to 3000 mm and thicknesses from 2 to 120 mm. Production complies with the strictest international standards, guaranteeing high quality and flexibility for large projects.

Name and location of production site: Via A. Palladio, 129 36030 Caltrano (VI) Italy

Management system certifications:

- Quality management system complying with the requirements of UNI EN ISO 9001;
- Environmental management system complying with the requirements of UNI EN ISO 14001;
- Occupational health and safety management system complying with the requirements of UNI ISO 45001.

Product information

Product name: Stainless steel pipe from rolling machine.

Product identification: EPD of multiple products, based on worst-case results of following range: Diameter 711-1625 (mm); Wall thickness 6-12 (mm); Length 6000 (mm).

Product description: Stainless steel pipe from rolling machine not solution annealed, manufactured in accordance with the UNI EN 10217-7, EN 10296-2, EN ISO 1127 standards for the following applications: pharmaceutical, water, desalination, paper, food, chemical, naval, metallurgical, oil & gas, environmental and energy solutions.

UN CPC code: 412 - Products of iron or steel.

Geographical scope: GLO (Upstream), ITA (Core)

LCA information

Functional unit / declared unit: 1 ton of stainless-steel pipe at the manufacturer's gate.

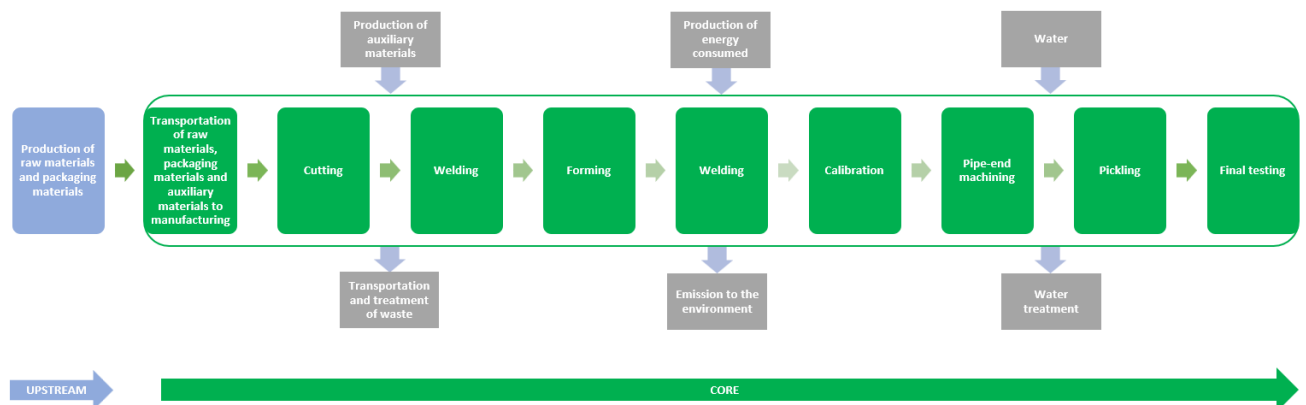
Reference service life: Not applicable

Time representativeness: January 2023 - December 2023

Database(s) and LCA software used: Ecoinvent, Simapro

Description of system boundaries: Cradle to gate

System diagram:



Content declaration

Product

| Product component | Symbol | Weight (ton) | Weight % |
|-------------------|--------|--------------|-------------|
| Iron | Fe | 0,7149 | 71,49% |
| Chromium | Cr | 0,1810 | 18,10% |
| Nickel | Ni | 0,0803 | 8,03% |
| Manganese | Mn | 0,01766 | 1,77% |
| Silicon | Si | 0,00289 | 0,29% |
| Nitrogen | N | 0,00096 | 0,096% |
| Phosphorus | P | 0,00032 | 0,032% |
| Carbon | C | 0,00022 | 0,022% |
| Cobalt | Co | 0,00171 | 0,171% |
| Sulphur | S | 0,00001 | 0,001% |
| TOTAL | | 1 | 100% |

The products do not contain any hazardous substances from the SVHC Candidate List for Authorisation in quantities exceeding 0,1%.

Recycled material

The product contains on average 90% of post-consumer material.
Calculated in accordance with the ISO 14021 and ISO 14025.

Results of the environmental performance indicators

Impact category indicators

| PARAMETER | | UNIT | Upstream | Core | TOTAL |
|---|----------------------------------|-----------------------------------|----------|----------|----------|
| Global warming potential (GWP) | Fossil | kg CO ₂ eq. | 1,74E+03 | 2,96E+02 | 2,04E+03 |
| | Biogenic | kg CO ₂ eq. | 1,69E+02 | 1,60E+00 | 1,71E+02 |
| | Land use and land transformation | kg CO ₂ eq. | 1,66E+00 | 1,37E+00 | 3,03E+00 |
| | TOTAL | kg CO ₂ eq. | 1,91E+03 | 2,99E+02 | 2,21E+03 |
| Ozone layer depletion (ODP) | | kg CFC 11 eq. | 2,14E-05 | 5,50E-06 | 2,69E-05 |
| Acidification potential (AP) | | mol H ⁺ eq. | 8,51E+00 | 1,32E+00 | 9,83E+00 |
| Eutrophication potential (EP) | Aquatic freshwater | kg P eq. | 7,28E-01 | 1,24E-01 | 8,52E-01 |
| | Aquatic marine | kg N eq. | 1,79E+00 | 2,81E-01 | 2,07E+00 |
| | Aquatic terrestrial | mol N eq. | 1,72E+01 | 2,92E+00 | 2,01E+01 |
| Photochemical oxidant creation potential (POCP) | | kg NMVOC eq. | 5,43E+00 | 1,05E+00 | 6,48E+00 |
| Abiotic depletion potential (ADP)* | Metals and minerals | kg Sb eq. | 1,73E-02 | 4,38E-02 | 6,11E-02 |
| | Fossil resources | MJ, net calorific value | 2,23E+04 | 4,61E+03 | 2,69E+04 |
| Water deprivation potential (WDP)* | | m ³ world eq. deprived | 4,87E+02 | 2,90E+02 | 7,77E+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 | 3,53E+03 | 4,70E+02 | 4,00E+03 |
| | Used as raw materials | MJ, net calorific value | 4,05E+02 | 0,00E+00 | 4,05E+02 |
| | TOTAL | MJ, net calorific value | 3,93E+03 | 4,70E+02 | 4,40E+03 |
| Primary energy resources – Non-renewable | Use as energy carrier | MJ, net calorific value | 2,22E+04 | 4,53E+03 | 2,68E+04 |
| | Used as raw materials | MJ, net calorific value | 8,16E+01 | 8,46E+01 | 1,66E+02 |
| | TOTAL | MJ, net calorific value | 2,23E+04 | 4,61E+03 | 2,69E+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 | 2,08E+01 | 7,85E+00 | 2,87E+01 |

Waste indicators

| PARAMETER | UNIT | Upstream | Core | TOTAL |
|------------------------------|------|----------|----------|----------|
| Hazardous waste disposed | kg | 8,25E-02 | 1,91E-02 | 1,02E-01 |
| Non-hazardous waste disposed | kg | 1,80E+02 | 4,44E+01 | 2,25E+02 |
| Radioactive waste disposed | kg | 6,28E-02 | 1,22E-02 | 7,50E-02 |

Output flow indicators

| PARAMETER | UNIT | Upstream | Core | TOTAL |
|-------------------------------|-----------------------|----------|----------|----------|
| Components for reuse | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Material for recycling | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| 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 |



References

General Programme Instructions of the International EPD® System. Version 4.
PCR 2023:01 v.1.0.1 Fabricated metal products, except construction products
REPORT DI PROGETTO EPD_RIVIT_V3



