

ENVIRONMENTAL PRODUCT DECLARATION

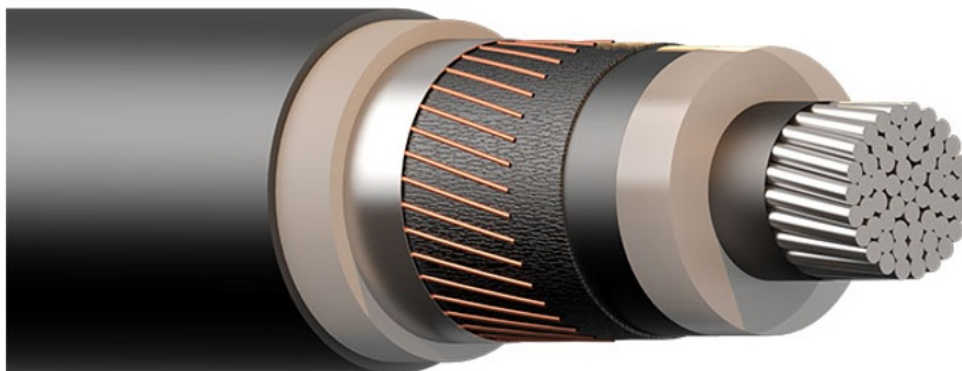
in accordance with ISO 14025, ISO 21930 and EN 15804

| | |
|--------------------------------|------------------------------|
| Owner of the declaration: | Elektroskandia Norge AS |
| Program operator: | The Norwegian EPD Foundation |
| Publisher: | The Norwegian EPD Foundation |
| Declaration number: | NEPD-2943-1633-EN |
| Registration number: | NEPD-2943-1633-EN |
| ECO Platform reference number: | - |
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| Valid to: | 29.06.2026 |

TSLF 24kV 3x1x95/25 AFR

Elektroskandia Norge AS

www.epd-norge.no



Draka

A Brand of Prysmian Group

General information

Product:

TSLF 24kV 3x1x95/25 AFR

Program operator:

The Norwegian EPD Foundation
Pb. 5250 Majorstuen, 0303 Oslo
Phone: +47 23 08 80 00
e-mail: post@epd-norge.no

Declaration number:

NEPD-2943-1633-EN

ECO Platform reference number:**This declaration is based on Product Category Rules:**

CEN Standard EN 15804:2012+A1:2013 serves as core PCR
NPCR 027 Part B for Electrical cables and wires

Statement of liability:

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

Declared unit:

1 m TSLF 24kV 3x1x95/25 AFR

Declared unit with option:

A1,A2,A3,A4,A5,C1,C2,C3,C4,D

Functional unit:

1 m of TSLF 24 kV medium voltage electrical cable installed in a trench, from cradle-to-grave with with a reference service life of 100 years

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Individual third party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii) the process is reviewed annually. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools.

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Fredrik Moltu Johnsen, Norsus AS

(no signature required)

Owner of the declaration:

Elektroskandia Norge AS
Contact person: Pål Kristiansen
Phone: +47 97 66 22 12
e-mail: pkrist@elektroskandia.no

Manufacturer:

Prismian Group Norge AS
Kjerraten 16 3013 Drammen
Norway

Place of production:

Prismian Group Sverige AB
Vallgatan 5 571 41 Nässjö
Sweden

Management system:

ISO 14001, ISO 9001

Organisation no:

977 454 700

Issue date: 29.06.2021**Valid to:** 29.06.2026**Year of study:**

2020

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

Development and verification of EPD:

The declaration has been developed and verified using EPD tool lca.tools ver EPD2020.11, developed by LCA.no AS. The EPD tool is integrated into the company's environmental management system, and has been approved by EPD-Norway

Developer of EPD:

Ivan W. Ekerhovd

Reviewer of company-specific input data and EPD:

Anders Nymark, Prismian Group Norge AS

Approved:

Sign



Håkon Hauan, CEO EPD-Norge

Product

Product description:

Single-core, distribution cable for outdoor use in 3-phase formation. Installation in pipes and ground/water. Both radial and longitudinal water sealed. Can be ploughed down.

The outer sheath has a conductive layer that greatly extends the possibilities to do a sheath testing before, during and after installation. Ripcords for easier and safer stripping of the outer sheath.

Product specification

| Materials | kg | % |
|--------------|------|-------|
| Aluminium | 1,10 | 40,51 |
| Copper | 0,19 | 6,90 |
| Polyethylene | 1,13 | 41,42 |
| Other | 0,30 | 11,16 |
| Total: | 2,73 | |

| Packaging | kg | |
|----------------------------|------|--|
| Packaging - Plastic strips | 0,00 | |
| Total including packaging | 2,73 | |

Technical data:

TSLF 24kV 3x1x95/25 AFR
 Art.Nr: 20102185
 Elnummer: 1065985

Density: 2,9359 kg/m

Produced according to
 SS 424 14 16 Construction standard 12-36 kV
 CENELEC HD 620 Part 10 Section M Harmonized Construction Standard
 CENELEC HD 620 Part 10 Section K Harmonized Construction Standard

Market:

Scandinavia

Reference service life, product

The reference service life of the product is highly dependent on the conditions of use.

Reference service life, construction

100 years

LCA: Calculation rules

Declared unit:

1 m TSLF 24kV 3x1x95/25 AFR

Cut-off criteria:

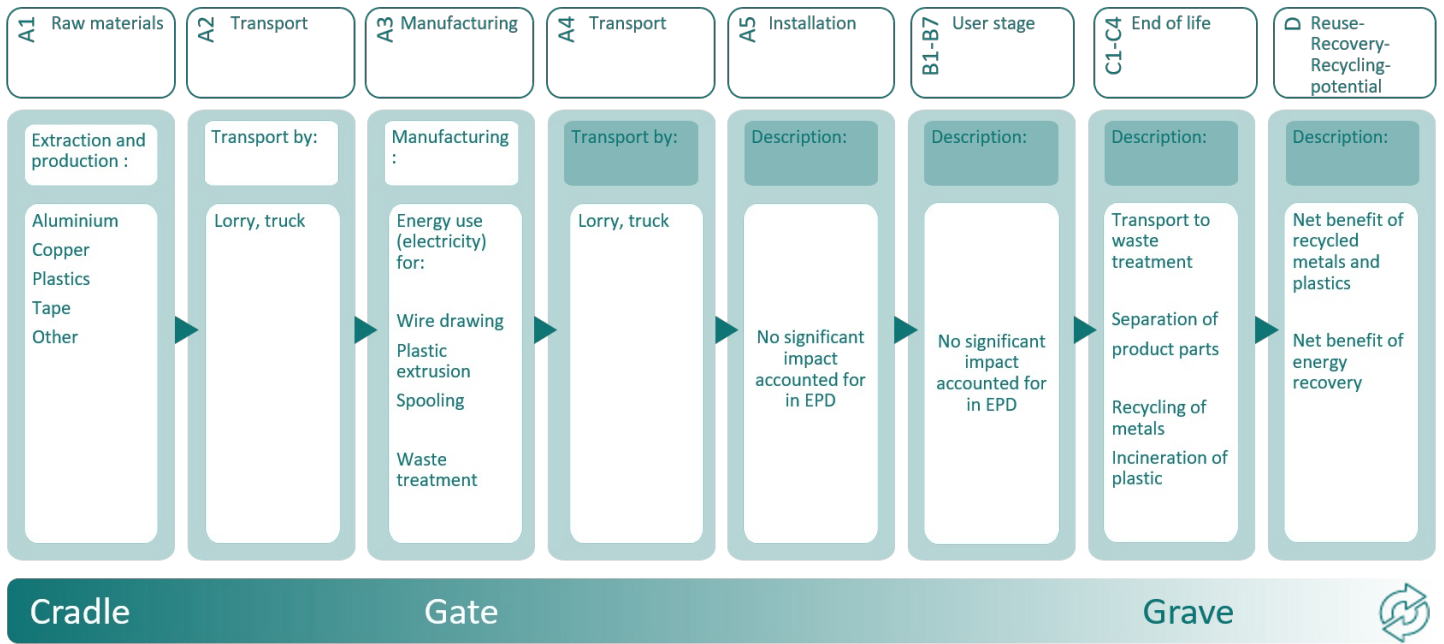
All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Data quality:

Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other LCA databases. The data quality of the raw materials in A1 is presented in the table below.

| Materials | Source | Data quality | Year |
|----------------------------|-------------------|--------------|------|
| Aluminium | Supplier | EPD | 2017 |
| Aluminium | ecoinvent 3.6 | Database | 2019 |
| Copper | ecoinvent 3.6 | Database | 2019 |
| Other | ecoinvent 3.6 | Database | 2019 |
| Packaging - Plastic strips | ecoinvent 3.6 | Database | 2019 |
| Polyethylene | ecoinvent 3.6 | Database | 2019 |
| Aluminium | NEPD-2261-1034-EN | EPD | 2020 |

System boundary:



Additional technical information:

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

In A4, a transport distance of 387 km from the Prysmian Group production site in Sweden to Elektroskandia's warehouse in Langhus was included. A distance of 300 km was also added as additional transport to market. Installation in trenches (A5) and removal (C1) is assumed to be done with other products such as piping systems and should be assessed at a construction works level. For B1-B7 the default environmental impact and resource indicators in the EPD are assumed to be zero. Some other potential environmental impacts from the use phase might not be covered by the scope of an EPD. In C3 metals such as copper and aluminium are sent to recycling and other materials such as plastic insulation is sent to municipal incineration. Net benefit of material recycling and energy recovery is given in module D. Both aluminium and copper will replace a market average process for the metals in Europe.

Transport from production place to user (A4)

| Type | Capacity utilisation (incl. return) % | Type of vehicle | Distance km | Fuel/Energy consumption | Unit | Value (l/t) |
|----------------------|---------------------------------------|-------------------------------------|-------------|-------------------------|-------|-------------|
| Truck | 55,0 % | Truck, lorry over 32 tonnes, EURO 5 | 687 | 0,022823 | l/tkm | 15,68 |
| Railway | | | | | l/tkm | |
| Boat | | | | | l/tkm | |
| Other Transportation | | | | | l/tkm | |

Assembly (A5)

| | Unit | Value |
|---------------------------------------|----------------|--------|
| Auxiliary | kg | |
| Water consumption | m ³ | |
| Electricity consumption | kWh | |
| Other energy carriers | MJ | |
| Material loss | kg | |
| Output materials from waste treatment | kg | 0,0032 |
| Dust in the air | kg | |
| VOC emissions | kg | |

End of Life (C1, C3, C4)

| | Unit | Value |
|---------------------------------------|------|--------|
| Hazardous waste disposed | kg | |
| Collected as mixed construction waste | kg | |
| Reuse | kg | |
| Recycling | kg | 1,1634 |
| Energy recovery | kg | 1,4338 |
| To landfill | kg | 0,1835 |

Transport to waste processing (C2)

| Type | Capacity utilisation (incl. return) % | Type of vehicle | Distance km | Fuel/Energy consumption | Unit | Value (l/t) |
|----------------------|---------------------------------------|-----------------------------------|-------------|-------------------------|-------|-------------|
| Truck | 38,8 % | Truck, lorry 16-32 tonnes, EURO 5 | 300 | 0,044606 | l/tkm | 13,38 |
| Railway | | | | | l/tkm | |
| Boat | | | | | l/tkm | |
| Other Transportation | | | | | l/tkm | |

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Benefits and loads beyond the system boundaries (D)

| | Unit | Value |
|---|-------|-------|
| Substitution of primary Copper with net secondary copper (kg) | kg | 0,13 |
| Substitution of primary Aluminium with net secondary aluminium (kg) | kg | 0,96 |
| Substitution of electricity, in Norway (MJ) | MJ | 2,93 |
| Substitution of electricity, in Norway (MJ) | MJ/DU | 8,33 |
| Substitution of thermal energy, district heating, in Norway (MJ) | MJ | 20,20 |
| Substitution of thermal energy, district heating, in Norway (MJ) | MJ/DU | 57,30 |

LCA: Results

LCA results according to the indicators of EN 15804:2013+A1:2013 are presented in the following tables, for the declared unit defined on page 2 of the EPD document. All potential environmental impacts might not be covered by the EN 15804 indicators. This concerns indicators such as noise, electromagnetic radiation, electromagnetic fields and treatment brominated flame retardants.

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

| Product stage | | | Construction installation stage | | User stage | | | | | | | End of life stage | | | | Beyond the system boundaries |
|---------------|-----------|---------------|---------------------------------|----------|------------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|
| Raw materials | Transport | Manufacturing | Transport | 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 | X | X | | | | | | | | X | X | X | X | X |

Environmental impact

| Parameter | Unit | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-----------|--------------------------------------|----------|----------|----------|----|----------|----------|----------|-----------|
| GWP | kg CO ₂ -eq | 1,01E+01 | 1,76E-01 | 9,73E-03 | 0 | 1,43E-01 | 4,29E+00 | 4,47E-03 | -9,43E+00 |
| ODP | kg CFC11 -eq | 6,90E-07 | 3,43E-08 | 1,80E-11 | 0 | 2,64E-08 | 4,58E-09 | 5,08E-10 | -8,76E-07 |
| POCP | kg C ₂ H ₄ -eq | 8,03E-03 | 2,84E-05 | 2,15E-08 | 0 | 2,34E-05 | 7,30E-06 | 6,27E-07 | -7,26E-03 |
| AP | kg SO ₂ -eq | 1,59E-01 | 5,72E-04 | 1,06E-06 | 0 | 4,57E-04 | 3,90E-04 | 1,40E-05 | -1,12E-01 |
| EP | kg PO ₄ ³⁻ -eq | 1,29E-02 | 9,60E-05 | 3,31E-07 | 0 | 7,58E-05 | 1,19E-04 | 2,41E-06 | -7,29E-03 |
| ADPM | kg Sb -eq | 8,31E-06 | 3,97E-07 | 2,48E-10 | 0 | 4,37E-07 | 3,16E-08 | 5,80E-11 | -8,06E-06 |
| ADPE | MJ | 1,64E+02 | 2,76E+00 | 1,72E-03 | 0 | 2,16E+00 | 3,29E-01 | 4,64E-02 | -1,03E+02 |

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

Resource use

| Parameter | Unit | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-----------|----------------|----------|----------|----------|----|----------|----------|----------|-----------|
| RPEE | MJ | 7,97E+01 | 4,99E-02 | 3,01E-05 | 0 | 3,15E-02 | 1,70E-02 | 2,11E-03 | -7,85E+01 |
| RPEM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| TPE | MJ | 7,97E+01 | 4,99E-02 | 3,01E-05 | 0 | 3,15E-02 | 1,70E-02 | 2,11E-03 | -7,85E+01 |
| NRPE | MJ | 1,31E+02 | 2,85E+00 | 1,38E-01 | 0 | 2,21E+00 | 3,60E-01 | 4,93E-02 | -1,35E+02 |
| NRPM | MJ | 6,79E+01 | 0,00E+00 | 0,00E+00 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| TRPE | MJ | 1,99E+02 | 2,85E+00 | 1,38E-01 | 0 | 2,21E+00 | 3,60E-01 | 4,93E-02 | -1,35E+02 |
| SM | kg | 7,00E-02 | 0,00E+00 | 0,00E+00 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| RSF | MJ | 9,33E-03 | 0,00E+00 | 0,00E+00 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -2,22E-03 |
| NRSF | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| W | m ³ | 1,56E+01 | 6,71E-04 | 2,38E-06 | 0 | 4,14E-04 | 3,41E-03 | 5,04E-05 | -5,91E-02 |

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier; NRPM Non renewable primary energy resources used as materials; TRPE Total use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; W Use of net fresh water

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

End of life - Waste

| Parameter | Unit | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-----------|------|----------|----------|----------|----|----------|----------|----------|-----------|
| HW | kg | 4,69E-02 | 1,51E-06 | 1,03E-08 | 0 | 1,29E-06 | 3,03E-06 | 6,22E-08 | 8,82E-03 |
| NHW | kg | 1,67E+01 | 2,58E-01 | 2,06E-04 | 0 | 1,16E-01 | 1,26E-02 | 2,05E-01 | -8,09E+00 |
| RW | kg | 7,87E-04 | 1,99E-05 | 6,90E-09 | 0 | 1,52E-05 | 9,42E-07 | 3,06E-07 | -6,52E-04 |

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

End of life - Output flow

| Parameter | Unit | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-----------|------|----------|----------|----------|----|----------|----------|----------|----------|
| CR | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MR | kg | 1,32E-02 | 0,00E+00 | 0,00E+00 | 0 | 0,00E+00 | 1,16E+00 | 0,00E+00 | 0,00E+00 |
| MER | kg | 2,04E-03 | 0,00E+00 | 3,20E-03 | 0 | 0,00E+00 | 1,43E+00 | 0,00E+00 | 0,00E+00 |
| EEE | MJ | 1,33E-03 | 0,00E+00 | 6,85E-03 | 0 | 0,00E+00 | 4,86E+00 | 0,00E+00 | 0,00E+00 |
| ETE | MJ | 1,46E-02 | 0,00E+00 | 7,53E-02 | 0 | 0,00E+00 | 3,34E+01 | 0,00E+00 | 0,00E+00 |

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

Additional Norwegian requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

| Electricity mix | Data source | Amount | Unit |
|----------------------|-------------------------|--------|---------------|
| El-mix, Sweden (kWh) | ecoinvent 3.4 Alloc Rec | 42,67 | g CO2-ekv/kWh |

Dangerous substances

The product contains no substances given by the REACH Candidate list or the Norwegian priority list.

Indoor environment

Not relevant, the cable is intended for outdoor use.

Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.





EN 15804:2012+A1:2013 Environmental product declaration - Core rules for the product category of construction products.

ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.

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NPCR Part A: Construction products and services. Ver. 1.04.2017 EPD-Norge. NPCR 27 Part B for electrical cables and wires or NPCR 28 Part B for cable pipes Ver. 1.02.2020 EPD-Norge.

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