

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Component EPD Surnadal: PVC insulated stranded conductor Building Cable H07V-R (FK, PN) PN 1,5



PIPELIFE 

The Norwegian EPD Foundation

Owner of the declaration:

Pipelife Norge AS

Product:

Component EPD Surnadal: PVC insulated stranded conductor Building Cable H07V-R (FK, PN) PN 1,5

Declared unit:

1 kg

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR Part A: Construction products and services. Ver. 2.0
March 2021

Program operator:

The Norwegian EPD Foundation

Declaration number:

NEPD-8139-7808-EN

Registration number:

NEPD-8139-7808-EN

Issue date: 18.11.2024

Valid to: 18.11.2029

EPD software:

LCAno EPD generator ID: 661289

General information

Product

Component EPD Surnadal: PVC insulated stranded conductor
Building Cable H07V-R (FK, PN) PN 1,5

Program operator:

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.epd-norge.no

Declaration number:

NEPD-8139-7808-EN

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR Part A: Construction products and services. Ver. 2.0 March
2021

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 kg Component EPD Surnadal: PVC insulated stranded conductor
Building Cable H07V-R (FK, PN) PN 1,5

Declared unit (cradle to gate) with option:

A1-A3,A4,C1,C2,C3,C4,D

Functional unit:

Not applicable

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.
Verification of each EPD is made according to EPD-Norway's
guidelines for verification and approval requiring that tools are i)
integrated into the company's environmental management system, ii)
the procedures for use of the EPD tool are approved by EPD-Norway,
and iii) the process is reviewed annually by an independent third
party verifier. 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.

Third party verifier:

Michael M. Jenssen, Asplan Viak AS

(no signature required)

Owner of the declaration:

Pipelife Norge AS
Contact person: Are Lyubråten
Phone: +47 71 65 88 00
e-mail: are.lyubraten@pipelife.com

Manufacturer:

Pipelife Norge AS

Place of production:

Pipelife Norge AS
Hamnesvegen 97
6650 Surnadal, Norway

Management system:

NS-EN ISO 9001:2015 NS-EN ISO 14001:2015

Organisation no:

980 457 575

Issue date:

18.11.2024

Valid to:

18.11.2029

Year of study:

2021

Comparability:

EPD of construction products may not be comparable if they not
comply with EN 15804+A2 and seen in a construction context.

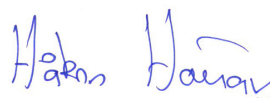
Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03,
developed by LCA.no. The EPD tool is integrated in the company's
management system, and has been approved by EPD Norway.
NEPDT15

Developer of EPD: Are Lyubråten

Reviewer of company-specific input data and EPD: Knut Jøssang

Approved:



Håkon Hauan
Managing Director of EPD-Norway

Product

Product description:

H07V-R PN 1,5 is a 70°C PVC insulated stranded conductor. Suitable for fixed installation. To be installed in conduit or duct systems, or as connection wire to be used in switch cabinets and similar applications. Used by Pipelife Norway in Powerline prewired electro pipes for hidden electrical installations inside walls. More information is found on <https://www.pipelife.no/>

Product specification

| Materials | kg | % |
|--------------------|------|--------|
| Electronic - Cable | 1,00 | 100,00 |
| Total | 1,00 | 100,00 |

Technical data:

Product standard: EN 61386. See our product catalogue on our website: <https://www.pipelife.no/>

Market:

Norway, Sweden, Finland

Reference service life, product

When installed according to the relevant installation manual and having normal operations, the service lifetime is at least 100 years.

Reference service life, building

The normal reference service life for buildings is normally assumed to be 60 years.

LCA: Calculation rules

Declared unit:

1 kg Component EPD Surnadal: PVC insulated stranded conductor Building Cable H07V-R (FK, PN) PN 1,5

Cut-off criteria:

All raw materials and all the essential energy are included.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is not allocated among internally or externally purchased, components which are not further processed, only handled and assembled, before leaving Pipelife Norge AS, Surnadal.

Data quality:

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

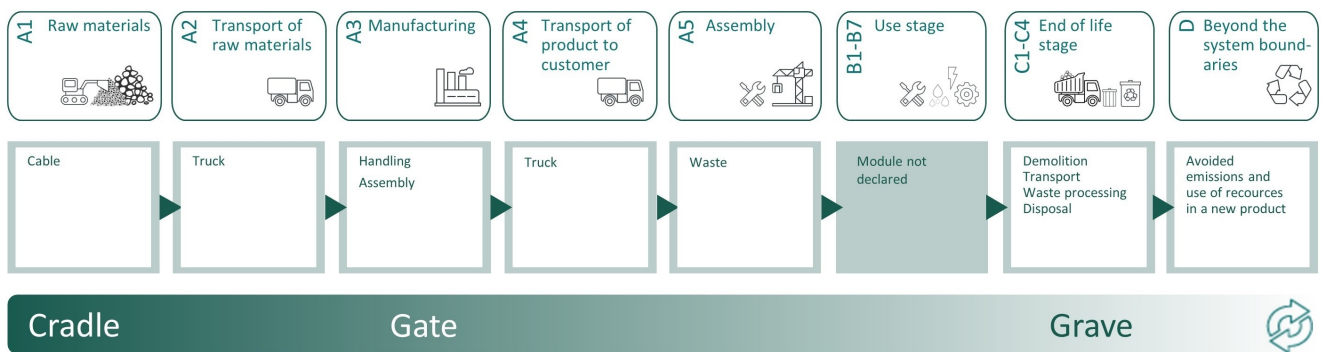
| Materials | Source | Data quality | Year |
|--------------------|-----------|--------------|------|
| Electronic - Cable | S-P-05122 | EPD | 2021 |

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

| Product stage | | | Construction installation stage | Use 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 | MND | MND | MND | MND | MND | MND | MND | MND | X | X | X | X | X |

System boundary:

The analysis is a cradle-to-gate (A1 - A3) study, with option A4 transport to market. It includes the extraction and production of raw materials, transportation to the production site, the production process itself and transport to the market. A5, installation, is included for the transport of packaging waste from the construction site and the treatment of this waste - not the installation of the products. The material data set used in A1 is generated from the cradle to gate part (A1-A3) of a published EPD from Amo Installationskabel AB. Transport in A2 is the specific transport of the material from Amo Installationskabel AB to Pipelife Norge AS, Surnadal.



Additional technical information:

Professionally executed design, storage, handling, installation and operations are a precondition for a long service life. The installation instructions must be followed.

Pipelife Norway AS is certified according to EN ISO 14001:2015

See <https://www.pipelife.no/> for more information on how we are working on environmental issues.

LCA: Scenarios and additional technical information

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

| Transport from production place to user (A4) | Capacity utilisation (incl. return) % | Distance (km) | Fuel/Energy Consumption | Unit | Value (Liter/tonne) |
|--|---------------------------------------|---------------|-------------------------|-------|---------------------|
| Truck, 16-32 tonnes, EURO 6 (km) | 36,7 % | 100 | 0,043 | l/tkm | 4,30 |

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

| Environmental impact | | | | | | | | | |
|--|------------------------|----------|----------|----|----|----|----|---|---|
| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D | |
|  GWP-total | kg CO ₂ -eq | 3,90E+00 | 1,63E-02 | 0 | 0 | 0 | 0 | 0 | 0 |
|  GWP-fossil | kg CO ₂ -eq | 3,87E+00 | 1,63E-02 | 0 | 0 | 0 | 0 | 0 | 0 |
|  GWP-biogenic | kg CO ₂ -eq | 1,85E-02 | 6,76E-06 | 0 | 0 | 0 | 0 | 0 | 0 |
|  GWP-luluc | kg CO ₂ -eq | 1,55E-02 | 5,81E-06 | 0 | 0 | 0 | 0 | 0 | 0 |
|  ODP | kg CFC11 -eq | 3,71E-08 | 3,70E-09 | 0 | 0 | 0 | 0 | 0 | 0 |
|  AP | mol H+ -eq | 4,94E-02 | 4,69E-05 | 0 | 0 | 0 | 0 | 0 | 0 |
|  EP-FreshWater | kg P -eq | 9,18E-06 | 1,31E-07 | 0 | 0 | 0 | 0 | 0 | 0 |
|  EP-Marine | kg N -eq | 3,22E-03 | 9,29E-06 | 0 | 0 | 0 | 0 | 0 | 0 |
|  EP-Terrestrial | mol N -eq | 3,35E-02 | 1,04E-04 | 0 | 0 | 0 | 0 | 0 | 0 |
|  POCP | kg NMVOC -eq | 1,21E-02 | 3,98E-05 | 0 | 0 | 0 | 0 | 0 | 0 |
|  ADP-minerals&metals ¹ | kg Sb-eq | 2,12E-03 | 4,51E-07 | 0 | 0 | 0 | 0 | 0 | 0 |
|  ADP-fossil ¹ | MJ | 5,53E+01 | 2,47E-01 | 0 | 0 | 0 | 0 | 0 | 0 |
|  WDP ¹ | m ³ | 4,09E+00 | 2,39E-01 | 0 | 0 | 0 | 0 | 0 | 0 |







GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

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

*INA Indicator Not Assessed

1. 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 experienced with the indicator

Remarks to environmental impacts











| Additional environmental impact indicators | | | | | | | | | |
|---|-------------------|----------|----------|----|----|----|----|---|--|
| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D | |
|  PM | Disease incidence | 1,00E-08 | 1,00E-09 | 0 | 0 | 0 | 0 | 0 | |
|  IRP ² | kgBq U235 -eq | 1,08E-02 | 1,08E-03 | 0 | 0 | 0 | 0 | 0 | |
|  ETP-fw ¹ | CTUe | 1,83E+00 | 1,83E-01 | 0 | 0 | 0 | 0 | 0 | |
|  HTP-c ¹ | CTUh | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | |
|  HTP-nc ¹ | CTUh | 2,00E-09 | 2,00E-10 | 0 | 0 | 0 | 0 | 0 | |
|  SQP ¹ | dimensionless | 1,73E+00 | 1,73E-01 | 0 | 0 | 0 | 0 | 0 | |

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)

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

*INA Indicator Not Assessed




1. 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 experienced with the indicator
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

| Resource use | | | | | | | | | |
|---|----------------|----------|----------|----|----|----|----|---|---|
| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D | |
|  PERE | MJ | 8,94E+00 | 3,54E-03 | 0 | 0 | 0 | 0 | 0 | 0 |
|  PERM | MJ | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 |
|  PERT | MJ | 8,94E+00 | 3,54E-03 | 0 | 0 | 0 | 0 | 0 | 0 |
|  PENRE | MJ | 4,93E+01 | 2,47E-01 | 0 | 0 | 0 | 0 | 0 | 0 |
|  PENRM | MJ | 5,97E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 |
|  PENRT | MJ | 5,53E+01 | 2,47E-01 | 0 | 0 | 0 | 0 | 0 | 0 |
|  SM | kg | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 |
|  RSF | MJ | 1,27E-03 | 1,26E-04 | 0 | 0 | 0 | 0 | 0 | 0 |
|  NRSF | MJ | 4,53E-03 | 4,52E-04 | 0 | 0 | 0 | 0 | 0 | 0 |
|  FW | m ³ | 3,47E-02 | 2,64E-05 | 0 | 0 | 0 | 0 | 0 | 0 |

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 resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

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






*INA Indicator Not Assessed

| End of life - Waste | | | | | | | | | |
|---|------|-------|----------|----------|----|----|----|---|---|
| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D | |
|  | HWD | kg | 1,28E-04 | 1,27E-05 | 0 | 0 | 0 | 0 | 0 |
|  | NHWD | kg | 1,35E-01 | 1,20E-02 | 0 | 0 | 0 | 0 | 0 |
|  | RWD | kg | 1,69E-05 | 1,68E-06 | 0 | 0 | 0 | 0 | 0 |

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

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

*INA Indicator Not Assessed

| End of life - Output flow | | | | | | | | | |
|---|------|-------|----------|----------|----|----|----|---|---|
| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D | |
|  | CRU | kg | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 |
|  | MFR | kg | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 |
|  | MER | kg | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 |
|  | EEE | MJ | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 |
|  | EET | MJ | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 |

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

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

*INA Indicator Not Assessed

| Biogenic Carbon Content | | |
|---|------|---------------------|
| Indicator | Unit | At the factory gate |
| Biogenic carbon content in product | kg C | 0,00E+00 |
| Biogenic carbon content in accompanying packaging | kg C | 0,00E+00 |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional 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).

Dangerous substances

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

Indoor environment

Has no impact on the indoor climate.

Additional Environmental Information






Additional environmental impact indicators required in NPCR Part A for construction products

| Indicator | Unit | A1-A3 | A4 | C1 | C2 | C3 | C4 | D |
|-----------|------------------------|----------|----------|----|----|----|----|---|
| GWPIOBC | kg CO ₂ -eq | 3,82E+00 | 1,63E-02 | 0 | 0 | 0 | 0 | 0 |

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

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+A2:2019 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.
 ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.
 Iversen et al., (2021) eEPD v2021.09 Background information for EPD generator tool system verification, LCA.no rapportnummer: : 07.21.
 Vold, et al., (2019) EPD generator for Pipelife - Background information for customer application and LCA data. report number 08.19
 NPCR Part A: Construction products and services. Ver. 2.0. March 2021, EPD-Norge.

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