

## Product Environmental Profile

**Family technical name:** Low Voltage Cable 1kV

**Family brand name:** Nexans HEPR-SHF1 0,6/1kV

**Reference product name :** Nexans HEPR-SHF1 0,6/1kV 1x16mm<sup>2</sup>



419

kg CO<sub>2</sub> eq.

Climate change - total



0,17377

kg Sb eq.

Resource use - minerals & metals (ADPe)



6,8

m<sup>3</sup>

Net use of fresh water



7682

MJ

Total Primary Energy

*The above environmental impacts are "cradle to gate" or "Manufacturing phase" values (A1-A3)*

PEP ecopassport N°:	NXNS-00679-V01-01-EN	Product Category Rules:	PEP-PCR-ed4-EN-2021 09 06
Verifier accreditation N°:	VH42	Product Specific Rules:	PSR-0001-ed4-EN-2022 11 16
Date of publication:	06-2025	Program information & documents:	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
		Validity period:	<b>5 years</b>
<b>Independent verification of the declaration and data, in accordance with ISO 14025 : 2006</b>			
Internal <input type="checkbox"/> External <input checked="" type="checkbox"/>			
The PCR critical review was conducted by a panel of experts chaired by Julie Orgelet (Ddemain).			
PEP are compliant with XP C08-100-1 :2016 or EN 50693 The elements of the present PEP cannot be compared with elements from another program.			
Compliant with ISO 14025: 2006 "Environmental labels and declarations - Type III environmental declarations".			



REALIZED BY:

Victor Polillo

Avenida Coronel Phidias Távora, 100 Pavuna- 21535-510 Rio de Janeiro - RJ

mario.alonso@nexans.com

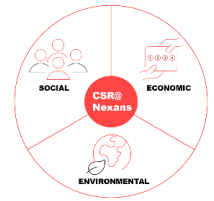
+55 21 35596052

<https://www.nexans.com>



Nexans Corporate Social Responsibility commitment

Corporate Social Responsibility which is the confluence between environmental, economic and social aspects, is an integral part of the Nexans's strategy. Nexans has been supporting the United Nations Global Compact since December 2008 and has implemented internal action plans to integrate Sustainable Development at all levels. It includes responsible governance, healthy and safe working environment for employees, reduced global carbon footprint through the Nexans Carbon Neutrality strategy.



Reference Product description

Nexans HEPR-SHF1 0,6/1kV 1x16mm²

Nexans HEPR-SHF1 0.6/1kV cable (formerly Afitox EP90) allows you to raise the standard of your electrical installations. The flexible copper conductor, class 5, is a superior choice for those looking for efficiency and safety. Insulated in high quality HEPR and protected by a sheath of non-halogenated thermoplastic polyolefin compound ST8 (or SHF1). This cable is designed to withstand the most demanding conditions. With a thermal tolerance of up to 90°C and a capacity of 0.6/1 kV, it is perfectly suited to a wide range of industrial and construction applications.

Products covered:

The aforementioned products belong to the category power transmission wires and cables of the Product Specific Rules (PSR) for Wires, Cables and Accessories (PSR-0001) of the PEP ecopassport® program.

The PEP concern all the products in the range Low Voltage Cable 1kV and the reference product of the PEP is Nexans HEPR-SHF1 0,6/1kV 1x16mm².

Functional unit:

To transmit energy expressed for 1A over a distance of 1km during 40 years and a 100% use rate, in accordance with the relevant standards, detailed in the data sheet available on our website www.nexans.com.

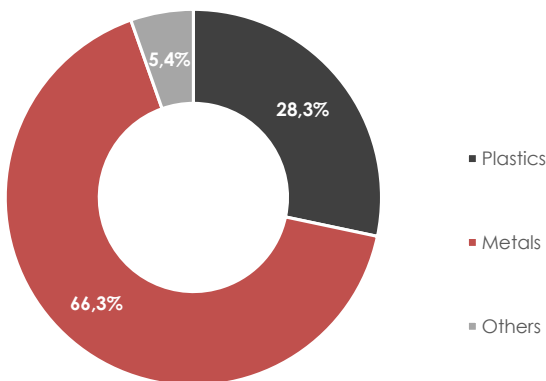
Lifetime and use rate correspond to the Infrastructure - Energy distribution networks application as defined in the table given in Appendix 1 of the specific rules for wires, cables and accessories."

This PEP has been drawn up considering the following parameters:

- 1 km for manufacturing, distribution and end-of-life stages
• 1 km and 1 A for the use stage

The potential impact of the use stage shall be calculated by the PEP user considering the real amperage through the product during the use phase by multiplying the impact by the square of the intensity. This PEP is valid in the intensity range taking into account the maximum allowable intensity.

Constituent materials



The total mass of the reference product and packaging is 194,91 kg/km. Constituent materials are distributed as given in the graph.

46% of the metal of the product is recycled.

Nexans has implemented necessary procedures to ensure product compliance with the relevant standards when products are put on the market.



### Manufacturing



- All the products in the range Low Voltage Cable 1kV are manufactured in Brazil.
- The electricity mix model for the manufacturing stage is from Brazil  $\leq 1$  kV.
- The reference year for the collected LCI is 2024
- All Nexans sites in Brazil have implemented a certified Environmental Management System according to ISO14001 standard.

#### Packaging designed to reduce environmental impacts:

- Packaging was designed according to the applicable standard (Directive 94/62/EC).
- The packaging considered to transport the reference product is a 80/45. It is considered to be used 2 times.

### Distribution



The transportation scenario for the impact assessment of the distribution stage is local, considering:

- 1000 km covered by truck.

### Installation



Installation processes for the reference product are considered out of the scope of the study, according to the Product Specific Rules document for "Wires, Cables and Accessories" from PEP ecopassport® program. Only 5% of product losses and packaging disposal is considered in this stage

### Use



The use scenario considers the operation of the reference product in Infrastructure - Energy distribution networks, with:

- |                                       |   |
|---------------------------------------|---|
| • Reference Lifetime (RLT) = 40 years | • Use rate = 100%                             |
| • Current intensity (A): 1            | • Cable resistance* (ohm/km): 1,21E+00        |
| • Number of active conductor(s): 1    | *Maximum value at 20°C according to IEC 60228 |

**Considering the aforementioned hypotheses, the energy consumption over the RLT at use stage is 423,98 kWh/km.**

*This value is calculated for I=1 A. For the effective consumption of the cable installed, multiply the value given by the square of intensity.*

- The electricity mix considered at use stage is Brazil  $\leq 1$  kV.
- No maintenance is necessary to ensure the operation of the cable during the considered reference lifetime.

The reference lifetime mentioned in this PEP corresponds to an average data used for impact calculation, taking into account the average time a cable might be installed in a system before being disposed. **It CANNOT BE considered as an equivalent to the guaranteed product technical lifetime.**

### End-of-life



- The transportation scenario chosen for the impact analysis associated with end-of-life stage is 1000 km covered by truck.
- The assumed electricity mix model for end-of-life stage is Brazil  $\leq 1$  kV.

The cables are recycled through a grinding process for the separation of polymers and metal parts. The separated materials are then assumed to be recycled, incinerated or landfilled according to default scenarios given in the PCR.

If the customer wants to recycle their cables at the end-of-life, Nexans has the know-how of cables recycling at their end-of-life through the structure named Nexans Recycling Services (recycling.services@nexans.com), to offer a complete solution for the recycling of polymers and metals.



### III. ENVIRONMENTAL IMPACTS

The reference product Nexans HEPR-SHF1 0,6/1kV 1x16mm<sup>2</sup> belongs to the Product Category Rules (PEP-PCR-ed4-EN-2021 09 06) and Product Specific Rules (PSR-0001-ed4-EN-2022 11 16) from the PEP ecopassport® program. According to the PCR, the life cycle impact assessment of the reference product takes into account manufacturing, distribution, installation, use and end-of-life stages.

All the necessary hypotheses to evaluate the environmental impacts of the reference product lifecycle are presented in the previous sections (electricity mix models, use scenario, etc). The software used to perform the evaluation is EIME 6.3.0.1-4, with the Nexans-2024-07 database.

Representativeness: the study is representative of cable production in Brazil with a local scenario for distribution. The electricity model for use is Brazil ≤1 kV and the model for end-of-life is Brazil ≤1 kV.

#### Impact results for 1000 m of Nexans HEPR-SHF1 0,6/1kV 1x16mm<sup>2</sup>

##### Mandatory indicators:

Environmental indicator/flows	Unit	A1-Raw materials	A2-Transport to manufacturer	A3-Manufacturing process	Total manufacturing A1-A3	A4-Distribution to customer	A5-Installation*	B6-Use** (for 1 A)	C1-C4-End of life	TOTAL (for 1 A)
Climate change - total (GWP)	kg CO <sub>2</sub> eq.	3,50E+02	4,92E+01	2,04E+01	4,19E+02	9,25E+00	4,37E+01	6,41E+01	1,06E+02	6,43E+02
Climate change - fossil (GWPf)	kg CO <sub>2</sub> eq.	3,43E+02	4,92E+01	2,78E+01	4,20E+02	9,25E+00	3,51E+01	6,39E+01	1,06E+02	6,34E+02
Climate change - biogenic (GWPb)	kg CO <sub>2</sub> eq.	3,08E+00	6,33E-05	-7,38E+00	-4,30E+00	3,78E-05	8,40E+00	1,93E-01	1,83E-02	4,31E+00
Climate change - land use & land use change (GWPlu)	kg CO <sub>2</sub> eq.	4,05E+00	2,34E-05	1,59E-06	4,05E+00	1,40E-05	2,02E-01	0,00E+00	1,30E-05	4,25E+00
Ozone layer depletion (ODP)	kg CFC-11 eq.	2,14E-05	2,30E-07	4,62E-07	2,21E-05	1,12E-07	1,15E-06	2,15E-07	4,95E-07	2,40E-05
Acidification potential of soil and water (AP)	mol H+ eq.	4,14E+00	1,39E+00	2,30E-01	5,76E+00	1,46E-02	2,98E-01	5,60E-01	9,45E-02	6,73E+00
Eutrophication - freshwater (Epf)	kg P eq.	3,59E-03	6,91E-05	8,25E-05	3,74E-03	3,46E-05	2,83E-04	5,30E-05	9,40E-04	5,06E-03
Eutrophication - marine (Epm)	kg N eq.	5,31E-01	3,16E-01	3,39E-02	8,81E-01	2,65E-03	4,80E-02	5,15E-02	1,45E-02	9,97E-01
Eutrophication - terrestrial (Ept)	mol N eq.	5,76E+00	3,46E+00	5,97E-01	9,82E+00	2,91E-02	5,19E-01	1,56E+00	2,56E-01	1,22E+01
Photochemical ozone formation - human health (POCP)	kg NMVOC eq.	1,04E+00	8,95E-01	9,95E-02	2,03E+00	9,40E-03	1,09E-01	1,43E-01	4,37E-02	2,34E+00
Resource use - minerals & metals (ADPe)	kg Sb eq.	1,74E-01	6,69E-06	2,31E-05	1,74E-01	3,30E-06	8,69E-03	9,60E-05	2,45E-05	1,83E-01
Resource use - fossils (ADPf)	MJ	5,83E+03	6,92E+02	5,26E+02	7,05E+03	1,64E+02	4,17E+02	1,14E+03	5,60E+02	9,33E+03
Water use (WU)	m <sup>3</sup> eq.	2,41E+02	6,64E-01	6,75E+00	2,48E+02	3,33E-01	1,37E+01	1,36E+01	9,16E+00	2,85E+02
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2,03E+01	1,39E+00	4,50E+02	4,72E+02	5,18E-01	3,32E+01	1,98E+03	1,88E+02	2,68E+03
Use of renewable primary energy used as raw material (PERM)	MJ	0,00E+00	0,00E+00	1,03E+02	1,03E+02	0,00E+00	5,15E+00	0,00E+00	0,00E+00	1,08E+02
Total use of renewable primary energy resources (PERT)	MJ	2,03E+01	1,39E+00	5,53E+02	5,74E+02	5,18E-01	3,83E+01	1,98E+03	1,88E+02	2,79E+03
Non-renewable primary energy excluding non-renewable primary energy resources used as raw material	MJ	4,66E+03	6,92E+02	4,33E+02	5,79E+03	1,64E+02	3,55E+02	1,14E+03	5,60E+02	8,00E+03
Use of non renewable primary energy resources used as raw materials (PENRM)	MJ	1,23E+03	0,00E+00	9,28E+01	1,32E+03	0,00E+00	6,52E+01	0,00E+00	0,00E+00	1,39E+03
Total use of non-renewable primary energy resources (PENRT)	MJ	5,89E+03	6,92E+02	5,26E+02	7,11E+03	1,64E+02	4,20E+02	1,14E+03	5,60E+02	9,39E+03
Use of secondary material (SM)	kg	6,18E+01	0,00E+00	0,00E+00	6,18E+01	0,00E+00	3,09E+00	0,00E+00	0,00E+00	6,49E+01
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	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	0,00E+00
Net use of fresh water (FW)	m <sup>3</sup>	5,86E+00	1,55E-02	9,21E-01	6,80E+00	7,75E-03	3,70E-01	3,16E-01	2,13E-01	7,70E+00
Hazardous waste disposed (HWD)	kg	3,06E+00	6,47E-02	5,44E-01	3,67E+00	3,87E-02	2,49E-01	1,88E+00	1,22E+00	7,06E+00
Non hazardous waste disposed (NHWD)	kg	3,86E+01	2,43E+00	1,19E+01	5,29E+01	8,58E-01	1,60E+01	2,79E+01	1,13E+02	2,11E+02
Radioactive waste disposed	kg	9,60E-02	1,82E-03	8,85E-04	9,87E-02	6,80E-04	5,40E-03	2,53E-03	3,07E-03	1,10E-01
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	7,11E+00	7,11E+00	0,00E+00	3,55E-01	0,00E+00	0,00E+00	7,46E+00
Materials for recycling (MFR)	kg	0,00E+00	0,00E+00	2,87E-02	2,87E-02	0,00E+00	1,23E-01	0,00E+00	6,53E-01	8,04E-01
Materials for energy recovery (MER)	kg	0,00E+00	0,00E+00	3,75E-01	3,75E-01	0,00E+00	5,51E-03	0,00E+00	1,06E-01	4,86E-01
Exported Energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,40E+00	0,00E+00	0,00E+00	2,40E+00

\* Installation stage includes only 5% product losses & packaging disposal. Impacts related to installation processes might be completed by the PEP user.

\*\*Energy losses in use phase are calculated for 1A current intensity, the PEP user must multiply this impact by square of real current intensity

Environmental indicator/flows	Unit	Total
Biogenic carbon content - product (BC-pro)	kg of C	0,00E+00
Biogenic carbon content - packaging (BC-pack)	kg of C	2,14E+00

Biogenic carbon storage is calculated according to the 0/0 assessment methodology & according to EN 16485.

**Optional indicators:**

Environmental indicator/flow	Unit	A1-Raw materials	A2-Transport to manufacturer	A3-Manufacturing process	Total A1-A3	A4-Distribution to customer	A5-Installation*	B6-Use** (for 1 A)	C1-C4-End of life	TOTAL (for 1 A)
Total Primary Energy (TPE)	MJ	0,00E+00	4,71E+02	6,83E+01	5,39E+02	2,70E+02	2,11E+02	1,00E+02	3,09E+02	1,08E+02
EF-particulate matter (EF-PM)	Disease occurrence	4,81E-05	3,51E-09	1,51E-08	4,82E-05	1,81E-09	4,74E-08	7,32E-09	1,67E-07	6,45E-05
Ionising radiation, human health (IR)	kg U235 eq.	8,81E+02	6,89E-08	5,22E-08	8,81E+02	3,46E-08	7,20E-07	1,74E-07	6,18E-08	9,88E+02
Ecotoxicity, freshwater (Eco-fw)	CTUe	2,75E+03	6,61E-02	9,21E-01	2,75E+03	3,96E-02	4,13E+01	2,78E+00	2,86E-01	4,18E+03
Human toxicity, cancer (HT-c)	CTUh-c	7,61E-07	0,00E+00	0,00E+00	7,61E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E-06
Human toxicity, non-cancer (HT-nc)	CTUh-nc	1,40E-05	0,00E+00	0,00E+00	1,40E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,51E-05
Land use (LU)	No dimension	8,25E+02	0,00E+00	0,00E+00	8,25E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,70E+02

Environmental indicators are calculated according to JRC method - EF3.1.



## V. EXTRAPOLATION RULES FOR THE PRODUCT FAMILY Nexans HEPR-SHF1 0,6/1kV

### General information

The extrapolation rules have been calculated based on the environment impact assessment results of 3 products in the range Low Voltage Cable 1kV. The reference product is Nexans HEPR-SHF1 0,6/1kV 1x16mm<sup>2</sup>. The weight of reference product is 180,7 kg/km.

The reference product has 1 active conductor(s) and a resistivity of 1,21 ohm/km/active conductor.

The extrapolation rules below apply to 1000m of product. In the following sections, the product weight is expressed in kg for 1000m of cable, where applicable.

### Extrapolation rules for each life cycle stage








Life cycle stage	Applicable extrapolation principle	Formula to calculate each environmental indicator	Example: If the product weight is 190,7 kg/km, each indicator value shall be calculated with:	Mean deviation of extrapolation rule																											
 A1-Raw materials	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = (190,7 x a) + b	9,77%																											
 A2-Transport to manufacturer	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = (190,7 x a) + b	3,69%																											
 A3-Manufacturing process	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = (190,7 x a) + b	4,06%																											
 A4-Distribution to customer	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = 190,7 x a + b.	0,35%																											
 A5-Installation	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = 190,7 x a + b.	9,77%																											
 B6-Use	Variation versus resistivity ratio	Indicator = (Product Resistivity / Reference product Resistivity) x (Nb of active conductors / Nb of active conductors in the reference product) x Indicator value for Reference Product  <table border="1" style="margin-left: 20px;"> <tr><td>Y =</td><td>1</td><td>for a mono cable</td></tr> <tr><td>Y =</td><td>2</td><td>for a dual cable</td></tr> <tr><td>Y =</td><td>X/1</td><td>for a multi (X) cable</td></tr> <tr><td>Z =</td><td>0,0057</td><td>for category 5e</td></tr> <tr><td>Z =</td><td>0,0071</td><td>for category 6</td></tr> <tr><td>Z =</td><td>0,0085</td><td>for category 6a</td></tr> <tr><td>Z =</td><td>0,0085</td><td>for category 7</td></tr> <tr><td>Z =</td><td>0,0085</td><td>for category 7a</td></tr> <tr><td>Z =</td><td>0,0084</td><td>for category 7+</td></tr> </table>	Y =	1	for a mono cable	Y =	2	for a dual cable	Y =	X/1	for a multi (X) cable	Z =	0,0057	for category 5e	Z =	0,0071	for category 6	Z =	0,0085	for category 6a	Z =	0,0085	for category 7	Z =	0,0085	for category 7a	Z =	0,0084	for category 7+	Example: If the product resistivity is 1,2 ohm/km & has 1 active conductor, Indicator = (1,2/1,21) x (1/1) x indicator of reference product.	0,00%
Y =	1	for a mono cable																													
Y =	2	for a dual cable																													
Y =	X/1	for a multi (X) cable																													
Z =	0,0057	for category 5e																													
Z =	0,0071	for category 6																													
Z =	0,0085	for category 6a																													
Z =	0,0085	for category 7																													
Z =	0,0085	for category 7a																													
Z =	0,0084	for category 7+																													
 C1-C4-End of life	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = (190,7 x a) + b	6,35%																											

Table to be considered for extrapolation calculations of different life cycle stages:

	A1-Raw materials				A2-Transport to manufacturer		A3-Manufacturing process		A4-Distribution to customer		A5-Installation		C1-C4 End of life	
	a	b	a	b	a	b	a	b	a	b	a	b	a	b
GWP	2,12E+00	-2,70E+01	-	-	2,91E-01	-3,01E+00	7,51E-02	6,59E+00	4,99E-02	2,13E-01	2,09E-01	5,55E+00	3,63E-01	3,51E+01
GWPf	2,08E+00	-2,71E+01	-	-	2,91E-01	-3,01E+00	1,07E-01	8,21E+00	4,99E-02	2,13E-01	1,73E-01	3,58E+00	3,63E-01	3,51E+01
GWPb	1,23E-02	7,84E-01	-	-	2,78E-07	1,12E-05	-3,21E-02	-1,62E+00	2,04E-07	8,70E-07	3,53E-02	2,00E+00	1,03E-04	-3,07E-04
GWPlu	2,68E-02	-6,90E-01	-	-	1,03E-07	4,14E-06	6,86E-09	3,21E-07	7,55E-08	3,22E-07	1,34E-03	-3,45E-02	7,18E-08	-2,03E-20
ODP	5,36E-08	9,66E-06	-	-	1,10E-09	2,60E-08	1,94E-09	1,10E-07	6,05E-10	2,58E-09	3,05E-09	4,95E-07	2,71E-09	4,28E-09
AP	2,66E-02	-5,72E-01	-	-	9,14E-03	-2,28E-01	9,27E-04	6,35E-02	7,88E-05	3,36E-04	1,88E-03	-3,53E-02	4,89E-04	5,27E-03
Epf	1,85E-05	2,54E-04	-	-	3,29E-07	8,29E-06	2,83E-07	2,83E-05	1,86E-07	7,94E-07	1,24E-06	5,35E-05	2,84E-06	3,67E-04
Epm	3,38E-03	-6,91E-02	-	-	2,08E-03	-5,23E-02	1,31E-04	9,97E-03	1,43E-05	6,09E-05	2,97E-04	-4,74E-03	7,52E-05	7,48E-04
Ept	3,67E-02	-7,50E-01	-	-	2,28E-02	-5,73E-01	2,47E-03	1,56E-01	1,57E-04	6,68E-04	3,23E-03	-5,34E-02	1,29E-03	1,98E-02
POCP	5,93E-03	-2,83E-02	-	-	5,90E-03	-1,47E-01	3,81E-04	2,95E-02	5,07E-05	2,16E-04	6,44E-04	-5,90E-03	2,26E-04	2,43E-03
ADPe	1,15E-03	-2,96E-02	-	-	3,20E-08	7,76E-07	1,07E-07	4,65E-06	1,78E-08	7,58E-08	5,76E-05	-1,48E-03	1,50E-07	-2,15E-06
ADPf	3,06E+01	2,89E+02	-	-	3,97E+00	-2,25E+01	1,91E+00	1,71E+02	8,86E-01	3,78E+00	2,15E+00	2,84E+01	3,27E+00	-2,65E+01
WU	1,36E+00	-3,54E+00	-	-	3,16E-03	8,03E-02	3,01E-02	1,34E+00	1,80E-03	7,65E-03	7,42E-02	3,21E-01	3,06E-02	3,12E+00
PÈRE	7,33E-02	6,50E+00	-	-	7,31E-03	6,32E-02	2,09E+00	9,18E+01	2,79E-03	1,19E-02	1,62E-01	4,85E+00	1,06E+00	-2,45E+00
PERM	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	0,00E+00	0,00E+01	0,00E+00	0,00E+00	2,17E-02	1,22E+00	0,00E+00	0,00E+00
PERT	7,33E-02	6,50E+00	-	-	7,31E-03	6,32E-02	2,52E+00	1,16E+02	2,79E-03	1,19E-02	1,84E-01	6,07E+00	1,06E+00	-2,45E+00
PENRE	2,67E+01	-1,38E+02	-	-	3,97E+00	-2,25E+01	1,72E+00	1,21E+02	8,86E-01	3,78E+00	1,95E+00	4,82E+00	3,27E+00	-2,65E+01
PENRM	4,28E+00	4,17E+02	-	-	0,00E+00	0,00E+00	1,85E-01	4,99E+01	0,00E+00	0,00E+00	2,20E-01	2,31E+01	0,00E+00	0,00E+00
PENRT	3,10E+01	2,78E+02	-	-	3,97E+00	-2,25E+01	1,91E+00	1,71E+02	8,86E-01	3,78E+00	2,17E+00	2,79E+01	3,27E+00	-2,65E+01
SM	4,10E-01	-1,05E+01	-	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,05E-02	-5,27E-01	0,00E+00	0,00E+00
RSF	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	3,34E-02	-1,27E-01	-	-	7,35E-05	1,87E-03	4,92E-03	3,20E-02	4,18E-05	1,78E-04	2,02E-03	5,31E-03	7,12E-04	7,27E-02
HWD	1,88E-02	-2,89E-01	-	-	2,84E-04	1,15E-02	2,48E-03	1,11E-01	2,09E-04	8,89E-04	1,49E-03	-1,55E-02	7,80E-03	-1,63E-01
NHWD	1,30E-01	1,25E+01	-	-	1,29E-02	8,42E-02	5,41E-02	2,21E+00	4,63E-03	1,97E-02	6,42E-02	3,92E+00	5,27E-01	1,52E+01
RWD	6,20E-04	-1,38E-02	-	-	9,56E-06	8,39E-05	3,87E-06	2,02E-04	3,67E-06	1,56E-05	3,34E-05	-5,53E-04	1,23E-05	7,29E-04
CRU	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	2,58E-02	2,24E+00	0,00E+00	0,00E+00	1,29E-03	1,12E-01	0,00E+00	0,00E+00
MFR	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	1,91E-04	-4,90E-03	0,00E+00	0,00E+00	5,98E-04	1,52E-02	4,33E-03	-1,11E-01
MER	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	1,38E-03	1,16E-01	0,00E+00	0,00E+00	3,65E-05	-9,39E-04	7,00E-04	-1,80E-02
EE	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,01E-02	5,70E-01	0,00E+00	0,00E+00
BC-pro	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
BC-pack	9,01E-03	5,08E-01	-	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TPE	0,00E+00	0,00E+00	-	-	0,00E+00	0,00E+00	4,33E-01	2,44E+01	0,00E+00	0,00E+00	2,17E-02	1,22E+00	0,00E+00	0,00E+00
EF-PM	3,12E-07	-7,07E-06	-	-	4,77E-08	-1,17E-06	5,85E-09	3,72E-07	6,76E-10	2,88E-09	1,86E-08	-3,86E-07	4,24E-09	1,10E-08
IR	3,08E+00	2,97E+02	-	-	2,85E-03	8,54E-02	7,83E-02	5,19E+00	1,77E-03	7,52E-03	1,60E-01	1,48E+01	8,61E-02	-1,74E+00

Eco-fw	1,60E+01	-1,26E+02	-	-	2,11E+00	7,66E+01	2,97E-01	1,49E+01	1,46E+00	6,20E+00	1,14E+00	4,14E+00	1,66E+00	7,61E+00
HT-c	3,77E-09	7,63E-08	-	-	1,65E-11	4,54E-10	7,80E-11	1,09E-09	9,78E-12	4,17E-11	2,49E-10	2,49E-09	1,10E-09	-2,75E-08
HT-nc	9,09E-08	-2,10E-06	-	-	3,27E-10	8,34E-09	2,34E-10	1,14E-08	1,86E-10	7,94E-10	4,64E-09	-1,02E-07	3,34E-10	1,23E-09
LU	5,41E+00	-1,30E+02	-	-	2,91E-04	1,17E-02	3,98E-03	2,21E-01	2,13E-04	9,10E-04	2,71E-01	-6,51E+00	1,60E-03	-2,19E-03



## VI. PRODUCTS COVERED BY THE PEP

The products covered by the given PEP are represented in the below table with a ●

The below table also provides the maximum linear resistance (ohm/km) of core at 20°C in D.C for 48 wires according to the standard IEC 60228 for each cable included in the cable in the family Nexans HEPR-SHF1 0,6/1kV.

Section (mm <sup>2</sup> )	Resistance (ohm/km)	N° of CONDUCTORS																		
		1	2	3	4	5	6	7	8	9	10	12	14	19	21	24	27	30	37	40
0,5	39																			
0,75	26																			
1	19,5																			
1,5	13,3	●																		
2,5	7,98	●																		
4	4,95	●																		
6	3,3	●																		
10	1,91	●																		
16	1,21	●																		
25	0,78	●																		
35	0,554	●																		
50	0,386	●																		
70	0,272	●																		
95	0,206	●																		
120	0,161	●																		
150	0,129																			
185	0,106																			
240	0,0801																			
300	0,0641																			
400	0,0486																			
500	0,0384																			
630	0,0287																			
800	-																			
1000	-																			
1200	-																			
1400	-																			
1600	-																			
1800	-																			
2000	-																			
2500	-																			

For all products covered by this PEP, weight (kg/km) of each product & number of active conductors\* in the cable are mentioned in the technical datasheet, which can be obtained from the Nexans website.

\*Number of active conductors = total number of conductors - neutral conductor (if applicable). If there is no neutral conductor in the cable, the number of active conductors = total number of conductors. The technical datasheet mentions if there is a neutral or not in a given cable.



RE0001-ed4-EN  
Created by L Domingo  
Approved by S Hassayoune  
Creation : 24 november 2010  
Last modification : July 10, 2019

## VERIFICATION REPORT PEP ecopassport®

### Identification of PEP ecopassport® :

- PEP ecopassport® n° : NXNS-00679-V01-01-EN
- Title : Nexans HEPR-SHF1 0,6/1kV 1x16mm<sup>2</sup>
- Author : Victor Polillo
- Released by : Nexans Brasil S/A Ativo  
Avenida Coronel Phídias Távora, 100 Pavuna 21535-510 Rio de Janeiro - RJ  
Brazil
- On behalf of : Nexans Brasil S/A Ativo  
Avenida Coronel Phídias Távora, 100 Pavuna 21535-510 Rio de Janeiro - RJ  
Brazil
- Edition date : 06-2025
- LCA report of the PEP : LCA Report Nexans HEPR-SHF1 0,6/1kV 1x16mm<sup>2</sup>\_05/05/2025

### Identification of the reference PCR used :

- PCR « Product Category Rules » : PCR-ed4-EN-2021 09 06
- Product Specific Rules : PSR0001 - Wires, cables and accessories

### Identification of the Accredited Verifier :

- Verification done by Matteo Simonetto - TÜV Italia S.r.l. , with accredited verifier number VH42
- Verification done :
  - Independent
  - External
  - Third Party
- Scope of the verification:
  - Verification done at the end of the LCA
  - Assessment of life cycle inventories models
  - Assessment of all individual data provided by the manufacturer
- Free comments of the Accredited Verifier (context, realization of the verification...)

*Validity of PEP within the period of 5 years from the date of publication must be guaranteed by Nexans Brasil S/A Ativo according to the content of procedure AP0008 of PEP ecopassport®.*

**Conclusion générale :** Favourable opinion



RE0002-ed5-EN  
Created by L Domingo  
Approved by E BRIERE  
Creation : 24 november 2010  
Last modification : 2022 07 05

## CONFORMITY DECLARATION PEP ecopassport®

According to the verification of the Product Environmental Profile

With the title : Nexans HEPR-SHF1 0,6/1kV 1x16mm<sup>2</sup>

PEP ecopassport number : NXNS-00679-V01-01-EN

Released by Nexans Brasil S/A Ativo

Avenida Coronel Phídias Távora, 100 Pavuna 21535-510 Rio de Janeiro - RJ Brazil

On behalf of Nexans Brasil S/A Ativo

Avenida Coronel Phídias Távora, 100 Pavuna 21535-510 Rio de Janeiro - RJ Brazil

06-2025

Matteo Simonetto - TÜV Italia S.r.l. , accredited verifier number VH42, declares

- to have carried out independent verification operations.
- not to have any link that could affect his impartiality towards the declarant, in particular not to be employed either full time or part time by the declarant
- to have established a declaration of links of interest during the last three years with PEPecopassport®
- not to have participated in the development process of the PEP subject to verification
- that the verified PEP is in conformity with the 'Rules of drafting: PCR of the Program PEP ecopassport' in force (PCR-ed4-EN-2021 09 06) and, when applicable, with the specific sectoral rules (PSR0001 - Wires, cables and accessories)

Date 05.06.2025 (ST1); 09.06.2025 (ST2)

Signature

A handwritten signature in black ink, appearing to read 'Matteo Simonetto'.