Environmental Product Declaration

Product Environmental Profile

Family technical name:	FRHF-EMC 1kV 2,3 and 4-core
Family brand name:	FlameRex
Reference product name :	FRHF-EMC 1kV 4x2,5/2,5



1139	0,33361	440,4	41201
kg CO_2 eq.	kg Sb eq.	m^3	MJ
Climate change - total	Resource use - minerals & metals (ADPe)	Net use of fresh water	Total Primary Energy

The above environmental impacts are "cradle to gate" or "Manufacturing phase" values (A1-A3) for 1km of cable

Registration number :	NXNS-00611-V01.01-EN	Drafting rules :	PEP-PCR-ed4-EN-2021 09 06
		Supplemented by :	PSR-0001-ed4-EN-2022 11 16
Verifier accreditation number :	VH42	Information and reference documents :	www.pep-ecopassport.org
Date of issue :	10-2026	Validity period:	5 years

Independent verification of the declaration and data, in accordance with ISO 14025 : 2006

Internal ☐ External ☒

The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain).

PEPs are compliant with NF C08-100-1:2022 and EN 50693:2019 or NF E38-500 :2022
The components of the present PEP may not be compared with components from any other program.

Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"

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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

FRHF-EMC 1kV 4x2,5/2,5

Fire-resistant EMC power cable with solid or stranded, round mica taped and XLPE insulated copper conductors and EMC foiled copper screen with HFFR sheath for fixed installations indoors and outdoors. May be buried directly in soil. EMC shielded cable gives an excellent protection against electromagnetic disturbancies. For locations where safety requires the operation of alarm, control, signalling and energy circuits also during a fire. The conductor insulation must be protected against UV-radiation. Installations must be in accordance with national regulations and rules of installations. No requirement for CPR-classification.

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 FRHF-EMC 1kV 2,3 and 4-core and the reference product of the PEP is FRHF-EMC 1kV 4x2,5/2,5.

Functional unit:

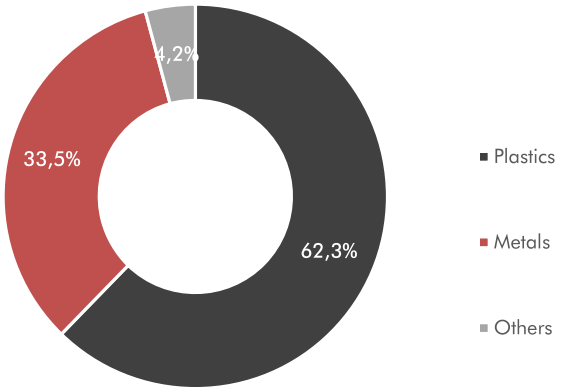
To transmit energy expressed for 1A over a distance of 1km during 30 years and a 70% use rate, in accordance with the relevant standards, detailed in the data sheet available on our website www.nexans.com.
Lifetime and use rate correspond to the Building - Residential / Tertiary / Industrial application 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, end-of-life and module D 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 362,87 kg/km. Constituent materials are distributed as given in the graph.

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 FRHF-EMC 1kV 2,3 and 4-core are manufactured in Finland.
- The electricity mix model for the manufacturing stage is from Finland ≤1 kV.
- The reference year for the collected LCI is 2025
- All Nexans sites in Finland 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 Circled wooden drum. It is considered to be used 5 times.

Distribution

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

- 1000 km covered by truck.
- 0 km covered by boat.

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 packaging and 5 % product loss are considered in this stage.

Use

The use scenario considers the operation of the reference product in Building - Residential / Tertiary / Industrial, with:

- Reference Lifetime (RLT) = 30 years
- Current intensity (A): 1
- Number of active conductor(s): 4
- Use rate = 70%
- Cable resistance* (ohm/km): 29,64

**Maximum value at 20°C according to IEC 60228*

Considering the aforementioned hypotheses, the energy consumption over the RLT at use stage is 5452,57 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 Finland ≤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 Finland ≤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 scerios given in the PEF ANNEX C_V2.1_May2020 :

End of life scenario per material considered			
Material	Recycling	Incineration	landfill
Aluminium	85 %	7 %	8 %
Copper	95 %	2 %	3 %
Steel	85 %	7 %	8 %
Other metals	0 %	45 %	55 %
PE	23 %	35 %	43 %
PP	18 %	37 %	45 %
PVC	32 %	31 %	37 %
Other plastics	29 %	32 %	39 %
Other materials	0 %	0 %	100 %

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.

Module D

Module D is calculated using the end-of-life recycling (0:100) method. Under this approach, recycled content at the input stage has no impact, while materials destined for recycling at the end of life generate the impact.

The calculation of loads is based on the weight of recycled material contained in the product, considering for this material the environmental impact of an equivalent virgin material.
The benefits are calculated based on the quantity of material recycled over the product's life cycle, by applying the environmental impact of an equivalent virgin material corresponding to avoided production.
Inert materials sent to landfills or incineration without energy recovery generate no benefits and are excluded from the calculation.

III. ENVIRONMENTAL IMPACTS

The reference product FRHF-EMC 1kV 4x2,5/2,5 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 6.3.5-8, with the Nexans-2026-05 database.

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

Impact results for 1000 m of FRHF-EMC 1kV 4x2,5/2,5

Mandatory indicators:

See caption in part VI. for abbreviations

Environmental indicator /flows	Unit	A1	A2	A3	Total A1-A3	A4	A5*	B6** (for 1 A)	C2***	C3	C4	TOTAL (for 1 A)	Module D
GWP	kg CO_2 eq.	1,06E+03	5,52E+01	2,27E+01	1,14E+03	1,90E+01	7,53E+01	2,96E+02	1,68E+01	2,50E+01	5,55E+01	1,63E+03	-5,87E+02
GWPf	kg CO_2 eq.	1,04E+03	5,51E+01	3,43E+01	1,13E+03	1,90E+01	6,02E+01	2,62E+02	1,67E+01	2,41E+01	5,53E+01	1,57E+03	-5,74E+02
GWPb	kg CO_2 eq.	2,57E+01	7,97E-02	-1,16E+01	1,42E+01	3,13E-02	1,54E+01	3,37E+01	2,76E-02	9,28E-01	2,21E-01	6,45E+01	-6,15E+00
GWPlu	kg CO_2 eq.	2,09E+00	7,33E-05	6,86E-06	2,09E+00	2,88E-05	9,57E-02	5,10E-05	2,54E-05	2,17E-06	1,12E-06	2,19E+00	-6,74E+00
ODP	kg CFC-11 eq.	1,10E-04	5,73E-07	1,66E-06	1,13E-04	2,21E-07	5,41E-06	6,04E-06	1,95E-07	5,69E-07	1,97E-06	1,27E-04	-1,12E-05
AP	mol H+ eq.	2,08E+01	2,47E-01	3,59E-01	2,14E+01	2,97E-02	1,01E+00	5,43E+00	2,62E-02	1,62E-01	1,99E-01	2,82E+01	-6,78E+00
Epf	kg PO43- eq.	1,52E+01	1,92E-04	6,16E-04	1,52E+01	7,10E-05	6,97E-01	9,68E-03	6,25E-05	3,89E-04	8,02E-05	1,59E+01	-6,87E-03
Epm	kg N eq.	5,84E+00	6,14E-02	3,94E-02	5,94E+00	5,41E-03	2,79E-01	4,26E-01	4,76E-03	1,84E-02	5,33E-02	6,72E+00	-8,85E-01
Ept	mol N eq.	8,43E+01	6,73E-01	1,20E+00	8,62E+01	5,94E-02	4,05E+00	1,90E+01	5,23E-02	4,24E-01	7,01E-01	1,11E+02	-9,60E+00
POCP	kg NMVOC eq.	1,75E+01	1,79E-01	1,09E-01	1,78E+01	1,92E-02	8,34E-01	9,71E-01	1,69E-02	4,95E-02	1,54E-01	1,98E+01	-1,70E+00
ADPe	kg Sb eq.	3,33E-01	1,78E-05	9,39E-05	3,34E-01	6,89E-06	1,53E-02	1,32E-03	6,07E-06	8,18E-05	1,70E-05	3,50E-01	-2,89E-01
ADPf	MJ	2,83E+04	9,50E+02	2,69E+03	3,19E+04	3,38E+02	1,63E+03	4,00E+04	2,97E+02	1,30E+03	4,80E+02	7,60E+04	-9,90E+03
WU	m3 eq.	1,04E+03	1,91E+00	8,96E+00	1,05E+03	6,98E-01	4,88E+01	5,61E+01	6,15E-01	4,60E+00	2,75E+00	1,17E+03	-4,12E+02
PÈRE	MJ	7,53E+03	3,51E+00	1,14E+03	8,67E+03	1,38E+00	4,37E+02	2,06E+04	1,21E+00	5,56E+02	8,94E+01	3,03E+04	-4,14E+01
PERM	MJ	0,00E+00	0,00E+00	1,76E+02	1,76E+02	0,00E+00	8,82E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,85E+02	0,00E+00
PERT	MJ	7,53E+03	3,51E+00	1,31E+03	8,85E+03	1,38E+00	4,46E+02	2,06E+04	1,21E+00	5,56E+02	8,94E+01	3,05E+04	-4,14E+01
PENRE	MJ	1,72E+04	9,50E+02	2,66E+03	2,08E+04	3,38E+02	1,12E+03	4,00E+04	2,97E+02	1,30E+03	4,80E+02	6,43E+04	-7,50E+03
PENRM	MJ	1,15E+04	0,00E+00	2,64E+01	1,16E+04	0,00E+00	5,28E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,21E+04	-2,50E+03
PENRT	MJ	2,87E+04	9,50E+02	2,69E+03	3,24E+04	3,38E+02	1,65E+03	4,00E+04	2,97E+02	1,30E+03	4,80E+02	7,64E+04	-1,00E+04
SM	kg	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
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	0,00E+00	0,00E+00	0,00E+00
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	0,00E+00	0,00E+00	0,00E+00
FW	m3	4,40E+02	4,45E-02	2,26E-01	4,40E+02	1,63E-02	2,02E+01	1,32E+00	1,43E-02	9,88E-02	4,14E-02	4,62E+02	-1,00E+01
HWD	kg	7,98E+00	2,05E-01	7,43E+00	1,56E+01	8,02E-02	4,29E+00	5,40E+01	7,06E-02	2,92E+00	3,16E+01	1,09E+02	-5,24E+00
NHWD	kg	2,02E+00	4,50E+00	6,48E+00	1,30E+01	1,77E+00	1,76E+00	9,40E+01	1,55E+00	4,16E+00	3,64E+00	1,20E+02	-1,70E+01
RWD	kg	5,68E-04	3,56E-03	1,26E-03	5,39E-03	1,40E-03	6,76E-04	9,00E-03	1,23E-03	9,27E-04	1,63E-03	2,03E-02	-1,53E-01
CRU	kg	0,00E+00	0,00E+00	9,60E+00	9,60E+00	0,00E+00	4,80E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,01E+01	0,00E+00
MFR	kg	2,01E-07	8,22E-09	5,58E+00	5,58E+00	3,23E-09	3,14E+00	1,81E-04	2,84E-09	5,19E+01	4,80E-07	6,07E+01	0,00E+00
MER	kg	0,00E+00	0,00E+00	1,42E-01	1,42E-01	0,00E+00	1,44E-02	0,00E+00	0,00E+00	1,57E-01	0,00E+00	3,14E-01	0,00E+00
EE	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	0,00E+00	0,00E+00	0,00E+00

* The installation stage includes only packaging disposal and 5 % product loss. Impacts related to installation processes are left for the PEP user to estimate.

**Phases B1, B2, B3, B4, B5 and B7 are equal to 0. Only B6 : energy requirement during the use phase is considered. Energy losses in use phase is calculted for 1A current intensity. The PEP user must multiply the impacts by the square of real current intensity

*** Phase C1 : 'Dismantling' is equal to 0. Only C2, C3 and C4 are considered.

Environmental indicator/flows	Unit	Total
BC-product	kg of C	0,00E+00
BC-pack	kg of C	3,67E+00

Biogenic carbon storage is calculated according to the -1/+1 assessment methodology & according to EN 16485.

Optional indicators:

Environmental indicator/flow	Unit	A1	A2	A3	Total A1-A3	A4	A5*	B6 (for 1 A)	C2	C3	C4	TOTAL (for 1 A)	Module D
TPE	MJ	3,62E+04	9,54E+02	4,00E+03	4,12E+04	3,39E+02	2,10E+03	6,06E+04	2,99E+02	1,86E+03	5,69E+02	1,07E+05	-1,00E+04
EF-PM	Disease occurance	1,45E-05	1,34E-06	4,45E-06	2,03E-05	2,56E-07	1,21E-06	7,26E-05	2,25E-07	1,90E-06	1,34E-06	9,78E-05	-7,99E-05
IR	kg U235 eq.	1,13E+02	1,72E+00	2,94E+02	4,08E+02	6,67E-01	2,59E+01	5,25E+03	5,87E-01	1,14E+02	1,04E+01	5,81E+03	-4,49E+01
Eco-fw	CTUe	4,07E+03	1,39E+03	2,80E+02	5,74E+03	5,45E+02	4,38E+02	1,12E+03	4,80E+02	6,02E+01	1,17E+03	9,55E+03	-1,92E+04
HT-c	CTUh-c	3,77E-06	9,54E-09	3,30E-07	4,11E-06	3,69E-09	2,04E-07	1,96E-06	3,25E-09	2,81E-07	1,64E-08	6,57E-06	-1,50E-06
HT-nc	CTUh-nc	2,00E-06	1,82E-07	2,29E-07	2,41E-06	7,03E-08	1,60E-07	2,89E-06	6,19E-08	1,05E-07	3,92E-07	6,09E-06	-2,37E-05
LU	No dimension	1,17E+03	3,19E-01	4,46E+01	1,22E+03	1,25E-01	5,83E+01	7,93E+02	1,10E-01	3,04E+01	7,12E+00	2,11E+03	-1,38E+03

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

General information

The extrapolation rules have been calculated based on the environment impact assessment results of 6 products in the range FRHF-EMC 1kV 2,3 and 4-core. The reference product is FRHF-EMC 1kV 4x2,5/2,5. The weight of reference product is 353,27 kg/km.

The reference product has 4 active conductor(s) and a resistivity of 29,64 ohm/km.

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 363,27 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. N.B.: extrapolation coefficients (a & b) are different depending on whether the product weight is higher or lower than 470,875 kg/km	Indicator = (363,27 x a) + b	3,61%
	A2-Transport to manufacturer	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = (363,27 x a) + b	2,64%
	A3-Manufacturing process	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = (363,27 x a) + b	1,97%
	A4-Distribution to customer	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = 363,27 x a + b.	1,00%
	A5-Installation	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = 363,27 x a + b.	8,80%
	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	Example: If the product resistivity is 1,2 ohm/km & has 1 active conductor, Indicator = (1,2/29,64) x (1/4) x indicator of reference product.	0,00%
	C2-End of life-Transport	Linear variation versus weight	Indicator = (a x Cable weight) + b. N.B.: extrapolation coefficients (a & b) are different depending on whether the product weight is higher or lower than 470,875 kg/km	Indicator = (363,27 x a) + b	0,00%
	C3-End of life-Treatment waste	Linear variation versus weight	Indicator = (a x Cable weight) + b. N.B.: extrapolation coefficients (a & b) are different depending on whether the product weight is higher or lower than 470,875 g/m	Indicator = (363,27 x a) + b	0,94%
	C4-End of life-Disposal	Linear variation versus weight	Indicator = (a x Cable weight) + b. N.B.: extrapolation coefficients (a & b) are different depending on whether the product weight is higher or lower than 470,875 g/m	Indicator = (363,27 x a) + b	2,28%
	Module D	Linear variation versus weight	Indicator = a x Cable weight + b	Indicator = (363,27 x a) + b	5,55%

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	
	Weight < 470,875 kg/kı		Weight > 470,875 kg/kı									
	a	b	a	b	a	b	a	b	a	b	a	b
GWP	3,42E+00	-1,37E+02	3,96E+00	-3,56E+02	1,31E-01	7,76E+00	8,69E-02	-7,77E+00	5,35E-02	2,98E-01	2,46E-01	-8,86E+00
GWPf	3,38E+00	-1,44E+02	3,96E+00	-3,74E+02	1,31E-01	7,73E+00	1,16E-01	-5,60E+00	5,34E-02	2,98E-01	2,09E-01	-1,19E+01
GWPb	5,70E-02	5,19E+00	3,99E-02	1,21E+01	1,54E-04	2,24E-02	-2,89E-02	-2,17E+00	8,80E-05	4,91E-04	3,80E-02	2,79E+00
GWPlu	8,71E-03	-9,24E-01	1,23E-02	-2,36E+00	1,42E-07	2,06E-05	1,87E-08	3,47E-07	8,09E-08	4,52E-07	5,36E-04	-8,29E-02
ODP	3,51E-07	-1,30E-05	3,59E-07	-1,62E-05	1,14E-09	1,50E-07	5,39E-09	-1,69E-07	6,22E-10	3,47E-09	1,74E-08	-6,65E-07
AP	8,38E-02	-8,30E+00	1,16E-01	-2,12E+01	1,11E-03	-1,27E-01	1,02E-03	1,48E-03	8,35E-05	4,66E-04	5,25E-03	-7,45E-01
Epf	6,34E-02	-6,72E+00	8,94E-02	-1,72E+01	4,13E-07	4,09E-05	1,77E-06	-6,52E-06	1,99E-07	1,11E-06	3,90E-03	-6,03E-01
Epm	2,37E-02	-2,37E+00	3,29E-02	-6,06E+00	2,93E-04	-3,73E-02	1,11E-04	7,82E-04	1,52E-05	8,49E-05	1,47E-03	-2,13E-01
Ept	3,45E-01	-3,50E+01	4,80E-01	-8,94E+01	3,21E-03	-4,09E-01	3,34E-03	2,88E-02	1,67E-04	9,32E-04	2,15E-02	-3,14E+00
POCP	6,87E-02	-6,36E+00	9,34E-02	-1,63E+01	8,25E-04	-9,92E-02	3,24E-04	-2,45E-03	5,39E-05	3,01E-04	4,20E-03	-5,73E-01
ADPe	1,39E-03	-1,47E-01	1,96E-03	-3,76E-01	3,53E-08	4,71E-06	3,11E-07	-1,45E-05	1,94E-08	1,08E-07	8,55E-05	-1,32E-02
ADPf	7,71E+01	9,78E+02	7,51E+01	1,79E+03	2,17E+00	1,63E+02	8,65E+00	-3,12E+02	9,49E-01	5,30E+00	4,42E+00	6,65E+01
WU	3,06E+00	-3,68E+01	3,28E+00	-1,25E+02	4,17E-03	3,85E-01	2,61E-02	-5,19E-02	1,96E-03	1,10E-02	1,51E-01	-4,07E+00
PÈRE	3,10E+01	-3,20E+03	4,32E+01	-8,11E+03	6,80E-03	9,85E-01	3,18E+00	1,27E+01	3,88E-03	2,16E-02	2,13E+00	-2,77E+02
PERM	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,47E-01	2,93E+01	0,00E+00	0,00E+00	2,23E-02	1,47E+00
PERT	3,10E+01	-3,20E+03	4,32E+01	-8,11E+03	6,80E-03	9,85E-01	3,63E+00	4,20E+01	3,88E-03	2,16E-02	2,15E+00	-2,76E+02
PENRE	5,51E+01	-2,13E+03	6,36E+01	-5,54E+03	2,17E+00	1,63E+02	8,58E+00	-3,17E+02	9,49E-01	5,30E+00	3,82E+00	-1,95E+02
PENRM	2,38E+01	2,91E+03	1,41E+01	6,84E+03	0,00E+00	0,00E+00	6,55E-02	5,03E+00	0,00E+00	0,00E+00	7,16E-01	2,45E+02
PENRT	7,89E+01	7,85E+02	7,77E+01	1,30E+03	2,17E+00	1,63E+02	8,65E+00	-3,12E+02	9,49E-01	5,30E+00	4,53E+00	4,92E+01
SM	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
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	1,80E+00	-1,85E+02	2,52E+00	-4,73E+02	9,72E-05	8,98E-03	6,62E-04	-2,02E-03	4,57E-05	2,55E-04	1,10E-01	-1,66E+01
HWD	3,01E-02	-2,60E+00	1,77E-02	2,46E+00	4,00E-04	5,65E-02	2,18E-02	-2,49E-01	2,25E-04	1,26E-03	9,84E-03	8,41E-01
NHWD	5,72E-03	-1,78E-02	2,95E-03	1,11E+00	8,69E-03	1,26E+00	1,94E-02	-3,16E-01	4,96E-03	2,77E-02	5,45E-03	-6,64E-02
RWD	2,32E-06	-2,46E-04	1,07E-06	2,61E-04	6,88E-06	9,99E-04	3,87E-06	-8,06E-05	3,93E-06	2,19E-05	1,64E-06	9,73E-05
CRU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,55E-02	1,26E+00	0,00E+00	0,00E+00	1,28E-03	6,30E-02
MFR	8,20E-10	-8,71E-08	3,79E-10	9,24E-08	1,59E-11	2,31E-09	1,18E-02	1,24E+00	9,07E-12	5,06E-11	5,98E-03	9,61E-01
MER	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,70E-04	-1,50E-01	0,00E+00	0,00E+00	8,42E-05	-1,37E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TPE	1,10E+02	-2,41E+03	1,21E+02	-6,82E+03	2,18E+00	1,64E+02	1,23E+01	-2,70E+02	9,53E-01	5,32E+00	6,68E+00	-2,26E+02
EF-PM	3,06E-08	3,50E-06	1,79E-08	8,60E-06	5,13E-09	-4,15E-07	1,31E-08	-1,32E-07	7,19E-10	4,01E-09	2,45E-09	3,09E-07
IR	2,42E-01	2,54E+01	1,40E-01	6,61E+01	3,38E-03	4,61E-01	8,57E-01	-7,71E+00	1,87E-03	1,05E-02	6,62E-02	2,29E+00
Eco-fw	8,72E+00	9,23E+02	5,07E+00	2,39E+03	2,69E+00	3,88E+02	6,86E-01	3,73E+01	1,53E+00	8,55E+00	8,23E-01	1,35E+02
HT-c	7,79E-09	9,53E-07	4,60E-09	2,23E-06	1,90E-11	2,50E-09	1,63E-09	-2,23E-07	1,04E-11	5,78E-11	3,86E-10	6,02E-08
HT-nc	5,11E-09	1,77E-07	2,77E-09	1,12E-06	3,61E-10	4,79E-08	6,39E-10	5,67E-09	1,98E-10	1,10E-09	3,09E-10	4,59E-08
LU	4,50E+00	-3,88E+02	6,01E+00	-9,97E+02	6,18E-04	8,95E-02	1,20E-01	2,03E+00	3,52E-04	1,97E-03	2,75E-01	-3,42E+01

	C2-End of life-Transport				C3-End of life-Treatment waste				C4-End of life-Disposal				Module D	
	Veight < 470,875 kg/k		Veight > 470,875 kg/k		Veight < 470,875 kg/k		Veight > 470,875 kg/k		Veight < 470,875 kg/k		Veight > 470,875 kg/k			
	a	b	a	b	a	b	a	b	a	b	a	b	a	b
GWP	4,74E-02	-1,78E-15	4,74E-02	-3,55E-15	7,25E-02	-5,59E-01	7,53E-02	-1,40E+00	1,23E-01	1,12E+01	1,23E-01	1,12E+01	-2,83E+00	3,66E+02
GWPf	4,73E-02	7,11E-15	4,73E-02	-3,55E-15	7,02E-02	-6,79E-01	7,34E-02	-1,62E+00	1,23E-01	1,12E+01	1,23E-01	1,12E+01	-2,78E+00	3,61E+02
GWPb	7,80E-05	-1,73E-17	7,80E-05	-6,94E-18	2,27E-03	1,20E-01	1,92E-03	2,23E-01	4,84E-04	4,71E-02	4,84E-04	4,71E-02	-1,22E-02	-1,65E+00
GWPlu	7,18E-08	-2,37E-20	7,18E-08	0,00E+00	5,02E-09	3,75E-07	3,93E-09	6,97E-07	2,51E-09	2,20E-07	2,51E-09	2,20E-07	-3,77E-02	5,84E+00
ODP	5,51E-10	7,94E-23	5,51E-10	-5,29E-23	2,01E-09	-1,31E-07	2,44E-09	-2,60E-07	4,47E-09	3,70E-07	4,47E-09	3,70E-07	-1,52E-08	-5,17E-06
AP	7,41E-05	-3,47E-18	7,41E-05	0,00E+00	4,25E-04	1,08E-02	3,96E-04	1,95E-02	4,32E-04	4,36E-02	4,32E-04	4,36E-02	-3,68E-02	5,51E+00
Epf	1,77E-07	-1,36E-20	1,77E-07	2,71E-20	9,79E-07	4,04E-05	8,68E-07	7,35E-05	1,79E-07	1,57E-05	1,79E-07	1,57E-05	-2,29E-05	1,08E-03
Epm	1,35E-05	-2,60E-18	1,35E-05	0,00E+00	4,84E-05	1,23E-03	4,52E-05	2,17E-03	1,16E-04	1,16E-02	1,16E-04	1,16E-02	-4,67E-03	6,77E-01
Ept	1,48E-04	-6,94E-18	1,48E-04	1,39E-17	1,14E-03	2,13E-02	1,08E-03	3,83E-02	1,52E-03	1,54E-01	1,52E-03	1,54E-01	-5,07E-02	7,35E+00
POCP	4,78E-05	1,73E-18	4,78E-05	-6,94E-18	1,39E-04	4,14E-04	1,39E-04	2,40E-04	3,35E-04	3,33E-02	3,35E-04	3,33E-02	-7,70E-03	9,00E-01
ADPe	1,72E-08	-1,69E-21	1,72E-08	0,00E+00	2,24E-07	2,57E-06	2,19E-07	3,98E-06	3,66E-08	3,85E-06	3,66E-08	3,85E-06	-1,62E-03	2,51E-01
ADPf	8,42E-01	-1,42E-13	8,42E-01	1,14E-13	3,91E+00	-7,09E+01	4,17E+00	-1,48E+02	1,04E+00	1,07E+02	1,04E+00	1,07E+02	-3,74E+01	2,93E+03
WU	1,74E-03	0,00E+00	1,74E-03	0,00E+00	1,07E-02	7,78E-01	8,46E-03	1,43E+00	6,27E-03	5,06E-01	6,27E-03	5,06E-01	-1,74E+00	1,80E+02
PÈRE	3,44E-03	-3,33E-16	3,44E-03	4,44E-16	1,41E+00	5,37E+01	1,26E+00	9,90E+01	1,92E-01	2,03E+01	1,92E-01	2,03E+01	-6,31E-02	-1,70E+01
PERM	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	0,00E+00	0,00E+00
PERT	3,44E-03	-3,33E-16	3,44E-03	4,44E-16	1,41E+00	5,37E+01	1,26E+00	9,90E+01	1,92E-01	2,03E+01	1,92E-01	2,03E+01	-6,31E-02	-1,70E+01
PENRE	8,42E-01	-1,42E-13	8,42E-01	1,14E-13	3,91E+00	-7,09E+01	4,17E+00	-1,48E+02	1,04E+00	1,07E+02	1,04E+00	1,07E+02	-3,46E+01	4,17E+03
PENRM	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	-3,40E+00	-1,16E+03
PENRT	8,42E-01	-1,42E-13	8,42E-01	1,14E-13	3,91E+00	-7,09E+01	4,17E+00	-1,48E+02	1,04E+00	1,07E+02	1,04E+00	1,07E+02	-3,80E+01	3,01E+03
SM	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	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	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	0,00E+00	0,00E+00
FW	4,06E-05	5,20E-18	4,06E-05	-3,47E-18	2,32E-04	1,60E-02	1,86E-04	2,95E-02	9,46E-05	7,53E-03	9,46E-05	7,53E-03	-4,30E-02	4,56E+00
HWD	2,00E-04	-2,08E-17	2,00E-04	-1,39E-17	9,71E-03	-4,82E-01	1,13E-02	-9,60E-01	7,06E-02	6,24E+00	7,06E-02	6,24E+00	-2,59E-02	3,46E+00
NHWD	4,40E-03	-2,22E-16	4,40E-03	4,44E-16	1,11E-02	2,39E-01	1,05E-02	4,16E-01	7,90E-03	8,01E-01	7,90E-03	8,01E-01	-9,39E-02	1,43E+01
RWD	3,48E-06	1,30E-18	3,48E-06	-4,34E-19	2,49E-06	4,62E-05	2,38E-06	7,66E-05	3,54E-06	3,53E-04	3,54E-06	3,53E-04	-8,59E-04	1,33E-01
CRU	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	0,00E+00	0,00E+00
MFR	8,04E-12	-2,07E-24	8,04E-12	-1,65E-24	1,10E-01	1,22E+01	7,49E-02	2,27E+01	1,03E-09	1,09E-07	1,03E-09	1,09E-07	0,00E+00	0,00E+00
MER	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,55E-04	-6,95E-02	8,80E-04	-1,36E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00
BC-pack	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	0,00E+00	0,00E+00
TPE	8,45E-01	-1,14E-13	8,45E-01	0,00E+00	5,32E+00	-1,72E+01	5,43E+00	-4,94E+01	1,23E+00	1,27E+02	1,23E+00	1,27E+02	-3,80E+01	2,99E+03
EF-PM	6,38E-10	-7,94E-23	6,38E-10	0,00E+00	5,30E-09	2,35E-08	5,28E-09	3,09E-08	2,91E-09	2,96E-07	2,91E-09	2,96E-07	-4,34E-07	6,50E-05
IR	1,66E-03	0,00E+00	1,66E-03	2,22E-16	3,21E-01	4,17E-01	3,22E-01	1,11E-01	2,23E-02	2,33E+00	2,23E-02	2,33E+00	-1,49E-01	6,79E+00
Eco-fw	1,36E+00	0,00E+00	1,36E+00	2,27E-13	1,66E-01	1,48E+00	1,64E-01	2,15E+00	2,54E+00	2,53E+02	2,54E+00	2,53E+02	-4,65E+01	-1,97E+03
HT-c	9,19E-12	-4,14E-25	9,19E-12	-8,27E-25	1,10E-09	-1,01E-07	1,43E-09	-1,99E-07	3,58E-11	3,53E-09	3,58E-11	3,53E-09	-4,63E-09	1,17E-07
HT-nc	1,75E-10	-1,99E-23	1,75E-10	2,65E-23	2,67E-10	1,02E-08	2,39E-10	1,85E-08	8,60E-10	8,31E-08	8,60E-10	8,31E-08	-1,28E-07	1,90E-05
LU	3,13E-04	5,55E-17	3,13E-04	-2,78E-17	7,11E-02	4,96E+00	5,66E-02	9,25E+00	1,53E-02	1,60E+00	1,53E-02	1,60E+00	-7,57E+00	1,14E+03

V. 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 maximun linear resistance (ohm/km) of core at 20°C in D.C for 18 wires according to the standard IEC 60228 for each cable included in the cable in the family FlameRex.

Section (mm^2)	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	36																			
0,75	24,5																			
1	18,1																			
1,5	12,1		●	●	●															
2,5	7,41		●	●	●															
4	4,61		●	●	●															
6	3,08		●	●	●															
10	1,83		●	●	●															
16	1,15		●	●	●															
25	0,727																			
35	0,524																			
50	0,387																			
70	0,268																			
95	0,193																			
120	-																			
150	-																			
185	-																			
240	-																			
300	-																			
400	0,0465																			
500	-																			
630	-																			
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.

VI. ANNEX : TABLE CAPTIONS

GWP	Climate change - total
GWPf	Climate change - fossil
GWPb	Climate change - biogenic
GWPlu	Climate change - land use & land use change
ODP	Ozone layer depletion
AP	Acidification potential of soil and water
Epf	Eutrophication - freshwater
Epm	Eutrophication - marine
Ept	Eutrophication - terrestrial
POCP	Photochemical ozone formation - human health
ADPe	Resource use - minerals & metals
ADPf	Resource use - fossils
WU	Water use
PERE	Use of renewable primary energy excluding renewable primary energy used as raw material
PERM	Use of renewable primary energy used as raw material
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 material
RSF	Use of renewable secondary fuels
NRSF	Use of non renewable secondary fuels
FW	Net use of fresh water
HWD	Hazardous waste disposed
NHWD	Non hazardous waste disposed
RWD	Radioactive waste disposed

CRU	Components for reuse
MFR	Materials for recycling
MER	Materials for energy recovery
EE	Exported Energy
BC-produc	Biogenic carbon content - product
BC-pack	Biogenic carbon content - packaging
TPE	Total Primary Energy
EF-PM	EF-particulate matter
IR	Ionising radiation, human health
Eco-fw	Ecotoxicity, freshwater
HT-c	Human toxicity, cancer
HT-nc	Human toxicity, non-cancer
LU	Land use

A1	Raw materials
A2	Transport to manufacturer
A3	Manufacturing process
A4	Distribution to customer
A5	Installation
B6	Use
C2	End of life-Transport
C3	End of life-Treatment waste
C4	End of life-Disposal
D	Module D