

AHXAMK-WP 19/33 (36) kV 3-core

Medium voltage cable

19/33 (36) kV



Application

DryRex Nordic Wind cables are designed especially to meet the requirements of 36 kV wind farms. May be buried directly in soil, also by ploughing. Cable is longitudinally and radially watertight and therefore it is suitable where wet soil and / or fresh water permanently occurs. Installations must be in accordance with national regulations and rules of installations. The cable is halogen-free, but without fire protection. The cable is not CPR-classified.

Design

Standards	HD 620 10 F, SFS 5636
Product Environmental Profile (PEP/EPD)	PEP NXNS-00437-V01.01-EN
Conductor	Watertight, circular, stranded aluminium EN/IEC 60228 class 2
Conductor screen	Semiconducting cross-linked polyethylene XLPE
Insulation	Cross-linked polyethylene XLPE
Insulation screen	Semiconducting cross-linked polyethylene XLPE
Core Identification	White phase numbering: L1, L2, L3
Cable lay up	Three sheathed cores are laid up together
Inner covering	Semiconducting waterswellable tape against longitudinal water penetration
Metal screen	Polyethylene laminated aluminium foil, which acts also as a radial water barrier

Temperature limits

Max. conductor temperature °C	90
Max. cond. temp. short circuit max. 5 s °C	250
Min. cable temperature during operation °C	-50
Min. cable temperature during handling °C	-20
Min. cable temperature during transport °C	-40

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Oversheath	UV-protected PE-plastic PELLD , Black
Longitudinal watertightness	Semiconducting water swellable tape

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Technical information	3x95	3x120	3x150	3x185	3x240	3x300
Product code	1181888	1181889	1181890	1181891	1181892	1181893
Nominal diameter of a sheathed phase conductor mm	35	37	38	40	43	45
Nominal cable diameter mm	76	79	82	86	92	96
Nominal cable weight kg/km	3332	3732	4108	4624	5391	6166
Nominal weight of Aluminium kg/km	735	953	1149	1460	1901	2428
Nominal diameter of conductor mm	11,1	12,6	13,9	15,6	17,8	19,8
Nominal thickness of conductor screen mm	0,5	0,5	0,5	0,5	0,5	0,5
Nominal Insulation thickness mm	8,0	8,0	8,0	8,0	8,0	8,0
Nominal diameter over the insulation without insulation screen mm	26,7	28,2	29,5	31,2	33,6	35,4
Nominal thickness of insulation screen mm	0,5	0,5	0,5	0,5	0,5	0,5
Nominal thickness of PE-laminated aluminium foil mm	0,3	0,3	0,3	0,3	0,3	0,3
Nominal thickness of oversheath mm	3,0	3,0	3,1	3,1	3,2	3,3
Maximum forces during installation when pulling by						
Max. pulling force by pulling-eye kN	8,6	10,8	13,5	16,7	20,0	20,0
Max. pulling force by pulling-stocking kN	4,3	5,4	6,8	8,3	8,5	8,5
Minimum bending radii						
Minimum bending radius, handling mm	909	949	987	1032	1099	1149
Minimum bending radius, final bending mm	637	665	691	722	769	805
Minimum bending radii						
During handling and installation, phase conductor cm	53	56	57	60	65	68
During handling and installation, cable cm	91	95	99	103	110	115
In final installation, phase conductor cm	37	39	40	42	45	47
In final installation, cable cm	64	66	69	72	77	80
Minimum bending radii						
During handling and installation, phase conductor m	0,53	0,56	0,57	0,60	0,65	0,68
During handling and installation, cable m	0,91	0,95	0,99	1,03	1,10	1,15
In final installation, phase conductor m	0,37	0,39	0,40	0,42	0,45	0,47
In final installation, cable m	0,64	0,67	0,69	0,72	0,77	0,81
DC resistance						
Max. DC resistance of conductor at 20 °C Ω/km	0,320	0,253	0,206	0,164	0,125	0,100
Nominal DC resistance of PE-laminated aluminium foil 20 °C Ω/km	1,02	0,97	0,93	0,89	0,81	0,78

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AC resistance of phase conductor, screen circuit closed						
Conductor temperature 40 °C Ω/km	0,3460	0,2736	0,2229	0,1776	0,1356	0,1088
Conductor temperature 65 °C Ω/km	0,3782	0,2991	0,2436	0,1941	0,1482	0,1188
Conductor temperature 70 °C Ω/km	0,3846	0,3042	0,2478	0,1974	0,1507	0,1208
Conductor temperature 90 °C Ω/km	0,4104	0,3246	0,2644	0,2106	0,1607	0,1288
Inductance per phase						
In flat formation, free space between cables equal to one cable diameter mH/km	0,60	0,58	0,57	0,56	0,54	0,53
In trefoil formation, cables touching each other mH/km	0,41	0,40	0,38	0,37	0,36	0,35
Electrical values						
Calculated operation capacitance μF/km	0,16	0,17	0,18	0,20	0,22	0,24
Calculated charging current with main voltage A/km	0,9	1,0	1,1	1,2	1,3	1,4
Calculated earth fault current with main voltage A/km	2,8	3,1	3,3	3,6	4,0	4,2
Current ratings						
Cables in air (25 °C)						
Flat, conductor 90 °C, open screen A	320	370	425	485	570	650
Flat, conductor 90 °C, closed screen A	310	350	395	440	515	580
Trefoil, conductor 90 °C, open screen A	285	330	380	430	505	580
Trefoil, conductor 90 °C, closed screen A	280	325	370	425	490	565
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m						
Trefoil, conductor 65 °C, open screen A	240	270	305	345	395	445
Trefoil, conductor 65 °C, closed screen A	235	265	300	330	385	435
Trefoil, conductor 90 °C, open screen A	280	320	360	405	465	525
Trefoil, conductor 90 °C, closed screen A	275	310	355	390	455	510
Maximum thermal short circuit current during 1 s						
Phase (initial 90 °C, final 250 °C) kA	8,9	11,3	14,1	17,4	22,6	28,3
Metal screen (initial 35 °C, final 250 °C) kA	4,8	5,0	5,2	5,5	6,0	6,2
Metal screen (initial 60 °C, final 250 °C) kA	4,4	4,6	4,8	5,0	5,5	5,7
Metal screen (initial 85 °C, final 250 °C) kA	4,0	4,2	4,4	4,6	5,0	5,2
Environmental information						
(A1-A3) GWP emission kgCO ₂ e/km	19126	21679	24076	27374	32265	37213
GWP emissions calculation standard	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019

STANDARD PACKAGES	3x95	3x120	3x150	3x185	3x240	3x300
Product code	1181888	1181889	1181890	1181891	1181892	1181893
GTIN code	6438176306116	6438176306123	6438176306260	6438176306130	6438176306147	6438176306154
Package	1000 K30	1000 K30	1000 K32	1000 K32	1000 K32	750 K32