

## AHXAMK-W 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

<b>Standards</b>	HD 620 10 F, SFS 5636
<b>Product Environmental Profile (PEP/EPD)</b>	PEP NXNS-00428-V01.01-EN
<b>Conductor</b>	Watertight, circular, stranded aluminium EN/IEC 60228 class 2
<b>Conductor screen</b>	Semiconducting cross-linked polyethylene XLPE
<b>Insulation</b>	Cross-linked polyethylene XLPE
<b>Insulation screen</b>	Semiconducting cross-linked polyethylene XLPE
<b>Core Identification</b>	White phase numbering: L1, L2, L3
<b>Cable lay up</b>	Three sheathed cores are laid up around a bare copper earth conductor
<b>Inner covering</b>	Semiconducting waterswellable tape against longitudinal water penetration

### Temperature limits

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

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<b>Metal screen</b>	Polyethylene laminated aluminium foil, which acts also as a radial water barrier
<b>Oversheath</b>	UV-protected PE-plastic PELLD , Black
<b>Longitudinal watertightness</b>	Semiconducting water swellable tape

Technical information	3x95+35 Cu	3x120+35 Cu	3x150+35 Cu	3x185+35 Cu	3x240+35 Cu	3x300+35 Cu
<b>Product code</b>	<b>1181895</b>	<b>1181896</b>	<b>1181897</b>	<b>1181899</b>	<b>1181901</b>	<b>1181903</b>
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	3634	4034	4410	4927	5693	6468
Nominal weight of copper kg/km	302	302	302	302	302	302
Nominal weight of Aluminium kg/km	735	953	1149	1461	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 diameter of earth conductor mm	7	7	7	7	7	7
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
<b>Maximum forces during installation when pulling by</b>						
Max. pulling force by pulling-eye kN	14,3	18,0	20,0	20,0	20,0	20,0
Max. pulling force by pulling-stocking kN	4,3	5,4	6,8	8,3	8,5	8,5
<b>Minimum bending radii</b>						
Minimum bending radius, handling mm	909	949	987	1032	1099	1149
Minimum bending radius, final bending mm	637	665	691	722	769	805
<b>Minimum bending radii</b>						
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
<b>Minimum bending radii</b>						
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
<b>DC resistance</b>						
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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<b>AC resistance of phase conductor, screen circuit closed</b>						
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
<b>Inductance per phase</b>						
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
<b>Electrical values</b>						
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
<b>Current ratings</b>						
<b>Cables in air (25 °C)</b>						
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
<b>Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m</b>						
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
<b>Maximum thermal short circuit current during 1 s</b>						
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
Bare earth conductor (initial 55 °C, final 200 °C) kA	5	5	5	5	5	5
<b>Environmental information</b>						
(A1-A3) GWP emission kgCO <sub>2</sub> e/km	20935	23552	26009	29391	34404	39477
GWP emissions calculation standard	EN15804:2012 + A2:2019					

STANDARD PACKAGES	3x95+35 Cu	3x120+35 Cu	3x150+35 Cu	3x185+35 Cu	3x240+35 Cu	3x300+35 Cu
Product code	1181895	1181896	1181897	1181899	1181901	1181903
GTIN code	6438176306161	6438176306178	6438176306185	6438176306208	6438176306222	6438176306246
Package	1000 K30	1000 K30	1000 K32	1000 K32	1000 K32	750 K32