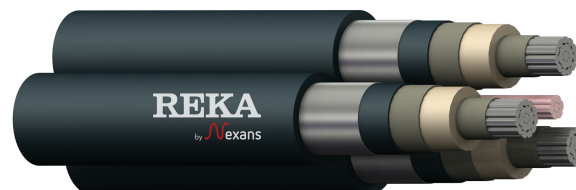


AHXAMK-W 6/10 (12) kV 3-core

Medium voltage cable

6/10 (12) kV



DryRex

Application

Medium-voltage cable for fixed installations outdoors. 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
Certificates	SGS Fimko FI 40519
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 around a bare copper earth conductor
Inner covering	Semiconducting waterswellable tape against longitudinal water penetration

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

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Technical information	3x35+35 Cu	3x50+35 Cu	3x70+35 Cu	3x95+35 Cu	3x120+35 Cu	3x150+35 Cu	3x185+35 Cu	3x240+35 Cu	3x240+70 Cu	3x300+35 Cu
Product code	1187031	1187032	1187033	1187034	1187035	1187036	1187037	1187038	1187068	1187039
Nominal diameter of a sheathed phase conductor mm	22	23	25	26	28	29	31	34	34	36
Nominal cross-sectional area of conductor mm ²	35	50	70	95	120	150	185	240	240	300
Nominal diameter of conductor mm	6,9	8,0	9,5	11,1	12,6	13,9	15,6	17,8	17,8	19,8
Nominal thickness of conductor screen mm	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Nominal thickness of insulation mm	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4
Nominal diameter over the insulation without insulation screen mm	14,1	15,3	16,7	18,4	19,8	21,1	23,0	25,2	25,2	27,5
Nominal thickness of insulation screen mm	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Nominal diameter of earth conductor mm	6,9	6,9	6,9	6,9	6,9	6,9	6,9	6,9	9,9	6,9
Nominal thickness of PE-laminated aluminium foil mm	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Nominal thickness of oversheath mm	2,6	2,7	2,7	2,8	2,8	2,9	2,9	3,0	3,0	3,1
Nominal cable diameter mm	46,660	49,670	52,670	56,760	59,770	62,890	66,970	72,240	72,240	77,510
Nominal cable weight kg/km	1559,526	1777,903	2042,966	2379,677	2701,934	3014,057	3475,303	4118,156	4408,156	4862,690
Metall weight Cu kg/m	0,302	0,302	0,302	0,302	0,302	0,302	0,302	0,302	0,592	0,302
Metall weight Al kg/m	0,274	0,383	0,545	0,735	0,952	1,149	1,461	1,902	1,902	2,428
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	5,3	7,5	10,5	14,3	18,0	20,0	20,0	20,0	20,0	20,0
Max. pulling force by pulling-stocking kN	1,6	2,3	3,2	4,3	5,4	6,8	8,3	8,5	8,5	8,5
Minimum bending radii										
During handling and installation, phase conductor cm	33	35	38	39	42	44	47	51	51	54
During handling and installation, cable cm	56	60	63	68	72	75	80	87	87	93
In final installation, phase conductor cm	23	24	26	27	29	30	33	36	36	38
In final installation, cable cm	39	42	44	48	50	53	56	61	61	65
Minimum bending radii										
During handling and installation, phase conductor m	0,33	0,35	0,38	0,39	0,42	0,44	0,47	0,51	0,51	0,54
During handling and installation, cable m	0,56	0,60	0,63	0,68	0,72	0,76	0,80	0,87	0,87	0,93
In final installation, phase conductor m	0,23	0,24	0,26	0,27	0,29	0,30	0,33	0,36	0,36	0,38
In final installation, cable m	0,39	0,42	0,44	0,48	0,50	0,53	0,56	0,61	0,61	0,65
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	0,868	0,641	0,443	0,320	0,253	0,206	0,164	0,125	0,125	0,100
Nominal DC resistance of PE-laminated aluminium foil 20 °C Ω/km	2,5	2,3	2,2	2,0	1,9	1,9	1,7	1,6	1,6	1,5

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Technical information	3x35+35 Cu	3x50+35 Cu	3x70+35 Cu	3x95+35 Cu	3x120+35 Cu	3x150+35 Cu	3x185+35 Cu	3x240+35 Cu	3x240+70 Cu	3x300+35 Cu
AC resistance of phase conductor, screen circuit closed										
Conductor temperature 40 °C Ω/km	0,9380	0,6927	0,4788	0,3460	0,2736	0,2229	0,1776	0,1356	0,1356	0,1088
Conductor temperature 65 °C Ω/km	1,0254	0,7573	0,5234	0,3782	0,2991	0,2436	0,1941	0,1482	0,1482	0,1188
Conductor temperature 70 °C Ω/km	1,0429	0,7702	0,5324	0,3846	0,3042	0,2478	0,1974	0,1507	0,1507	0,1208
Conductor temperature 90 °C Ω/km	1,1129	0,8219	0,5681	0,4104	0,3246	0,2644	0,2106	0,1607	0,1607	0,1288
Inductance per phase										
In flat formation, free space between cables equal to one cable diam	0,60	0,58	0,56	0,54	0,53	0,52	0,51	0,50	0,50	0,49
In trefoil formation, cables touching each other mH/km	0,42	0,39	0,38	0,35	0,34	0,33	0,32	0,31	0,31	0,30
Electrical values										
Calculated operation capacitance μF/km	0,21	0,24	0,26	0,30	0,33	0,35	0,39	0,44	0,44	0,48
Calculated charging current with main voltage A/km	0,4	0,4	0,5	0,5	0,6	0,6	0,7	0,8	0,8	0,9
Calculated earth fault current with main voltage A/km	1,1	1,3	1,4	1,6	1,8	1,9	2,1	2,4	2,4	2,6
Current ratings										
Cables in air (25 °C)										
Flat, conductor 90 °C, open screen A	175	210	265	320	370	425	485	570	570	650
Flat, conductor 90 °C, closed screen A	170	205	255	310	350	395	440	515	515	580
Trefoil, conductor 90 °C, open screen A	155	195	235	285	330	380	430	505	505	580
Trefoil, conductor 90 °C, closed screen A	155	195	235	280	325	370	425	490	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	135	155	205	240	270	305	345	395	395	445
Trefoil, conductor 65 °C, closed screen A	135	155	200	235	265	300	330	385	385	435
Trefoil, conductor 90 °C, open screen A	160	185	240	280	320	360	405	465	465	525
Trefoil, conductor 90 °C, closed screen A	160	185	235	275	310	355	390	455	455	510
Maximum thermal short circuit current during 1 s										
Phase (initial 90 °C, final 250 °C) kA	3,3	4,7	6,6	8,9	11,3	14,1	17,4	22,6	22,6	28,3
Metal screen (initial 35 °C, final 250 °C) kA	2,3	2,4	2,6	2,8	3,0	3,0	3,3	3,6	3,6	3,8
Metal screen (initial 60 °C, final 250 °C) kA	2,1	2,3	2,4	2,6	2,7	2,8	3,0	3,3	3,3	3,5
Metal screen (initial 85 °C, final 250 °C) kA	1,9	2,1	2,2	2,4	2,5	2,5	2,7	3,0	3,0	3,2
Bare earth conductor (initial 55 °C, final 200 °C) kA	5	5	5	5	5	5	5	5	10	5

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Technical information	3x300+70 Cu	3x400+35 Cu
Product code	1187069	1187040
Nominal diameter of a sheathed phase conductor mm	36	38
Nominal cross-sectional area of conductor mm ²	300	400
Nominal diameter of conductor mm	19,8	22,4
Nominal thickness of conductor screen mm	0,5	0,5
Nominal thickness of insulation mm	3,4	3,4
Nominal diameter over the insulation without insulation screen mm	27,4	29,6
Nominal thickness of insulation screen mm	0,5	0,5
Nominal diameter of earth conductor mm	9,9	6,9
Nominal thickness of PE-laminated aluminium foil mm	0,2	0,2
Nominal thickness of oversheath mm	3,1	3,2
Nominal cable diameter mm	77,510	82,560
Nominal cable weight kg/km	5143,941	5501,654
Metall weight Cu kg/m	0,592	0,302
Metall weight Al kg/m	2,428	2,892
Maximum forces during installation when pulling by		
Max. pulling force by pulling-eye kN	20,0	20,0
Max. pulling force by pulling-stocking kN	8,5	8,5
Minimum bending radii		
During handling and installation, phase conductor cm	54	57
During handling and installation, cable cm	93	99
In final installation, phase conductor cm	38	40
In final installation, cable cm	65	69
Minimum bending radii		
During handling and installation, phase conductor m	0,54	0,57
During handling and installation, cable m	0,93	0,99
In final installation, phase conductor m	0,38	0,40
In final installation, cable m	0,65	0,69
DC resistance		
Max. DC resistance of conductor at 20 °C Ω/km	0,100	0,0778
Nominal DC resistance of PE-laminated aluminium foil 20 °C Ω/km	1,5	1,4

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Technical information	3x300+70 Cu	3x400+35 Cu
AC resistance of phase conductor, screen circuit closed		
Conductor temperature 40 °C Ω/km	0,1088	0,0850
Conductor temperature 65 °C Ω/km	0,1188	0,0927
Conductor temperature 70 °C Ω/km	0,1208	0,0943
Conductor temperature 90 °C Ω/km	0,1288	0,1005
Inductance per phase		
In flat formation, free space between cables equal to one cable diam	0,49	0,47
In trefoil formation, cables touching each other mH/km	0,30	0,29
Electrical values		
Calculated operation capacitance μF/km	0,49	0,52
Calculated charging current with main voltage A/km	0,9	1,0
Calculated earth fault current with main voltage A/km	2,6	2,9
Current ratings		
Cables in air (25 °C)		
Flat, conductor 90 °C, open screen A	650	790
Flat, conductor 90 °C, closed screen A	580	680
Trefoil, conductor 90 °C, open screen A	580	695
Trefoil, conductor 90 °C, closed screen A	565	680
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m		
Trefoil, conductor 65 °C, open screen A	445	525
Trefoil, conductor 65 °C, closed screen A	435	510
Trefoil, conductor 90 °C, open screen A	525	615
Trefoil, conductor 90 °C, closed screen A	510	600
Maximum thermal short circuit current during 1 s		
Phase (initial 90 °C, final 250 °C) kA	28,3	37,8
Metal screen (initial 35 °C, final 250 °C) kA	3,8	4,0
Metal screen (initial 60 °C, final 250 °C) kA	3,5	3,6
Metal screen (initial 85 °C, final 250 °C) kA	3,2	3,3
Bare earth conductor (initial 55 °C, final 200 °C) kA	10	5