

XCMK-HF C / EXQJ C / FXQJ C / IFSI-Cu C

Copper power cable HF

0,6/1 (1,2) kV

Application

Copper power cable for fixed installations indoors and outdoors. May be buried directly in soil. Can also be used in medical facilities where higher fire class is required. The conductor insulation must be protected against UV-radiation. Installations must be in accordance with national regulations and rules of installations. The cable is halogen-free and flame-retardant according to CPR-class Cca-s1,d1,a1.



Design

Standards	SFS 5546, SEK TS 424 14 18-1, HD 604 5 I & D, IEC 60502-1
Reaction to fire	Cca-s1,d1,a1; EN 13501-6, EN 50575:2014+A1:2016
Conductor	2,5-25 mm ² circular stranded copper, EN/IEC 60228 class 2 35-300 mm ² sector shaped stranded copper, EN/IEC 60228 class 2
Insulation	Cross-linked polyethylene XLPE
Core Identification	Blue, brown Brown, black, grey Blue, brown, black, grey
Inner covering	Plastic tape
Metal screen	Copper wires and copper tape
Oversheath	UV-protected polyolefin compound, Black

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	-15
Min. cable temperature during transport °C	-25

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Technical information	2x1,5/1,5	2x2,5/2,5	2x4/4	2x6/6	2x10/10	2x16/16	2x25/16	2x35/16	3x1,5/1,5	3x2,5/2,5
Product code	1146403	1146404	1146405	1146406	1146407	1146408	1146409	1146410	1146415	1146416
Nominal cross-sectional area of conductor mm ²	1,5	2,5	4	6	10	16	25	35	1,5	2,5
Nominal thickness of insulation mm	0,7	0,7	0,7	0,7	0,7	0,7	0,9	0,9	0,7	0,7
Nominal size of metal screen mm ²	1,5	2,5	4	6	10	16	16	16	1,5	2,5
Nominal thickness of oversheath mm	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
Fire load MJ/m	2,044	2,272	2,630	2,977	3,992	5,352	6,960	7,469	2,242	2,513
Fire load kWh/m	0,568	0,631	0,730	0,827	1,109	1,487	1,934	2,075	0,623	0,698
Nominal cable diameter mm	11,830	12,550	13,770	14,810	17,590	20,470	23,970	24,990	12,220	13,030
Nominal cable weight kg/km	192,425	239,221	306,541	388,604	569,538	828,310	1138,960	1341,433	206,956	258,521
Metall weight Cu kg/m	0,041	0,070	0,110	0,163	0,266	0,423	0,596	0,754	0,054	0,087
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	0,2	0,3	0,4	0,6	1,0	1,6	2,5	3,5	0,2	0,4
Max. pulling force by pulling-stocking kN	0,1	0,1	0,1	0,2	0,3	0,5	0,8	1,1	0,1	0,1
Minimum bending radii										
During handling and installation, cable cm	14	15	17	18	21	25	29	30	15	16
In final installation, cable cm	10	11	12	12	15	17	20	21	10	11
Minimum bending radii										
During handling and installation, cable m	0,14	0,15	0,17	0,18	0,21	0,25	0,29	0,30	0,15	0,16
In final installation, cable m	0,10	0,10	0,12	0,12	0,15	0,17	0,20	0,21	0,10	0,11
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	12,1	7,41	4,61	3,08	1,83	1,15	0,727	0,524	12,1	7,41
Maximum DC resistance at 20 °C, metal screen Ω/km	12,1	7,41	4,61	3,08	1,83	1,15	1,15	1,15	12,1	7,41

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Technical information	2x1,5/1,5	2x2,5/2,5	2x4/4	2x6/6	2x10/10	2x16/16	2x25/16	2x35/16	3x1,5/1,5	3x2,5/2,5
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	23	31	42	53	73	98	124	154	23	31
three loaded conductor, conductor 70 °C A									19	26
two loaded conductor, conductor 90 °C A	27	37	51	66	89	120	155	192	27	37
three loaded conductor, conductor 90 °C A									24	33
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	22	30	40	51	70	94	119	148	22	30
three loaded conductor, conductor 70 °C A									18,5	25
two loaded conductor, conductor 90 °C A	26	36	49	63	86	115	149	185	26	36
three loaded conductor, conductor 90 °C A									23	32
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 65 °C A	26	35	46	57	77	100	130	160	26	35
Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 90 °C A	27	35	46	58	77	100	129	155	23	30
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	0,2	0,3	0,6	0,9	1,6	2,5	3,9	5,5	0,2	0,3
Phase (initial 90 °C, final 250 °C) kA	0,2	0,3	0,5	0,8	1,4	2,3	3,6	5,0	0,2	0,3
Metal screen (initial 80 °C, final 250 °C) kA	0,2	0,4	0,6	0,9	1,5	2,4	2,4	2,4	0,2	0,4

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Technical information	3x4/4	3x6/6	3x10/10	3x16/16	3x25/16	3x35/16	3x50/25	3x70/35	3x95/50	3x120/70
Product code	1146417	1146418	1146419	1146420	1146421	1146422	1146423	1146424	1146425	1146426
Nominal cross-sectional area of conductor mm ²	4	6	10	16	25	35	50	70	95	120
Nominal thickness of insulation mm	0,7	0,7	0,7	0,7	0,9	0,9	1,0	1,1	1,1	1,2
Nominal size of metal screen mm ²	4	6	10	16	16	16	25	35	50	70
Nominal thickness of oversheath mm	1,8	1,8	1,8	1,8	1,8	1,8	1,8	2,0	2,1	2,2
Fire load MJ/m	2,904	3,290	4,710	6,032	7,726	6,584	8,003	10,550	12,220	14,284
Fire load kWh/m	0,807	0,914	1,308	1,676	2,146	1,829	2,223	2,931	3,395	3,968
Nominal cable diameter mm	14,330	15,450	18,420	21,470	25,200	23,100	26,350	30,400	33,540	36,490
Nominal cable weight kg/km	342,889	442,466	657,453	960,183	1337,609	1332,736	1821,011	2520,058	3399,266	4298,887
Metall weight Cu kg/m	0,144	0,217	0,352	0,561	0,816	1,056	1,493	2,093	2,903	3,725
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	0,6	0,9	1,5	2,4	3,8	5,3	7,5	10,5	14,3	18,0
Max. pulling force by pulling-stocking kN	0,2	0,3	0,5	0,7	1,1	1,6	2,3	3,2	4,3	5,4
Minimum bending radii										
During handling and installation, cable cm	17	19	22	26	30	28	32	36	40	44
In final installation, cable cm	12	13	15	18	21	19	22	26	28	31
Minimum bending radii										
During handling and installation, cable m	0,17	0,18	0,22	0,26	0,30	0,28	0,32	0,36	0,40	0,44
In final installation, cable m	0,12	0,13	0,15	0,18	0,21	0,19	0,22	0,26	0,28	0,31
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	4,61	3,08	1,83	1,15	0,727	0,524	0,387	0,268	0,193	0,153
Maximum DC resistance at 20 °C, metal screen Ω/km	4,61	3,08	1,83	1,15	1,15	1,15	0,727	0,524	0,387	0,268

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Technical information	3x4/4	3x6/6	3x10/10	3x16/16	3x25/16	3x35/16	3x50/25	3x70/35	3x95/50	3x120/70
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	42	53	73	98	124	154	187	241	293	341
three loaded conductor, conductor 70 °C A	35	45	62	83	105	131	159	204	248	287
two loaded conductor, conductor 90 °C A	51	66	89	120	155	192	234	301	366	426
three loaded conductor, conductor 90 °C A	44	56	78	104	132	164	200	256	310	360
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	40	51	70	94	119	148	180	232	282	328
three loaded conductor, conductor 70 °C A	34	43	60	80	101	126	153	196	238	276
two loaded conductor, conductor 90 °C A	49	63	86	115	149	185	225	289	352	410
three loaded conductor, conductor 90 °C A	42	54	75	100	127	158	192	246	298	346
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 65 °C A	46	57	77	100	130	160	190	240	285	325
Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 90 °C A	39	49	65	84	107	129	153	188	226	257
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	0,6	0,9	1,6	2,5	3,9	5,5	7,8	10,9	14,9	18,8
Phase (initial 90 °C, final 250 °C) kA	0,5	0,8	1,4	2,3	3,6	5,0	7,2	10,0	13,6	17,2
Metal screen (initial 80 °C, final 250 °C) kA	0,6	0,9	1,5	2,4	2,4	2,4	3,7	5,2	7,4	10,4

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Technical information	3x150/70	3x185/95	3x240/120	3x300/150	4x1,5/1,5	4x2,5/2,5	4x4/4	4x6/6	4x10/10	4x16/16
Product code	1146427	1146428	1146429	1146430	1146435	1146436	1146437	1146438	1146439	1146440
Nominal cross-sectional area of conductor mm ²	150	185	240	300	1,5	2,5	4	6	10	16
Nominal thickness of insulation mm	1,4	1,6	1,7	1,8	0,7	0,7	0,7	0,7	0,7	0,7
Nominal size of metal screen mm ²	70	95	120	150	1,5	2,5	4	6	10	16
Nominal thickness of oversheath mm	2,4	2,5	2,7	2,9	1,8	1,8	1,8	1,8	1,8	1,8
Fire load MJ/m	18,594	22,818	28,190	31,746	2,549	2,873	3,340	3,793	5,766	7,107
Fire load kWh/m	5,165	6,338	7,830	8,818	0,708	0,798	0,928	1,054	1,602	1,974
Nominal cable diameter mm	40,980	45,340	52,890	55,530	12,920	13,850	15,280	16,540	20,370	23,140
Nominal cable weight kg/km	5200,795	6563,460	8568,014	10607,748	233,956	296,438	398,396	520,191	801,407	1141,820
Metall weight Cu kg/m	4,473	5,692	7,481	9,384	0,066	0,108	0,180	0,272	0,438	0,699
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	20,0	20,0	20,0	20,0	0,3	0,5	0,8	1,2	2,0	3,2
Max. pulling force by pulling-stocking kN	6,8	8,3	8,5	8,5	0,1	0,2	0,2	0,4	0,6	1,0
Minimum bending radii										
During handling and installation, cable cm	49	54	63	67	16	17	18	20	24	28
In final installation, cable cm	34	38	44	47	11	12	13	14	17	19
Minimum bending radii										
During handling and installation, cable m	0,49	0,54	0,64	0,67	0,15	0,17	0,18	0,20	0,24	0,28
In final installation, cable m	0,34	0,38	0,44	0,47	0,11	0,12	0,13	0,14	0,17	0,19
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	0,124	0,0991	0,0754	0,0601	12,1	7,41	4,61	3,08	1,83	1,15
Maximum DC resistance at 20 °C, metal screen Ω/km	0,268	0,193	0,153	0,124	12,1	7,41	4,61	3,08	1,83	1,15

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Technical information	3x150/70	3x185/95	3x240/120	3x300/150	4x1,5/1,5	4x2,5/2,5	4x4/4	4x6/6	4x10/10	4x16/16
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	394	451	535	617	23	31	42	53	73	98
three loaded conductor, conductor 70 °C A	332	379	447	517	19	26	35	45	62	83
two loaded conductor, conductor 90 °C A	492	564	667	771	27	37	51	66	89	120
three loaded conductor, conductor 90 °C A	415	474	560	646	24	33	44	56	78	104
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	379	434	514	593	22	30	40	51	70	94
three loaded conductor, conductor 70 °C A	319	364	430	497	18,5	25	34	43	60	80
two loaded conductor, conductor 90 °C A	473	542	641	741	26	36	49	63	86	115
three loaded conductor, conductor 90 °C A	399	456	538	621	23	32	42	54	75	100
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 65 °C A	370	420	480	550	26	35	46	57	77	100
Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 90 °C A	287	324	375	419	23	30	39	49	65	84
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	23,5	28,9	37,5	46,9	0,2	0,3	0,6	0,9	1,6	2,5
Phase (initial 90 °C, final 250 °C) kA	21,5	26,5	34,3	43,1	0,2	0,3	0,5	0,8	1,4	2,3
Metal screen (initial 80 °C, final 250 °C) kA	10,4	14,1	17,8	22,2	0,2	0,4	0,6	0,9	1,5	2,4

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Technical information	4x25/16	4x35/16	4x50/25	4x70/35	4x95/50	4x120/70	4x150/70	4x185/95	4x240/120	4x300/150
Product code	1146441	1146442	1146443	1146444	1146445	1146446	1146447	1146448	1146449	1146450
Nominal cross-sectional area of conductor mm ²	25	35	50	70	95	120	150	185	240	300
Nominal thickness of insulation mm	0,9	0,9	1,0	1,1	1,1	1,2	1,4	1,6	1,7	1,8
Nominal size of metal screen mm ²	16	16	25	35	50	70	70	95	120	150
Nominal thickness of oversheath mm	1,8	1,8	1,9	2,1	2,2	2,4	2,5	2,7	2,9	3,1
Fire load MJ/m	9,096	8,223	10,212	13,231	15,235	18,912	23,138	29,148	34,819	40,088
Fire load kWh/m	2,527	2,284	2,837	3,675	4,232	5,253	6,427	8,097	9,672	11,136
Nominal cable diameter mm	27,330	26,040	29,560	34,110	37,540	41,730	45,530	51,040	56,620	61,200
Nominal cable weight kg/km	1615,757	1689,504	2319,053	3207,814	4328,998	5503,349	6639,042	8382,154	10904,114	13553,650
Metall weight Cu kg/m	1,038	1,359	1,914	2,685	3,726	4,762	5,759	7,291	9,601	12,051
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	5,0	7,0	10,0	14,0	19,0	20,0	20,0	20,0	20,0	20,0
Max. pulling force by pulling-stocking kN	1,5	2,1	3,0	4,2	5,7	7,2	8,5	8,5	8,5	8,5
Minimum bending radii										
During handling and installation, cable cm	33	31	35	41	45	50	55	61	68	73
In final installation, cable cm	23	22	25	29	32	35	38	43	48	51
Minimum bending radii										
During handling and installation, cable m	0,33	0,31	0,35	0,41	0,45	0,50	0,55	0,61	0,68	0,73
In final installation, cable m	0,23	0,22	0,25	0,29	0,32	0,35	0,38	0,43	0,48	0,51
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	0,727	0,524	0,387	0,268	0,193	0,153	0,124	0,0991	0,0754	0,0601
Maximum DC resistance at 20 °C, metal screen Ω/km	1,15	1,15	0,727	0,524	0,387	0,268	0,268	0,193	0,153	0,124

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Technical information	4x25/16	4x35/16	4x50/25	4x70/35	4x95/50	4x120/70	4x150/70	4x185/95	4x240/120	4x300/150
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	124	154	187	241	293	341	394	451	535	617
three loaded conductor, conductor 70 °C A	105	131	159	204	248	287	332	379	447	517
two loaded conductor, conductor 90 °C A	155	192	234	301	366		492	564	667	771
three loaded conductor, conductor 90 °C A	132	164	200	256	310	360	415	474	560	646
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	119	148	180	232	282	328	379	434	514	593
three loaded conductor, conductor 70 °C A	101	126	153	196	238	276	319	364	430	497
two loaded conductor, conductor 90 °C A	149	185	225	289	352	410	473	542	641	741
three loaded conductor, conductor 90 °C A	127	158	192	246	298	346	399	456	538	621
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 65 °C A	130	160	190	240	285	325	370	420	480	550
Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 90 °C A	107	129	153	188	226	257	287	324	375	419
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	3,9	5,5	7,8	10,9	14,9	18,8	23,5	28,9	37,5	46,9
Phase (initial 90 °C, final 250 °C) kA	3,6	5,0	7,2	10,0	13,6	17,2	21,5	26,5	34,3	43,1
Metal screen (initial 80 °C, final 250 °C) kA	2,4	2,4	3,7	5,2	7,4	10,4	10,4	14,1	17,8	22,2