

## MMJ-HF C

### Copper power cable HF

### 0,6/1 (1,2) kV

#### Application

Installation cable for fixed installations indoors and outdoors. Not to be laid in soil nor directly in cast concrete. Can be embedded to the groove filled with plaster. 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

<b>Standards</b>	SFS 5544, NEK 591, IEC 60502-1
<b>Reaction to fire</b>	Cca-s1,d1,a1; EN 13501-6, EN 50575:2014+A1:2016
<b>Conductor</b>	Circular stranded copper, EN/IEC 60228 class 2
<b>Insulation</b>	Cross-linked polyethylene XLPE
<b>Core Identification</b>	2N: Blue, brown 3S: Yellow-green, blue, brown 4S: Yellow-green, blue, brown, black 5S: Yellow-green, blue, brown, black, grey
<b>Inner covering</b>	Extruded filling compound
<b>Oversheath</b>	UV-protected polyolefin compound, White

#### Temperature limits

<b>Max. conductor temperature °C</b>	70
<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>	-15
<b>Min. cable temperature during transport °C</b>	-25
<b>Additional information</b>	HD 604 5 D cold impact test -25 °C

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Technical information	2x4 N	2x6 N	3x4 S	3x6 S	4x6 S	5x6 S	3x10 S	4x10 S	5x10 S	3x16 S
<b>Product code</b>	<b>1146978</b>	<b>1146979</b>	<b>1146975</b>	<b>1146980</b>	<b>1146981</b>	<b>1146982</b>	<b>1146985</b>	<b>1146986</b>	<b>1146987</b>	<b>1146990</b>
Nominal cross-sectional area of conductor mm <sup>2</sup>	4	6	4	6	6	6	10	10	10	16
Nominal diameter of conductor mm	2,6	3,1	2,6	3,1	3,1	3,1	4,0	4,0	4,0	5,0
Nominal thickness of insulation mm	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7
Nominal thickness of oversheath mm	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Fire load MJ/m	2,121	2,797	2,396	3,144	3,694	4,618	4,871	4,591	5,625	4,886
Fire load kWh/m	0,589	0,777	0,666	0,873	1,026	1,283	1,353	1,275	1,562	1,357
Nominal cable diameter mm	12,100	13,820	12,450	14,500	15,670	17,180	16,590	17,990	19,550	18,850
Nominal cable weight kg/km	232,115	324,561	271,646	376,230	453,526	560,529	670,778	648,631	792,951	764,366
Nominal weight of copper kg/m	0,071	0,106	0,107	0,160	0,213	0,266	0,260	0,346	0,436	0,414
<b>Maximum forces during installation when pulling by</b>										
Max. pulling force by pulling-eye kN	0,4	0,6	0,6	0,9	1,2	1,5	1,5	2,0	2,5	2,4
Max. pulling force by pulling-stocking kN	0,1	0,2	0,2	0,3	0,4	0,5	0,5	0,6	0,8	0,7
<b>Minimum bending radii</b>										
Minimum bending radius, handling mm	121	138	125	145	157	172	166	180	196	189
Minimum bending radius, final bending mm	36	41	37	44	47	52	50	54	59	57
<b>Minimum bending radii</b>										
During handling and installation, cable cm	12	14	12	15	16	17	17	18	20	19
In final installation, cable cm	4	4	4	4	5	5	5	5	6	6
<b>DC resistance</b>										
Max. DC resistance of conductor at 20 °C Ω/km	4,61	3,08	4,61	3,08	3,08	3,08	1,83	1,83	1,83	1,15
<b>Current ratings</b>										
<b>Cables in air (25 °C)</b>										
two loaded conductor, conductor 70 °C A	42	53	42	53	53	53	73	73	73	98
three loaded conductor, conductor 70 °C A					45	45		62	62	
<b>Cables in air (30 °C)</b>										
two loaded conductor, conductor 70 °C A	40	51	40	51	51	51	70	70	70	94
three loaded conductor, conductor 70 °C A					43	43		60	60	
<b>Maximum thermal short circuit current during 1 s</b>										
Phase (initial 90 °C, final 250 °C) kA	0,5	0,8	0,5	0,8	0,8	0,8	1,4	1,4	1,4	2,3

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Technical information	4x16 S	5x16 S	3x25 S	4x25 S	5x25 S
<b>Product code</b>	<b>1146991</b>	<b>1146992</b>	<b>1146995</b>	<b>1146996</b>	<b>1146997</b>
Nominal cross-sectional area of conductor mm <sup>2</sup>	16	16	25	25	25
Nominal diameter of conductor mm	5,0	5,0	6,4	6,4	6,4
Nominal thickness of insulation mm	0,7	0,7	0,9	0,9	0,9
Nominal thickness of oversheath mm	1,5	1,6	1,6	1,7	1,7
Fire load MJ/m	5,729	7,002	6,989	8,490	10,539
Fire load kWh/m	1,591	1,945	1,941	2,358	2,927
Nominal cable diameter mm	20,520	22,590	22,810	25,140	27,510
Nominal cable weight kg/km	935,567	1137,959	1142,626	1430,696	1746,762
Nominal weight of copper kg/m	0,549	0,692	0,668	0,891	1,114
<b>Maximum forces during installation when pulling by</b>					
Max. pulling force by pulling-eye kN	3,2	4,0	3,8	5,0	6,3
Max. pulling force by pulling-stocking kN	1,0	1,2	1,1	1,5	1,9
<b>Minimum bending radii</b>					
Minimum bending radius, handling mm	205	226	228	251	275
Minimum bending radius, final bending mm	62	68	68	75	83
<b>Minimum bending radii</b>					
During handling and installation, cable cm	21	23	23	25	28
In final installation, cable cm	6	7	7	8	8
<b>DC resistance</b>					
Max. DC resistance of conductor at 20 °C Ω/km	1,15	1,15	0,727	0,727	0,727
<b>Current ratings</b>					
<b>Cables in air (25 °C)</b>					
two loaded conductor, conductor 70 °C A	98	98	124	124	124
three loaded conductor, conductor 70 °C A	83	83		105	105
<b>Cables in air (30 °C)</b>					
two loaded conductor, conductor 70 °C A	94	94	119	119	119
three loaded conductor, conductor 70 °C A	80	80		101	101
<b>Maximum thermal short circuit current during 1 s</b>					
Phase (initial 90 °C, final 250 °C) kA	2,3	2,3	3,6	3,6	3,6