FRHF / BFXI

Copper power cable FRHF

0,6/1 (1,2) kV

Application

Fire-resistant power cable for fixed installations indoors and outdoors. Not to be laid in soil nor directly in cast concrete. For locations where safety requires the operation of alarm, control, signalling and energy circuits also during a fire. The conductor insulation must be protected against UV-radiation. Installations must be in accordance with national regulations and rules of installations. No requirement for CPR-classification.

Design

Standards	SFS 5545, HD 604 5 D, IEC 60502-1
Product Environmental Profile (PEP/EPD)	PEP NXNS-00709-V01.01-EN
Conductor	1,5-4 mm² circular solid copper, EN/IEC 60228 class 1 6-70 mm² circular stranded copper, EN/IEC 60228 class 2
Insulation	Cross-linked polyethylene XLPE and mica-tape
Core Identification	2x: Blue, brown 3x: Brown, black, grey 3G: Yellow-green, blue, brown 4G: Yellow-green, blue, brown, black (1,5 and 2,5 mm²) 4G: Yellow-green, brown, black, grey (4 mm² and above) 5G: Yellow-green, blue, brown, black, grey

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

Additional information

IEC 60331-21 Fire-resistant, 180 min.
IEC 60331-1, -2 EN 50200, EN 50362 Fire-resistant with shock, 90 min.
EN/IEC 60332-3-22 Flame retardant in a bunch, Category A
EN/IEC 61034 Low smoke density
EN/IEC 60754 Halogen-free, non-corrosive

Inner covering	Extruded filling compound
Oversheath	UV-protected polyolefin compound , Orange

)

Technical information	2x1,5 N	2x2,5 N	2x4 N	2x6 N	3x1,5	3G1,5	3G2,5	3G4	3G6	3G10
Product code	**1146542**	**1146543**	**1146544**	**1146545**	**1146546**	**1146547**	**1146548**	**1146549**	**1146550**	**1146551**
Nominal cable diameter mm	11	12	13	14	11	11	12	13	15	17
Nominal cable weight kg/km	166	201	256	341	182	182	225	293	393	543
Nominal weight of copper kg/km	26	43	71	106	39	39	64	107	160	260
Nominal Insulation thicness 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										
Fire load MJ/m	1,863	2,090	2,402	3,034	2,094	2,094	2,347	2,692	3,412	4,117
Fire load kWh/m	0,518	0,581	0,667	0,843	0,582	0,582	0,652	0,748	0,948	1,144
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	0,1	0,2	0,4	0,6	0,2	0,2	0,3	0,6	0,9	1,5
Max. pulling force by pulling-stocking kN	0,0	0,1	0,1	0,2	0,0	0,0	0,1	0,2	0,3	0,6
Minimum bending radii										
Minimum bending radius, handling mm	130	139	151	172	135	135	145	158	180	203
Minimum bending radius, final bending mm	91	97	106	120	95	95	102	111	126	142
Minimum bending radii										
During handling and installation, cable cm	13	14	15	17	14	14	15	16	18	20
In final installation, cable cm	9	10	11	12	9	9	10	11	13	14
Minimum bending radii										
During handling and installation, cable m	0,13	0,14	0,15	0,17	0,14	0,14	0,14	0,16	0,18	0,20
In final installation, cable m	0,09	0,10	0,11	0,12	0,10	0,10	0,10	0,11	0,13	0,14
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	12,1	7,41	4,61	3,08	12,1	12,1	7,41	4,61	3,08	1,83

)

Technical information	2x1,5 N	2x2,5 N	2x4 N	2x6 N	3x1,5	3G1,5	3G2,5	3G4	3G6	3G10
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	23	31	42	53	23	23	31	42	53	73
three loaded conductor, conductor 70 °C A					19			35		
two loaded conductor, conductor 90 °C A	27	37	51	66	27	27	37	51	66	89
three loaded conductor, conductor 90 °C A					24					
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	22	30	40	51	22	22	30	40	51	70
three loaded conductor, conductor 70 °C A					18,5			34		
two loaded conductor, conductor 90 °C A	26	36	49	63	26	26	36	49	63	86
three loaded conductor, conductor 90 °C A					23					
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	0,2	0,3	0,6	0,9	0,2	0,2	0,3	0,6	0,9	1,6
Phase (initial 90 °C, final 250 °C) kA	0,2	0,3	0,5	0,8	0,2	0,2	0,3	0,5	0,8	1,4
Environmental information										
(A1-A3) GWP emission kgCO2e/km	456	587	792	1107	515	515	675	929	1303	1864
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	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019

)

2026-05-20 21:11:22

STANDARD PACKAGES	2x1,5 N	2x2,5 N	2x4 N	2x6 N	3x1,5	3G1,5	3G2,5	3G4	3G6	3G10
Product code	1146542	1146543	1146544	1146545	1146546	1146547	1146548	1146549	1146550	1146551
GTIN code	6438176301708	6438176301739	6438176301760	6438176301784	6438176301814	6438176301869	6438176301913	6438176301920	6438176301944	6438176301968
Package	500 K7	100 bundle	500 K8	500 K9	100 bundle	500 K7	1000 K9	500 K8	500 K10	500 K10
Product code	1146542	1146543			1146546	1146547	1146548			
GTIN code	6438176301692	6438176301746			6438176301821	6438176301876	6438176301906			
Package	100 bundle	500 K7			500 K6	1000 K9	500 K8			
Product code						1146547	1146548			
GTIN code						6438176301852	6438176301890			
Package						100 bundle	100 bundle			

)

Technical information	3G16	3G25	3G35	3G50	3G70	4G1,5	4G2,5	4G4	4G6	4G10
Product code	**1146552**	**1146553**	**1146554**	**1146555**	**1146556**	**1146558**	**1146559**	**1146560**	**1146561**	**1146562**
Nominal cable diameter mm	19	24	25	29	33	12	13	14	16	18
Nominal cable weight kg/km	761	1175	1518	1998	2703	211	265	353	475	676
Nominal weight of copper kg/km	413	669	915	1242	1781	52	85	143	213	347
Nominal Insulation thicness mm	0,7	0,9	0,9	1,0	1,1	0,7	0,7	0,7	0,7	0,7
Nominal thickness of oversheath mm	1,5	1,6	1,7	1,8	2,0	1,5	1,5	1,5	1,5	1,5
Fire load										
Fire load MJ/m	4,997	7,424	8,507	10,885	13,572	2,486	2,788	3,196	4,027	5,053
Fire load kWh/m	1,388	2,062	2,363	3,023	3,770	0,691	0,774	0,888	1,119	1,404
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	2,4	3,7	5,2	7,5	10,5	0,3	0,5	0,8	1,2	2,0
Max. pulling force by pulling-stocking kN	0,9	1,5	2,1	3,0	3,1	0,1	0,2	0,3	0,4	0,8
Minimum bending radii										
Minimum bending radius, handling mm	230	285	306	347	398	145	156	171	196	221
Minimum bending radius, final bending mm	161	200	214	243	279	102	109	120	137	155
Minimum bending radii										
During handling and installation, cable cm	23	29	31	35	40	15	16	17	20	22
In final installation, cable cm	16	20	21	24	28	10	11	12	14	15
Minimum bending radii										
During handling and installation, cable m	0,23	0,28	0,31	0,35	0,40	0,14	0,16	0,17	0,20	0,22
In final installation, cable m	0,16	0,20	0,21	0,24	0,28	0,10	0,11	0,12	0,14	0,15
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	1,15	0,727	0,524	0,387	0,268	12,1	7,41	4,61	3,08	1,83

Technical information	3G16	3G25	3G35	3G50	3G70	4G1,5	4G2,5	4G4	4G6	4G10
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	98	124	154	187	241	23	31	42	53	73
three loaded conductor, conductor 70 °C A			131	159	204	19	26	35	45	62
two loaded conductor, conductor 90 °C A	120	155	192	234	301	27	37	51	66	89
three loaded conductor, conductor 90 °C A			164	200	256	24	33	44	56	78
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	94	119	148	180	232	22	30	40	51	70
three loaded conductor, conductor 70 °C A			126	153	196	18,5	25	34	43	60
two loaded conductor, conductor 90 °C A	115	149	185	225	289	26	36	49	63	86
three loaded conductor, conductor 90 °C A			158	192	246	23	32	42	54	75
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	2,5	3,9	5,5	7,8	10,9	0,2	0,3	0,6	0,9	1,6
Phase (initial 90 °C, final 250 °C) kA	2,3	3,6	5,0	7,2	10,0	0,2	0,3	0,5	0,8	1,4
Environmental information										
(A1-A3) GWP emission kgCO2e/km	2675	4223	5860	7294	9924	626	836	1155	1609	2358
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	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019

PEP ecoPASSPORT

MADE IN FINLAND

STANDARD PACKAGES	3G16	3G25	3G35	3G50	3G70	4G1,5	4G2,5	4G4	4G6	4G10
Product code	1146552	1146553	1146554	1146555		1146558	1146559	1146560	1146561	1146562
GTIN code	6438176301982	6438176302002	6438176302026	6438176302040		6438176302071	6438176302125	6438176302149	6438176302163	6438176302187
Package	500 K11	500 K12	500 K12	500 K14		100 bundle	500 K8	500 K9	500 K10	500 K11
Product code						1146558	1146559			
GTIN code						6438176302088	6438176302118			
Package						500 K8	100 bundle			

PEP ecoPASSPORT

B

MADE IN FINLAND

Technical information	4G16	4G25	4G35	4G50	4G70	5G1,5	5G2,5	5G4	5G6	5G10
Product code	**1146563**	**1146564**	**1146565**	**1146566**	**1146567**	**1146569**	**1146570**	**1146571**	**1146572**	**1146573**
Nominal cable diameter mm	21	26	27	31	37	13	14	15	18	20
Nominal cable weight kg/km	952	1493	1858	2477	3468	246	316	419	570	809
Nominal weight of copper kg/km	551	892	1214	1647	2377	65	107	178	267	434
Nominal Insulation thicness mm	0,7	0,9	0,9	1,0	1,1	0,7	0,7	0,7	0,7	0,7
Nominal thickness of oversheath mm	1,5	1,7	1,7	1,9	2,1	1,5	1,5	1,5	1,5	1,5
Fire load										
Fire load MJ/m	6,101	9,357	10,002	13,200	17,132	2,872	3,323	3,796	4,889	6,032
Fire load kWh/m	1,695	2,599	2,779	3,667	4,759	0,798	0,923	1,054	1,358	1,676
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	3,2	5,0	7,0	10,0	14,0	0,3	0,6	1,0	1,5	2,5
Max. pulling force by pulling-stocking kN	1,2	2,0	2,8	4,0	4,2	0,1	0,2	0,4	0,6	1,0
Minimum bending radii										
Minimum bending radius, handling mm	252	314	329	377	439	156	169	185	213	242
Minimum bending radius, final bending mm	176	220	230	264	308	110	118	130	149	169
Minimum bending radii										
During handling and installation, cable cm	25	31	33	38	44	16	17	19	21	24
In final installation, cable cm	18	22	23	26	31	11	12	13	15	17
Minimum bending radii										
During handling and installation, cable m	0,25	0,31	0,33	0,38	0,44	0,16	0,17	0,18	0,21	0,24
In final installation, cable m	0,18	0,22	0,23	0,26	0,31	0,11	0,12	0,13	0,15	0,17
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	1,15	0,727	0,524	0,387	0,268	12,1	7,41	4,61	3,08	1,83

Technical information	4G16	4G25	4G35	4G50	4G70	5G1,5	5G2,5	5G4	5G6	5G10
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	98	124	154	187	241	23	31	42	53	73
three loaded conductor, conductor 70 °C A	83	105	131	159	204	19	26	35	45	62
two loaded conductor, conductor 90 °C A	120	155	192	234	301	27	37	51	66	89
three loaded conductor, conductor 90 °C A	104	132	164	200	256	24	33	44	56	78
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	94	119	148	180	232	22	30	40	51	70
three loaded conductor, conductor 70 °C A	80	101	126	153	196	18,5	25	34	43	60
two loaded conductor, conductor 90 °C A	115	149	185	225	289	26	36	49	63	86
three loaded conductor, conductor 90 °C A	100	127	158	192	246	23	32	42	54	75
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	2,5	3,9	5,5	7,8	10,9	0,2	0,3	0,6	0,9	1,6
Phase (initial 90 °C, final 250 °C) kA	2,3	3,6	5,0	7,2	10,0	0,2	0,3	0,5	0,8	1,4
Environmental information										
(A1-A3) GWP emission kgCO2e/km	3388	5408	6770	9083	12782	753	1015	1399	1965	2857
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	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019

2026-05-20 21:11:22

STANDARD PACKAGES	4G16	4G25	4G35	4G50	4G70	5G1,5	5G2,5	5G4	5G6	5G10
Product code	1146563	1146564	1146565	1146566		1146569	1146570	1146571	1146572	1146573
GTIN code	6438176302200	6438176302224	6438176302248	6438176302262		6438176302316	6438176302354	6438176302361	6438176302385	6438176302408
Package	500 K11	500 K14	500 K14	500 K16		1000 K10	1000 K10	500 K10	500 K10	500 K11
Product code						1146569	1146570			
GTIN code						6438176302309	6438176302323			
Package						500 K8	50 bundle			
Product code						1146569	1146570			
GTIN code						6438176302293	6438176302347			
Package						100 bundle	500 K9			

Technical information	5G16	5G25	5G35	5G50	5G70
Product code	**1146574**	**1146575**	**1146576**	**1146577**	**1146578**
Nominal cable diameter mm	23	29	31	35	40
Nominal cable weight kg/km	1159	1855	2326	3143	4255
Nominal weight of copper kg/km	693	1121	1521	2073	2972
Nominal Insulation thicness mm	0,7	0,9	0,9	1,0	1,1
Nominal thickness of oversheath mm	1,6	1,7	1,8	2,0	2,1
Fire load					
Fire load MJ/m	7,337	11,666	12,767	16,918	20,452
Fire load kWh/m	2,038	3,240	3,546	4,699	5,681
Maximum forces during installation when pulling by					
Max. pulling force by pulling-eye kN	4,0	6,2	8,7	12,5	17,5
Max. pulling force by pulling-stocking kN	1,6	2,5	3,5	5,0	5,2
Minimum bending radii					
Minimum bending radius, handling mm	278	350	369	422	486
Minimum bending radius, final bending mm	195	245	258	295	340
Minimum bending radii					
During handling and installation, cable cm	28	35	37	42	49
In final installation, cable cm	19	24	26	30	34
Minimum bending radii					
During handling and installation, cable m	0,28	0,35	0,37	0,42	0,49
In final installation, cable m	0,20	0,24	0,26	0,29	0,34
DC resistance					
Max. DC resistance of conductor at 20 °C Ω/km	1,15	0,727	0,524	0,387	0,268

PEP ecoPASSPORT

MADE IN FINLAND

Technical information	5G16	5G25	5G35	5G50	5G70
Current ratings					
Cables in air (25 °C)					
two loaded conductor, conductor 70 °C A	98	124	154	187	241
three loaded conductor, conductor 70 °C A	83	105	131	159	204
two loaded conductor, conductor 90 °C A	120	155	192	234	301
three loaded conductor, conductor 90 °C A	104	132	164	200	256
Cables in air (30 °C)					
two loaded conductor, conductor 70 °C A	94	119	148	180	232
three loaded conductor, conductor 70 °C A	80	101	126	153	196
two loaded conductor, conductor 90 °C A	115	149	185	225	289
three loaded conductor, conductor 90 °C A	100	127	158	192	246
Maximum thermal short circuit current during 1 s					
Phase (initial 65 °C, final 250 °C) kA	2,5	3,9	5,5	7,8	10,9
Phase (initial 90 °C, final 250 °C) kA	2,3	3,6	5,0	7,2	10,0
Environmental information					
(A1-A3) GWP emission kgCO2e/km	4161	6759	8517	11569	15719
GWP emissions calculation standard	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019	EN15804:2012 + A2:2019

PEP ecoPASSPORT

B

MADE IN FINLAND

STANDARD PACKAGES	5G16	5G25	5G35	5G50	5G70
Product code	1146574	1146575	1146576	1146577	
GTIN code	6438176302422	6438176302446	6438176302460	6438176302484	
Package	500 K12	500 K14	500 K14	500 K18	