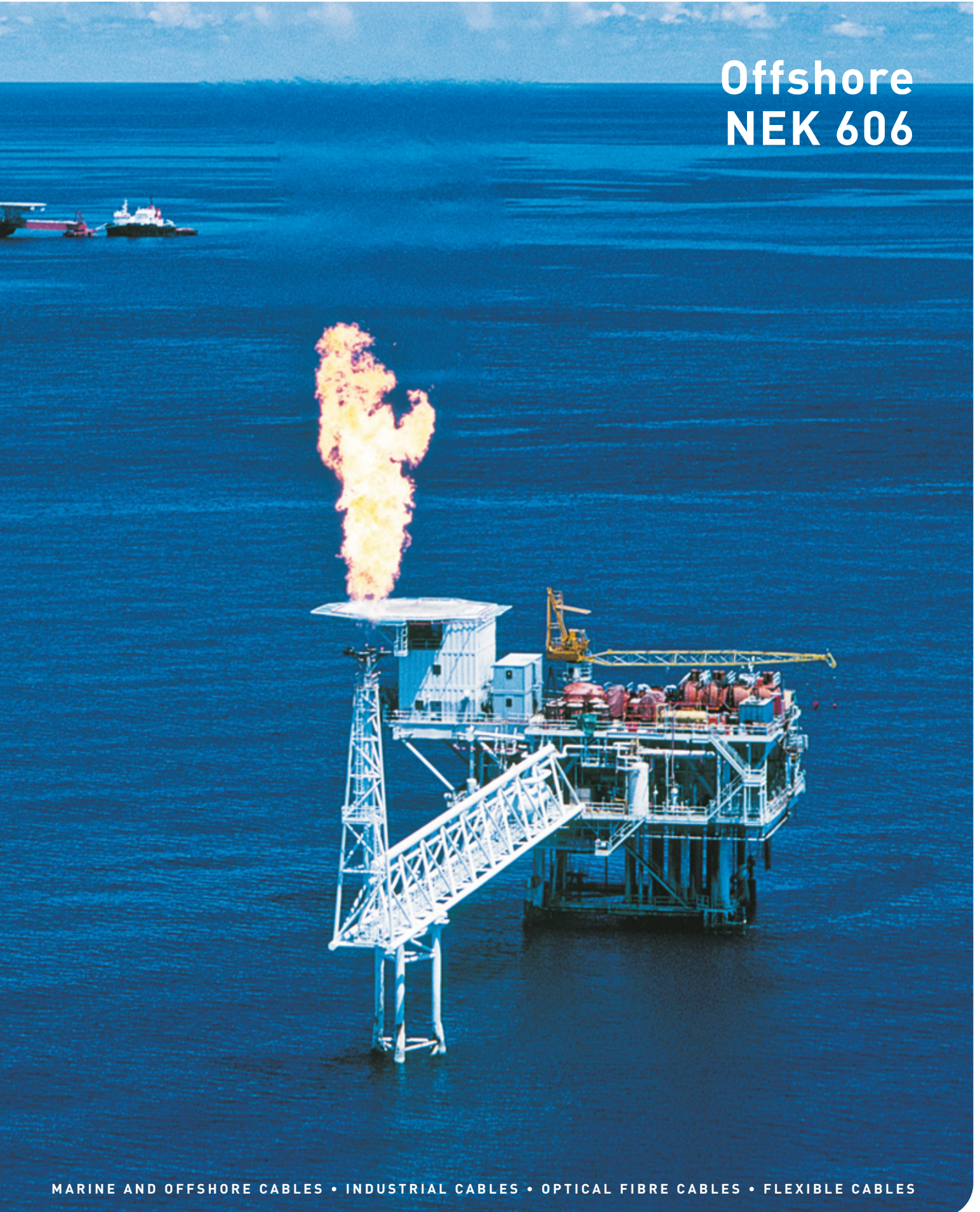


6/2015

# HELKAMA

THE PERFECT CONNECTION

Offshore  
NEK 606



MARINE AND OFFSHORE CABLES • INDUSTRIAL CABLES • OPTICAL FIBRE CABLES • FLEXIBLE CABLES

# HELKAMA

Helkama is specializing in development and production of marine and offshore cables. By using the latest technology and advanced materials our offshore cables are light in weight, small in diameter and therefore flexible which makes them quick and easy to install. In this catalogue we present our NEK 606 standard range of offshore cables. Our product range includes the standard flame retardant, fire and oil resistant versions as well as a mud resistant versions. Helkama offshore cables are intended for any type of offshore applications.

As a specialized and independent company, focusing on service, we have been able to grow steadily by quickly responding to our customers' needs. Our short delivery times, backed up by extensive stocks, enable us to deliver punctually and keep our customers satisfied.



Type approved by:



## Contents

Code designation for cables.....3

### 0,6/1kV cables

P1 RFOU.....	4
P1/P8 RFOU.....	8
P5 BFOU.....	10
P5/P12 BFOU.....	14
P15 UX.....	16
P17 BU.....	18
P17 MUD BU.....	22
P18 RU.....	24
P18 MUD RU.....	28

### 1,8/3kV cables

RFOU VFD and RFOU VFD MUD.....	30
TFOU VFD and TFOU VFD MUD.....	32

### 250V cables

P16 IFLI.....	34
S1 RFOU(i).....	36
S1/S5 RFOU(i).....	40
S2 RFOU(c).....	42
S2/S6 RFOU(c).....	46
S3 BFOU(i).....	48
S3/S7 BFOU(i).....	52
S4 BFOU(c).....	54
S4/S8 BFOU(c).....	58
S11 RU(i).....	60
S11MUD RU(i).....	64
S12 RU(c).....	66
S12 MUD RU(c).....	70
S13 BU(i).....	72
S13MUD BU(i).....	76
S14 BU(c).....	78
S14MUD BU(c).....	82

### Technical information

General information.....	84
Bending radius.....	85
Diameter tolerance.....	85
Core identification.....	85
Current rating.....	86
Short circuit current.....	87
Short circuit factors.....	87
Rated voltages.....	87
Test voltages.....	87
Short time duty.....	88
Voltage drop.....	89

## Code designation for cables

A cable code of 2–4 letters is used to describe the construction.

Additional abbreviation for instrumentation cables:  
Collective screen = (C), Individual pair or triple screen = (i)


The interpretation (per letter) is given in the table below:

Materials	1. letter: Insulation	2. letter: Bedding/inner covering Inner sheath	3. letter: Armour/ Screen	4. letter: Outer sheath
Fire resistant tape + insulation (Halogen-free)	<b>B</b>			
Ethylene propylene rubber - EPR	<b>R</b>			
Cross-linked polyethylene XLPE	<b>T</b>			
Thermoplastic compound (Halogen-free)	<b>I</b>			
Halogen-free thermoset compound EMA or EVA	<b>U</b>			
Fibre, tight buffered	<b>A</b>			
Fibre in loose tube	<b>Q</b>			
Bedding/Inner covering or taping (Halogen-free)		<b>F</b>		
Screen (poss. with PE or PP)		<b>Y</b>		
Aluminium (laminated to outer jacket)			<b>L</b>	
No armour			<b>X</b>	
Copper wire braid (Tinned or bare)			<b>O</b>	
Strength member of yarn			<b>A</b>	
Galvanized steel wire braid			<b>C</b>	
Thermoplastic compound (Halogen-free), SHF1		<b>I</b>		<b>I</b>
Halogen-free thermoset compound, SHF2				<b>U</b>
Halogen-free mud resistant thermoset compound, SHF Mud				<b>U</b>
Halogen-free mud resistant thermoset compound				<b>B (1)</b>

(1) QFCB cables only

# P1 and P1/P8 RFOU 0,6/1kV

Armoured control, lighting and power cable.



DESIGN:	STANDARDS:
	IEC 60092-353, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2 (optional class 5)
<b>2. Insulation</b> -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Bedding</b> -halogen free compound extruded -covered by separator tape (optional)	
<b>4. Armour</b> -tinned copper wire braid, coverage >90% -covered by separator tape (optional)	
<b>5. Sheath (P1)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF2)
<b>5. Sheath (P1/P8)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF MUD)

<b>MUD-resistant</b> (only P1/P8)	<input checked="" type="checkbox"/>
<b>OIL-resistant</b>	<input checked="" type="checkbox"/>
<b>FLAME-retardant</b>	<input checked="" type="checkbox"/>
<b>FIRE-resistant</b>	<input type="checkbox"/>
<b>Halogen-free</b>	<input checked="" type="checkbox"/>
<b>Low smoke emission</b>	<input checked="" type="checkbox"/>

**Application:** Fixed installation in most areas and on open deck  
 Meets the requirement for cable type P1 in NEK TS 606:2009.  
 Meets the requirement for cable type P1/P8 in NEK TS 606:2009.

**Main characteristics**

Rated voltage	<b>AC 0,6/1kV (1,2kV)</b> <b>DC 0,9/1,5kV</b> (if voltage to earth does not exceed 0,9kV)
Maximum conductor temperature	+ 90 °C
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only P1/P8)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## P1 RFOU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4010105010	–	1x1,0/2,5	1,3	5,5	8,5	110	18	50
4010107010	–	1x1,5/2,5	1,6	6,0	9,5	130	23	55
4010108010	–	1x2,5/4	2,0	6,5	9,5	150	30	60
4010109010	–	1x4/4	2,6	7,0	10,5	170	40	60
4010110010	–	1x6/4	3,2	7,5	11,0	200	52	65
4010111010	–	1x10/4	4,0	8,5	12,0	255	72	70
4010112010	–	1x16/4	5,1	9,5	13,0	335	96	80
4010113010	–	1x25/10	6,4	11,0	15,0	500	127	90
4010114010	–	1x35/10	7,6	12,5	16,5	610	157	100
4010115010	–	1x50/10	8,8	14,0	18,5	755	196	110
4010116010	–	1x70/10	10,6	15,5	20,0	985	242	120
4010117010	–	1x95/10	12,5	18,0	22,5	1290	293	135
4010118010	–	1x120/10	14,1	19,5	24,5	1570	339	145
4010119010	–	1x150/16	15,8	21,5	26,5	1880	389	160
4010120010	–	1x185/16	17,5	24,0	29,0	2290	444	175
4010121010	–	1x240/16	20,3	27,0	32,5	2985	522	195
4010122010	–	1x300/16	22,5	29,5	35,5	3620	601	210
4010105020	–	2x1,0/4	1,3	9,0	12,5	200	15	75
4010107020	–	2x1,5/4	1,6	9,5	13,0	220	20	80
4010108020	–	2x2,5/4	2,0	10,5	14,0	260	26	85
4010109020	–	2x4/6	2,6	11,5	15,5	345	34	95
4010110020	–	2x6/6	3,2	12,5	17,0	465	44	100
4010111020	–	2x10/10	4,0	14,5	19,0	610	61	115
4010112020	–	2x16/16	5,1	16,5	21,5	860	82	130
4010113020	–	2x25/16	6,4	20,0	25,0	1155	108	150
4010114020	–	2x35/16	7,6	22,5	27,5	1460	133	165
4010115020	–	2x50	8,8	25,5	31,0	1905	167	185
4010315020	–	2x50/25	8,8	25,5	31,0	1960	167	185
4010116020	–	2x70	10,6	29,0	35,0	2505	206	210
4010316020	–	2x70/35	10,6	29,0	35,5	2635	206	210
4010117020	–	2x95/50	12,5	34,5	41,0	3590	249	245
4010118020	–	2x120/60	14,1	37,5	44,5	4385	288	265
4010119020	–	2x150	15,8	42,0	49,5	5130	331	295
4010120020	–	2x185	17,5	46,5	54,5	6300	377	325
4010121020	–	2x240	20,3	53,0	61,5	8180	444	370
4010105030	4010105031	3x1,0/4	1,3	9,5	13,0	225	13	80
4010107030	4010107031	3x1,5/4	1,6	10,0	13,5	255	16	80
4010108030	4010108031	3x2,5/6	2,0	11,0	15,0	330	21	90
4010109030	4010109031	3x4/6	2,6	12,0	16,5	405	28	100
4010110030	4010110031	3x6/10	3,2	13,5	18,0	545	36	105
4010111030	4010111031	3x10/10	4,0	15,5	19,5	720	50	120
4010112030	4010112031	3x16/16	5,1	17,5	22,5	1000	67	135
4010113030	4010113031	3x25/16	6,4	21,5	26,5	1375	89	160
4010114030	4010114031	3x35/16	7,6	24,0	29,0	1780	110	175
–	4010115031	3G50	8,8	27,5	33,5	2355	137	200
4010315030	–	3x50/25	8,8	27,5	33,5	2385	137	200
–	4010116031	3G70	10,6	32,0	38,0	3175	169	225
4010316030	–	3x70/35	10,6	32,0	38,0	3290	169	230
–	4010117031	3G95	12,5	37,0	44,0	4325	205	265
4010317030	–	3x95/50	12,5	37,0	44,0	4425	205	265
–	4010118031	3G120	14,1	40,5	47,5	5295	237	285

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Table continues on next page

## P1 RFOU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4010318030	–	3x120/60	14,1	40,5	47,5	5450	237	285
–	4010119031	3G150	15,8	45,5	53,0	6530	272	320
* 4010319030	–	3x150/70	15,8	45,5	55,0	7020	272	330
–	4010120031	3G185	17,5	50,0	58,5	7980	311	350
* 4010320030	–	3x185/95	17,5	50,0	60,0	8490	311	360
–	4010121031	3G240	20,3	57,5	66,5	10505	365	400
* 4010321030	–	3x240/120	20,3	57,5	68,0	11115	365	410
4010105040	4010105041	4x1,0/4	1,3	10,5	14,0	255	13	85
4010107040	4010107041	4x1,5/6	1,6	11,0	15,0	320	16	90
4010108040	4010108041	4x2,5/6	2,0	12,0	16,0	380	21	95
4010109040	4010109041	4x4/10	2,6	13,5	17,5	480	28	105
4010110040	4010110041	4x6/10	3,2	15,0	19,0	640	36	115
4010111040	4010111041	4x10/10	4,0	17,0	21,5	880	50	130
4010112040	4010112041	4x16/16	5,1	19,5	24,5	1205	67	145
4010113040	4010113041	4x25/16	6,4	23,5	29,0	1695	89	175
4010114040	4010114041	4x35/16	7,6	26,5	32,0	2225	110	190
4010115040	4010115041	4x50/25	8,8	31,0	37,0	2965	137	225
4010116040	4010116041	4x70/35	10,6	35,5	42,5	4090	169	255
–	4010117041	4G95	12,5	41,0	48,5	5420	205	290
4010317040	–	4x95/50	12,5	41,0	48,5	5480	205	290
–	4010118041	4G120	14,1	45,5	53,0	6740	237	320
4010318040	–	4x120/60	14,1	45,5	53,0	6840	237	320
–	4010119041	4G150	15,8	50,5	59,0	8200	272	355
* 4010319040	–	4x150/70	15,8	50,5	60,5	8715	272	355
–	4010120041	4G185	17,5	56,0	65,0	10120	311	390
* 4010320040	–	4x185/95	17,5	56,0	67,0	10690	311	390
4010105050	4010105051	5x1,0/6	1,3	11,0	15,5	325	10	90
4010107050	4010107051	5x1,5/6	1,6	12,0	16,0	365	13	95
4010108050	4010108051	5x2,5/10	2,0	13,0	17,5	450	17	105
4010109050	4010109051	5x4/10	2,6	14,5	19,0	565	23	115
4010110050	4010110051	5x6/10	3,2	16,5	21,0	765	30	125
4010111050	4010111051	5x10/10	4,0	18,5	23,5	1040	42	140
4010112050	4010112051	5x16/16	5,1	21,5	26,5	1420	56	160
4010113050	4010113051	5x25/16	6,4	26,0	31,5	2050	74	190
4010114050	4010114051	5x35/16	7,6	29,5	35,0	2665	91	210
4010115050	4010115051	5x50/25	8,8	34,5	41,0	3690	114	245
4010116050	4010116051	5x70/35	10,6	39,0	46,5	4955	140	280
4010117050	4010117051	5x95/50	12,5	46,0	53,5	6680	170	320
–	4010118051	5G120	14,1	50,0	58,5	8230	197	350
4010318050	–	5x120/60	14,1	50,0	58,5	8295	197	350
4010105070	4010105071	7x1,0/6	1,3	12,0	16,5	375	9	100
4010107070	4010107071	7x1,5/10	1,6	13,0	17,0	425	12	105
4010108070	4010108071	7x2,5/10	2,0	14,5	18,5	530	16	110

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

\* Double braided

## P1 RFOU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4010105100	4010105101	10x1,0/10	1,3	15,5	20,0	500	8	120
4010107100	4010107101	10x1,5/10	1,6	16,5	21,5	590	11	130
4010108100	4010108101	10x2,5/10	2,0	18,5	23,0	730	14	140
4010105120	4010105121	12x1,0/10	1,3	16,0	21,0	560	8	125
4010107120	4010107121	12x1,5/10	1,6	17,0	22,0	645	10	130
4010108120	4010108121	12x2,5/10	2,0	19,0	24,0	810	13	145
4010105140	4010105141	14x1,0/10	1,3	17,0	21,5	610	7	130
4010107140	4010107141	14x1,5/10	1,6	18,0	23,0	710	9	135
4010108140	4010108141	14x2,5/10	2,0	20,0	25,0	895	12	150
4010105160	4010105161	16x1,0/10	1,3	18,0	22,5	665	7	135
4010107160	4010107161	16x1,5/10	1,6	19,0	24,0	790	9	145
4010108160	4010108161	16x2,5/10	2,0	21,5	26,5	1000	12	160
4010105190	4010105191	19x1,0/10	1,3	19,0	24,0	740	7	145
4010107190	4010107191	19x1,5/10	1,6	20,0	25,0	870	9	150
4010108190	4010108191	19x2,5/16	2,0	22,5	27,5	1115	11	165
4010105240	4010105241	24x1,0/16	1,3	22,0	27,5	910	6	165
4010107240	4010107241	24x1,5/16	1,6	24,0	29,5	1095	8	175
4010108240	4010108241	24x2,5/16	2,0	26,5	32,5	1405	11	195
4010105270	4010105271	27x1,0/16	1,3	23,0	28,0	970	6	165
4010107270	4010107271	27x1,5/16	1,6	24,5	30,0	1175	8	180
4010108270	4010108271	27x2,5/16	2,0	27,0	33,0	1515	10	200
4010105370	4010105371	37x1,0/16	1,3	25,5	31,0	1220	5	185
4010107370	4010107371	37x1,5/16	1,6	27,5	33,0	1475	7	200
4010108370	4010108371	37x2,5/16	2,0	31,0	37,0	1970	9	225



## P1/P8 RFOU 0,6/1kV mud resistant

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4080105010	—	1x1,0/2,5	1,3	5,5	8,5	115	18	50
4080107010	—	1x1,5/2,5	1,6	6,0	9,5	130	23	55
4080108010	—	1x2,5/4	2,0	6,5	9,5	150	30	60
4080109010	—	1x4/4	2,6	7,0	10,5	175	40	60
4080110010	—	1x6/4	3,2	7,5	11,0	205	52	65
4080111010	—	1x10/4	4,0	8,5	12,0	260	72	70
4080112010	—	1x16/4	5,1	9,5	13,0	340	96	80
4080113010	—	1x25/10	6,4	11,0	15,0	510	127	90
4080114010	—	1x35/10	7,6	12,5	16,5	615	157	100
4080115010	—	1x50/10	8,8	14,0	18,5	765	196	110
4080116010	—	1x70/10	10,6	15,5	20,0	995	242	120
4080117010	—	1x95/10	12,5	18,0	22,5	1300	293	135
4080118010	—	1x120/10	14,1	19,5	24,5	1585	339	145
4080119010	—	1x150/16	15,8	21,5	26,5	1900	389	160
4080120010	—	1x185/16	17,5	24,0	29,0	2305	444	175
4080121010	—	1x240/16	20,3	27,0	32,5	3005	522	195
4080122010	—	1x300/16	22,5	29,5	35,5	3645	601	210
4080105020	—	2x1,0/4	1,3	9,0	12,5	205	15	75
4080107020	—	2x1,5/4	1,6	9,5	13,0	230	20	80
4080108020	—	2x2,5/4	2,0	10,5	14,0	265	26	85
4080109020	—	2x4/6	2,6	11,5	15,5	350	34	95
4080110020	—	2x6/6	3,2	12,5	17,0	475	44	100
4080111020	—	2x10/10	4,0	14,5	19,0	620	61	115
4080112020	—	2x16/16	5,1	16,5	21,5	870	82	130
4080113020	—	2x25/16	6,4	20,0	25,0	1170	108	150
4080114020	—	2x35/16	7,6	22,5	27,5	1480	133	165
4080115020	—	2x50	8,8	25,5	31,0	1925	167	185
4080315020	—	2x50/25	8,8	25,5	31,0	1980	167	185
4080116020	—	2x70	10,6	29,0	35,0	2530	206	210
4080316020	—	2x70/35	10,6	29,0	35,5	2660	206	210
4080117020	—	2x95/50	12,5	34,5	41,0	3625	249	245
4080118020	—	2x120/60	14,1	37,5	44,5	4425	288	265
4080119020	—	2x150	15,8	42,0	49,5	5180	331	295
4080120020	—	2x185	17,5	46,5	54,5	6355	377	325
4080121020	—	2x240	20,3	53,0	61,5	8250	444	370
4080105030	4080105031	3x1,0/4	1,3	9,5	13,0	230	13	80
4080107030	4080107031	3x1,5/4	1,6	10,0	13,5	260	16	80
4080108030	4080108031	3x2,5/6	2,0	11,0	15,0	335	21	90
4080109030	4080109031	3x4/6	2,6	12,0	16,5	410	28	100
4080110030	4080110031	3x6/10	3,2	13,5	18,0	555	36	105
4080111030	4080111031	3x10/10	4,0	15,5	19,5	730	50	120
4080112030	4080112031	3x16/16	5,1	17,5	22,5	1015	67	135
4080113030	4080113031	3x25/16	6,4	21,5	26,5	1395	89	160
4080114030	4080114031	3x35/16	7,6	24,0	29,0	1800	110	175
—	4080115031	3G50	8,8	27,5	33,5	2380	137	200
4080315030	—	3x50/25	8,8	27,5	33,5	2410	137	200
—	4080116031	3G70	10,6	32,0	38,0	3205	169	225
4080316030	—	3x70/35	10,6	32,0	38,0	3320	169	230
—	4080117031	3G95	12,5	37,0	44,0	4360	205	265
4080317030	—	3x95/50	12,5	37,0	44,0	4465	205	265
—	4080118031	3G120	14,1	40,5	47,5	5340	237	285
4080318030	—	3x120/60	14,1	40,5	47,5	5495	237	285
—	4080119031	3G150	15,8	45,5	53,0	6585	272	320
* 4080319030	—	3x150/70	15,8	45,5	55,0	6980	272	330
—	4080120031	3G185	17,5	50,0	58,5	8045	311	350
* 4080320030	—	3x185/95	17,5	50,0	60,0	8480	311	360
—	4080121031	3G240	20,3	57,5	66,5	10585	365	400
* 4080321030	—	3x240/120	20,3	57,5	68,0	11205	365	410



**P1/P8 RFOU 0,6/1kV mud resistant**


Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4080105040	4080105041	4x1,0/4	1,3	10,5	14,0	265	13	85
4080107040	4080107041	4x1,5/6	1,6	11,0	15,0	325	16	90
4080108040	4080108041	4x2,5/6	2,0	12,0	16,0	390	21	95
4080109040	4080109041	4x4/10	2,6	13,5	17,5	490	28	105
4080110040	4080110041	4x6/10	3,2	15,0	19,0	650	36	115
4080111040	4080111041	4x10/10	4,0	17,0	21,5	890	50	130
4080112040	4080112041	4x16/16	5,1	19,5	24,5	1220	67	145
4080113040	4080113041	4x25/16	6,4	23,5	29,0	1715	89	175
4080114040	4080114041	4x35/16	7,6	26,5	32,0	2250	110	190
4080115040	4080115041	4x50/25	8,8	31,0	37,0	2990	137	225
4080116040	4080116041	4x70/35	10,6	35,5	42,5	4130	169	255
-	4080117041	4G95	12,5	41,0	48,5	5465	205	290
4080317040	-	4x95/50	12,5	41,0	48,5	5525	205	290
-	4080118041	4G120	14,1	45,5	53,0	6795	237	320
4080318040	-	4x120/60	14,1	45,5	53,0	6895	237	320
-	4080119041	4G150	15,8	50,5	59,0	8265	272	355
* 4080319040	-	4x150/70	15,8	50,5	60,5	8785	272	355
-	4080120041	4G185	17,5	56,0	65,0	10200	311	390
* 4080320040	-	4x185/95	17,5	56,0	67,0	10775	311	390
4080105050	4080105051	5x1,0/6	1,3	11,0	15,5	330	10	90
4080107050	4080107051	5x1,5/6	1,6	12,0	16,0	375	13	95
4080108050	4080108051	5x2,5/10	2,0	13,0	17,5	455	17	105
4080109050	4080109051	5x4/10	2,6	14,5	19,0	575	23	115
4080110050	4080110051	5x6/10	3,2	16,5	21,0	780	30	125
4080111050	4080111051	5x10/10	4,0	18,5	23,5	1055	42	140
4080112050	4080112051	5x16/16	5,1	21,5	26,5	1435	56	160
4080113050	4080113051	5x25/16	6,4	26,0	31,5	2070	74	190
4080114050	4080114051	5x35/16	7,6	29,5	35,0	2690	91	210
4080115050	4080115051	5x50/25	8,8	34,5	41,0	3725	114	245
4080116050	4080116051	5x70/35	10,6	39,0	46,5	4995	140	280
4080117050	4080117051	5x95/50	12,5	46,0	53,5	6735	170	320
-	4080118051	5G120	14,1	50,0	58,5	8300	197	350
4080318050	-	5x120/60	14,1	50,0	58,5	8360	197	350
4080105070	4080105071	7x1,0/6	1,3	12,0	16,5	380	9	100
4080107070	4080107071	7x1,5/10	1,6	13,0	17,0	435	12	105
4080108070	4080108071	7x2,5/10	2,0	14,5	18,5	535	16	110
4080105100	4080105101	10x1,0/10	1,3	15,5	20,0	510	8	120
4080107100	4080107101	10x1,5/10	1,6	16,5	21,5	605	11	130
4080108100	4080108101	10x2,5/10	2,0	18,5	23,0	740	14	140
4080105120	4080105121	12x1,0/10	1,3	16,0	21,0	570	8	125
4080107120	4080107121	12x1,5/10	1,6	17,0	22,0	660	10	130
4080108120	4080108121	12x2,5/10	2,0	19,0	24,0	825	13	145
4080105140	4080105141	14x1,0/10	1,3	17,0	21,5	620	7	130
4080107140	4080107141	14x1,5/10	1,6	18,0	23,0	720	9	135
4080108140	4080108141	14x2,5/10	2,0	20,0	25,0	910	12	150
4080105160	4080105161	16x1,0/10	1,3	18,0	22,5	680	7	135
4080107160	4080107161	16x1,5/10	1,6	19,0	24,0	800	9	145
4080108160	4080108161	16x2,5/10	2,0	21,5	26,5	1020	12	160
4080105190	4080105191	19x1,0/10	1,3	19,0	24,0	755	7	145
4080107190	4080107191	19x1,5/10	1,6	20,0	25,0	885	9	150
4080108190	4080108191	19x2,5/16	2,0	22,5	27,5	1130	11	165
4080105240	4080105241	24x1,0/16	1,3	22,0	27,5	925	6	165
4080107240	4080107241	24x1,5/16	1,6	24,0	29,5	1120	8	175
4080108240	4080108241	24x2,5/16	2,0	26,5	32,5	1430	11	195
4080105270	4080105271	27x1,0/16	1,3	23,0	28,0	985	6	165
4080107270	4080107271	27x1,5/16	1,6	24,5	30,0	1195	8	180
4080108270	4080108271	27x2,5/16	2,0	27,0	33,0	1540	10	200
4080105370	4080105371	37x1,0/16	1,3	25,5	31,0	1240	5	185
4080107370	4080107371	37x1,5/16	1,6	27,5	33,0	1500	7	200
4080108370	4080108371	37x2,5/16	2,0	31,0	37,0	1995	9	225

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

\* Double braided

# P5 and P5/P12 BFOU 0,6/1kV

Fire resistant, Armoured control, lighting and power cable.



DESIGN:	STANDARDS:
	IEC 60092-353, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2 (optional class 5)
<b>2. Insulation</b> -mica tape -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Bedding</b> -halogen free compound extruded -covered by separator tape (optional)	
<b>4. Armour</b> -tinned copper wire braid, coverage >90% -covered by separator tape (optional)	
<b>5. Sheath (P5)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF2)
<b>5. Sheath (P5/P12)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only P5/P12) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ●

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type P5 in NEK TS 606:2009.  
Meets the requirement for cable type P5/P12 in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 0,6/1kV (1,2kV)</b> <b>DC 0,9/1,5kV</b> (if voltage to earth does not exceed 0,9kV)
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Fire resistant	<b>IEC 60331</b> series
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only P5/P12)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## P5 BFOU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4050105010	–	1x1,0/2,5	1,3	6,0	9,0	120	18	55
4050107010	–	1x1,5/2,5	1,6	6,5	9,5	140	23	60
4050108010	–	1x2,5/4	2,0	6,5	10,0	160	30	60
4050109010	–	1x4/4	2,6	7,5	10,5	185	40	65
4050110010	–	1x6/4	3,2	8,0	11,5	215	52	70
4050111010	–	1x10/4	4,0	9,0	12,0	270	72	75
4050112010	–	1x16/4	5,1	10,0	13,5	355	96	80
4050113010	–	1x25/10	6,4	11,5	15,5	510	127	95
4050114010	–	1x35/10	7,6	12,5	17,0	620	157	100
4050115010	–	1x50/10	8,8	14,5	18,5	785	196	110
4050116010	–	1x70/10	10,6	16,0	20,5	1015	242	125
4050117010	–	1x95/10	12,5	18,5	23,0	1330	293	140
4050118010	–	1x120/10	14,1	20,0	25,0	1615	339	150
4050119010	–	1x150/16	15,8	22,0	27,0	1930	389	165
4050120010	–	1x185/16	17,5	24,5	29,5	2340	444	175
4050121010	–	1x240/16	20,3	27,5	33,0	3040	522	200
4050122010	–	1x300/16	22,5	30,0	36,0	3685	601	215
4050105020	–	2x1,0/4	1,3	10,0	13,5	225	15	80
4050107020	–	2x1,5/4	1,6	10,5	14,0	245	20	85
4050108020	–	2x2,5/4	2,0	11,0	15,0	285	26	90
4050109020	–	2x4/6	2,6	12,5	16,5	375	34	100
4050110020	–	2x6/6	3,2	13,5	17,5	450	44	105
4050111020	–	2x10/10	4,0	15,5	19,5	580	61	120
4050112020	–	2x16/16	5,1	17,5	22,0	795	82	135
4050113020	–	2x25/16	6,4	21,0	25,5	1050	108	155
4050114020	–	2x35/16	7,6	23,0	28,5	1385	133	170
4050115020	–	2x50	8,8	26,5	32,0	1785	167	190
4050315020	–	2x50/25	8,8	26,5	32,0	1825	167	190
4050116020	–	2x70	10,6	30,0	36,0	2330	206	215
4050316020	–	2x70/35	10,6	30,0	36,0	2455	206	215
4050117020	–	2x95/50	12,5	35,5	42,0	3330	249	250
4050118020	–	2x120/60	14,1	38,5	45,5	4065	288	270
4050119020	–	2x150	15,8	42,5	50,0	4710	331	300
4050120020	–	2x185	17,5	47,5	55,0	5770	377	330
4050121020	–	2x240	20,3	53,5	62,0	7450	444	375
4050105030	4050105031	3x1,0/4	1,3	10,5	14,0	255	13	85
4050107030	4050107031	3x1,5/4	1,6	11,0	14,5	280	16	90
4050108030	4050108031	3x2,5/6	2,0	12,0	16,0	360	21	95
4050109030	4050109031	3x4/6	2,6	13,0	17,5	440	28	105
4050110030	4050110031	3x6/10	3,2	14,5	18,5	545	36	110
4050111030	4050111031	3x10/10	4,0	16,5	20,5	710	50	125
4050112030	4050112031	3x16/16	5,1	18,5	23,5	980	67	140
4050113030	4050113031	3x25/16	6,4	22,5	27,0	1335	89	165
4050114030	4050114031	3x35/16	7,6	25,0	30,0	1750	110	180
–	4050115031	3G50	8,8	28,5	34,0	2285	137	205
4050315030	–	3x50/25	8,8	28,5	34,0	2315	137	205
–	4050116031	3G70	10,6	33,0	39,0	3075	169	235
4050316030	–	3x70/35	10,6	33,0	39,0	3170	169	235
–	4050117031	3G95	12,5	38,0	45,0	4165	205	270
4050317030	–	3x95/50	12,5	38,0	45,0	4255	205	270
–	4050118031	3G120	14,1	41,5	48,5	5100	237	290

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Table continues on next page

## P5 BFOU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4050318030	–	3x120/60	14,1	41,5	48,5	5245	237	290
–	4050119031	3G150	15,8	46,5	54,0	6260	272	325
* 4050319030	–	3x150/70	15,8	46,5	56,0	6760	272	335
–	4050120031	3G185	17,5	51,0	59,5	7635	311	355
* 4050320030	–	3x185/95	17,5	51,0	61,0	8150	311	365
–	4050121031	3G240	20,3	58,5	67,5	9995	365	405
* 4050321030	–	3x240/120	20,3	58,5	69,0	10620	365	415
4050105040	4050105041	4x1,0/4	1,3	11,5	15,0	290	13	90
4050107040	4050107041	4x1,5/6	1,6	12,0	16,0	355	16	95
4050108040	4050108041	4x2,5/6	2,0	13,0	17,5	420	21	105
4050109040	4050109041	4x4/10	2,6	14,5	19,0	525	28	115
4050110040	4050110041	4x6/10	3,2	16,0	20,0	650	36	120
4050111040	4050111041	4x10/10	4,0	18,0	23,0	880	50	135
4050112040	4050112041	4x16/16	5,1	20,5	25,5	1205	67	155
4050113040	4050113041	4x25/16	6,4	24,5	30,0	1675	89	180
4050114040	4050114041	4x35/16	7,6	27,5	33,0	2215	110	200
4050115040	4050115041	4x50/25	8,8	32,5	38,0	2925	137	230
4050116040	4050116041	4x70/35	10,6	36,5	43,5	4030	169	260
–	4050117041	4G95	12,5	42,0	49,5	5305	205	300
4050317040	–	4x95/50	12,5	42,0	49,5	5355	205	300
–	4050118041	4G120	14,1	46,5	54,5	6585	237	325
4050318040	–	4x120/60	14,1	46,5	54,5	6675	237	325
–	4050119041	4G150	15,8	51,5	60,0	7985	272	360
* 4050319040	–	4x150/70	15,8	51,5	62,0	8490	272	360
–	4050120041	4G185	17,5	57,0	66,5	9845	311	400
* 40503200403	–	4x185/95	17,5	57,0	68,0	10400	311	400
4050105050	4050105051	5x1,0/6	1,3	12,5	16,5	365	10	100
4050107050	4050107051	5x1,5/6	1,6	13,0	17,5	410	13	105
4050108050	4050108051	5x2,5/10	2,0	14,5	18,5	495	17	110
4050109050	4050109051	5x4/10	2,6	16,0	20,0	615	23	120
4050110050	4050110051	5x6/10	3,2	17,5	22,0	790	30	135
4050111050	4050111051	5x10/10	4,0	20,0	24,5	1050	42	150
4050112050	4050112051	5x16/16	5,1	23,0	27,5	1440	56	165
4050113050	4050113051	5x25/16	6,4	27,5	33,0	2045	74	195
4050114050	4050114051	5x35/16	7,6	30,5	36,0	2680	91	215
4050115050	4050115051	5x50/25	8,8	35,5	42,5	3670	114	255
4050116050	4050116051	5x70/35	10,6	40,5	47,5	4930	140	285
4050117050	4050117051	5x95/50	12,5	47,0	55,0	6590	170	330
–	4050118051	5G120	14,1	51,5	60,0	8125	197	360
4050318050	–	5x120/60	14,1	51,5	60,0	8185	197	360
4050105070	4050105071	7x1,0/6	1,3	13,5	17,5	425	9	105
4050107070	4050107071	7x1,5/10	1,6	14,5	18,5	480	12	110
4050108070	4050108071	7x2,5/10	2,0	15,5	20,0	585	16	120
4050105100	4050105101	10x1,0/10	1,3	17,5	21,5	570	8	130
4050107100	4050107101	10x1,5/10	1,6	18,5	23,0	665	11	140
4050108100	4050108101	10x2,5/10	2,0	20,0	25,0	810	14	150

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

\* Double braided

## P5 BFOU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4050105120	4050105121	12x1,0/10	1,3	18,0	22,5	640	8	135
4050107120	4050107121	12x1,5/10	1,6	19,0	24,0	730	10	145
4050108120	4050108121	12x2,5/10	2,0	21,0	26,0	905	13	155
4050105140	4050105141	14x1,0/10	1,3	19,0	23,5	700	7	140
4050107140	4050107141	14x1,5/10	1,6	20,0	25,0	800	9	150
4050108140	4050108141	14x2,5/10	2,0	22,0	27,0	1000	12	160
4050105160	4050105161	16x1,0/10	1,3	20,0	24,5	765	7	150
4050107160	4050107161	16x1,5/10	1,6	21,5	26,0	895	9	155
4050108160	4050108161	16x2,5/10	2,0	23,5	28,5	1120	12	170
4050105190	4050105191	19x1,0/10	1,3	21,0	26,0	855	7	155
4050107190	4050107191	19x1,5/10	1,6	22,5	27,5	990	9	165
4050108190	4050108191	19x2,5/16	2,0	24,5	30,0	1245	11	180
4050105240	4050105241	24x1,0/16	1,3	25,0	30,0	1055	6	180
4050107240	4050107241	24x1,5/16	1,6	26,5	32,0	1255	8	190
4050108240	4050108241	24x2,5/16	2,0	29,0	35,0	1590	11	210
4050105270	4050105271	27x1,0/16	1,3	25,5	30,5	1120	6	185
4050107270	4050107271	27x1,5/16	1,6	27,0	32,5	1335	8	195
4050108270	4050108271	27x2,5/16	2,0	30,0	35,5	1695	10	215
4050105370	4050105371	37x1,0/16	1,3	28,5	34,0	1415	5	205
4050107370	4050107371	37x1,5/16	1,6	30,5	36,5	1680	7	220
4050108370	4050108371	37x2,5/16	2,0	34,5	40,0	2205	9	240

Table continues on next page



## P5/P12 BFOU 0,6/1kV mud resistant

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4120105010	—	1x1,0/2,5	1,3	6,0	9,0	125	18	55
4120107010	—	1x1,5/2,5	1,6	6,5	9,5	145	23	60
4120108010	—	1x2,5/4	2,0	6,5	10,0	160	30	60
4120109010	—	1x4/4	2,6	7,5	10,5	190	40	65
4120110010	—	1x6/4	3,2	8,0	11,5	220	52	70
4120111010	—	1x10/4	4,0	9,0	12,0	275	72	75
4120112010	—	1x16/4	5,1	10,0	13,5	360	96	80
4120113010	—	1x25/10	6,4	11,5	15,5	520	127	95
4120114010	—	1x35/10	7,6	12,5	17,0	625	157	100
4120115010	—	1x50/10	8,8	14,5	18,5	795	196	110
4120116010	—	1x70/10	10,6	16,0	20,5	1025	242	125
4120117010	—	1x95/10	12,5	18,5	23,0	1345	293	140
4120118010	—	1x120/10	14,1	20,0	25,0	1630	339	150
4120119010	—	1x150/16	15,8	22,0	27,0	1945	389	165
4120120010	—	1x185/16	17,5	24,5	29,5	2360	444	175
4120121010	—	1x240/16	20,3	27,5	33,0	3065	522	200
4120122010	—	1x300/16	22,5	30,0	36,0	3715	601	215
4120105020	—	2x1,0/4	1,3	10,0	13,5	230	15	80
4120107020	—	2x1,5/4	1,6	10,5	14,0	250	20	85
4120108020	—	2x2,5/4	2,0	11,0	15,0	290	26	90
4120109020	—	2x4/6	2,6	12,5	16,5	380	34	100
4120110020	—	2x6/6	3,2	13,5	17,5	455	44	105
4120111020	—	2x10/10	4,0	15,5	19,5	590	61	120
4120112020	—	2x16/16	5,1	17,5	22,0	810	82	135
4120113020	—	2x25/16	6,4	21,0	25,5	1065	108	155
4120114020	—	2x35/16	7,6	23,0	28,5	1405	133	170
4120115020	—	2x50	8,8	26,5	32,0	1805	167	190
4120315020	—	2x50/25	8,8	26,5	32,0	1845	167	190
4120116020	—	2x70	10,6	30,0	36,0	2355	206	215
4120316020	—	2x70/35	10,6	30,0	36,0	2480	206	215
4120117020	—	2x95/50	12,5	35,5	42,0	3365	249	250
4120118020	—	2x120/60	14,1	38,5	45,5	4105	288	270
4120119020	—	2x150	15,8	42,5	50,0	4760	331	300
4120120020	—	2x185	17,5	47,5	55,0	5825	377	330
4120121020	—	2x240	20,3	53,5	62,0	7525	444	375
4120105030	4120105031	3x1,0/4	1,3	10,5	14,0	260	13	85
4120107030	4120107031	3x1,5/4	1,6	11,0	14,5	290	16	90
4120108030	4120108031	3x2,5/6	2,0	12,0	16,0	370	21	95
4120109030	4120109031	3x4/6	2,6	13,0	17,5	445	28	105
4120110030	4120110031	3x6/10	3,2	14,5	18,5	555	36	110
4120111030	4120111031	3x10/10	4,0	16,5	20,5	725	50	125
4120112030	4120112031	3x16/16	5,1	18,5	23,5	995	67	140
4120113030	4120113031	3x25/16	6,4	22,5	27,0	1350	89	165
4120114030	4120114031	3x35/16	7,6	25,0	30,0	1770	110	180
—	4120115031	3G50	8,8	28,5	34,0	2310	137	205
4120315030	—	3x50/25	8,8	28,5	34,0	2340	137	205
—	4120116031	3G70	10,6	33,0	39,0	3110	169	235
4120316030	—	3x70/35	10,6	33,0	39,0	3200	169	235
—	4120117031	3G95	12,5	38,0	45,0	4205	205	270
4120317030	—	3x95/50	12,5	38,0	45,0	4295	205	270
—	4120118031	3G120	14,1	41,5	48,5	5145	237	290
4120318030	—	3x120/60	14,1	41,5	48,5	5290	237	290
—	4120119031	3G150	15,8	46,5	54,0	6315	272	325
* 4120319030	—	3x150/70	15,8	46,5	56,0	6760	272	335
—	4120120031	3G185	17,5	51,0	59,5	7700	311	355
* 4120320030	—	3x185/95	17,5	51,0	61,0	8210	311	365
—	4120121031	3G240	20,3	58,5	67,5	10080	365	405
* 4120321030	—	3x240/120	20,3	58,5	69,0	10705	365	415

## P5/P12 BFOU 0,6/1kV mud resistant


Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4120105040	4120105041	4x1,0/4	1,3	11,5	15,0	295	13	90
4120107040	4120107041	4x1,5/6	1,6	12,0	16,0	365	16	95
4120108040	4120108041	4x2,5/6	2,0	13,0	17,5	430	21	105
4120109040	4120109041	4x4/10	2,6	14,5	19,0	535	28	115
4120110040	4120110041	4x6/10	3,2	16,0	20,0	660	36	120
4120111040	4120111041	4x10/10	4,0	18,0	23,0	895	50	135
4120112040	4120112041	4x16/16	5,1	20,5	25,5	1220	67	155
4120113040	4120113041	4x25/16	6,4	24,5	30,0	1695	89	180
4120114040	4120114041	4x35/16	7,6	27,5	33,0	2240	110	200
4120115040	4120115041	4x50/25	8,8	32,5	38,0	2955	137	230
4120116040	4120116041	4x70/35	10,6	36,5	43,5	4065	169	260
–	4120117041	4G95	12,5	42,0	49,5	5355	205	300
4120317040	–	4x95/50	12,5	42,0	49,5	5405	205	300
–	4120118041	4G120	14,1	46,5	54,5	6645	237	325
4120318040	–	4x120/60	14,1	46,5	54,5	6730	237	325
–	4120119041	4G150	15,8	51,5	60,0	8055	272	360
* 4120319040	–	4x150/70	15,8	51,5	62,0	8585	272	360
–	4120120041	4G185	17,5	57,0	66,5	9925	311	400
* 4120320040	–	4x185/95	17,5	57,0	68,0	10515	311	400
4120105050	4120105051	5x1,0/6	1,3	12,5	16,5	375	10	100
4120107050	4120107051	5x1,5/6	1,6	13,0	17,5	420	13	105
4120108050	4120108051	5x2,5/10	2,0	14,5	18,5	505	17	110
4120109050	4120109051	5x4/10	2,6	16,0	20,0	625	23	120
4120110050	4120110051	5x6/10	3,2	17,5	22,0	800	30	135
4120111050	4120111051	5x10/10	4,0	20,0	24,5	1065	42	150
4120112050	4120112051	5x16/16	5,1	23,0	27,5	1455	56	165
4120113050	4120113051	5x25/16	6,4	27,5	33,0	2070	74	195
4120114120	4120114051	5x35/16	7,6	30,5	36,0	2705	91	215
4120115050	4120115051	5x50/25	8,8	35,5	42,5	3710	114	255
4120116050	4120116051	5x70/35	10,6	40,5	47,5	4975	140	285
4120117050	4120117051	5x95/50	12,5	47,0	55,0	6645	170	330
–	4120118051	5G120	14,1	51,5	60,0	8195	197	360
4120318050	–	5x120/60	14,1	51,5	60,0	8255	197	360
4120105070	4120105071	7x1,0/6	1,3	13,5	17,5	430	9	105
4120107070	4120107071	7x1,5/10	1,6	14,5	18,5	490	12	110
4120108070	4120108071	7x2,5/10	2,0	15,5	20,0	595	16	120
4120105100	4120105101	10x1,0/10	1,3	17,5	21,5	580	8	130
4120107100	4120107101	10x1,5/10	1,6	18,5	23,0	680	11	140
4120108100	4120108101	10x2,5/10	2,0	20,0	25,0	825	14	150
4120105120	4120105121	12x1,0/10	1,3	18,0	22,5	650	8	135
4120107120	4120107121	12x1,5/10	1,6	19,0	24,0	745	10	145
4120108120	4120108121	12x2,5/10	2,0	21,0	26,0	920	13	155
4120105140	4120105141	14x1,0/10	1,3	19,0	23,5	710	7	140
4120107140	4120107141	14x1,5/10	1,6	20,0	25,0	815	9	150
4120108140	4120108141	14x2,5/10	2,0	22,0	27,0	1015	12	160
4120105160	4120105161	16x1,0/10	1,3	20,0	24,5	780	7	150
4120107160	4120107161	16x1,5/10	1,6	21,5	26,0	910	9	155
4120108160	4120108161	16x2,5/10	2,0	23,5	28,5	1140	12	170
4120105190	4120105191	19x1,0/10	1,3	21,0	26,0	870	7	155
4120107190	4120107191	19x1,5/10	1,6	22,5	27,5	1005	9	165
4120108190	4120108191	19x2,5/16	2,0	24,5	30,0	1265	11	180
4120105240	4120105241	24x1,0/16	1,3	25,0	30,0	1075	6	180
4120107240	4120107241	24x1,5/16	1,6	26,5	32,0	1280	8	190
4120108240	4120108241	24x2,5/16	2,0	29,0	35,0	1615	11	210
4120105270	4120105271	27x1,0/16	1,3	25,5	30,5	1140	6	185
4120107270	4120107271	27x1,5/16	1,6	27,0	32,5	1360	8	195
4120108270	4120108271	27x2,5/16	2,0	30,0	35,5	1720	10	215
4120105370	4120105371	37x1,0/16	1,3	28,5	34,0	1440	5	205
4120107370	4120107371	37x1,5/16	1,6	30,5	36,5	1710	7	220
4120108370	4120108371	37x2,5/16	2,0	34,5	40,0	2235	9	240

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

\* Double braided

# P15 UX 0,6/1kV

## Switchboard wire, Earthing wire



<b>DESIGN:</b>	<b>STANDARDS:</b> IEC 60092-353, design											
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 5											
<b>2. Insulation</b> -halogen free thermosetting, -standard colour yellow/green	IEC 60092-360 (SHF2)	<table border="1"> <tr> <td><b>OIL-resistant</b></td> <td>●</td> </tr> <tr> <td><b>FLAME-retardant</b></td> <td>●</td> </tr> <tr> <td><b>FIRE-resistant</b></td> <td>○</td> </tr> <tr> <td><b>Halogen-free</b></td> <td>●</td> </tr> <tr> <td><b>Low smoke emission</b></td> <td>●</td> </tr> </table>	<b>OIL-resistant</b>	●	<b>FLAME-retardant</b>	●	<b>FIRE-resistant</b>	○	<b>Halogen-free</b>	●	<b>Low smoke emission</b>	●
<b>OIL-resistant</b>	●											
<b>FLAME-retardant</b>	●											
<b>FIRE-resistant</b>	○											
<b>Halogen-free</b>	●											
<b>Low smoke emission</b>	●											

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type P15 in NEK TS 606:2009.

### Main characteristics

Rated voltage	<b>AC 0,6/1kV (1,2kV)</b> <b>DC 0,9/1,5kV</b> (if voltage to earth does not exceed 0,9kV)
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath



## P15 UX 0,6/1kV


Part number		Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
G-type	Black						
4150103011	4150103010	1x0,5	1,1	2,5	10	11	15
4150104011	4150104010	1x0,75	1,3	3,0	15	14	15
4150105011	4150105010	1x1,0	1,5	3,0	15	17	15
4150107011	4150107010	1x1,5	1,8	3,5	20	22	15
4150108011	4150108010	1x2,5	2,4	4,0	35	30	20
4150109011	4150109010	1x4	3,0	4,5	45	39	20
4150110011	4150110010	1x6	3,9	5,5	65	50	25
4150111011	4150111010	1x10	5,1	6,5	110	71	30
4150112011	4150112010	1x16	6,3	8,0	165	94	35
4150113011	4150113010	1x25	7,8	10,0	260	123	40
4150114011	4150114010	1x35	9,2	11,5	355	153	50
4150115011	4150115010	1x50	11,0	13,5	500	196	55
4150116011	4150116010	1x70	13,1	16,0	705	240	65
4150117011	4150117010	1x95	15,1	18,0	895	284	75
4150118011	4150118010	1x120	17,0	20,0	1150	331	80
4150119011	4150119010	1x150	19,0	22,5	1445	381	95
4150120011	4150120010	1x185	21,0	25,0	1795	429	105
4150121011	4150121010	1x240	24,0	28,5	2410	507	115
4150122011	4150122010	1x300	27,0	32,0	3025	582	130

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5



# P17 and P17+MUD BU 0,6/1kV

Fire resistant, Unarmoured control, lighting and power cable.



DESIGN:	STANDARDS:
	IEC 60092-353, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2 (optional class 5)
<b>2. Insulation</b> -mica tape -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Bedding</b> -separator tape (optional)	
<b>4. Sheath (P17)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF2)
<b>4. Sheath (P17+MUD)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only P17+MUD) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ●

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type P17 in NEK TS 606:2009.  
Meets the requirement for cables type P17+MUD in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 0,6/1kV (1,2kV)</b> <b>DC 0,9/1,5kV</b> (if voltage to earth does not exceed 0,9kV)
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Fire resistant	<b>IEC 60331</b> series
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only P17+MUD)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## P17 BU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4170105010	4170105011	1x1,0	1,3	6,0	45	18	25
4170107010	4170107011	1x1,5	1,6	6,5	50	23	30
4170108010	4170108011	1x2,5	2,0	6,5	65	30	30
4170109010	4170109011	1x4	2,6	7,5	85	40	30
4170110010	4170110011	1x6	3,2	8,0	110	52	35
4170111010	4170111011	1x10	4,0	9,0	155	72	40
4170112010	4170112011	1x16	5,1	10,5	230	96	45
4170113010	4170113011	1x25	6,4	12,0	325	127	50
4170114010	4170114011	1x35	7,6	13,5	430	157	55
4170115010	4170115011	1x50	8,8	15,0	565	196	65
4170116010	4170116011	1x70	10,6	17,0	780	242	70
4170117010	4170117011	1x95	12,5	19,5	1050	293	80
4170118010	4170118011	1x120	14,1	21,0	1305	339	85
4170119010	4170119011	1x150	15,8	23,5	1610	389	95
4170120010	4170120011	1x185	17,5	26,0	1990	444	160
4170121010	4170121011	1x240	20,3	29,5	2630	522	180
4170122010	4170122011	1x300	22,5	32,5	3255	601	195
4170105020	–	2x1,0	1,3	10,0	85	15	40
4170107020	–	2x1,5	1,6	10,5	110	20	45
4170108020	–	2x2,5	2,0	11,5	140	26	50
4170109020	–	2x4	2,6	12,5	180	34	55
4170110020	–	2x6	3,2	14,0	285	44	60
4170111020	–	2x10	4,0	16,0	400	61	65
4170112020	–	2x16	5,1	18,5	570	82	75
4170113020	–	2x25	6,4	22,0	830	108	90
4170114020	–	2x35	7,6	24,5	1120	133	100
4170115020	–	2x50	8,8	28,5	1500	167	175
4170116020	–	2x70	10,6	32,5	2045	206	195
4170117020	–	2x95	12,5	37,0	2740	249	225
4170118020	–	2x120	14,1	41,0	3425	288	250
4170119020	–	2x150	15,8	45,5	4200	331	275
4170120020	–	2x185	17,5	50,0	5185	377	300
4170105030	4170105031	3x1,0	1,3	11,0	120	13	45
4170107030	4170107031	3x1,5	1,6	11,5	140	16	50
4170108030	4170108031	3x2,5	2,0	12,5	175	21	50
4170109030	4170109031	3x4	2,6	13,5	240	28	55
4170110030	4170110031	3x6	3,2	15,0	355	36	65
4170111030	4170111031	3x10	4,0	17,0	515	50	70
4170112030	4170112031	3x16	5,1	20,0	745	67	80
4170113030	4170113031	3x25	6,4	24,0	1095	89	100
4170114030	4170114031	3x35	7,6	26,5	1460	110	160
4170115030	4170115031	3x50	8,8	30,5	1940	137	185
4170116030	4170116031	3x70	10,6	34,5	2685	169	210
4170117030	4170117031	3x95	12,5	40,0	3600	205	240
4170118030	4170118031	3x120	14,1	44,0	4515	237	265
4170119030	4170119031	3x150	15,8	49,0	5555	272	295
4170120030	4170120031	3x185	17,5	54,0	6890	311	325

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Table continues on next page

**P17 BU 0,6/1kV**

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4170105040	4170105041	4x1,0	1,3	12,0	145	13	50
4170107040	4170107041	4x1,5	1,6	12,5	170	16	50
4170108040	4170108041	4x2,5	2,0	13,5	225	21	55
4170109040	4170109041	4x4	2,6	15,0	300	28	65
4170110040	4170110041	4x6	3,2	16,5	445	36	70
4170111040	4170111041	4x10	4,0	19,0	640	50	80
4170112040	4170112041	4x16	5,1	21,5	940	67	90
4170113040	4170113041	4x25	6,4	26,5	1400	89	160
4170114040	4170114041	4x35	7,6	29,5	1865	110	180
4170115040	4170115041	4x50	8,8	34,0	2495	137	205
4170116040	4170116041	4x70	10,6	38,5	3435	169	235
4170117040	4170117041	4x95	12,5	44,5	4650	205	270
4170118040	4170118041	4x120	14,1	49,0	5815	237	295
4170119040	4170119041	4x150	15,8	54,5	7175	272	330
4170105050	4170105051	5x1,0	1,3	13,0	175	10	55
4170107050	4170107051	5x1,5	1,6	14,0	215	13	60
4170108050	4170108051	5x2,5	2,0	15,0	275	17	60
4170109050	4170109051	5x4	2,6	16,5	380	23	70
4170110050	4170110051	5x6	3,2	18,5	545	30	75
4170111050	4170111051	5x10	4,0	21,0	795	42	85
4170112050	4170112051	5x16	5,1	24,5	1165	56	100
4170113050	4170113051	5x25	6,4	29,0	1725	74	180
4170114050	4170114051	5x35	7,6	32,5	2305	92	200
4170115050	4170115051	5x50	8,8	37,5	3085	114	230
4170116050	4170116051	5x70	10,6	43,0	4255	140	260
4170117050	4170117051	5x95	12,5	49,5	5755	170	300
4170118050	4170118051	5x120	14,1	54,5	7225	197	330
4170105070	4170105071	7x1,0	1,3	14,0	225	9	60
4170107070	4170107071	7x1,5	1,6	15,0	270	12	60
4170108070	4170108071	7x2,5	2,0	16,5	355	16	70
4170105100	4170105101	10x1,0	1,3	18,0	325	8	75
4170107100	4170107101	10x1,5	1,6	19,0	390	11	80
4170108100	4170108101	10x2,5	2,0	21,0	520	14	85
4170105120	4170105121	12x1,0	1,3	19,0	360	8	80
4170107120	4170107121	12x1,5	1,6	20,0	445	10	85
4170108120	4170108121	12x2,5	2,0	22,0	585	13	90
4170105140	4170105141	14x1,0	1,3	20,0	405	7	80
4170107140	4170107141	14x1,5	1,6	21,0	500	10	85
4170108140	4170108141	14x2,5	2,0	23,5	685	13	95
4170105160	4170105161	16x1,0	1,3	21,0	465	7	85
4170107160	4170107161	16x1,5	1,6	22,5	570	9	90
4170108160	4170108161	16x2,5	2,0	25,0	775	12	100
4170105190	4170105191	19x1,0	1,3	22,0	525	7	90
4170107190	4170107191	19x1,5	1,6	24,0	665	9	100
4170108190	4170108191	19x2,5	2,0	26,5	890	11	160
4170105240	4170105241	24x1,0	1,3	26,5	680	6	160

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

## P17 BU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4170107240	4170107241	24x1,5	1,6	28,0	840	8	170
4170108240	4170108241	24x2,5	2,0	31,0	1125	10	190
4170105270	4170105271	27x1,0	1,3	27,0	755	6	165
4170107270	4170107271	27x1,5	1,6	29,0	920	8	175
4170108270	4170108271	27x2,5	2,0	32,0	1240	10	195
4170105370	4170105371	37x1,0	1,3	30,5	990	5	185
4170107370	4170107371	37x1,5	1,6	33,0	1245	7	200
4170108370	4170108371	37x2,5	2,0	36,0	1675	9	220

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Table continues on next page



**P17 MUD BU 0,6/1kV mud resistant**

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4270105010	4270105011	1x1,0	1,3	6,0	45	18	25
4270107010	4270107011	1x1,5	1,6	6,5	55	23	30
4270108010	4270108011	1x2,5	2,0	6,5	65	30	30
4270109010	4270109011	1x4	2,6	7,5	85	40	30
4270110010	4270110011	1x6	3,2	8,0	110	52	35
4270111010	4270111011	1x10	4,0	9,0	155	72	40
4270112010	4270112011	1x16	5,1	10,5	230	96	45
4270113010	4270113011	1x25	6,4	12,0	330	127	50
4270114010	4270114011	1x35	7,6	13,5	435	157	55
4270115010	4270115011	1x50	8,8	15,0	575	196	65
4270116010	4270116011	1x70	10,6	17,0	790	242	70
4270117010	4270117011	1x95	12,5	19,5	1060	293	80
4270118010	4270118011	1x120	14,1	21,0	1315	339	85
4270119010	4270119011	1x150	15,8	23,5	1625	389	95
4270120010	4270120011	1x185	17,5	26,0	2005	444	160
4270121010	4270121011	1x240	20,3	29,5	2650	522	180
4270122010	4270122011	1x300	22,5	32,5	3280	601	195
4270105020	–	2x1,0	1,3	10,0	90	15	40
4270107020	–	2x1,5	1,6	10,5	115	20	45
4270108020	–	2x2,5	2,0	11,5	145	26	50
4270109020	–	2x4	2,6	12,5	185	34	55
4270110020	–	2x6	3,2	14,0	295	44	60
4270111020	–	2x10	4,0	16,0	410	61	65
4270112020	–	2x16	5,1	18,5	590	82	75
4270113020	–	2x25	6,4	22,0	855	108	90
4270114020	–	2x35	7,6	24,5	1155	133	100
4270115020	–	2x50	8,8	28,5	1540	167	175
4270116020	–	2x70	10,6	32,5	2100	206	195
4270117020	–	2x95	12,5	37,0	2805	249	225
4270118020	–	2x120	14,1	41,0	3510	288	250
4270119020	–	2x150	15,8	45,5	4300	331	275
4270120020	–	2x185	17,5	50,0	5310	377	300
4270105030	4270105031	3x1,0	1,3	11,0	125	13	45
4270107030	4270107031	3x1,5	1,6	11,5	145	16	50
4270108030	4270108031	3x2,5	2,0	12,5	180	21	50
4270109030	4270109031	3x4	2,6	13,5	250	28	55
4270110030	4270110031	3x6	3,2	15,0	365	36	65
4270111030	4270111031	3x10	4,0	17,0	525	50	70
4270112030	4270112031	3x16	5,1	20,0	760	67	80
4270113030	4270113031	3x25	6,4	24,0	1120	89	100
4270114030	4270114031	3x35	7,6	26,5	1490	110	160
4270115030	4270115031	3x50	8,8	30,5	1980	137	185
4270116030	4270116031	3x70	10,6	34,5	2735	169	210
4270117030	4270117031	3x95	12,5	40,0	3665	205	240
4270118030	4270118031	3x120	14,1	44,0	4595	237	265
4270119030	4270119031	3x150	15,8	49,0	5650	272	295
4270120030	4270120031	3x185	17,5	54,0	7005	311	325
4270105040	4270105041	4x1,0	1,3	12,0	150	13	50
4270107040	4270107041	4x1,5	1,6	12,5	175	16	50
4270108040	4270108041	4x2,5	2,0	13,5	230	21	55
4270109040	4270109041	4x4	2,6	15,0	310	28	65
4270110040	4270110041	4x6	3,2	16,5	455	36	70


## P17 MUD BU 0,6/1kV mud resistant

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4270111040	4270111041	4x10	4,0	19,0	655	50	80
4270112040	4270112041	4x16	5,1	21,5	955	67	90
4270113040	4270113041	4x25	6,4	26,5	1425	89	160
4270114040	4270114041	4x35	7,6	29,5	1895	110	180
4270115040	4270115041	4x50	8,8	34,0	2535	137	205
4270116040	4270116041	4x70	10,6	38,5	3490	169	235
4270117040	4270117041	4x95	12,5	44,5	4725	205	270
4270118040	4270118041	4x120	14,1	49,0	5900	237	295
4270119040	4270119041	4x150	15,8	54,5	7280	272	330
4270105050	4270105051	5x1,0	1,3	13,0	180	10	55
4270107050	4270107051	5x1,5	1,6	14,0	220	13	60
4270108050	4270108051	5x2,5	2,0	15,0	280	17	60
4270109050	4270109051	5x4	2,6	16,5	390	23	70
4270110050	4270110051	5x6	3,2	18,5	555	30	75
4270111050	4270111051	5x10	4,0	21,0	810	42	85
4270112050	4270112051	5x16	5,1	24,5	1185	56	100
4270113050	4270113051	5x25	6,4	29,0	1750	74	180
4270114050	4270114051	5x35	7,6	32,5	2345	92	200
4270115050	4270115051	5x50	8,8	37,5	3135	114	230
4270116050	4270116051	5x70	10,6	43,0	4315	140	260
4270117050	4270117051	5x95	12,5	49,5	5835	170	300
4270118050	4270118051	5x120	14,1	54,5	7320	197	330
4270105070	4270105071	7x1,0	1,3	14,0	230	9	60
4270107070	4270107071	7x1,5	1,6	15,0	275	12	60
4270108070	4270108071	7x2,5	2,0	16,5	365	16	70
4270105100	4270105101	10x1,0	1,3	18,0	330	8	75
4270107100	4270107101	10x1,5	1,6	19,0	400	11	80
4270108100	4270108101	10x2,5	2,0	21,0	530	14	85
4270105120	4270105121	12x1,0	1,3	19,0	370	8	80
4270107120	4270107121	12x1,5	1,6	20,0	455	10	85
4270108120	4270108121	12x2,5	2,0	22,0	595	13	90
4270105140	4270105141	14x1,0	1,3	20,0	415	7	80
4270107140	4270107141	14x1,5	1,6	21,0	515	10	85
4270108140	4270108141	14x2,5	2,0	23,5	700	13	95
4270105160	4270105161	16x1,0	1,3	21,0	480	7	85
4270107160	4270107161	16x1,5	1,6	22,5	580	9	90
4270108160	4270108161	16x2,5	2,0	25,0	790	12	100
4270105190	4270105191	19x1,0	1,3	22,0	540	7	90
4270107190	4270107191	19x1,5	1,6	24,0	680	9	100
4270108190	4270108191	19x2,5	2,0	26,5	905	11	160
4270105240	4270105241	24x1,0	1,3	26,5	695	6	160
4270107240	4270107241	24x1,5	1,6	28,0	855	8	170
4270108240	4270108241	24x2,5	2,0	31,0	1150	10	190
4270105270	4270105271	27x1,0	1,3	27,0	770	6	165
4270107270	4270107271	27x1,5	1,6	29,0	940	8	175
4270108270	4270108271	27x2,5	2,0	32,0	1260	10	195
4270105370	4270105371	37x1,0	1,3	30,5	1010	5	185
4270107370	4270107371	37x1,5	1,6	33,0	1265	7	200
4270108370	4270108371	37x2,5	2,0	36,0	1700	9	220

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

# P18 and P18+MUD RU 0,6/1kV

Unarmoured control, lighting and power cable.



DESIGN:	STANDARDS:	
	IEC 60092-353, design	
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2 (optional class 5)	
<b>2. Insulation</b> -halogen free EP-Rubber	IEC 60092-360 (HF EPR)	
<b>3. Bedding</b> -separator tape (optional)		
<b>4. Sheath (P18)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF2)	
<b>4. Sheath (P18+MUD)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF MUD)	

**MUD-resistant** (only P18+MUD)

**OIL-resistant**

**FLAME-retardant**

**FIRE-resistant**

**Halogen-free**

**Low smoke emission**

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type P18 in NEK TS 606:2009.  
Meets the requirement for cables type P18+MUD in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 0,6/1kV (1,2kV)</b> <b>DC 0,9/1,5kV</b> (if voltage to earth does not exceed 0,9kV)
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only P18+MUD)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath



## P18 RU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4180105010	4180105011	1x1,0	1,3	5,5	40	18	25
4180107010	4180107011	1x1,5	1,6	6,0	45	23	25
4180108010	4180108011	1x2,5	2,0	6,5	55	30	30
4180109010	4180109011	1x4	2,6	7,0	75	40	30
4180110010	4180110011	1x6	3,2	7,5	100	52	30
4180111010	4180111011	1x10	4,0	8,5	145	72	35
4180112010	4180112011	1x16	5,1	10,0	215	96	40
4180113010	4180113011	1x25	6,4	11,5	310	127	50
4180114010	4180114011	1x35	7,6	13,0	410	157	55
4180115010	4180115011	1x50	8,8	14,5	545	196	60
4180116010	4180116011	1x70	10,6	16,5	755	242	70
4180117010	4180117011	1x95	12,5	19,0	1020	293	80
4180118010	4180118011	1x120	14,1	20,5	1270	339	85
4180119010	4180119011	1x150	15,8	23,0	1575	389	95
4180120010	4180120011	1x185	17,5	25,5	1950	444	155
4180121010	4180121011	1x240	20,3	29,0	2585	522	175
4180122010	4180122011	1x300	22,5	32,0	3205	601	195
4180105020	–	2x1,0	1,3	9,0	75	15	40
4180107020	–	2x1,5	1,6	10,0	100	20	40
4180108020	–	2x2,5	2,0	10,5	125	26	45
4180109020	–	2x4	2,6	12,0	165	34	50
4180110020	–	2x6	3,2	13,0	260	44	55
4180111020	–	2x10	4,0	15,0	370	61	65
4180112020	–	2x16	5,1	17,5	535	82	70
4180113020	–	2x25	6,4	21,0	785	108	85
4180114020	–	2x35	7,6	23,5	1070	133	95
4180115020	–	2x50	8,8	27,5	1440	167	170
4180116020	–	2x70	10,6	31,5	1980	206	190
4180117020	–	2x95	12,5	36,0	2665	249	220
4180118020	–	2x120	14,1	40,0	3355	288	245
4180119020	–	2x150	15,8	44,5	4135	331	270
4180120020	–	2x185	17,5	49,0	5130	377	295
4180105030	4180105031	3x1,0	1,3	10,0	100	13	40
4180107030	4180107031	3x1,5	1,6	10,5	120	16	45
4180108030	4180108031	3x2,5	2,0	11,5	160	21	50
4180109030	4180109031	3x4	2,6	13,0	220	28	55
4180110030	4180110031	3x6	3,2	14,0	330	36	60
4180111030	4180111031	3x10	4,0	16,0	480	50	65
4180112030	4180112031	3x16	5,1	19,0	695	67	80
4180113030	4180113031	3x25	6,4	23,0	1045	89	95
4180114030	4180114031	3x35	7,6	25,5	1400	110	155
4180115030	4180115031	3x50	8,8	29,5	1870	137	180
4180116030	4180116031	3x70	10,6	34,0	2615	169	205
4180117030	4180117031	3x95	12,5	39,0	3525	205	235
4180118030	4180118031	3x120	14,1	43,0	4435	237	260
4180119030	4180119031	3x150	15,8	48,0	5470	272	290
4180120030	4180120031	3x185	17,5	53,0	6800	311	320

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Table continues on next page

**P18 RU 0,6/1kV**

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4180105040	4180105041	4x1,0	1,3	10,5	125	13	45
4180107040	4180107041	4x1,5	1,6	11,5	150	16	50
4180108040	4180108041	4x2,5	2,0	12,5	200	21	55
4180109040	4180109041	4x4	2,6	14,0	280	28	60
4180110040	4180110041	4x6	3,2	15,5	415	36	65
4180111040	4180111041	4x10	4,0	18,0	605	50	75
4180112040	4180112041	4x16	5,1	20,5	885	67	85
4180113040	4180113041	4x25	6,4	25,5	1340	89	155
4180114040	4180114041	4x35	7,6	28,5	1795	110	170
4180115040	4180115041	4x50	8,8	33,0	2415	137	200
4180116040	4180116041	4x70	10,6	37,5	3360	169	225
4180117040	4180117041	4x95	12,5	43,5	4570	205	265
4180118040	4180118041	4x120	14,1	48,0	5740	237	290
4180119040	4180119041	4x150	15,8	53,5	7125	272	325
4180105050	4180105051	5x1,0	1,3	11,5	150	10	50
4180107050	4180107051	5x1,5	1,6	12,5	190	13	55
4180108050	4180108051	5x2,5	2,0	14,0	245	17	60
4180109050	4180109051	5x4	2,6	15,5	350	23	65
4180110050	4180110051	5x6	3,2	17,0	505	30	70
4180111050	4180111051	5x10	4,0	19,5	750	42	80
4180112050	4180112051	5x16	5,1	23,0	1100	56	95
4180113050	4180113051	5x25	6,4	28,0	1650	74	170
4180114050	4180114051	5x35	7,6	31,5	2225	92	190
4180115050	4180115051	5x50	8,8	36,5	3005	114	220
4180116050	4180116051	5x70	10,6	41,5	4175	140	250
4180117050	4180117051	5x95	12,5	48,5	5720	170	295
4180118050	4180118051	5x120	14,1	53,5	7240	197	325
4180105070	4180105071	7x1,0	1,3	13,0	190	9	55
4180107070	4180107071	7x1,5	1,6	13,5	230	12	55
4180108070	4180108071	7x2,5	2,0	15,0	315	16	65
4180105100	4180105101	10x1,0	1,3	16,5	275	8	70
4180107100	4180107101	10x1,5	1,6	17,5	335	11	70
4180108100	4180108101	10x2,5	2,0	19,5	460	14	80
4180105120	4180105121	12x1,0	1,3	17,0	305	8	70
4180107120	4180107121	12x1,5	1,6	18,0	385	10	75
4180108120	4180108121	12x2,5	2,0	20,0	520	13	85
4180105140	4180105141	14x1,0	1,3	18,0	345	7	75
4180107140	4180107141	14x1,5	1,6	19,0	435	10	80
4180108140	4180108141	14x2,5	2,0	21,5	610	13	90
4180105160	4180105161	16x1,0	1,3	19,0	395	7	80
4180107160	4180107161	16x1,5	1,6	20,0	495	9	85
4180108160	4180108161	16x2,5	2,0	22,5	690	12	95
4180105190	4180105191	19x1,0	1,3	20,0	445	7	80
4180107190	4180107191	19x1,5	1,6	21,5	575	9	90
4180108190	4180108191	19x2,5	2,0	24,0	790	11	100

## P18 RU 0,6/1kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4180105240	4180105241	24x1,0	1,3	23,5	575	6	95
4180107240	4180107241	24x1,5	1,6	25,5	725	8	155
4180108240	4180108241	24x2,5	2,0	28,5	1000	10	175
4180105270	4180105271	27x1,0	1,3	24,5	640	6	100
4180107270	4180107271	27x1,5	1,6	26,0	795	8	160
4180108270	4180108271	27x2,5	2,0	29,0	1100	10	175
4180105370	4180105371	37x1,0	1,3	27,5	835	5	165
4180107370	4180107371	37x1,5	1,6	29,5	1075	7	180
4180108370	4180108371	37x2,5	2,0	33,0	1480	9	200

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Table continues on next page



## P18 MUD RU 0,6/1kV mud resistant

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4280105010	4280105011	1x1,0	1,3	5,5	40	18	25
4280107010	4280107011	1x1,5	1,6	6,0	45	23	25
4280108010	4280108011	1x2,5	2,0	6,5	60	30	30
4280109010	4280109011	1x4	2,6	7,0	80	40	30
4280110010	4280110011	1x6	3,2	7,5	105	52	30
4280111010	4280111011	1x10	4,0	8,5	145	72	35
4280112010	4280112011	1x16	5,1	10,0	215	96	40
4280113010	4280113011	1x25	6,4	11,5	315	127	50
4280114010	4280114011	1x35	7,6	13,0	415	157	55
4280115010	4280115011	1x50	8,8	14,5	550	196	60
4280116010	4280116011	1x70	10,6	16,5	765	242	70
4280117010	4280117011	1x95	12,5	19,0	1030	293	80
4280118010	4280118011	1x120	14,1	20,5	1280	339	85
4280119010	4280119011	1x150	15,8	23,0	1585	389	95
4280120010	4280120011	1x185	17,5	25,5	1965	444	155
4280121010	4280121011	1x240	20,3	29,0	2605	522	175
4280122010	4280122011	1x300	22,5	32,0	3230	601	195
4280105020	–	2x1,0	1,3	9,0	80	15	40
4280107020	–	2x1,5	1,6	10,0	100	20	40
4280108020	–	2x2,5	2,0	10,5	130	26	45
4280109020	–	2x4	2,6	12,0	170	34	50
4280110020	–	2x6	3,2	13,0	270	44	55
4280111020	–	2x10	4,0	15,0	385	61	65
4280112020	–	2x16	5,1	17,5	550	82	70
4280113020	–	2x25	6,4	21,0	810	108	85
4280114020	–	2x35	7,6	23,5	1100	133	95
4280115020	–	2x50	8,8	27,5	1480	167	170
4280116020	–	2x70	10,6	31,5	2030	206	190
4280117020	–	2x95	12,5	36,0	2730	249	220
4280118020	–	2x120	14,1	40,0	3435	288	245
4280119020	–	2x150	15,8	44,5	4230	331	270
4280120020	–	2x185	17,5	49,0	5250	377	295
4280105030	4280105031	3x1,0	1,3	10,0	105	13	40
4280107030	4280107031	3x1,5	1,6	10,5	125	16	45
4280108030	4280108031	3x2,5	2,0	11,5	165	21	50
4280109030	4280109031	3x4	2,6	13,0	225	28	55
4280110030	4280110031	3x6	3,2	14,0	335	36	60
4280111030	4280111031	3x10	4,0	16,0	495	50	65
4280112030	4280112031	3x16	5,1	19,0	710	67	80
4280113030	4280113031	3x25	6,4	23,0	1065	89	95
4280114030	4280114031	3x35	7,6	25,5	1425	110	155
4280115030	4280115031	3x50	8,8	29,5	1910	137	180
4280116030	4280116031	3x70	10,6	34,0	2660	169	205
4280117030	4280117031	3x95	12,5	39,0	3585	205	235
4280118030	4280118031	3x120	14,1	43,0	4510	237	260
4280119030	4280119031	3x150	15,8	48,0	5565	272	290
4280120030	4280120031	3x185	17,5	53,0	6910	311	320
4280105040	4280105041	4x1,0	1,3	10,5	130	13	45
4280107040	4280107041	4x1,5	1,6	11,5	155	16	50
4280108040	4280108041	4x2,5	2,0	12,5	205	21	55
4280109040	4280109041	4x4	2,6	14,0	285	28	60
4280110040	4280110041	4x6	3,2	15,5	425	36	65

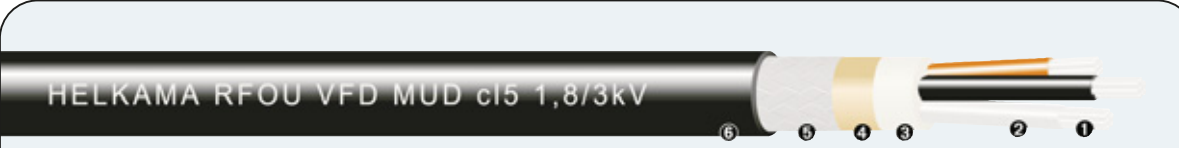
**P18 MUD RU 0,6/1kV mud resistant**

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4280111040	4280111041	4x10	4,0	18,0	615	50	75
4280112040	4280112041	4x16	5,1	20,5	900	67	85
4280113040	4280113041	4x25	6,4	25,5	1360	89	155
4280114040	4280114041	4x35	7,6	28,5	1825	110	170
4280115040	4280115041	4x50	8,8	33,0	2455	137	200
4280116040	4280116041	4x70	10,6	37,5	3410	169	225
4280117040	4280117041	4x95	12,5	43,5	4640	205	265
4280118040	4280118041	4x120	14,1	48,0	5820	237	290
4280119040	4280119041	4x150	15,8	53,5	7225	272	325
4280105050	4280105051	5x1,0	1,3	11,5	155	10	50
4280107050	4280107051	5x1,5	1,6	12,5	195	13	55
4280108050	4280108051	5x2,5	2,0	14,0	255	17	60
4280109050	4280109051	5x4	2,6	15,5	355	23	65
4280110050	4280110051	5x6	3,2	17,0	515	30	70
4280111050	4280111051	5x10	4,0	19,5	760	42	80
4280112050	4280112051	5x16	5,1	23,0	1115	56	95
4280113050	4280113051	5x25	6,4	28,0	1680	74	170
4280114050	4280114051	5x35	7,6	31,5	2260	92	190
4280115050	4280115051	5x50	8,8	36,5	3050	114	220
4280116050	4280116051	5x70	10,6	41,5	4230	140	250
4280117050	4280117051	5x95	12,5	48,5	5795	170	295
4280118050	4280118051	5x120	14,1	53,5	7330	197	325
4280105070	4280105071	7x1,0	1,3	13,0	195	9	55
4280107070	4280107071	7x1,5	1,6	13,5	240	12	55
4280108070	4280108071	7x2,5	2,0	15,0	325	16	65
4280105100	4280105101	10x1,0	1,3	16,5	280	8	70
4280107100	4280107101	10x1,5	1,6	17,5	345	11	70
4280108100	4280108101	10x2,5	2,0	19,5	470	14	80
4280105120	4280105121	12x1,0	1,3	17,0	315	8	70
4280107120	4280107121	12x1,5	1,6	18,0	395	10	75
4280108120	4280108121	12x2,5	2,0	20,0	530	13	85
4280105140	4280105141	14x1,0	1,3	18,0	355	7	75
4280107140	4280107141	14x1,5	1,6	19,0	445	10	80
4280108140	4280108141	14x2,5	2,0	21,5	620	13	90
4280105160	4280105161	16x1,0	1,3	19,0	405	7	80
4280107160	4280107161	16x1,5	1,6	20,0	505	9	85
4280108160	4280108161	16x2,5	2,0	22,5	700	12	95
4280105190	4280105191	19x1,0	1,3	20,0	455	7	80
4280107190	4280107191	19x1,5	1,6	21,5	590	9	90
4280108190	4280108191	19x2,5	2,0	24,0	805	11	100
4280105240	4280105241	24x1,0	1,3	23,5	590	6	95
4280107240	4280107241	24x1,5	1,6	25,5	745	8	155
4280108240	4280108241	24x2,5	2,0	28,5	1015	10	175
4280105270	4280105271	27x1,0	1,3	24,5	655	6	100
4280107270	4280107271	27x1,5	1,6	26,0	815	8	160
4280108270	4280108271	27x2,5	2,0	29,0	1120	10	175
4280105370	4280105371	37x1,0	1,3	27,5	855	5	165
4280107370	4280107371	37x1,5	1,6	29,5	1095	7	180
4280108370	4280108371	37x2,5	2,0	33,0	1505	9	200

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

# RFOU VFD and RFOU VFD MUD 1,8/3kV

## Armoured power and control cable for Variable Frequency Drives



HELKAMA RFOU VFD MUD c15 1,8/3kV

DESIGN:	STANDARDS:
	IEC 60092-353, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 5 (optional class 2)
<b>2. Insulation</b> -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Bedding</b> -halogen free compound extruded -covered by separator tape (optional)	
<b>4. Screen</b> -covered by metallic screen of copper tape, coverage 100%	
<b>5. Armour</b> -tinned copper wire braid, coverage >90% -covered by separator tape (optional)	
<b>6. Sheath (SHF2)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF2)
<b>6. Sheath (MUD)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only VFD mud) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ○

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck.  
**Design to meet requirements for Variable Frequency Drives (VFD).**  
**Suitable for voltage peaks up to 3kV.**

### Main characteristics

Rated voltage	<b>1,8/3kV (3,6kV)</b>	
Maximum conductor temperature	<b>+ 90 °C</b>	
Flame-retardant	<b>IEC 60332-1-2</b>	-test for single insulated wire and cable
	<b>IEC 60332-3-22</b>	-test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series	
Smoke emission	<b>IEC 61034</b> series	
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359	
MUD resistant	<b>NEK TS 606:2009</b>	

**Minimum recommended installation temperature -15 °C**

**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## RFOU VFD 1,8/3kV

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4620111010	–	1x10	5,1	12,0	16,0	405	72	95
4620112010	–	1x16	6,3	13,0	17,0	485	96	105
4620113010	–	1x25	7,8	14,5	18,5	605	127	110
4620114010	–	1x35	9,2	16,0	20,5	740	157	120
4620115010	–	1x50	11,0	17,5	22,0	920	196	130
4620116010	–	1x70	13,1	20,0	24,5	1180	242	145
4620117010	–	1x95	15,1	22,0	27,0	1450	293	165
4620118010	–	1x120	17,0	24,0	29,0	1735	339	175
4620119010	–	1x150	19,0	26,0	31,5	2050	389	190
4620120010	–	1x185	21,0	28,0	33,5	2410	444	200
4620121010	–	1x240	24,0	31,0	36,5	3090	522	220
4620122010	–	1x300	27,0	34,0	40,0	3755	601	240
4620111030	–	3x10	5,1	23,0	28,0	1145	50	170
4620112030	–	3x16	6,3	25,5	30,5	1435	67	185
4620113030	–	3x25	7,8	29,0	34,5	1875	89	205
4620114030	–	3x35	9,2	32,0	37,5	2365	110	225
4620115030	–	3x50	11,0	36,5	42,5	3070	137	255
4620116030	–	3x70	13,1	41,0	48,0	4130	169	285
4620117030	–	3x95	15,1	46,0	53,5	5105	205	320
4620118030	–	3x120	17,0	50,5	58,5	6275	237	350
4620119030	–	3x150	19,0	55,0	63,0	7425	272	380
4620120030	–	3x185	21,0	59,0	68,0	8780	311	405
–	4620117031	3x95+3x16	15,1	46,0	53,5	5275	205	320
–	4620118031	3x120+3x25	17,0	50,5	58,5	6590	237	350
–	4620119031	3x150+3x25	19,0	55,0	63,0	7645	272	380
–	4620120031	3x185+3x35	21,0	59,0	68,0	9230	311	405

## RFOU VFD MUD 1,8/3kV mud resistant

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4600111010	1x10	1x10 cl5	5,1	12,0	16,0	415	72	95
4600112010	1x16	1x16 cl5	6,3	13,0	17,0	495	96	105
4600113010	1x25	1x25 cl5	7,8	14,5	18,5	615	127	110
4600114010	1x35	1x35 cl5	9,2	16,0	20,5	750	157	120
4600115010	1x50	1x50 cl5	11,0	17,5	22,0	940	196	130
4600116010	1x70	1x70 cl5	13,1	20,0	24,5	1195	242	145
4600117010	1x95	1x95 cl5	15,1	22,0	27,0	1465	293	165
4600118010	1x120	1x120 cl5	17,0	24,0	29,0	1745	339	175
4600119010	1x150	1x150 cl5	19,0	26,0	31,5	2070	389	190
4600120010	1x185	1x185 cl5	21,0	28,0	33,5	2435	444	200
4600121010	1x240	1x240 cl5	24,0	31,0	36,5	3120	522	220
4600122010	1x300	1x300 cl5	27,0	34,0	40,0	3785	601	240
4600111030	3x10	3x10 cl5	5,1	23,0	28,0	1160	50	170
4600112030	3x16	3x16 cl5	6,3	25,5	30,5	1455	67	185
4600113030	3x25	3x25 cl5	7,8	29,0	34,5	1900	89	205
4600114030	3x35	3x35 cl5	9,2	32,0	37,5	2395	110	225
4600115030	3x50	3x50 cl5	11,0	36,5	42,5	3105	137	255
4600116030	3x70	3x70 cl5	13,1	41,0	48,0	4175	169	285
4600117030	3x95	3x95 cl5	15,1	46,0	53,5	5155	205	320
4600118030	3x120	3x120 cl5	17,0	50,5	58,5	6335	237	350
4600119030	3x150	3x150 cl5	19,0	55,0	63,0	7490	272	380
4600120030	3x185	3x185 cl5	21,0	59,0	68,0	8860	311	405
–	3x95+3x16	3x95+3x16	15,1	46,0	53,5	5325	205	320
–	3x120+3x25	3x120+3x25	17,0	50,5	58,5	6650	237	350
–	3x150+3x25	3x150+3x25	19,0	55,0	63,0	7715	272	380
–	3x185+3x35	3x185+3x35	21,0	59,0	68,0	9305	311	405

# TFOU VFD and TFOU VFD MUD 1,8/3kV

## Armoured power and control cable for Variable Frequency Drives

DESIGN:	STANDARDS:
	IEC 60092-353, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 5 (optional class 2)
<b>2. Insulation</b> -halogen free XLPE plastic	IEC 60092-360 (HF XLPE)
<b>3. Bedding</b> -halogen free compound extruded -covered by separator tape (optional)	
<b>4. Screen</b> -covered by metallic screen of copper tape, coverage 100%	
<b>5. Armour</b> -tinned copper wire braid, coverage >90% -covered by separator tape (optional)	
<b>6. Sheath (SHF2)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF2)
<b>6. Sheath (MUD)</b> -halogen free thermosetting -standard colour black	IEC 60092-360 (SHF MUD)

<b>MUD-resistant</b> (only VFD mud)	<input checked="" type="checkbox"/>
<b>OIL-resistant</b>	<input checked="" type="checkbox"/>
<b>FLAME-retardant</b>	<input checked="" type="checkbox"/>
<b>FIRE-resistant</b>	<input type="checkbox"/>
<b>Halogen-free</b>	<input checked="" type="checkbox"/>
<b>Low smoke emission</b>	<input checked="" type="checkbox"/>

**Application:** Fixed installation in most areas and on open deck.  
**Design to meet requirements for Variable Frequency Drives (VFD).**  
**Suitable for voltage peaks up to 3kV.**

### Main characteristics

Rated voltage	<b>1,8/3kV (3,6kV)</b>	
Maximum conductor temperature	<b>+ 90 °C</b>	
Flame-retardant	<b>IEC 60332-1-2</b>	-test for single insulated wire and cable
	<b>IEC 60332-3-22</b>	-test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series	
Smoke emission	<b>IEC 61034</b> series	
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359	
MUD resistant	<b>NEK TS 606:2009</b>	

**Minimum recommended installation temperature -15 °C**

**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath



## TFOU-VFD 1,8/3kV


Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4630111010	–	1x10	5,1	11,5	15,0	360	72	90
4630112010	–	1x16	6,3	12,5	17,0	475	96	100
4630113010	–	1x25	7,8	14,0	18,5	590	127	110
4630114010	–	1x35	9,2	15,5	20,0	725	157	120
4630115010	–	1x50	11,0	17,5	21,5	900	196	130
4630116010	–	1x70	13,1	19,5	24,0	1165	242	145
4630117010	–	1x95	15,1	21,5	26,0	1400	293	155
4630118010	–	1x120	17,0	23,5	28,5	1690	339	170
4630119010	–	1x150	19,0	25,5	30,5	2000	389	185
4630120010	–	1x185	21,0	27,5	32,5	2365	444	195
4630121010	–	1x240	24,0	30,5	36,0	3045	522	215
4630122010	–	1x300	27,0	33,5	39,0	3705	601	235
4630111030	–	3x10	5,1	22,0	27,0	1095	50	160
4630112030	–	3x16	6,3	24,5	30,0	1380	67	180
4630113030	–	3x25	7,8	28,0	33,5	1820	89	200
4630114030	–	3x35	9,2	31,0	36,5	2305	110	220
4630115030	–	3x50	11,0	35,5	41,5	3005	137	250
4630116030	–	3x70	13,1	40,0	46,5	4035	169	280
4630117030	–	3x95	15,1	44,5	51,5	4920	205	310
4630118030	–	3x120	17,0	49,0	56,5	6030	237	340
4630119030	–	3x150	19,0	53,0	61,0	7185	272	365
4630120030	–	3x185	21,0	57,5	66,0	8555	311	395
–	4630117031	3x95+3x16	15,1	44,5	51,5	5115	205	310
–	4630118031	3x120+3x25	17,0	49,0	56,5	6360	237	340
–	4630119031	3x150+3x25	19,0	53,0	61,0	7430	272	365
–	4630120031	3x185+3x35	21,0	57,5	66,0	9015	311	395

## TFOU-VFD-MUD 1,8/3kV mud resistant

Part number Normal	G-type	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A	Min. bending radius fixed installation mm
4610111010	–	1x10	5,1	11,5	15,0	375	72	90
4610112010	–	1x16	6,3	12,5	17,0	485	96	100
4610113010	–	1x25	7,8	14,0	18,5	605	127	110
4610114010	–	1x35	9,2	15,5	20,0	740	157	120
4610115010	–	1x50	11,0	17,5	21,5	915	196	130
4610116010	–	1x70	13,1	19,5	24,0	1185	242	145
4610117010	–	1x95	15,1	21,5	26,0	1420	293	155
4610118010	–	1x120	17,0	23,5	28,5	1715	339	170
4610119010	–	1x150	19,0	25,5	30,5	2025	389	185
4610120010	–	1x185	21,0	27,5	32,5	2395	444	195
4610121010	–	1x240	24,0	30,5	36,0	3075	522	215
4610122010	–	1x300	27,0	33,5	39,0	3740	601	235
4610111030	–	3x10	5,1	22,0	27,0	1100	50	160
4610112030	–	3x16	6,3	24,5	30,0	1400	67	180
4610113030	–	3x25	7,8	28,0	33,5	1845	89	200
4610114030	–	3x35	9,2	31,0	36,5	2330	110	220
4610115030	–	3x50	11,0	35,5	41,5	3035	137	250
4610116030	–	3x70	13,1	40,0	46,5	4075	169	280
4610117030	–	3x95	15,1	44,5	51,5	4970	205	310
4610118030	–	3x120	17,0	49,0	56,5	6085	237	340
4610119030	–	3x150	19,0	53,0	61,0	7250	272	365
4610120030	–	3x185	21,0	57,5	66,0	8630	311	395
–	4610117031	3x95+3x16	15,1	44,5	51,5	5165	205	310
–	4610118031	3x120+3x25	17,0	49,0	56,5	6415	237	340
–	4610119031	3x150+3x25	19,0	53,0	61,0	7495	272	365
–	4610120031	3x185+3x35	21,0	57,5	66,0	9090	311	395

# P16 IFLI 250V

Cable for living quarter and office areas



DESIGN:	STANDARDS:
	IEC 60092-353, design
<b>1. Conductor</b> -stranded annealed conductor	IEC 60228, class 2 (optional class 5)
<b>2. Insulation</b> -halogen free XLPE-plastic	IEC 60092-360 (HF XLPE)
<b>3. Bedding</b> -halogen free compound extruded -covered by separator tape (optional)	
<b>4. Screen</b> -stranded drain wire of tinned copper 1,0 mm <sup>2</sup> -longitudinal aluminium tape thickness 0,2 mm	
<b>4. Sheath</b> -halogen free thermoplastic, -standard colour gray	IEC 60092-360 (SHF1)

MUD-resistant	<input type="checkbox"/>
OIL-resistant	<input type="checkbox"/>
FLAME-retardant	<input checked="" type="checkbox"/>
FIRE-resistant	<input type="checkbox"/>
Halogen-free	<input checked="" type="checkbox"/>
Low smoke emission	<input checked="" type="checkbox"/>

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type P16 in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series

**Minimum recommended installation temperature -15 °C**

**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

**P16 IFLI 250V**

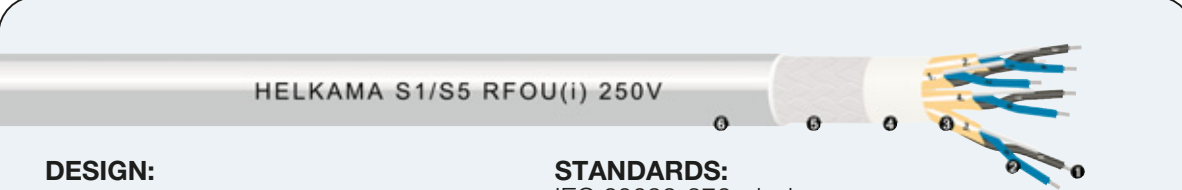
Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4160107020	2x1,5	1,6	8,0	11,0	165	45
4160108020	2x2,5	2,0	9,0	12,0	205	50
4160107030	3x1,5	1,6	8,5	11,5	200	50
4160108030	3x2,5	2,0	9,5	12,5	240	55

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5



# S1 and S1/S5 RFOU(i) 250V

Control, instrumentation and telecommunication cable.



DESIGN:	STANDARDS:
	IEC 60092-376, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b> -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b> - two or three insulated cores twisted together to form a pair or triplex - plastic coated copper tape and tinned copper drain wire	
<b>4. Bedding</b> -halogen free compound extruded -covered by separator tape (optional)	
<b>5. Armour</b> -tinned copper braid, coverage >90% -covered by separator tape (optional)	
<b>6. Sheath (S1)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF2)
<b>6. Sheath (S1/S5)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only S1/S5) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ○

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type S1 in NEK TS 606:2009.  
Meets the requirement for cable type S1/S5 in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only S1/S5)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## S1 RFOU(i) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4310104012	1x2x0,75	1,1	7,0	10,0	150	60
4310104014	1x4x0,75	1,1	8,0	11,5	205	70
4310104022	2x2x0,75	1,1	10,5	14,5	285	85
4310104032	3x2x0,75	1,1	11,0	15,0	325	90
4310104042	4x2x0,75	1,1	12,0	16,5	385	100
4310104072	7x2x0,75	1,1	14,5	19,0	535	115
4310104082	8x2x0,75	1,1	15,5	20,0	585	120
4310104102	10x2x0,75	1,1	17,5	22,5	710	135
4310104122	12x2x0,75	1,1	18,5	23,5	800	140
4310104142	14x2x0,75	1,1	20,0	25,0	890	150
4310104162	16x2x0,75	1,1	21,0	26,0	975	155
4310104192	19x2x0,75	1,1	23,0	28,0	1120	165
4310104242	24x2x0,75	1,1	25,5	31,0	1370	185
4310104272	27x2x0,75	1,1	27,5	33,0	1535	200
4310104302	30x2x0,75	1,1	28,5	34,5	1660	205
4310104322	32x2x0,75	1,1	29,5	35,5	1760	215
4310104372	37x2x0,75	1,1	31,5	38,0	2125	225
4310104013	1x3x0,75	1,1	7,5	11,0	180	65
4310104023	2x3x0,75	1,1	11,0	15,0	320	90
4310104033	3x3x0,75	1,1	12,0	15,5	375	95
4310104043	4x3x0,75	1,1	13,0	17,0	445	105
4310104073	7x3x0,75	1,1	15,5	20,0	630	120
4310104083	8x3x0,75	1,1	16,5	21,5	710	130
4310104103	10x3x0,75	1,1	19,0	24,0	855	145
4310104123	12x3x0,75	1,1	20,0	25,0	960	150
4310104143	14x3x0,75	1,1	21,5	26,5	1080	160
4310104163	16x3x0,75	1,1	22,5	27,5	1195	165
4310104193	19x3x0,75	1,1	24,5	30,0	1385	180
4310104243	24x3x0,75	1,1	27,5	33,5	1715	200
4310104273	27x3x0,75	1,1	29,0	35,0	1890	210
4310104303	30x3x0,75	1,1	30,5	37,0	2140	220
4310104323	32x3x0,75	1,1	31,5	38,5	2280	230
4310104373	37x3x0,75	1,1	33,5	40,5	2550	245
4310105012	1x2x1	1,3	7,5	10,5	170	65
4310105014	1x4x1	1,3	8,5	12,0	225	70
4310105022	2x2x1	1,3	11,0	15,0	320	90
4310105032	3x2x1	1,3	12,0	15,5	370	95
4310105042	4x2x1	1,3	13,0	17,0	440	105
4310105072	7x2x1	1,3	15,5	20,0	625	120
4310105082	8x2x1	1,3	16,5	21,0	685	125
4310105102	10x2x1	1,3	19,0	23,5	840	140
4310105122	12x2x1	1,3	20,0	25,0	950	150
4310105142	14x2x1	1,3	21,5	26,5	1060	160
4310105162	16x2x1	1,3	22,5	27,5	1170	165
4310105192	19x2x1	1,3	24,5	29,5	1345	180
4310105242	24x2x1	1,3	27,5	33,0	1650	200
4310105272	27x2x1	1,3	29,5	35,0	1850	210
4310105302	30x2x1	1,3	31,0	36,5	2010	220
4310105322	32x2x1	1,3	31,5	38,0	2130	230
4310105372	37x2x1	1,3	34,0	40,0	2485	240

Table continues on next page

**S1 RFOU(i) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4310105013	1x3x1	1,3	8,0	11,5	200	70
4310105023	2x3x1	1,3	12,0	16,0	365	95
4310105033	3x3x1	1,3	12,5	16,5	430	100
4310105043	4x3x1	1,3	14,0	18,0	515	110
4310105073	7x3x1	1,3	16,5	21,0	740	125
4310105083	8x3x1	1,3	18,0	22,5	840	135
4310105103	10x3x1	1,3	20,5	25,5	1015	150
4310105123	12x3x1	1,3	21,5	26,5	1145	160
4310105143	14x3x1	1,3	23,0	28,0	1295	170
4310105163	16x3x1	1,3	24,5	29,5	1435	175
4310105193	19x3x1	1,3	26,5	32,0	1670	190
4310105243	24x3x1	1,3	30,0	35,5	2070	215
4310105273	27x3x1	1,3	31,5	37,5	2290	225
4310105303	30x3x1	1,3	33,0	39,5	2585	235
4310105323	32x3x1	1,3	34,0	40,5	2760	245
4310105373	37x3x1	1,3	36,5	43,0	3095	260
4310107012	1x2x1,5	1,6	8,5	12,0	210	70
4310107014	1x4x1,5	1,6	9,5	13,0	275	80
4310107022	2x2x1,5	1,6	13,0	17,0	390	100
4310107032	3x2x1,5	1,6	13,5	17,5	455	105
4310107042	4x2x1,5	1,6	15,0	19,0	540	115
4310107072	7x2x1,5	1,6	18,0	22,5	785	135
4310107082	8x2x1,5	1,6	19,0	24,0	875	145
4310107102	10x2x1,5	1,6	22,0	27,0	1060	165
4310107122	12x2x1,5	1,6	23,0	28,0	1185	170
4310107142	14x2x1,5	1,6	25,0	30,5	1355	180
4310107162	16x2x1,5	1,6	26,5	32,0	1500	190
4310107192	19x2x1,5	1,6	28,5	34,0	1725	205
4310107242	24x2x1,5	1,6	32,5	39,0	2265	235
4310107272	27x2x1,5	1,6	34,0	41,0	2475	245
4310107302	30x2x1,5	1,6	36,0	43,0	2700	255
4310107322	32x2x1,5	1,6	37,0	44,0	2835	265
4310107372	37x2x1,5	1,6	39,5	47,0	3220	280
4310107013	1x3x1,5	1,6	9,0	12,5	240	75
4310107023	2x3x1,5	1,6	13,5	17,5	445	105
4310107033	3x3x1,5	1,6	14,5	18,5	535	110
4310107043	4x3x1,5	1,6	16,0	20,0	645	120
4310107073	7x3x1,5	1,6	19,0	24,0	955	145
4310107083	8x3x1,5	1,6	20,5	25,5	1070	155
4310107103	10x3x1,5	1,6	23,5	28,5	1300	170
4310107123	12x3x1,5	1,6	24,5	30,5	1495	180
4310107143	14x3x1,5	1,6	26,5	32,0	1685	195
4310107163	16x3x1,5	1,6	29,0	34,5	1930	205
4310107193	19x3x1,5	1,6	31,0	37,0	2210	220
4310107243	24x3x1,5	1,6	34,5	41,5	2840	250
4310107273	27x3x1,5	1,6	36,5	43,5	3115	260
4310107303	30x3x1,5	1,6	38,5	45,5	3430	275
4310107323	32x3x1,5	1,6	40,0	47,5	3665	285
4310107373	37x3x1,5	1,6	42,5	50,5	4145	300

## S1 RFOU(i) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4310108012	1x2x2,5	2,0	9,5	13,0	250	75
4310108014	1x4x2,5	2,0	11,0	14,0	340	85
4310108022	2x2x2,5	2,0	14,5	18,5	470	110
4310108032	3x2x2,5	2,0	15,0	19,5	565	115
4310108042	4x2x2,5	2,0	17,0	21,0	680	125
4310108072	7x2x2,5	2,0	20,5	25,0	1010	150
4310108082	8x2x2,5	2,0	21,5	26,5	1130	160
4310108102	10x2x2,5	2,0	25,0	30,0	1370	180
4310108122	12x2x2,5	2,0	26,0	31,5	1550	190
4310108142	14x2x2,5	2,0	28,0	33,5	1780	200
4310108162	16x2x2,5	2,0	30,0	35,5	1975	210
4310108192	19x2x2,5	2,0	32,5	38,0	2285	230
4310108242	24x2x2,5	2,0	36,5	43,5	2975	260
4310108272	27x2x2,5	2,0	38,5	45,5	3265	270
4310108302	30x2x2,5	2,0	40,5	47,5	3575	285
4310108322	32x2x2,5	2,0	42,0	49,0	3765	295
4310108372	37x2x2,5	2,0	45,0	52,0	4290	315
4310108013	1x3x2,5	2,0	10,0	13,5	290	80
4310108023	2x3x2,5	2,0	15,0	19,5	555	115
4310108033	3x3x2,5	2,0	16,0	20,5	675	120
4310108043	4x3x2,5	2,0	18,0	22,0	825	135
4310108073	7x3x2,5	2,0	21,5	26,5	1255	160
4310108083	8x3x2,5	2,0	23,5	28,0	1405	170
4310108103	10x3x2,5	2,0	26,5	32,0	1715	190
4310108123	12x3x2,5	2,0	28,0	33,5	1990	200
4310108143	14x3x2,5	2,0	30,0	35,5	2250	215
4310108163	16x3x2,5	2,0	32,5	38,5	2580	230
4310108193	19x3x2,5	2,0	35,5	41,0	2970	245
4310108243	24x3x2,5	2,0	39,5	46,5	3805	280
4310108273	27x3x2,5	2,0	41,5	48,5	4195	290
4310108303	30x3x2,5	2,0	43,5	51,0	4620	305
4310108323	32x3x2,5	2,0	45,5	52,5	4940	315
4310108373	37x3x2,5	2,0	48,5	56,0	5605	335

Table continues on next page

## S1/S5 RFOU(i) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4350104012	1x2x0,75	1,1	7,0	10,0	155	60
4350104014	1x4x0,75	1,1	8,0	11,5	210	70
4350104022	2x2x0,75	1,1	10,5	14,5	290	85
4350104032	3x2x0,75	1,1	11,0	15,0	335	90
4350104042	4x2x0,75	1,1	12,0	16,5	395	100
4350104072	7x2x0,75	1,1	14,5	19,0	545	115
4350104082	8x2x0,75	1,1	15,5	20,0	595	120
4350104102	10x2x0,75	1,1	17,5	22,5	725	135
4350104122	12x2x0,75	1,1	18,5	23,5	815	140
4350104142	14x2x0,75	1,1	20,0	25,0	905	150
4350104162	16x2x0,75	1,1	21,0	26,0	995	155
4350104192	19x2x0,75	1,1	23,0	28,0	1135	165
4350104242	24x2x0,75	1,1	25,5	31,0	1395	185
4350104272	27x2x0,75	1,1	27,5	33,0	1560	200
4350104302	30x2x0,75	1,1	28,5	34,5	1685	205
4350104322	32x2x0,75	1,1	29,5	35,5	1785	215
4350104372	37x2x0,75	1,1	31,5	38,0	2155	225
4350104013	1x3x0,75	1,1	7,5	11,0	185	65
4350104023	2x3x0,75	1,1	11,0	15,0	325	90
4350104033	3x3x0,75	1,1	12,0	15,5	380	95
4350104043	4x3x0,75	1,1	13,0	17,0	455	105
4350104073	7x3x0,75	1,1	15,5	20,0	640	120
4350104083	8x3x0,75	1,1	16,5	21,5	720	130
4350104103	10x3x0,75	1,1	19,0	24,0	870	145
4350104123	12x3x0,75	1,1	20,0	25,0	975	150
4350104143	14x3x0,75	1,1	21,5	26,5	1100	160
4350104163	16x3x0,75	1,1	22,5	27,5	1210	165
4350104193	19x3x0,75	1,1	24,5	30,0	1405	180
4350104243	24x3x0,75	1,1	27,5	33,5	1740	200
4350104273	27x3x0,75	1,1	29,0	35,0	1920	210
4350104303	30x3x0,75	1,1	30,5	37,0	2165	220
4350104323	32x3x0,75	1,1	31,5	38,5	2310	230
4350104373	37x3x0,75	1,1	33,5	40,5	2585	245
4350105012	1x2x1	1,3	7,5	10,5	175	65
4350105014	1x4x1	1,3	8,5	12,0	230	70
4350105022	2x2x1	1,3	11,0	15,0	325	90
4350105032	3x2x1	1,3	12,0	15,5	380	95
4350105042	4x2x1	1,3	13,0	17,0	450	105
4350105072	7x2x1	1,3	15,5	20,0	635	120
4350105082	8x2x1	1,3	16,5	21,0	695	125
4350105102	10x2x1	1,3	19,0	23,5	850	140
4350105122	12x2x1	1,3	20,0	25,0	965	150
4350105142	14x2x1	1,3	21,5	26,5	1075	160
4350105162	16x2x1	1,3	22,5	27,5	1185	165
4350105192	19x2x1	1,3	24,5	29,5	1360	180
4350105242	24x2x1	1,3	27,5	33,0	1675	200
4350105272	27x2x1	1,3	29,5	35,0	1880	210
4350105302	30x2x1	1,3	31,0	36,5	2035	220
4350105322	32x2x1	1,3	31,5	38,0	2160	230
4350105372	37x2x1	1,3	34,0	40,0	2515	240
4350105013	1x3x1	1,3	8,0	11,5	205	70
4350105023	2x3x1	1,3	12,0	16,0	370	95
4350105033	3x3x1	1,3	12,5	16,5	435	100
4350105043	4x3x1	1,3	14,0	18,0	525	110
4350105073	7x3x1	1,3	16,5	21,0	755	125
4350105083	8x3x1	1,3	18,0	22,5	850	135
4350105103	10x3x1	1,3	20,5	25,5	1030	150
4350105123	12x3x1	1,3	21,5	26,5	1160	160
4350105143	14x3x1	1,3	23,0	28,0	1315	170
4350105163	16x3x1	1,3	24,5	29,5	1455	175
4350105193	19x3x1	1,3	26,5	32,0	1695	190
4350105243	24x3x1	1,3	30,0	35,5	2100	215
4350105273	27x3x1	1,3	31,5	37,5	2320	225
4350105303	30x3x1	1,3	33,0	39,5	2615	235
4350105323	32x3x1	1,3	34,0	40,5	2790	245
4350105373	37x3x1	1,3	36,5	43,0	3130	260

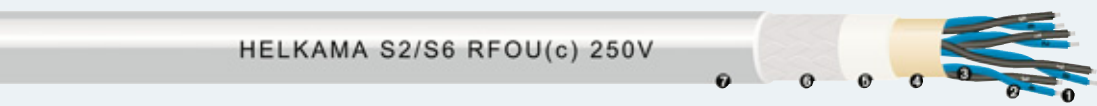


## S1/S5 RFOU(i) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4350107012	1x2x1,5	1,6	8,5	12,0	215	70
4350107014	1x4x1,5	1,6	9,5	13,0	280	80
4350107022	2x2x1,5	1,6	13,0	17,0	395	100
4350107032	3x2x1,5	1,6	13,5	17,5	460	105
4350107042	4x2x1,5	1,6	15,0	19,0	550	115
4350107072	7x2x1,5	1,6	18,0	22,5	800	135
4350107082	8x2x1,5	1,6	19,0	24,0	890	145
4350107102	10x2x1,5	1,6	22,0	27,0	1075	165
4350107122	12x2x1,5	1,6	23,0	28,0	1205	170
4350107142	14x2x1,5	1,6	25,0	30,5	1380	180
4350107162	16x2x1,5	1,6	26,5	32,0	1525	190
4350107192	19x2x1,5	1,6	28,5	34,0	1750	205
4350107242	24x2x1,5	1,6	32,5	39,0	2295	235
4350107272	27x2x1,5	1,6	34,0	41,0	2510	245
4350107302	30x2x1,5	1,6	36,0	43,0	2735	255
4350107322	32x2x1,5	1,6	37,0	44,0	2875	265
4350107372	37x2x1,5	1,6	39,5	47,0	3265	280
4350107013	1x3x1,5	1,6	9,0	12,5	245	75
4350107023	2x3x1,5	1,6	13,5	17,5	455	105
4350107033	3x3x1,5	1,6	14,5	18,5	540	110
4350107043	4x3x1,5	1,6	16,0	20,0	655	120
4350107073	7x3x1,5	1,6	19,0	24,0	970	145
4350107083	8x3x1,5	1,6	20,5	25,5	1085	155
4350107103	10x3x1,5	1,6	23,5	28,5	1315	170
4350107123	12x3x1,5	1,6	24,5	30,5	1515	180
4350107143	14x3x1,5	1,6	26,5	32,0	1710	195
4350107163	16x3x1,5	1,6	29,0	34,5	1955	205
4350107193	19x3x1,5	1,6	31,0	37,0	2240	220
4350107243	24x3x1,5	1,6	34,5	41,5	2875	250
4350107273	27x3x1,5	1,6	36,5	43,5	3155	260
4350107303	30x3x1,5	1,6	38,5	45,5	3470	275
4350107323	32x3x1,5	1,6	40,0	47,5	3710	285
4350107373	37x3x1,5	1,6	42,5	50,5	4195	300
4350108012	1x2x2,5	2,0	9,5	13,0	255	75
4350108014	1x4x2,5	2,0	11,0	14,0	345	85
4350108022	2x2x2,5	2,0	14,5	18,5	480	110
4350108032	3x2x2,5	2,0	15,0	19,5	570	115
4350108042	4x2x2,5	2,0	17,0	21,0	690	125
4350108072	7x2x2,5	2,0	20,5	25,0	1020	150
4350108082	8x2x2,5	2,0	21,5	26,5	1145	160
4350108102	10x2x2,5	2,0	25,0	30,0	1390	180
4350108122	12x2x2,5	2,0	26,0	31,5	1570	190
4350108142	14x2x2,5	2,0	28,0	33,5	1800	200
4350108162	16x2x2,5	2,0	30,0	35,5	2000	210
4350108192	19x2x2,5	2,0	32,5	38,0	2310	230
4350108242	24x2x2,5	2,0	36,5	43,5	3010	260
4350108272	27x2x2,5	2,0	38,5	45,5	3305	270
4350108302	30x2x2,5	2,0	40,5	47,5	3615	285
4350108322	32x2x2,5	2,0	42,0	49,0	3805	295
4350108372	37x2x2,5	2,0	45,0	52,0	4340	315
4350108013	1x3x2,5	2,0	10,0	13,5	295	80
4350108023	2x3x2,5	2,0	15,0	19,5	565	115
4350108033	3x3x2,5	2,0	16,0	20,5	685	120
4350108043	4x3x2,5	2,0	18,0	22,0	840	135
4350108073	7x3x2,5	2,0	21,5	26,5	1270	160
4350108083	8x3x2,5	2,0	23,5	28,0	1425	170
4350108103	10x3x2,5	2,0	26,5	32,0	1735	190
4350108123	12x3x2,5	2,0	28,0	33,5	2015	200
4350108143	14x3x2,5	2,0	30,0	35,5	2275	215
4350108163	16x3x2,5	2,0	32,5	38,5	2610	230
4350108193	19x3x2,5	2,0	35,5	41,0	3000	245
4350108243	24x3x2,5	2,0	39,5	46,5	3845	280
4350108273	27x3x2,5	2,0	41,5	48,5	4235	290
4350108303	30x3x2,5	2,0	43,5	51,0	4670	305
4350108323	32x3x2,5	2,0	45,5	52,5	4985	315
4350108373	37x3x2,5	2,0	48,5	56,0	5660	335

# S2 and S2/S6 RFOU(c) 250V

Control, instrumentation and telecommunication cable.



DESIGN:	STANDARDS:
	IEC 60092-376, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b> -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b> - two or three insulated cores twisted together to form a pair or triplex	
<b>4. Collective screen</b> - plastic coated copper tape and tinned copper drain wire	
<b>5. Bedding</b> -halogen free compound extruded -covered by separator tape (optional)	
<b>6. Armour</b> -tinned copper braid, coverage >90% -covered by separator tape (optional)	
<b>7. Sheath (S2)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF2)
<b>7. Sheath (S2/S6)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF MUD)

<b>MUD-resistant</b> (only S2/S6)	●
<b>OIL-resistant</b>	●
<b>FLAME-retardant</b>	●
<b>FIRE-resistant</b>	○
<b>Halogen-free</b>	●
<b>Low smoke emission</b>	●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type S2 in NEK TS 606:2009.  
Meets the requirement for cable type S2/S6 in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>	
Maximum conductor temperature	<b>+ 90 °C</b>	
Flame-retardant	<b>IEC 60332-1-2</b>	-test for single insulated wire and cable
	<b>IEC 60332-3-22</b>	-test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series	
Smoke emission	<b>IEC 61034</b> series	
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359	
MUD resistant (only S2/S6)	<b>NEK TS 606:2009</b>	

**Minimum recommended installation temperature -15 °C**

**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## S2 RFOU(c) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4320104012	1x2x0,75	1,1	7,0	10,5	160	65
4320104014	1x4x0,75	1,1	8,0	11,0	190	65
4320104022	2x2x0,75	1,1	10,5	14,0	250	85
4320104032	3x2x0,75	1,1	11,0	14,5	280	85
4320104042	4x2x0,75	1,1	12,0	16,0	355	95
4320104072	7x2x0,75	1,1	14,5	18,5	475	110
4320104082	8x2x0,75	1,1	15,0	19,5	515	115
4320104102	10x2x0,75	1,1	17,5	22,0	625	130
4320104122	12x2x0,75	1,1	18,0	23,0	680	135
4320104142	14x2x0,75	1,1	19,5	24,5	760	145
4320104162	16x2x0,75	1,1	20,5	25,5	830	155
4320104192	19x2x0,75	1,1	22,5	27,5	945	165
4320104242	24x2x0,75	1,1	24,5	30,5	1135	180
4320104272	27x2x0,75	1,1	26,0	31,5	1230	190
4320104302	30x2x0,75	1,1	27,5	33,0	1320	195
4320104322	32x2x0,75	1,1	28,0	34,0	1400	205
4320104372	37x2x0,75	1,1	30,0	36,0	1565	215
4320104013	1x3x0,75	1,1	7,5	10,5	165	60
4320104023	2x3x0,75	1,1	11,0	15,0	320	90
4320104033	3x3x0,75	1,1	11,5	15,5	360	95
4320104043	4x3x0,75	1,1	12,5	17,0	410	100
4320104073	7x3x0,75	1,1	15,0	19,5	570	115
4320104083	8x3x0,75	1,1	16,0	21,0	640	125
4320104103	10x3x0,75	1,1	18,5	23,5	765	140
4320104123	12x3x0,75	1,1	19,5	24,5	845	145
4320104143	14x3x0,75	1,1	21,0	26,0	950	155
4320104163	16x3x0,75	1,1	22,0	27,0	1040	165
4320104193	19x3x0,75	1,1	24,0	29,5	1205	175
4320104243	24x3x0,75	1,1	26,5	32,0	1440	195
4320104273	27x3x0,75	1,1	28,0	33,5	1570	200
4320104303	30x3x0,75	1,1	30,0	36,0	1760	215
4320104323	32x3x0,75	1,1	31,0	37,0	1880	225
4320104373	37x3x0,75	1,1	33,0	39,5	2190	240
4320105012	1x2x1	1,3	7,5	11,0	175	65
4320105014	1x4x1	1,3	8,5	11,5	210	70
4320105022	2x2x1	1,3	11,0	14,5	280	90
4320105032	3x2x1	1,3	11,5	15,5	350	95
4320105042	4x2x1	1,3	12,5	17,0	400	100
4320105072	7x2x1	1,3	15,5	19,5	545	120
4320105082	8x2x1	1,3	16,5	21,0	610	125
4320105102	10x2x1	1,3	18,5	23,5	715	140
4320105122	12x2x1	1,3	19,5	24,5	800	145
4320105142	14x2x1	1,3	21,0	26,0	885	155
4320105162	16x2x1	1,3	22,0	27,5	980	165
4320105192	19x2x1	1,3	24,0	29,0	1105	175
4320105242	24x2x1	1,3	26,5	32,5	1345	195
4320105272	27x2x1	1,3	28,0	34,0	1465	205
4320105302	30x2x1	1,3	29,5	35,0	1580	210
4320105322	32x2x1	1,3	31,0	37,0	1720	220
4320105372	37x2x1	1,3	33,0	39,0	1910	235

Table continues on next page

**S2 RFOU(c) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4320105013	1x3x1	1,3	8,0	11,0	185	65
4320105023	2x3x1	1,3	11,5	16,0	355	95
4320105033	3x3x1	1,3	12,5	16,5	405	100
4320105043	4x3x1	1,3	13,5	18,0	480	105
4320105073	7x3x1	1,3	16,5	21,0	680	125
4320105083	8x3x1	1,3	17,5	22,0	745	135
4320105103	10x3x1	1,3	20,0	25,0	895	150
4320105123	12x3x1	1,3	21,0	26,0	1005	155
4320105143	14x3x1	1,3	22,5	27,5	1125	165
4320105163	16x3x1	1,3	24,0	29,5	1260	175
4320105193	19x3x1	1,3	25,5	31,0	1430	185
4320105243	24x3x1	1,3	29,0	35,0	1785	210
4320105273	27x3x1	1,3	31,0	36,5	1945	220
4320105303	30x3x1	1,3	32,5	39,0	2235	235
4320105323	32x3x1	1,3	33,5	40,0	2345	240
4320105373	37x3x1	1,3	35,5	42,5	2635	255
4320107012	1x2x1,5	1,6	8,5	12,0	205	70
4320107014	1x4x1,5	1,6	9,5	12,5	255	75
4320107022	2x2x1,5	1,6	12,5	16,5	370	100
4320107032	3x2x1,5	1,6	13,5	17,5	425	105
4320107042	4x2x1,5	1,6	14,5	19,0	500	115
4320107072	7x2x1,5	1,6	17,5	22,5	705	135
4320107082	8x2x1,5	1,6	19,0	24,0	780	145
4320107102	10x2x1,5	1,6	21,5	26,5	935	160
4320107122	12x2x1,5	1,6	22,5	28,0	1040	165
4320107142	14x2x1,5	1,6	24,5	30,0	1180	180
4320107162	16x2x1,5	1,6	26,0	31,5	1300	190
4320107192	19x2x1,5	1,6	28,0	33,5	1485	200
4320107242	24x2x1,5	1,6	31,5	38,5	1950	230
4320107272	27x2x1,5	1,6	33,5	40,0	2120	240
4320107302	30x2x1,5	1,6	35,0	42,0	2310	250
4320107322	32x2x1,5	1,6	36,0	43,0	2420	260
4320107372	37x2x1,5	1,6	38,5	46,0	2735	275
4320107013	1x3x1,5	1,6	9,0	12,0	220	70
4320107023	2x3x1,5	1,6	13,5	17,5	440	105
4320107033	3x3x1,5	1,6	14,0	18,5	515	110
4320107043	4x3x1,5	1,6	15,5	20,5	620	120
4320107073	7x3x1,5	1,6	19,0	24,0	880	145
4320107083	8x3x1,5	1,6	20,0	25,5	985	150
4320107103	10x3x1,5	1,6	23,0	28,5	1200	170
4320107123	12x3x1,5	1,6	24,5	30,0	1345	180
4320107143	14x3x1,5	1,6	26,0	32,0	1520	190
4320107163	16x3x1,5	1,6	27,5	33,5	1680	200
4320107193	19x3x1,5	1,6	30,5	36,5	1975	220
4320107243	24x3x1,5	1,6	34,0	41,0	2520	245
4320107273	27x3x1,5	1,6	36,0	43,0	2790	260
4320107303	30x3x1,5	1,6	37,5	45,0	3025	270
4320107323	32x3x1,5	1,6	39,0	47,0	3255	280
4320107373	37x3x1,5	1,6	42,0	50,0	3690	300

**S2 RFOU(c) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4320108012	1x2x2,5	2,0	9,0	13,0	250	75
4320108014	1x4x2,5	2,0	10,5	14,0	325	85
4320108022	2x2x2,5	2,0	14,0	18,5	460	110
4320108032	3x2x2,5	2,0	15,0	19,5	535	115
4320108042	4x2x2,5	2,0	16,5	21,0	645	125
4320108072	7x2x2,5	2,0	20,0	25,0	915	150
4320108082	8x2x2,5	2,0	21,5	26,5	1015	160
4320108102	10x2x2,5	2,0	24,5	30,0	1240	180
4320108122	12x2x2,5	2,0	25,5	31,0	1385	185
4320108142	14x2x2,5	2,0	27,5	33,5	1565	200
4320108162	16x2x2,5	2,0	29,5	35,0	1730	210
4320108192	19x2x2,5	2,0	32,5	38,5	2035	230
4320108242	24x2x2,5	2,0	36,0	43,0	2595	260
4320108272	27x2x2,5	2,0	38,0	45,5	2875	270
4320108302	30x2x2,5	2,0	40,0	47,5	3115	285
4320108322	32x2x2,5	2,0	41,5	49,0	3355	295
4320108372	37x2x2,5	2,0	44,5	52,5	3790	315
4320108013	1x3x2,5	2,0	9,5	13,0	280	80
4320108023	2x3x2,5	2,0	15,0	19,5	540	115
4320108033	3x3x2,5	2,0	16,0	20,5	665	125
4320108043	4x3x2,5	2,0	17,5	22,5	795	135
4320108073	7x3x2,5	2,0	21,5	26,5	1170	160
4320108083	8x3x2,5	2,0	23,0	28,5	1320	170
4320108103	10x3x2,5	2,0	26,5	32,0	1600	190
4320108123	12x3x2,5	2,0	28,0	34,0	1865	205
4320108143	14x3x2,5	2,0	30,0	36,0	2100	215
4320108163	16x3x2,5	2,0	32,0	39,0	2460	235
4320108193	19x3x2,5	2,0	35,0	41,5	2830	250
4320108243	24x3x2,5	2,0	39,0	46,5	3515	280
4320108273	27x3x2,5	2,0	41,5	49,0	3900	295
4320108303	30x3x2,5	2,0	43,5	51,5	4240	310
4320108323	32x3x2,5	2,0	44,5	53,0	4485	315
4320108373	37x3x2,5	2,0	48,0	56,5	5095	340

Table continues on next page

## S2/S6 RFOU(c) 250V mud resistant


Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4360104012	1x2x0,75	1,1	7,0	10,5	165	65
4360104014	1x4x0,75	1,1	8,0	11,0	190	65
4360104022	2x2x0,75	1,1	10,5	14,0	255	85
4360104032	3x2x0,75	1,1	11,0	14,5	290	85
4360104042	4x2x0,75	1,1	12,0	16,0	360	95
4360104072	7x2x0,75	1,1	14,5	18,5	485	110
4360104082	8x2x0,75	1,1	15,0	19,5	525	115
4360104102	10x2x0,75	1,1	17,5	22,0	635	130
4360104122	12x2x0,75	1,1	18,0	23,0	695	135
4360104142	14x2x0,75	1,1	19,5	24,5	775	145
4360104162	16x2x0,75	1,1	20,5	25,5	845	155
4360104192	19x2x0,75	1,1	22,5	27,5	960	165
4360104242	24x2x0,75	1,1	24,5	30,5	1155	180
4360104272	27x2x0,75	1,1	26,0	31,5	1250	190
4360104302	30x2x0,75	1,1	27,5	33,0	1345	195
4360104322	32x2x0,75	1,1	28,0	34,0	1425	205
4360104372	37x2x0,75	1,1	30,0	36,0	1595	215
4360104013	1x3x0,75	1,1	7,5	10,5	170	60
4360104023	2x3x0,75	1,1	11,0	15,0	330	90
4360104033	3x3x0,75	1,1	11,5	15,5	365	95
4360104043	4x3x0,75	1,1	12,5	17,0	420	100
4360104073	7x3x0,75	1,1	15,0	19,5	580	115
4360104083	8x3x0,75	1,1	16,0	21,0	650	125
4360104103	10x3x0,75	1,1	18,5	23,5	780	140
4360104123	12x3x0,75	1,1	19,5	24,5	860	145
4360104143	14x3x0,75	1,1	21,0	26,0	970	155
4360104163	16x3x0,75	1,1	22,0	27,0	1060	165
4360104193	19x3x0,75	1,1	24,0	29,5	1230	175
4360104243	24x3x0,75	1,1	26,5	32,0	1465	195
4360104273	27x3x0,75	1,1	28,0	33,5	1595	200
4360104303	30x3x0,75	1,1	30,0	36,0	1790	215
4360104323	32x3x0,75	1,1	31,0	37,0	1910	225
4360104373	37x3x0,75	1,1	33,0	39,5	2225	240
4360105012	1x2x1	1,3	7,5	11,0	180	65
4360105014	1x4x1	1,3	8,5	11,5	215	70
4360105022	2x2x1	1,3	11,0	14,5	285	90
4360105032	3x2x1	1,3	11,5	15,5	355	95
4360105042	4x2x1	1,3	12,5	17,0	405	100
4360105072	7x2x1	1,3	15,5	19,5	555	120
4360105082	8x2x1	1,3	16,5	21,0	620	125
4360105102	10x2x1	1,3	18,5	23,5	730	140
4360105122	12x2x1	1,3	19,5	24,5	815	145
4360105142	14x2x1	1,3	21,0	26,0	905	155
4360105162	16x2x1	1,3	22,0	27,5	1000	165
4360105192	19x2x1	1,3	24,0	29,0	1125	175
4360105242	24x2x1	1,3	26,5	32,5	1370	195
4360105272	27x2x1	1,3	28,0	34,0	1490	205
4360105302	30x2x1	1,3	29,5	35,0	1605	210
4360105322	32x2x1	1,3	31,0	37,0	1745	220
4360105372	37x2x1	1,3	33,0	39,0	1940	235
4360105013	1x3x1	1,3	8,0	11,0	190	65
4360105023	2x3x1	1,3	11,5	16,0	360	95
4360105033	3x3x1	1,3	12,5	16,5	415	100
4360105043	4x3x1	1,3	13,5	18,0	490	105
4360105073	7x3x1	1,3	16,5	21,0	690	125
4360105083	8x3x1	1,3	17,5	22,0	760	135
4360105103	10x3x1	1,3	20,0	25,0	910	150
4360105123	12x3x1	1,3	21,0	26,0	1025	155
4360105143	14x3x1	1,3	22,5	27,5	1140	165
4360105163	16x3x1	1,3	24,0	29,5	1280	175
4360105193	19x3x1	1,3	25,5	31,0	1450	185
4360105243	24x3x1	1,3	29,0	35,0	1810	210
4360105273	27x3x1	1,3	31,0	36,5	1975	220
4360105303	30x3x1	1,3	32,5	39,0	2265	235
4360105323	32x3x1	1,3	33,5	40,0	2380	240
4360105373	37x3x1	1,3	35,5	42,5	2670	255

## S2/S6 RFOU(c) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4360107012	1x2x1,5	1,6	8,5	12,0	210	70
4360107014	1x4x1,5	1,6	9,5	12,5	260	75
4360107022	2x2x1,5	1,6	12,5	16,5	380	100
4360107032	3x2x1,5	1,6	13,5	17,5	430	105
4360107042	4x2x1,5	1,6	14,5	19,0	510	115
4360107072	7x2x1,5	1,6	17,5	22,5	720	135
4360107082	8x2x1,5	1,6	19,0	24,0	795	145
4360107102	10x2x1,5	1,6	21,5	26,5	955	160
4360107122	12x2x1,5	1,6	22,5	28,0	1055	165
4360107142	14x2x1,5	1,6	24,5	30,0	1205	180
4360107162	16x2x1,5	1,6	26,0	31,5	1320	190
4360107192	19x2x1,5	1,6	28,0	33,5	1510	200
4360107242	24x2x1,5	1,6	31,5	38,5	1980	230
4360107272	27x2x1,5	1,6	33,5	40,0	2155	240
4360107302	30x2x1,5	1,6	35,0	42,0	2345	250
4360107322	32x2x1,5	1,6	36,0	43,0	2460	260
4360107372	37x2x1,5	1,6	38,5	46,0	2780	275
4360107013	1x3x1,5	1,6	9,0	12,0	225	70
4360107023	2x3x1,5	1,6	13,5	17,5	445	105
4360107033	3x3x1,5	1,6	14,0	18,5	520	110
4360107043	4x3x1,5	1,6	15,5	20,5	630	120
4360107073	7x3x1,5	1,6	19,0	24,0	895	145
4360107083	8x3x1,5	1,6	20,0	25,5	1000	150
4360107103	10x3x1,5	1,6	23,0	28,5	1220	170
4360107123	12x3x1,5	1,6	24,5	30,0	1365	180
4360107143	14x3x1,5	1,6	26,0	32,0	1545	190
4360107163	16x3x1,5	1,6	27,5	33,5	1705	200
4360107193	19x3x1,5	1,6	30,5	36,5	2005	220
4360107243	24x3x1,5	1,6	34,0	41,0	2555	245
4360107273	27x3x1,5	1,6	36,0	43,0	2835	260
4360107303	30x3x1,5	1,6	37,5	45,0	3070	270
4360107323	32x3x1,5	1,6	39,0	47,0	3300	280
4360107373	37x3x1,5	1,6	42,0	50,0	3740	300
4360108012	1x2x2,5	2,0	9,0	13,0	255	75
4360108014	1x4x2,5	2,0	10,5	14,0	330	85
4360108022	2x2x2,5	2,0	14,0	18,5	470	110
4360108032	3x2x2,5	2,0	15,0	19,5	545	115
4360108042	4x2x2,5	2,0	16,5	21,0	655	125
4360108072	7x2x2,5	2,0	20,0	25,0	930	150
4360108082	8x2x2,5	2,0	21,5	26,5	1035	160
4360108102	10x2x2,5	2,0	24,5	30,0	1260	180
4360108122	12x2x2,5	2,0	25,5	31,0	1410	185
4360108142	14x2x2,5	2,0	27,5	33,5	1590	200
4360108162	16x2x2,5	2,0	29,5	35,0	1755	210
4360108192	19x2x2,5	2,0	32,5	38,5	2065	230
4360108242	24x2x2,5	2,0	36,0	43,0	2630	260
4360108272	27x2x2,5	2,0	38,0	45,5	2915	270
4360108302	30x2x2,5	2,0	40,0	47,5	3160	285
4360108322	32x2x2,5	2,0	41,5	49,0	3400	295
4360108372	37x2x2,5	2,0	44,5	52,5	3845	315
4360108013	1x3x2,5	2,0	9,5	13,0	285	80
4360108023	2x3x2,5	2,0	15,0	19,5	550	115
4360108033	3x3x2,5	2,0	16,0	20,5	675	125
4360108043	4x3x2,5	2,0	17,5	22,5	805	135
4360108073	7x3x2,5	2,0	21,5	26,5	1185	160
4360108083	8x3x2,5	2,0	23,0	28,5	1340	170
4360108103	10x3x2,5	2,0	26,5	32,0	1625	190
4360108123	12x3x2,5	2,0	28,0	34,0	1895	205
4360108143	14x3x2,5	2,0	30,0	36,0	2130	215
4360108163	16x3x2,5	2,0	32,0	39,0	2490	235
4360108193	19x3x2,5	2,0	35,0	41,5	2865	250
4360108243	24x3x2,5	2,0	39,0	46,5	3560	280
4360108273	27x3x2,5	2,0	41,5	49,0	3955	295
4360108303	30x3x2,5	2,0	43,5	51,5	4290	310
4360108323	32x3x2,5	2,0	44,5	53,0	4540	315
4360108373	37x3x2,5	2,0	48,0	56,5	5160	340

# S3 and S3/S7 BFOU(i) 250V

Fire resistant control, instrumentation and telecommunication cable.



HELKAMA S3/S7 BFOU(i) 250V

DESIGN:	STANDARDS:
	IEC 60092-376, design
<b>1. Conductor</b>	
-stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b>	
-mica tape	
-halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b>	
- two or three insulated cores twisted together to form a pair or triplex	
- plastic coated copper tape and tinned copper drain wire	
<b>4. Bedding</b>	
-halogen free compound extruded	
-covered by separator tape (optional)	
<b>5. Armour</b>	
-tinned copper braid, coverage >90%	
-covered by separator tape (optional)	
<b>6. Screen (S3)</b>	
-halogen free thermosetting,	IEC 60092-360 (SHF2)
-standard colour grey	
<b>6. Sheath (S3/S7)</b>	
-halogen free thermosetting,	IEC 60092-360 (SHF MUD)
-standard colour grey	

**MUD-resistant** (only S3/S7) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ●

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type S3 in NEK TS 606:2009.  
Meets the requirement for cable type S3/S7 in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Fire resistant	<b>IEC 60331</b> series
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only S3/S7)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath



## S3 BFOU(i) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4330104012	1x2x0,75	1,1	8,0	11,0	180	65
4330104014	1x4x0,75	1,1	9,0	12,5	240	75
4330104022	2x2x0,75	1,1	12,0	16,0	350	95
4330104032	3x2x0,75	1,1	13,0	16,5	395	100
4330104042	4x2x0,75	1,1	14,0	18,0	460	110
4330104072	7x2x0,75	1,1	17,0	21,5	640	130
4330104082	8x2x0,75	1,1	18,0	22,5	700	135
4330104102	10x2x0,75	1,1	20,5	25,5	850	150
4330104122	12x2x0,75	1,1	21,5	26,5	960	160
4330104142	14x2x0,75	1,1	23,5	28,0	1065	170
4330104162	16x2x0,75	1,1	24,5	29,5	1175	180
4330104192	19x2x0,75	1,1	27,0	32,0	1345	190
4330104242	24x2x0,75	1,1	30,0	35,5	1650	215
4330104272	27x2x0,75	1,1	32,0	38,0	1845	225
4330104302	30x2x0,75	1,1	33,5	39,5	2000	235
4330104322	32x2x0,75	1,1	34,5	40,5	2115	245
4330104372	37x2x0,75	1,1	37,0	43,5	2470	260
4330104013	1x3x0,75	1,1	8,5	12,0	200	70
4330104023	2x3x0,75	1,1	13,0	16,5	365	100
4330104033	3x3x0,75	1,1	13,5	17,5	415	105
4330104043	4x3x0,75	1,1	15,0	19,0	490	115
4330104073	7x3x0,75	1,1	18,0	22,5	685	135
4330104083	8x3x0,75	1,1	19,5	23,5	755	140
4330104103	10x3x0,75	1,1	22,0	27,0	920	160
4330104123	12x3x0,75	1,1	23,5	28,0	1040	170
4330104143	14x3x0,75	1,1	25,0	30,0	1160	180
4330104163	16x3x0,75	1,1	26,5	31,5	1275	190
4330104193	19x3x0,75	1,1	28,5	34,0	1465	205
4330104243	24x3x0,75	1,1	32,0	37,5	1795	225
4330104273	27x3x0,75	1,1	34,5	40,0	2015	240
4330104303	30x3x0,75	1,1	36,0	42,0	2180	250
4330104323	32x3x0,75	1,1	37,0	43,0	2310	260
4330104373	37x3x0,75	1,1	39,5	46,0	2695	275
4330105012	1x2x1	1,3	8,5	11,5	195	70
4330105014	1x4x1	1,3	9,5	13,0	265	80
4330105022	2x2x1	1,3	12,5	16,5	380	100
4330105032	3x2x1	1,3	13,5	17,5	430	105
4330105042	4x2x1	1,3	15,0	19,0	515	115
4330105072	7x2x1	1,3	18,0	22,0	725	135
4330105082	8x2x1	1,3	19,0	23,5	800	140
4330105102	10x2x1	1,3	22,0	26,5	975	160
4330105122	12x2x1	1,3	23,0	28,0	1100	165
4330105142	14x2x1	1,3	24,5	29,5	1230	175
4330105162	16x2x1	1,3	26,0	31,0	1360	185
4330105192	19x2x1	1,3	28,5	33,5	1560	200
4330105242	24x2x1	1,3	31,5	37,5	1915	225
4330105272	27x2x1	1,3	34,0	39,5	2150	240
4330105302	30x2x1	1,3	35,5	41,5	2330	250
4330105322	32x2x1	1,3	36,5	43,0	2475	260
4330105372	37x2x1	1,3	39,0	45,5	2880	275

Table continues on next page

**S3 BFOU(i) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4330105013	1x3x1	1,3	9,0	12,5	215	75
4330105023	2x3x1	1,3	13,5	17,5	400	105
4330105033	3x3x1	1,3	14,5	18,0	465	110
4330105043	4x3x1	1,3	16,0	20,0	555	120
4330105073	7x3x1	1,3	19,0	23,5	790	140
4330105083	8x3x1	1,3	20,5	24,5	875	150
4330105103	10x3x1	1,3	23,5	28,0	1070	170
4330105123	12x3x1	1,3	24,5	29,5	1210	175
4330105143	14x3x1	1,3	26,5	31,5	1360	190
4330105163	16x3x1	1,3	28,0	33,0	1505	200
4330105193	19x3x1	1,3	30,5	35,5	1730	215
4330105243	24x3x1	1,3	34,0	39,5	2130	235
4330105273	27x3x1	1,3	36,5	42,0	2385	255
4330105303	30x3x1	1,3	38,0	44,0	2595	265
4330105323	32x3x1	1,3	39,5	45,5	2750	275
4330105373	37x3x1	1,3	42,0	48,5	3205	290
4330107012	1x2x1,5	1,6	9,5	13,0	240	75
4330107014	1x4x1,5	1,6	11,0	14,0	315	85
4330107022	2x2x1,5	1,6	14,5	18,5	445	110
4330107032	3x2x1,5	1,6	15,0	19,5	520	115
4330107042	4x2x1,5	1,6	16,5	21,0	625	125
4330107072	7x2x1,5	1,6	20,5	25,0	905	150
4330107082	8x2x1,5	1,6	21,5	26,5	1010	160
4330107102	10x2x1,5	1,6	25,0	30,0	1220	180
4330107122	12x2x1,5	1,6	26,0	31,5	1370	190
4330107142	14x2x1,5	1,6	28,0	33,5	1565	200
4330107162	16x2x1,5	1,6	30,0	35,5	1730	210
4330107192	19x2x1,5	1,6	32,5	38,0	1990	230
4330107242	24x2x1,5	1,6	36,5	43,5	2605	260
4330107272	27x2x1,5	1,6	38,5	45,5	2855	270
4330107302	30x2x1,5	1,6	40,5	47,5	3110	285
4330107322	32x2x1,5	1,6	42,0	49,0	3270	295
4330107372	37x2x1,5	1,6	45,0	52,0	3715	315
4330107013	1x3x1,5	1,6	10,0	13,5	255	80
4330107023	2x3x1,5	1,6	15,0	19,5	480	115
4330107033	3x3x1,5	1,6	16,0	20,5	565	120
4330107043	4x3x1,5	1,6	18,0	22,0	680	135
4330107073	7x3x1,5	1,6	21,5	26,5	1000	160
4330107083	8x3x1,5	1,6	23,0	28,0	1115	170
4330107103	10x3x1,5	1,6	26,5	32,0	1350	190
4330107123	12x3x1,5	1,6	28,0	33,0	1525	200
4330107143	14x3x1,5	1,6	30,0	35,5	1745	215
4330107163	16x3x1,5	1,6	32,0	37,5	1930	225
4330107193	19x3x1,5	1,6	34,5	40,5	2230	240
4330107243	24x3x1,5	1,6	39,5	46,0	2915	275
4330107273	27x3x1,5	1,6	41,5	48,0	3190	290
4330107303	30x3x1,5	1,6	43,5	50,5	3490	305
4330107323	32x3x1,5	1,6	45,0	52,0	3670	310
4330107373	37x3x1,5	1,6	48,0	55,5	4170	330

**S3 BFOU(i) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4330108012	1x2x2,5	2,0	10,0	13,5	285	80
4330108014	1x4x2,5	2,0	12,0	15,5	385	90
4330108022	2x2x2,5	2,0	16,0	20,0	535	120
4330108032	3x2x2,5	2,0	17,0	21,0	640	125
4330108042	4x2x2,5	2,0	18,5	23,0	770	135
4330108072	7x2x2,5	2,0	22,5	27,5	1140	165
4330108082	8x2x2,5	2,0	24,0	29,0	1275	175
4330108102	10x2x2,5	2,0	28,0	33,0	1550	195
4330108122	12x2x2,5	2,0	29,0	34,5	1750	205
4330108142	14x2x2,5	2,0	31,5	37,0	2005	220
4330108162	16x2x2,5	2,0	33,5	39,0	2230	235
4330108192	19x2x2,5	2,0	36,0	42,0	2575	250
4330108242	24x2x2,5	2,0	41,0	47,5	3355	285
4330108272	27x2x2,5	2,0	43,0	50,0	3680	300
4330108302	30x2x2,5	2,0	45,5	52,5	4030	315
4330108322	32x2x2,5	2,0	47,0	53,5	4250	320
4330108372	37x2x2,5	2,0	50,0	57,5	4835	345
4330108013	1x3x2,5	2,0	11,0	14,5	305	85
4330108023	2x3x2,5	2,0	17,0	21,0	585	125
4330108033	3x3x2,5	2,0	18,0	22,0	710	135
4330108043	4x3x2,5	2,0	20,0	24,0	860	145
4330108073	7x3x2,5	2,0	24,0	29,0	1295	175
4330108083	8x3x2,5	2,0	26,0	31,0	1450	185
4330108103	10x3x2,5	2,0	30,0	35,0	1770	210
4330108123	12x3x2,5	2,0	31,5	36,5	2010	220
4330108143	14x3x2,5	2,0	33,5	39,0	2310	235
4330108163	16x3x2,5	2,0	36,0	41,5	2570	250
4330108193	19x3x2,5	2,0	39,0	44,5	2980	265
4330108243	24x3x2,5	2,0	44,0	50,5	3870	305
4330108273	27x3x2,5	2,0	46,5	53,0	4255	320
4330108303	30x3x2,5	2,0	49,0	55,5	4670	335
4330108323	32x3x2,5	2,0	50,5	57,0	4920	345
4330108373	37x3x2,5	2,0	54,0	61,0	5615	365

Table continues on next page

## S3/S7 BFOU(i) 250V mud resistant


Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4370104012	1x2x0,75	1,1	8,0	11,0	185	65
4370104014	1x4x0,75	1,1	9,0	12,5	245	75
4370104022	2x2x0,75	1,1	12,0	16,0	345	95
4370104032	3x2x0,75	1,1	13,0	16,5	395	100
4370104042	4x2x0,75	1,1	14,0	18,0	465	110
4370104072	7x2x0,75	1,1	17,0	21,5	650	130
4370104082	8x2x0,75	1,1	18,0	22,5	710	135
4370104102	10x2x0,75	1,1	20,5	25,5	865	150
4370104122	12x2x0,75	1,1	21,5	26,5	975	160
4370104142	14x2x0,75	1,1	23,5	28,0	1085	170
4370104162	16x2x0,75	1,1	24,5	29,5	1190	180
4370104192	19x2x0,75	1,1	27,0	32,0	1365	190
4370104242	24x2x0,75	1,1	30,0	35,5	1675	215
4370104272	27x2x0,75	1,1	32,0	38,0	1875	225
4370104302	30x2x0,75	1,1	33,5	39,5	2030	235
4370104322	32x2x0,75	1,1	34,5	40,5	2145	245
4370104372	37x2x0,75	1,1	37,0	43,5	2500	260
4370104013	1x3x0,75	1,1	8,5	12,0	220	70
4370104023	2x3x0,75	1,1	13,0	16,5	405	100
4370104033	3x3x0,75	1,1	13,5	17,5	465	105
4370104043	4x3x0,75	1,1	15,0	19,0	555	115
4370104073	7x3x0,75	1,1	18,0	22,5	795	135
4370104083	8x3x0,75	1,1	19,5	23,5	875	140
4370104103	10x3x0,75	1,1	22,0	27,0	1075	160
4370104123	12x3x0,75	1,1	23,5	28,0	1220	170
4370104143	14x3x0,75	1,1	25,0	30,0	1370	180
4370104163	16x3x0,75	1,1	26,5	31,5	1515	190
4370104193	19x3x0,75	1,1	28,5	34,0	1745	205
4370104243	24x3x0,75	1,1	32,0	37,5	2150	225
4370104273	27x3x0,75	1,1	34,5	40,0	2410	240
4370104303	30x3x0,75	1,1	36,0	42,0	2615	250
4370104323	32x3x0,75	1,1	37,0	43,0	2775	260
4370104373	37x3x0,75	1,1	39,5	46,0	3230	275
4370105012	1x2x1	1,3	8,5	11,5	200	70
4370105014	1x4x1	1,3	9,5	13,0	270	80
4370105022	2x2x1	1,3	12,5	16,5	380	100
4370105032	3x2x1	1,3	13,5	17,5	440	105
4370105042	4x2x1	1,3	15,0	19,0	520	115
4370105072	7x2x1	1,3	18,0	22,0	735	135
4370105082	8x2x1	1,3	19,0	23,5	810	140
4370105102	10x2x1	1,3	22,0	26,5	990	160
4370105122	12x2x1	1,3	23,0	28,0	1120	165
4370105142	14x2x1	1,3	24,5	29,5	1250	175
4370105162	16x2x1	1,3	26,0	31,0	1380	185
4370105192	19x2x1	1,3	28,5	33,5	1585	200
4370105242	24x2x1	1,3	31,5	37,5	1945	225
4370105272	27x2x1	1,3	34,0	39,5	2180	240
4370105302	30x2x1	1,3	35,5	41,5	2365	250
4370105322	32x2x1	1,3	36,5	42,5	2505	255
4370105372	37x2x1	1,3	39,0	45,5	2915	275
4370105013	1x3x1	1,3	9,0	12,5	245	75
4370105023	2x3x1	1,3	13,5	17,5	445	105
4370105033	3x3x1	1,3	14,5	18,0	525	110
4370105043	4x3x1	1,3	16,0	20,0	630	120
4370105073	7x3x1	1,3	19,0	23,5	915	140
4370105083	8x3x1	1,3	20,5	24,5	1015	150
4370105103	10x3x1	1,3	23,5	28,0	1245	170
4370105123	12x3x1	1,3	24,5	29,5	1420	175
4370105143	14x3x1	1,3	26,5	31,5	1595	190
4370105163	16x3x1	1,3	28,0	33,0	1775	200
4370105193	19x3x1	1,3	30,5	35,5	2050	215
4370105243	24x3x1	1,3	34,0	39,5	2530	235
4370105273	27x3x1	1,3	36,5	42,0	2835	255
4370105303	30x3x1	1,3	38,0	44,0	3090	265
4370105323	32x3x1	1,3	39,5	45,5	3280	275
4370105373	37x3x1	1,3	42,0	48,5	3810	290

## S3/S7 BFOU(i) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4370107012	1x2x1,5	1,6	9,5	13,0	245	75
4370107014	1x4x1,5	1,6	11,0	14,0	320	85
4370107022	2x2x1,5	1,6	14,5	18,5	455	110
4370107032	3x2x1,5	1,6	15,0	19,5	530	115
4370107042	4x2x1,5	1,6	16,5	21,0	635	125
4370107072	7x2x1,5	1,6	20,5	25,0	920	150
4370107082	8x2x1,5	1,6	21,5	26,5	1025	160
4370107102	10x2x1,5	1,6	25,0	30,0	1240	180
4370107122	12x2x1,5	1,6	26,0	31,5	1390	190
4370107142	14x2x1,5	1,6	28,0	33,5	1590	200
4370107162	16x2x1,5	1,6	30,0	35,5	1755	210
4370107192	19x2x1,5	1,6	32,5	38,0	2020	230
4370107242	24x2x1,5	1,6	36,5	43,5	2645	260
4370107272	27x2x1,5	1,6	38,5	45,5	2890	270
4370107302	30x2x1,5	1,6	40,5	47,5	3155	285
4370107322	32x2x1,5	1,6	42,0	49,0	3315	295
4370107372	37x2x1,5	1,6	45,0	52,0	3765	315
4370107013	1x3x1,5	1,6	10,0	13,5	285	80
4370107023	2x3x1,5	1,6	15,0	19,5	535	115
4370107033	3x3x1,5	1,6	16,0	20,5	640	120
4370107043	4x3x1,5	1,6	18,0	22,0	780	135
4370107073	7x3x1,5	1,6	21,5	26,5	1155	160
4370107083	8x3x1,5	1,6	23,0	28,0	1295	170
4370107103	10x3x1,5	1,6	26,5	32,0	1575	190
4370107123	12x3x1,5	1,6	28,0	33,0	1785	200
4370107143	14x3x1,5	1,6	30,0	35,5	2050	215
4370107163	16x3x1,5	1,6	32,0	37,5	2280	225
4370107193	19x3x1,5	1,6	34,5	40,5	2635	240
4370107243	24x3x1,5	1,6	39,5	46,0	3425	275
4370107273	27x3x1,5	1,6	41,5	48,0	3765	290
4370107303	30x3x1,5	1,6	43,5	50,5	4125	305
4370107323	32x3x1,5	1,6	45,0	52,0	4345	310
4370107373	37x3x1,5	1,6	48,0	55,5	4955	330
4370108012	1x2x2,5	2,0	10,0	13,5	290	80
4370108014	1x4x2,5	2,0	12,0	15,5	395	90
4370108022	2x2x2,5	2,0	16,0	20,0	545	120
4370108032	3x2x2,5	2,0	17,0	21,0	650	125
4370108042	4x2x2,5	2,0	18,5	23,0	785	135
4370108072	7x2x2,5	2,0	22,5	27,5	1160	165
4370108082	8x2x2,5	2,0	24,0	29,0	1300	175
4370108102	10x2x2,5	2,0	28,0	33,0	1575	195
4370108122	12x2x2,5	2,0	29,0	34,5	1780	205
4370108142	14x2x2,5	2,0	31,5	37,0	2045	220
4370108162	16x2x2,5	2,0	33,5	39,0	2270	235
4370108192	19x2x2,5	2,0	36,0	42,0	2620	250
4370108242	24x2x2,5	2,0	41,0	47,5	3410	285
4370108272	27x2x2,5	2,0	43,0	50,0	3745	300
4370108302	30x2x2,5	2,0	45,5	52,5	4095	315
4370108322	32x2x2,5	2,0	47,0	53,5	4315	320
4370108372	37x2x2,5	2,0	50,0	57,5	4910	345
4370108013	1x3x2,5	2,0	11,0	14,5	345	85
4370108023	2x3x2,5	2,0	17,0	21,0	655	125
4370108033	3x3x2,5	2,0	18,0	22,0	800	135
4370108043	4x3x2,5	2,0	20,0	24,0	980	145
4370108073	7x3x2,5	2,0	24,0	29,0	1490	175
4370108083	8x3x2,5	2,0	26,0	31,0	1670	185
4370108103	10x3x2,5	2,0	30,0	35,0	2045	210
4370108123	12x3x2,5	2,0	31,5	36,5	2335	220
4370108143	14x3x2,5	2,0	33,5	39,0	2685	235
4370108163	16x3x2,5	2,0	36,0	41,5	2995	250
4370108193	19x3x2,5	2,0	39,0	44,5	3480	265
4370108243	24x3x2,5	2,0	44,0	50,5	4505	305
4370108273	27x3x2,5	2,0	46,5	53,0	4965	320
4370108303	30x3x2,5	2,0	49,0	55,5	5455	335
4370108323	32x3x2,5	2,0	50,5	57,0	5755	345
4370108373	37x3x2,5	2,0	54,0	61,0	6575	365

# S4 and S4/S8 BFOU(c) 250V

Fire resistant control, instrumentation and telecommunication cable.



**DESIGN:**

**STANDARDS:**  
IEC 60092-376, design

<b>1. Conductor</b>	-stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b>	-mica tape -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b>	- two or three insulated cores twisted together to form a pair or triplex	
<b>4. Collective screen</b>	- two insulated cores twisted together to form a pair - plastic coated copper tape and tinned copper drain wire	
<b>5. Bedding</b>	-halogen free compound extruded -covered by separator tape (optional)	
<b>6. Armour</b>	-tinned copper braid, coverage >90% -covered by separator tape (optional)	
<b>7. Screen (S4)</b>	-halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF2)
<b>7. Sheath (S4/S8)</b>	-halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only S4/S8) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ●

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type S4 in NEK TS 606:2009.  
Meets the requirement for cable type S4/S8 in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Fire resistant	<b>IEC 60331</b> series
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only S4/S8)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

**HELKAMA**

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## S4 BFOU(c) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4340104012	1x2x0,75	1,09	8,0	11,5	180	70
4340104014	1x4x0,75	1,09	9,0	12,0	220	75
4340104022	2x2x0,75	1,09	12,0	16,0	325	95
4340104032	3x2x0,75	1,09	12,5	16,5	365	100
4340104042	4x2x0,75	1,09	14,0	18,0	425	110
4340104072	7x2x0,75	1,09	16,5	21,5	580	130
4340104082	8x2x0,75	1,09	18,0	22,5	635	135
4340104102	10x2x0,75	1,09	20,5	25,0	755	150
4340104122	12x2x0,75	1,09	21,5	26,5	840	160
4340104142	14x2x0,75	1,09	23,0	28,0	930	170
4340104162	16x2x0,75	1,09	24,0	29,5	1010	175
4340104192	19x2x0,75	1,09	26,0	31,5	1165	190
4340104242	24x2x0,75	1,09	30,0	35,5	1445	215
4340104272	27x2x0,75	1,09	31,5	37,5	1560	225
4340104302	30x2x0,75	1,09	33,0	39,5	1715	235
4340104322	32x2x0,75	1,09	34,0	40,5	1890	245
4340104372	37x2x0,75	1,09	36,5	43,0	2110	260
4340104013	1x3x0,75	1,09	8,5	11,5	205	70
4340104023	2x3x0,75	1,09	12,5	16,5	370	100
4340104033	3x3x0,75	1,09	13,5	17,5	430	105
4340104043	4x3x0,75	1,09	14,5	19,0	500	115
4340104073	7x3x0,75	1,09	18,0	22,5	700	135
4340104083	8x3x0,75	1,09	19,0	24,0	775	145
4340104103	10x3x0,75	1,09	21,5	27,0	930	160
4340104123	12x3x0,75	1,09	23,0	28,5	1060	170
4340104143	14x3x0,75	1,09	24,5	30,0	1175	180
4340104163	16x3x0,75	1,09	26,0	31,5	1305	190
4340104193	19x3x0,75	1,09	28,0	34,0	1475	205
4340104243	24x3x0,75	1,09	32,0	39,0	1960	235
4340104273	27x3x0,75	1,09	33,5	40,5	2130	245
4340104303	30x3x0,75	1,09	35,5	42,5	2300	255
4340104323	32x3x0,75	1,09	36,5	43,5	2445	260
4340104373	37x3x0,75	1,089	39,0	46,5	2720	280
4340105012	1x2x1	1,29	8,5	11,5	200	70
4340105014	1x4x1	1,29	9,5	12,5	240	75
4340105022	2x2x1	1,29	12,5	16,5	355	100
4340105032	3x2x1	1,29	13,0	17,5	400	105
4340105042	4x2x1	1,29	14,5	19,0	470	115
4340105072	7x2x1	1,29	17,5	22,5	655	135
4340105082	8x2x1	1,29	19,0	23,5	725	140
4340105102	10x2x1	1,29	21,5	26,5	865	160
4340105122	12x2x1	1,29	22,5	27,5	950	165
4340105142	14x2x1	1,29	24,0	29,5	1055	175
4340105162	16x2x1	1,29	25,5	31,0	1180	185
4340105192	19x2x1	1,29	27,5	33,5	1330	200
4340105242	24x2x1	1,29	31,5	38,0	1685	225
4340105272	27x2x1	1,29	33,0	40,0	1930	240
4340105302	30x2x1	1,29	35,0	41,5	2075	250
4340105322	32x2x1	1,29	36,0	43,0	2190	255
4340105372	37x2x1	1,29	38,5	45,5	2430	270

Table continues on next page

**S4 BFOU(c) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4340105013	1x3x1	1,29	8,5	12,0	225	70
4340105023	2x3x1	1,29	13,5	17,5	415	105
4340105033	3x3x1	1,29	14,0	18,5	480	110
4340105043	4x3x1	1,29	15,5	20,0	560	120
4340105073	7x3x1	1,29	19,0	23,5	805	140
4340105083	8x3x1	1,29	20,0	25,0	895	150
4340105103	10x3x1	1,29	23,0	28,5	1090	170
4340105123	12x3x1	1,29	24,0	29,5	1215	180
4340105143	14x3x1	1,29	26,0	31,5	1370	190
4340105163	16x3x1	1,29	27,5	33,0	1505	200
4340105193	19x3x1	1,29	30,5	36,5	1775	220
4340105243	24x3x1	1,29	34,0	40,5	2260	245
4340105273	27x3x1	1,29	35,5	43,0	2505	260
4340105303	30x3x1	1,29	37,5	45,0	2705	270
4340105323	32x3x1	1,29	38,5	46,0	2860	275
4340105373	37x3x1	1,29	41,5	49,0	3250	295
4340107012	1x2x1,5	1,56	9,0	13,0	235	75
4340107014	1x4x1,5	1,56	10,5	14,0	300	85
4340107022	2x2x1,5	1,56	14,0	18,5	430	110
4340107032	3x2x1,5	1,56	15,0	19,5	490	115
4340107042	4x2x1,5	1,56	16,5	21,0	585	125
4340107072	7x2x1,5	1,56	20,0	25,0	815	150
4340107082	8x2x1,5	1,56	21,5	26,5	905	160
4340107102	10x2x1,5	1,56	24,5	30,0	1100	180
4340107122	12x2x1,5	1,56	25,5	31,0	1220	185
4340107142	14x2x1,5	1,56	27,5	33,5	1370	200
4340107162	16x2x1,5	1,56	30,0	36,0	1570	215
4340107192	19x2x1,5	1,56	32,5	38,5	1775	230
4340107242	24x2x1,5	1,56	36,0	43,5	2300	260
4340107272	27x2x1,5	1,56	38,0	45,5	2505	270
4340107302	30x2x1,5	1,56	40,0	47,0	2700	285
4340107322	32x2x1,5	1,56	41,5	49,0	2915	295
4340107372	37x2x1,5	1,56	44,5	52,5	3280	315
4340107013	1x3x1,5	1,56	9,5	13,0	280	80
4340107023	2x3x1,5	1,56	15,0	19,5	500	115
4340107033	3x3x1,5	1,56	16,0	20,5	600	125
4340107043	4x3x1,5	1,56	17,5	22,5	710	135
4340107073	7x3x1,5	1,56	21,5	26,5	1025	160
4340107083	8x3x1,5	1,56	23,0	28,5	1155	170
4340107103	10x3x1,5	1,56	26,5	32,0	1395	190
4340107123	12x3x1,5	1,56	28,0	34,0	1620	205
4340107143	14x3x1,5	1,56	30,0	36,5	1845	220
4340107163	16x3x1,5	1,56	32,0	39,0	2130	235
4340107193	19x3x1,5	1,56	34,5	41,5	2435	250
4340107243	24x3x1,5	1,56	39,0	47,0	3065	280
4340107273	27x3x1,5	1,56	41,0	49,0	3345	295
4340107303	30x3x1,5	1,56	43,5	51,5	3645	310
4340107323	32x3x1,5	1,56	44,5	52,5	3830	315
4340107373	37x3x1,5	1,56	47,5	56,0	4335	335



## S4 BFOU(c) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4340108012	1x2x2,5	2,01	10,0	14,0	275	85
4340108014	1x4x2,5	2,01	12,0	15,0	360	90
4340108022	2x2x2,5	2,01	15,5	20,0	510	120
4340108032	3x2x2,5	2,01	16,5	21,5	615	130
4340108042	4x2x2,5	2,01	18,5	23,0	720	140
4340108072	7x2x2,5	2,01	22,0	27,5	1035	165
4340108082	8x2x2,5	2,01	24,0	29,5	1170	175
4340108102	10x2x2,5	2,01	27,5	33,0	1410	200
4340108122	12x2x2,5	2,01	28,5	34,5	1580	205
4340108142	14x2x2,5	2,01	31,5	37,5	1830	225
4340108162	16x2x2,5	2,01	33,5	40,0	2155	240
4340108192	19x2x2,5	2,01	36,0	43,0	2460	260
4340108242	24x2x2,5	2,01	40,5	48,0	3050	290
4340108272	27x2x2,5	2,01	43,0	51,0	3370	305
4340108302	30x2x2,5	2,01	45,0	53,0	3645	320
4340108322	32x2x2,5	2,01	46,5	54,5	3860	330
4340108372	37x2x2,5	2,01	49,5	58,0	4360	350
4340108013	1x3x2,5	2,01	10,5	14,0	340	85
4340108023	2x3x2,5	2,01	16,5	21,5	625	130
4340108033	3x3x2,5	2,01	17,5	22,5	745	135
4340108043	4x3x2,5	2,01	19,5	24,5	900	145
4340108073	7x3x2,5	2,01	24,0	29,5	1345	175
4340108083	8x3x2,5	2,01	25,5	31,5	1500	190
4340108103	10x3x2,5	2,01	30,0	36,5	1900	220
4340108123	12x3x2,5	2,01	31,5	38,0	2235	230
4340108143	14x3x2,5	2,01	33,5	40,5	2525	245
4340108163	16x3x2,5	2,01	36,0	43,0	2835	260
4340108193	19x3x2,5	2,01	39,0	46,5	3255	280
4340108243	24x3x2,5	2,01	43,5	52,0	4040	310
4340108273	27x3x2,5	2,01	46,0	54,5	4480	330
4340108303	30x3x2,5	2,01	48,5	57,0	4895	345
4340108323	32x3x2,5	2,01	50,5	59,5	5225	355
4340108373	37x3x2,5	2,01	54,0	63,0	5930	380

Table continues on next page

**S4/S8 BFOU(c) 250V mud resistant**

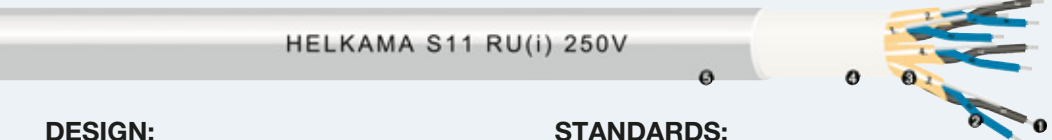
Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4380104012	1x2x0,75	1,1	8,0	11,5	190	70
4380104014	1x4x0,75	1,1	9,0	12,0	225	75
4380104022	2x2x0,75	1,1	12,0	16,0	335	95
4380104032	3x2x0,75	1,1	12,5	16,5	375	100
4380104042	4x2x0,75	1,1	14,0	18,0	435	110
4380104072	7x2x0,75	1,1	16,5	21,5	595	130
4380104082	8x2x0,75	1,1	18,0	22,5	645	135
4380104102	10x2x0,75	1,1	20,5	25,0	770	150
4380104122	12x2x0,75	1,1	21,5	26,5	855	160
4380104142	14x2x0,75	1,1	23,0	28,0	945	170
4380104162	16x2x0,75	1,1	24,0	29,5	1030	175
4380104192	19x2x0,75	1,1	26,0	31,5	1185	190
4380104242	24x2x0,75	1,1	30,0	35,5	1470	215
4380104272	27x2x0,75	1,1	31,5	37,5	1590	225
4380104302	30x2x0,75	1,1	33,0	39,5	1750	235
4380104322	32x2x0,75	1,1	34,0	40,5	1985	245
4380104372	37x2x0,75	1,1	36,5	43,0	2195	260
4380104013	1x3x0,75	1,1	8,5	11,5	205	70
4380104023	2x3x0,75	1,1	12,5	16,5	380	100
4380104033	3x3x0,75	1,1	13,5	17,5	440	105
4380104043	4x3x0,75	1,1	14,5	19,0	510	115
4380104073	7x3x0,75	1,1	18,0	22,5	715	135
4380104083	8x3x0,75	1,1	19,0	24,0	790	145
4380104103	10x3x0,75	1,1	21,5	27,0	950	160
4380104123	12x3x0,75	1,1	23,0	28,5	1080	170
4380104143	14x3x0,75	1,1	24,5	30,0	1195	180
4380104163	16x3x0,75	1,1	26,0	31,5	1330	190
4380104193	19x3x0,75	1,1	28,0	34,0	1500	205
4380104243	24x3x0,75	1,1	32,0	39,0	1990	235
4380104273	27x3x0,75	1,1	33,5	40,5	2165	245
4380104303	30x3x0,75	1,1	35,5	42,5	2335	255
4380104323	32x3x0,75	1,1	36,5	43,5	2485	260
4380104373	37x3x0,75	1,1	39,0	46,5	2765	280
4380105012	1x2x1	1,3	8,5	11,5	205	70
4380105014	1x4x1	1,3	9,5	12,5	245	75
4380105022	2x2x1	1,3	12,5	16,5	365	100
4380105032	3x2x1	1,3	13,0	17,5	410	105
4380105042	4x2x1	1,3	14,5	19,0	480	115
4380105072	7x2x1	1,3	17,5	22,5	665	135
4380105082	8x2x1	1,3	19,0	23,5	735	140
4380105102	10x2x1	1,3	21,5	26,5	880	160
4380105122	12x2x1	1,3	22,5	27,5	970	165
4380105142	14x2x1	1,3	24,0	29,5	1075	175
4380105162	16x2x1	1,3	25,5	31,0	1205	185
4380105192	19x2x1	1,3	27,5	33,5	1355	200
4380105242	24x2x1	1,3	31,5	38,0	1720	225
4380105272	27x2x1	1,3	33,0	40,0	2025	240
4380105302	30x2x1	1,3	35,0	41,5	2165	250
4380105322	32x2x1	1,3	36,0	43,0	2275	255
4380105372	37x2x1	1,3	38,5	45,5	2505	270
4380105013	1x3x1	1,3	8,5	12,0	230	70
4380105023	2x3x1	1,3	13,5	17,5	425	105
4380105033	3x3x1	1,3	14,0	18,5	490	110
4380105043	4x3x1	1,3	15,5	20,0	570	120
4380105073	7x3x1	1,3	19,0	23,5	820	140
4380105083	8x3x1	1,3	20,0	25,0	910	150
4380105103	10x3x1	1,3	23,0	28,5	1110	170
4380105123	12x3x1	1,3	24,0	29,5	1235	180
4380105143	14x3x1	1,3	26,0	31,5	1395	190
4380105163	16x3x1	1,3	27,5	33,0	1530	200
4380105193	19x3x1	1,3	30,5	36,5	1800	220
4380105243	24x3x1	1,3	34,0	40,5	2295	245
4380105273	27x3x1	1,3	35,5	43,0	2545	260
4380105303	30x3x1	1,3	37,5	45,0	2750	270
4380105323	32x3x1	1,3	38,5	46,0	2905	275
4380105373	37x3x1	1,3	41,5	49,0	3295	295

## S4/S8 BFOU(c) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Diameter inner covering mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4380107012	1x2x1,5	1,6	9,0	13,0	240	75
4380107014	1x4x1,5	1,6	10,5	14,0	305	85
4380107022	2x2x1,5	1,6	14,0	18,5	440	110
4380107032	3x2x1,5	1,6	15,0	19,5	500	115
4380107042	4x2x1,5	1,6	16,5	21,0	600	125
4380107072	7x2x1,5	1,6	20,0	25,0	830	150
4380107082	8x2x1,5	1,6	21,5	26,5	920	160
4380107102	10x2x1,5	1,6	24,5	30,0	1120	180
4380107122	12x2x1,5	1,6	25,5	31,0	1240	185
4380107142	14x2x1,5	1,6	27,5	33,5	1400	200
4380107162	16x2x1,5	1,6	30,0	36,0	1600	215
4380107192	19x2x1,5	1,6	32,5	38,5	1805	230
4380107242	24x2x1,5	1,6	36,0	43,5	2390	260
4380107272	27x2x1,5	1,6	38,0	45,5	2580	270
4380107302	30x2x1,5	1,6	40,0	47,0	2770	285
4380107322	32x2x1,5	1,6	41,5	49,0	2975	295
4380107372	37x2x1,5	1,6	44,5	52,5	3340	315
4380107013	1x3x1,5	1,6	9,5	13,0	285	80
4380107023	2x3x1,5	1,6	15,0	19,5	510	115
4380107033	3x3x1,5	1,6	16,0	20,5	615	125
4380107043	4x3x1,5	1,6	17,5	22,5	720	135
4380107073	7x3x1,5	1,6	21,5	26,5	1040	160
4380107083	8x3x1,5	1,6	23,0	28,5	1175	170
4380107103	10x3x1,5	1,6	26,5	32,0	1415	190
4380107123	12x3x1,5	1,6	28,0	34,0	1645	205
4380107143	14x3x1,5	1,6	30,0	36,5	1875	220
4380107163	16x3x1,5	1,6	32,0	39,0	2160	235
4380107193	19x3x1,5	1,6	34,5	41,5	2470	250
4380107243	24x3x1,5	1,6	39,0	47,0	3110	280
4380107273	27x3x1,5	1,6	41,0	49,0	3400	295
4380107303	30x3x1,5	1,6	43,5	51,5	3700	310
4380107323	32x3x1,5	1,6	44,5	52,5	3885	315
4380107373	37x3x1,5	1,6	47,5	56,0	4400	335
4380108012	1x2x2,5	2,0	10,0	14,0	285	85
4380108014	1x4x2,5	2,0	12,0	15,0	365	90
4380108022	2x2x2,5	2,0	15,5	20,0	520	120
4380108032	3x2x2,5	2,0	16,5	21,5	625	130
4380108042	4x2x2,5	2,0	18,5	23,0	735	140
4380108072	7x2x2,5	2,0	22,0	27,5	1055	165
4380108082	8x2x2,5	2,0	24,0	29,5	1190	175
4380108102	10x2x2,5	2,0	27,5	33,0	1435	200
4380108122	12x2x2,5	2,0	28,5	34,5	1605	205
4380108142	14x2x2,5	2,0	31,5	37,5	1860	225
4380108162	16x2x2,5	2,0	33,5	40,0	2185	240
4380108192	19x2x2,5	2,0	36,0	43,0	2495	260
4380108242	24x2x2,5	2,0	40,5	48,0	3095	290
4380108272	27x2x2,5	2,0	43,0	51,0	3425	305
4380108302	30x2x2,5	2,0	45,0	53,0	3705	320
4380108322	32x2x2,5	2,0	46,5	54,5	3915	330
4380108372	37x2x2,5	2,0	49,5	58,0	4425	350
4380108013	1x3x2,5	2,0	10,5	14,0	345	85
4380108023	2x3x2,5	2,0	16,5	21,5	635	130
4380108033	3x3x2,5	2,0	17,5	22,5	760	135
4380108043	4x3x2,5	2,0	19,5	24,5	915	145
4380108073	7x3x2,5	2,0	24,0	29,5	1365	175
4380108083	8x3x2,5	2,0	25,5	31,5	1520	190
4380108103	10x3x2,5	2,0	30,0	36,5	1930	220
4380108123	12x3x2,5	2,0	31,5	38,0	2265	230
4380108143	14x3x2,5	2,0	33,5	40,5	2560	245
4380108163	16x3x2,5	2,0	36,0	43,0	2875	260
4380108193	19x3x2,5	2,0	39,0	46,5	3300	280
4380108243	24x3x2,5	2,0	43,5	52,0	4095	310
4380108273	27x3x2,5	2,0	46,0	54,5	4545	330
4380108303	30x3x2,5	2,0	48,5	57,0	4960	345
4380108323	32x3x2,5	2,0	50,5	59,5	5295	355
4380108373	37x3x2,5	2,0	54,0	63,0	6005	380

# S11 and S11+MUD RU(i) 250V

Control, instrumentation and telecommunication cable.



DESIGN:	STANDARDS:
	IEC 60092-376, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b> -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b> - two or three insulated cores twisted together to form a pair or triplex - plastic coated copper tape and tinned copper drain wire	
<b>4. Bedding</b> -covered by separator tape (optional)	
<b>5. Sheath (S11)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF2)
<b>5. Sheath (S11+MUD)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only S11+MUD) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ○

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Application: Fixed installation in most areas and on open deck  
Meets the requirement for cable type S11 in NEK TS 606:2009.  
Meets the requirement for cable type S11+MUD in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only S11+MUD)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## S11 RU(i) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4410104012	1x2x0,75	1,1	7,0	60	45
4410104014	1x4x0,75	1,1	8,0	90	50
4410104022	2x2x0,75	1,1	11,0	115	65
4410104032	3x2x0,75	1,1	11,5	150	70
4410104042	4x2x0,75	1,1	13,0	195	75
4410104072	7x2x0,75	1,1	15,5	305	90
4410104082	8x2x0,75	1,1	16,5	345	100
4410104102	10x2x0,75	1,1	18,5	430	110
4410104122	12x2x0,75	1,1	19,5	495	120
4410104142	14x2x0,75	1,1	21,5	585	130
4410104162	16x2x0,75	1,1	22,5	655	135
4410104192	19x2x0,75	1,1	24,5	770	145
4410104242	24x2x0,75	1,1	27,0	955	165
4410104272	27x2x0,75	1,1	29,0	1085	175
4410104302	30x2x0,75	1,1	30,5	1190	180
4410104322	32x2x0,75	1,1	31,0	1260	185
4410104372	37x2x0,75	1,1	33,5	1445	200
4410104013	1x3x0,75	1,1	7,5	75	45
4410104023	2x3x0,75	1,1	11,5	140	70
4410104033	3x3x0,75	1,1	12,0	190	75
4410104043	4x3x0,75	1,1	13,5	240	80
4410104073	7x3x0,75	1,1	16,5	390	100
4410104083	8x3x0,75	1,1	17,5	435	105
4410104103	10x3x0,75	1,1	20,0	545	120
4410104123	12x3x0,75	1,1	21,0	635	125
4410104143	14x3x0,75	1,1	22,5	745	135
4410104163	16x3x0,75	1,1	24,0	840	145
4410104193	19x3x0,75	1,1	26,0	990	155
4410104243	24x3x0,75	1,1	29,0	1230	175
4410104273	27x3x0,75	1,1	31,0	1395	185
4410104303	30x3x0,75	1,1	32,5	1530	195
4410104323	32x3x0,75	1,1	33,0	1625	200
4410104373	37x3x0,75	1,1	35,5	1865	215
4410105012	1x2x1	1,3	7,5	70	45
4410105014	1x4x1	1,3	8,5	105	50
4410105022	2x2x1	1,3	11,5	140	70
4410105032	3x2x1	1,3	12,5	190	75
4410105042	4x2x1	1,3	13,5	240	80
4410105072	7x2x1	1,3	16,5	380	100
4410105082	8x2x1	1,3	17,5	435	105
4410105102	10x2x1	1,3	20,5	555	120
4410105122	12x2x1	1,3	21,5	640	130
4410105142	14x2x1	1,3	23,0	730	135
4410105162	16x2x1	1,3	24,5	835	145
4410105192	19x2x1	1,3	26,0	970	155
4410105242	24x2x1	1,3	29,5	1235	175
4410105272	27x2x1	1,3	31,0	1370	185
4410105302	30x2x1	1,3	32,5	1515	195
4410105322	32x2x1	1,3	33,5	1605	200
4410105372	37x2x1	1,3	36,0	1845	215

Table continues on next page

**S11 RU(i) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4410105013	1x3x1	1,3	8,0	90	45
4410105023	2x3x1	1,3	12,5	170	75
4410105033	3x3x1	1,3	13,0	235	80
4410105043	4x3x1	1,3	14,5	300	85
4410105073	7x3x1	1,3	17,5	485	105
4410105083	8x3x1	1,3	19,0	555	115
4410105103	10x3x1	1,3	21,5	700	130
4410105123	12x3x1	1,3	22,5	815	135
4410105143	14x3x1	1,3	24,5	935	145
4410105163	16x3x1	1,3	26,0	1065	155
4410105193	19x3x1	1,3	28,0	1245	165
4410105243	24x3x1	1,3	31,5	1580	190
4410105273	27x3x1	1,3	33,0	1760	200
4410105303	30x3x1	1,3	35,0	1950	210
4410105323	32x3x1	1,3	36,0	2070	215
4410105373	37x3x1	1,3	38,5	2380	230
4410107012	1x2x1,5	1,6	8,5	90	50
4410107014	1x4x1,5	1,6	10,0	145	60
4410107022	2x2x1,5	1,6	13,5	180	80
4410107032	3x2x1,5	1,6	14,0	240	85
4410107042	4x2x1,5	1,6	15,5	310	95
4410107072	7x2x1,5	1,6	19,0	495	115
4410107082	8x2x1,5	1,6	20,5	575	125
4410107102	10x2x1,5	1,6	23,5	715	140
4410107122	12x2x1,5	1,6	24,5	830	150
4410107142	14x2x1,5	1,6	26,5	965	160
4410107162	16x2x1,5	1,6	28,0	1085	170
4410107192	19x2x1,5	1,6	30,5	1290	185
4410107242	24x2x1,5	1,6	34,5	1615	205
4410107272	27x2x1,5	1,6	36,0	1795	215
4410107302	30x2x1,5	1,6	38,0	2005	230
4410107322	32x2x1,5	1,6	39,5	2125	235
4410107372	37x2x1,5	1,6	42,0	2435	255
4410107013	1x3x1,5	1,6	9,5	120	55
4410107023	2x3x1,5	1,6	14,0	230	85
4410107033	3x3x1,5	1,6	15,0	305	90
4410107043	4x3x1,5	1,6	16,5	395	100
4410107073	7x3x1,5	1,6	20,0	650	120
4410107083	8x3x1,5	1,6	22,0	750	130
4410107103	10x3x1,5	1,6	25,0	935	150
4410107123	12x3x1,5	1,6	26,5	1090	160
4410107143	14x3x1,5	1,6	28,5	1265	170
4410107163	16x3x1,5	1,6	30,0	1425	180
4410107193	19x3x1,5	1,6	33,0	1695	195
4410107243	24x3x1,5	1,6	36,5	2130	220
4410107273	27x3x1,5	1,6	38,5	2370	230
4410107303	30x3x1,5	1,6	41,0	2645	245
4410107323	32x3x1,5	1,6	42,0	2805	250
4410107373	37x3x1,5	1,6	45,0	3225	270

## S11 RU(i) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4410108012	1x2x2,5	2,0	9,5	125	60
4410108014	1x4x2,5	2,0	11,0	195	65
4410108022	2x2x2,5	2,0	15,0	245	90
4410108032	3x2x2,5	2,0	16,0	330	95
4410108042	4x2x2,5	2,0	18,0	425	105
4410108072	7x2x2,5	2,0	21,5	705	130
4410108082	8x2x2,5	2,0	23,5	800	140
4410108102	10x2x2,5	2,0	26,5	995	160
4410108122	12x2x2,5	2,0	28,5	1185	170
4410108142	14x2x2,5	2,0	30,5	1360	180
4410108162	16x2x2,5	2,0	32,5	1545	195
4410108192	19x2x2,5	2,0	35,0	1820	210
4410108242	24x2x2,5	2,0	39,5	2300	235
4410108272	27x2x2,5	2,0	41,5	2555	250
4410108302	30x2x2,5	2,0	43,5	2850	260
4410108322	32x2x2,5	2,0	45,0	3020	270
4410108372	37x2x2,5	2,0	48,0	3465	290
4410108013	1x3x2,5	2,0	10,5	160	60
4410108023	2x3x2,5	2,0	16,0	315	95
4410108033	3x3x2,5	2,0	17,0	430	100
4410108043	4x3x2,5	2,0	19,0	555	115
4410108073	7x3x2,5	2,0	23,0	925	140
4410108083	8x3x2,5	2,0	25,0	1060	150
4410108103	10x3x2,5	2,0	28,5	1315	170
4410108123	12x3x2,5	2,0	30,5	1570	180
4410108143	14x3x2,5	2,0	32,5	1805	195
4410108163	16x3x2,5	2,0	34,5	2055	205
4410108193	19x3x2,5	2,0	37,5	2420	225
4410108243	24x3x2,5	2,0	42,0	3060	250
4410108273	27x3x2,5	2,0	44,0	3410	265
4410108303	30x3x2,5	2,0	46,5	3795	280
4410108323	32x3x2,5	2,0	48,0	4030	290
4410108373	37x3x2,5	2,0	51,5	4635	310

Table continues on next page

**S11 MUD RU(i) 250V mud resistant**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4510104012	1x2x0,75	1,1	7,0	65	45
4510104014	1x4x0,75	1,1	8,0	90	50
4510104022	2x2x0,75	1,1	11,0	120	65
4510104032	3x2x0,75	1,1	11,5	155	70
4510104042	4x2x0,75	1,1	13,0	200	75
4510104072	7x2x0,75	1,1	15,5	315	90
4510104082	8x2x0,75	1,1	16,5	350	100
4510104102	10x2x0,75	1,1	18,5	435	110
4510104122	12x2x0,75	1,1	19,5	505	120
4510104142	14x2x0,75	1,1	21,5	595	130
4510104162	16x2x0,75	1,1	22,5	665	135
4510104192	19x2x0,75	1,1	24,5	785	145
4510104242	24x2x0,75	1,1	27,0	975	165
4510104272	27x2x0,75	1,1	29,0	1105	175
4510104302	30x2x0,75	1,1	30,5	1210	180
4510104322	32x2x0,75	1,1	31,0	1280	185
4510104372	37x2x0,75	1,1	33,5	1470	200
4510104013	1x3x0,75	1,1	7,5	75	45
4510104023	2x3x0,75	1,1	11,5	145	70
4510104033	3x3x0,75	1,1	12,0	195	75
4510104043	4x3x0,75	1,1	13,5	245	80
4510104073	7x3x0,75	1,1	16,5	395	100
4510104083	8x3x0,75	1,1	17,5	445	105
4510104103	10x3x0,75	1,1	20,0	555	120
4510104123	12x3x0,75	1,1	21,0	645	125
4510104143	14x3x0,75	1,1	22,5	760	135
4510104163	16x3x0,75	1,1	24,0	850	145
4510104193	19x3x0,75	1,1	26,0	1005	155
4510104243	24x3x0,75	1,1	29,0	1250	175
4510104273	27x3x0,75	1,1	31,0	1415	185
4510104303	30x3x0,75	1,1	32,5	1555	195
4510104323	32x3x0,75	1,1	33,0	1645	200
4510104373	37x3x0,75	1,1	35,5	1895	215
4510105012	1x2x1	1,3	7,5	75	45
4510105014	1x4x1	1,3	8,5	110	50
4510105022	2x2x1	1,3	11,5	145	70
4510105032	3x2x1	1,3	12,5	195	75
4510105042	4x2x1	1,3	13,5	245	80
4510105072	7x2x1	1,3	16,5	390	100
4510105082	8x2x1	1,3	17,5	445	105
4510105102	10x2x1	1,3	20,5	565	120
4510105122	12x2x1	1,3	21,5	650	130
4510105142	14x2x1	1,3	23,0	745	135
4510105162	16x2x1	1,3	24,5	850	145
4510105192	19x2x1	1,3	26,0	985	155
4510105242	24x2x1	1,3	29,5	1255	175
4510105272	27x2x1	1,3	31,0	1390	185
4510105302	30x2x1	1,3	32,5	1540	195
4510105322	32x2x1	1,3	33,5	1630	200
4510105372	37x2x1	1,3	36,0	1875	215
4510105013	1x3x1	1,3	8,0	90	45
4510105023	2x3x1	1,3	12,5	175	75
4510105033	3x3x1	1,3	13,0	240	80
4510105043	4x3x1	1,3	14,5	305	85
4510105073	7x3x1	1,3	17,5	495	105
4510105083	8x3x1	1,3	19,0	565	115
4510105103	10x3x1	1,3	21,5	710	130
4510105123	12x3x1	1,3	22,5	830	135
4510105143	14x3x1	1,3	24,5	950	145
4510105163	16x3x1	1,3	26,0	1080	155
4510105193	19x3x1	1,3	28,0	1260	165
4510105243	24x3x1	1,3	31,5	1600	190
4510105273	27x3x1	1,3	33,0	1780	200
4510105303	30x3x1	1,3	35,0	1975	210
4510105323	32x3x1	1,3	36,0	2095	215
4510105373	37x3x1	1,3	38,5	2410	230




## S11 MUD RU(i) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4510107012	1x2x1,5	1,6	8,5	90	50
4510107014	1x4x1,5	1,6	10,0	150	60
4510107022	2x2x1,5	1,6	13,5	190	80
4510107032	3x2x1,5	1,6	14,0	245	85
4510107042	4x2x1,5	1,6	15,5	315	95
4510107072	7x2x1,5	1,6	19,0	505	115
4510107082	8x2x1,5	1,6	20,5	590	125
4510107102	10x2x1,5	1,6	23,5	730	140
4510107122	12x2x1,5	1,6	24,5	845	150
4510107142	14x2x1,5	1,6	26,5	980	160
4510107162	16x2x1,5	1,6	28,0	1100	170
4510107192	19x2x1,5	1,6	30,5	1310	185
4510107242	24x2x1,5	1,6	34,5	1645	205
4510107272	27x2x1,5	1,6	36,0	1825	215
4510107302	30x2x1,5	1,6	38,0	2035	230
4510107322	32x2x1,5	1,6	39,5	2155	235
4510107372	37x2x1,5	1,6	42,0	2475	255
4510107013	1x3x1,5	1,6	9,5	125	55
4510107023	2x3x1,5	1,6	14,0	235	85
4510107033	3x3x1,5	1,6	15,0	315	90
4510107043	4x3x1,5	1,6	16,5	405	100
4510107073	7x3x1,5	1,6	20,0	660	120
4510107083	8x3x1,5	1,6	22,0	765	130
4510107103	10x3x1,5	1,6	25,0	950	150
4510107123	12x3x1,5	1,6	26,5	1105	160
4510107143	14x3x1,5	1,6	28,5	1280	170
4510107163	16x3x1,5	1,6	30,0	1445	180
4510107193	19x3x1,5	1,6	33,0	1720	195
4510107243	24x3x1,5	1,6	36,5	2160	220
4510107273	27x3x1,5	1,6	38,5	2400	230
4510107303	30x3x1,5	1,6	41,0	2680	245
4510107323	32x3x1,5	1,6	42,0	2840	250
4510107373	37x3x1,5	1,6	45,0	3265	270
4510108012	1x2x2,5	2,0	9,5	130	60
4510108014	1x4x2,5	2,0	11,0	200	65
4510108022	2x2x2,5	2,0	15,0	255	90
4510108032	3x2x2,5	2,0	16,0	340	95
4510108042	4x2x2,5	2,0	18,0	435	105
4510108072	7x2x2,5	2,0	21,5	715	130
4510108082	8x2x2,5	2,0	23,5	815	140
4510108102	10x2x2,5	2,0	26,5	1015	160
4510108122	12x2x2,5	2,0	28,5	1205	170
4510108142	14x2x2,5	2,0	30,5	1380	180
4510108162	16x2x2,5	2,0	32,5	1570	195
4510108192	19x2x2,5	2,0	35,0	1845	210
4510108242	24x2x2,5	2,0	39,5	2335	235
4510108272	27x2x2,5	2,0	41,5	2590	250
4510108302	30x2x2,5	2,0	43,5	2890	260
4510108322	32x2x2,5	2,0	45,0	3065	270
4510108372	37x2x2,5	2,0	48,0	3515	290
4510108013	1x3x2,5	2,0	10,5	165	60
4510108023	2x3x2,5	2,0	16,0	320	95
4510108033	3x3x2,5	2,0	17,0	435	100
4510108043	4x3x2,5	2,0	19,0	565	115
4510108073	7x3x2,5	2,0	23,0	940	140
4510108083	8x3x2,5	2,0	25,0	1075	150
4510108103	10x3x2,5	2,0	28,5	1335	170
4510108123	12x3x2,5	2,0	30,5	1590	180
4510108143	14x3x2,5	2,0	32,5	1830	195
4510108163	16x3x2,5	2,0	34,5	2080	205
4510108193	19x3x2,5	2,0	37,5	2450	225
4510108243	24x3x2,5	2,0	42,0	3095	250
4510108273	27x3x2,5	2,0	44,0	3450	265
4510108303	30x3x2,5	2,0	46,5	3840	280
4510108323	32x3x2,5	2,0	48,0	4075	290
4510108373	37x3x2,5	2,0	51,5	4685	310

# S12 and S12+MUD RU(c) 250V

## Control, instrumentation and telecommunication cable.



DESIGN:	STANDARDS:
	IEC 60092-376, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b> -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b> - two or three insulated cores twisted together to form a pair or triplex	
<b>4. Collective screen</b> - plastic coated copper tape and tinned copper drain wire (optional: separator tape)	
<b>5. Sheath (S12)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF2)
<b>5. Sheath (S12+MUD)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only S12+MUD)

**OIL-resistant**

**FLAME-retardant**

**FIRE-resistant**

**Halogen-free**

**Low smoke emission**

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type S12 in NEK TS 606:2009.  
Meets the requirement for cable type S12+MUD in NEK TS 606:2009.

### Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only S12+MUD)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## S12 RU (c) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4420104012	1x2x0,75	1,1	7,0	60	45
4420104014	1x4x0,75	1,1	8,0	85	50
4420104022	2x2x0,75	1,1	11,0	110	65
4420104032	3x2x0,75	1,1	11,5	135	70
4420104042	4x2x0,75	1,1	12,5	165	75
4420104072	7x2x0,75	1,1	15,0	255	90
4420104082	8x2x0,75	1,1	16,0	280	95
4420104102	10x2x0,75	1,1	18,5	345	110
4420104122	12x2x0,75	1,1	19,0	395	115
4420104142	14x2x0,75	1,1	21,0	460	125
4420104162	16x2x0,75	1,1	22,0	515	135
4420104192	19x2x0,75	1,1	24,0	600	145
4420104242	24x2x0,75	1,1	26,5	740	160
4420104272	27x2x0,75	1,1	28,5	840	170
4420104302	30x2x0,75	1,1	29,5	920	180
4420104322	32x2x0,75	1,1	30,5	970	185
4420104372	37x2x0,75	1,1	32,5	1105	195
4420104013	1x3x0,75	1,1	7,5	70	45
4420104023	2x3x0,75	1,1	11,5	135	70
4420104033	3x3x0,75	1,1	12,0	170	70
4420104043	4x3x0,75	1,1	13,5	215	80
4420104073	7x3x0,75	1,1	16,0	330	95
4420104083	8x3x0,75	1,1	17,0	370	105
4420104103	10x3x0,75	1,1	19,5	460	120
4420104123	12x3x0,75	1,1	20,5	530	125
4420104143	14x3x0,75	1,1	22,5	620	135
4420104163	16x3x0,75	1,1	23,5	695	140
4420104193	19x3x0,75	1,1	25,5	815	155
4420104243	24x3x0,75	1,1	28,5	1010	170
4420104273	27x3x0,75	1,1	30,5	1145	180
4420104303	30x3x0,75	1,1	31,5	1250	190
4420104323	32x3x0,75	1,1	32,5	1325	195
4420104373	37x3x0,75	1,1	35,0	1520	210
4420105012	1x2x1	1,3	7,5	70	45
4420105014	1x4x1	1,3	8,5	105	50
4420105022	2x2x1	1,3	11,5	125	70
4420105032	3x2x1	1,3	12,5	165	75
4420105042	4x2x1	1,3	13,5	200	80
4420105072	7x2x1	1,3	16,0	305	95
4420105082	8x2x1	1,3	17,5	345	105
4420105102	10x2x1	1,3	20,0	440	120
4420105122	12x2x1	1,3	21,0	500	125
4420105142	14x2x1	1,3	22,5	565	135
4420105162	16x2x1	1,3	24,0	640	145
4420105192	19x2x1	1,3	25,5	740	155
4420105242	24x2x1	1,3	29,0	935	175
4420105272	27x2x1	1,3	30,5	1035	180
4420105302	30x2x1	1,3	32,0	1145	190
4420105322	32x2x1	1,3	33,0	1205	195
4420105372	37x2x1	1,3	35,0	1380	210

**S12 RU (c) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4420105013	1x3x1	1,3	8,0	85	45
4420105023	2x3x1	1,3	12,0	160	75
4420105033	3x3x1	1,3	13,0	210	80
4420105043	4x3x1	1,3	14,5	260	85
4420105073	7x3x1	1,3	17,0	405	105
4420105083	8x3x1	1,3	18,5	465	110
4420105103	10x3x1	1,3	21,5	585	130
4420105123	12x3x1	1,3	22,5	675	135
4420105143	14x3x1	1,3	24,0	770	145
4420105163	16x3x1	1,3	25,5	875	155
4420105193	19x3x1	1,3	27,5	1015	165
4420105243	24x3x1	1,3	31,0	1285	185
4420105273	27x3x1	1,3	32,5	1420	195
4420105303	30x3x1	1,3	34,0	1575	205
4420105323	32x3x1	1,3	35,0	1670	210
4420105373	37x3x1	1,3	37,5	1915	225
4420107012	1x2x1,5	1,6	8,5	90	50
4420107014	1x4x1,5	1,6	10,0	145	60
4420107022	2x2x1,5	1,6	13,0	170	80
4420107032	3x2x1,5	1,6	14,0	215	85
4420107042	4x2x1,5	1,6	15,5	270	95
4420107072	7x2x1,5	1,6	19,0	420	115
4420107082	8x2x1,5	1,6	20,5	485	120
4420107102	10x2x1,5	1,6	23,5	600	140
4420107122	12x2x1,5	1,6	24,5	690	145
4420107142	14x2x1,5	1,6	26,0	795	155
4420107162	16x2x1,5	1,6	27,5	890	165
4420107192	19x2x1,5	1,6	30,0	1055	180
4420107242	24x2x1,5	1,6	34,0	1315	205
4420107272	27x2x1,5	1,6	35,5	1455	215
4420107302	30x2x1,5	1,6	37,5	1625	225
4420107322	32x2x1,5	1,6	38,5	1720	230
4420107372	37x2x1,5	1,6	41,5	1965	250
4420107013	1x3x1,5	1,6	9,5	120	55
4420107023	2x3x1,5	1,6	14,0	215	85
4420107033	3x3x1,5	1,6	15,0	280	90
4420107043	4x3x1,5	1,6	16,5	355	100
4420107073	7x3x1,5	1,6	20,0	570	120
4420107083	8x3x1,5	1,6	21,5	660	130
4420107103	10x3x1,5	1,6	25,0	815	150
4420107123	12x3x1,5	1,6	26,0	945	155
4420107143	14x3x1,5	1,6	28,0	1090	170
4420107163	16x3x1,5	1,6	29,5	1225	180
4420107193	19x3x1,5	1,6	32,5	1455	195
4420107243	24x3x1,5	1,6	36,0	1820	215
4420107273	27x3x1,5	1,6	38,0	2020	230
4420107303	30x3x1,5	1,6	40,0	2255	240
4420107323	32x3x1,5	1,6	41,5	2390	250
4420107373	37x3x1,5	1,6	44,0	2740	265

## S12 RU (c) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4420108012	1x2x2,5	2,0	9,5	125	60
4420108014	1x4x2,5	2,0	11,0	195	65
4420108022	2x2x2,5	2,0	15,0	230	90
4420108032	3x2x2,5	2,0	16,0	295	95
4420108042	4x2x2,5	2,0	17,5	375	105
4420108072	7x2x2,5	2,0	21,5	605	130
4420108082	8x2x2,5	2,0	23,0	685	140
4420108102	10x2x2,5	2,0	26,5	845	160
4420108122	12x2x2,5	2,0	28,0	1000	170
4420108142	14x2x2,5	2,0	30,0	1140	180
4420108162	16x2x2,5	2,0	32,0	1290	190
4420108192	19x2x2,5	2,0	34,5	1515	205
4420108242	24x2x2,5	2,0	38,5	1905	230
4420108272	27x2x2,5	2,0	40,5	2115	245
4420108302	30x2x2,5	2,0	43,0	2355	260
4420108322	32x2x2,5	2,0	44,5	2495	265
4420108372	37x2x2,5	2,0	47,5	2850	285
4420108013	1x3x2,5	2,0	10,5	160	60
4420108023	2x3x2,5	2,0	16,0	295	95
4420108033	3x3x2,5	2,0	17,0	395	100
4420108043	4x3x2,5	2,0	18,5	505	110
4420108073	7x3x2,5	2,0	23,0	825	135
4420108083	8x3x2,5	2,0	24,5	940	150
4420108103	10x3x2,5	2,0	28,0	1160	170
4420108123	12x3x2,5	2,0	30,0	1380	180
4420108143	14x3x2,5	2,0	32,0	1580	190
4420108163	16x3x2,5	2,0	34,0	1800	205
4420108193	19x3x2,5	2,0	37,0	2115	220
4420108243	24x3x2,5	2,0	41,5	2665	250
4420108273	27x3x2,5	2,0	43,5	2960	260
4420108303	30x3x2,5	2,0	46,0	3300	275
4420108323	32x3x2,5	2,0	47,5	3495	285
4420108373	37x3x2,5	2,0	50,5	4015	305

Table continues on next page

**S12 MUD RU (c) 250 mud resistant**


Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4520104012	1x2x0,75	1,1	7,0	60	45
4520104014	1x4x0,75	1,1	8,0	90	50
4520104022	2x2x0,75	1,1	11,0	110	65
4520104032	3x2x0,75	1,1	11,5	140	70
4520104042	4x2x0,75	1,1	12,5	170	75
4520104072	7x2x0,75	1,1	15,0	260	90
4520104082	8x2x0,75	1,1	16,0	285	95
4520104102	10x2x0,75	1,1	18,5	355	110
4520104122	12x2x0,75	1,1	19,0	405	115
4520104142	14x2x0,75	1,1	21,0	475	125
4520104162	16x2x0,75	1,1	22,0	530	135
4520104192	19x2x0,75	1,1	24,0	615	145
4520104242	24x2x0,75	1,1	26,5	760	160
4520104272	27x2x0,75	1,1	28,5	860	170
4520104302	30x2x0,75	1,1	29,5	940	180
4520104322	32x2x0,75	1,1	30,5	990	185
4520104372	37x2x0,75	1,1	32,5	1130	195
4520104013	1x3x0,75	1,1	7,5	75	45
4520104023	2x3x0,75	1,1	11,5	140	70
4520104033	3x3x0,75	1,1	12,0	175	70
4520104043	4x3x0,75	1,1	13,5	220	80
4520104073	7x3x0,75	1,1	16,0	340	95
4520104083	8x3x0,75	1,1	17,0	380	105
4520104103	10x3x0,75	1,1	19,5	470	120
4520104123	12x3x0,75	1,1	20,5	540	125
4520104143	14x3x0,75	1,1	22,5	635	135
4520104163	16x3x0,75	1,1	23,5	710	140
4520104193	19x3x0,75	1,1	25,5	830	155
4520104243	24x3x0,75	1,1	28,5	1025	170
4520104273	27x3x0,75	1,1	30,5	1165	180
4520104303	30x3x0,75	1,1	31,5	1275	190
4520104323	32x3x0,75	1,1	32,5	1345	195
4520104373	37x3x0,75	1,1	35,0	1545	210
4520105012	1x2x1	1,3	7,5	75	45
4520105014	1x4x1	1,3	8,5	105	50
4520105022	2x2x1	1,3	11,5	130	70
4520105032	3x2x1	1,3	12,5	170	75
4520105042	4x2x1	1,3	13,5	205	80
4520105072	7x2x1	1,3	16,0	315	95
4520105082	8x2x1	1,3	17,5	355	105
4520105102	10x2x1	1,3	20,0	450	120
4520105122	12x2x1	1,3	21,0	510	125
4520105142	14x2x1	1,3	22,5	580	135
4520105162	16x2x1	1,3	24,0	655	145
4520105192	19x2x1	1,3	25,5	755	155
4520105242	24x2x1	1,3	29,0	955	175
4520105272	27x2x1	1,3	30,5	1055	180
4520105302	30x2x1	1,3	32,0	1165	190
4520105322	32x2x1	1,3	33,0	1230	195
4520105372	37x2x1	1,3	35,0	1410	210
4520105013	1x3x1	1,3	8,0	90	45
4520105023	2x3x1	1,3	12,0	165	75
4520105033	3x3x1	1,3	13,0	215	80
4520105043	4x3x1	1,3	14,5	265	85
4520105073	7x3x1	1,3	17,0	415	105
4520105083	8x3x1	1,3	18,5	475	110
4520105103	10x3x1	1,3	21,5	600	130
4520105123	12x3x1	1,3	22,5	690	135
4520105143	14x3x1	1,3	24,0	780	145
4520105163	16x3x1	1,3	25,5	890	155
4520105193	19x3x1	1,3	27,5	1030	165
4520105243	24x3x1	1,3	31,0	1305	185
4520105273	27x3x1	1,3	32,5	1445	195
4520105303	30x3x1	1,3	34,0	1600	205
4520105323	32x3x1	1,3	35,0	1695	210
4520105373	37x3x1	1,3	37,5	1940	225

## S12 MUD RU (c) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4520107012	1x2x1,5	1,6	8,5	90	50
4520107014	1x4x1,5	1,6	10,0	150	60
4520107022	2x2x1,5	1,6	13,0	175	80
4520107032	3x2x1,5	1,6	14,0	220	85
4520107042	4x2x1,5	1,6	15,5	280	95
4520107072	7x2x1,5	1,6	19,0	430	115
4520107082	8x2x1,5	1,6	20,5	500	120
4520107102	10x2x1,5	1,6	23,5	615	140
4520107122	12x2x1,5	1,6	24,5	705	145
4520107142	14x2x1,5	1,6	26,0	810	155
4520107162	16x2x1,5	1,6	27,5	905	165
4520107192	19x2x1,5	1,6	30,0	1075	180
4520107242	24x2x1,5	1,6	34,0	1340	205
4520107272	27x2x1,5	1,6	35,5	1480	215
4520107302	30x2x1,5	1,6	37,5	1655	225
4520107322	32x2x1,5	1,6	38,5	1750	230
4520107372	37x2x1,5	1,6	41,5	2000	250
4520107013	1x3x1,5	1,6	9,5	120	55
4520107023	2x3x1,5	1,6	14,0	220	85
4520107033	3x3x1,5	1,6	15,0	285	90
4520107043	4x3x1,5	1,6	16,5	365	100
4520107073	7x3x1,5	1,6	20,0	580	120
4520107083	8x3x1,5	1,6	21,5	670	130
4520107103	10x3x1,5	1,6	25,0	830	150
4520107123	12x3x1,5	1,6	26,0	960	155
4520107143	14x3x1,5	1,6	28,0	1110	170
4520107163	16x3x1,5	1,6	29,5	1245	180
4520107193	19x3x1,5	1,6	32,5	1480	195
4520107243	24x3x1,5	1,6	36,0	1850	215
4520107273	27x3x1,5	1,6	38,0	2050	230
4520107303	30x3x1,5	1,6	40,0	2290	240
4520107323	32x3x1,5	1,6	41,5	2425	250
4520107373	37x3x1,5	1,6	44,0	2780	265
4520108012	1x2x2,5	2,0	9,5	130	60
4520108014	1x4x2,5	2,0	11,0	200	65
4520108022	2x2x2,5	2,0	15,0	240	90
4520108032	3x2x2,5	2,0	16,0	305	95
4520108042	4x2x2,5	2,0	17,5	385	105
4520108072	7x2x2,5	2,0	21,5	615	130
4520108082	8x2x2,5	2,0	23,0	700	140
4520108102	10x2x2,5	2,0	26,5	860	160
4520108122	12x2x2,5	2,0	28,0	1020	170
4520108142	14x2x2,5	2,0	30,0	1160	180
4520108162	16x2x2,5	2,0	32,0	1315	190
4520108192	19x2x2,5	2,0	34,5	1540	205
4520108242	24x2x2,5	2,0	38,5	1940	230
4520108272	27x2x2,5	2,0	40,5	2150	245
4520108302	30x2x2,5	2,0	43,0	2395	260
4520108322	32x2x2,5	2,0	44,5	2535	265
4520108372	37x2x2,5	2,0	47,5	2900	285
4520108013	1x3x2,5	2,0	10,5	160	60
4520108023	2x3x2,5	2,0	16,0	305	95
4520108033	3x3x2,5	2,0	17,0	400	100
4520108043	4x3x2,5	2,0	18,5	515	110
4520108073	7x3x2,5	2,0	23,0	835	135
4520108083	8x3x2,5	2,0	24,5	955	150
4520108103	10x3x2,5	2,0	28,0	1180	170
4520108123	12x3x2,5	2,0	30,0	1400	180
4520108143	14x3x2,5	2,0	32,0	1605	190
4520108163	16x3x2,5	2,0	34,0	1825	205
4520108193	19x3x2,5	2,0	37,0	2140	220
4520108243	24x3x2,5	2,0	41,5	2700	250
4520108273	27x3x2,5	2,0	43,5	3000	260
4520108303	30x3x2,5	2,0	46,0	3340	275
4520108323	32x3x2,5	2,0	47,5	3540	285
4520108373	37x3x2,5	2,0	50,5	4060	305

# S13 and S13+MUD BU(i) 250V

Fire resistant control, instrumentation and telecommunication cable.



**DESIGN:**

**STANDARDS:**  
IEC 60092-376, design

<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b> -mica tape -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b> - two or three insulated cores twisted together to form a pair or triplex - plastic coated copper tape and tinned copper drain wire	
<b>4. Bedding</b> -covered by separator tape (optional)	
<b>5. Sheath (S13)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF2)
<b>5. Sheath (S13+MUD)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only S13+MUD) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ●

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type S13 in NEK TS 606:2009.  
Meets the requirement for cable type S13+MUD in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Fire resistant	<b>IEC 60331</b> series
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only S13+MUD)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath



## S13 BU(i) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4430104012	1x2x0,75	1,1	8,0	70	50
4430104014	1x4x0,75	1,1	9,0	105	55
4430104022	2x2x0,75	1,1	12,5	140	75
4430104032	3x2x0,75	1,1	13,0	180	80
4430104042	4x2x0,75	1,1	14,5	235	90
4430104072	7x2x0,75	1,1	18,0	370	105
4430104082	8x2x0,75	1,1	19,0	415	115
4430104102	10x2x0,75	1,1	21,5	515	130
4430104122	12x2x0,75	1,1	22,5	595	135
4430104142	14x2x0,75	1,1	24,5	705	150
4430104162	16x2x0,75	1,1	26,0	790	155
4430104192	19x2x0,75	1,1	28,5	930	170
4430104242	24x2x0,75	1,1	31,5	1150	190
4430104272	27x2x0,75	1,1	33,5	1305	200
4430104302	30x2x0,75	1,1	35,5	1435	210
4430104322	32x2x0,75	1,1	36,5	1515	220
4430104372	37x2x0,75	1,1	39,0	1740	235
4430104013	1x3x0,75	1,1	8,5	90	50
4430104023	2x3x0,75	1,1	13,0	170	80
4430104033	3x3x0,75	1,1	14,0	225	85
4430104043	4x3x0,75	1,1	15,5	290	95
4430104073	7x3x0,75	1,1	19,0	470	115
4430104083	8x3x0,75	1,1	20,0	530	120
4430104103	10x3x0,75	1,1	23,0	660	140
4430104123	12x3x0,75	1,1	24,5	765	145
4430104143	14x3x0,75	1,1	26,5	900	160
4430104163	16x3x0,75	1,1	28,0	1015	165
4430104193	19x3x0,75	1,1	30,5	1195	180
4430104243	24x3x0,75	1,1	34,0	1490	205
4430104273	27x3x0,75	1,1	36,0	1690	215
4430104303	30x3x0,75	1,1	37,5	1855	225
4430104323	32x3x0,75	1,1	39,0	1965	235
4430104373	37x3x0,75	1,1	41,5	2260	250
4430105012	1x2x1	1,3	8,5	85	50
4430105014	1x4x1	1,3	9,5	125	60
4430105022	2x2x1	1,3	13,0	165	80
4430105032	3x2x1	1,3	14,0	220	85
4430105042	4x2x1	1,3	15,5	275	90
4430105072	7x2x1	1,3	18,5	440	110
4430105082	8x2x1	1,3	20,0	505	120
4430105102	10x2x1	1,3	23,5	640	140
4430105122	12x2x1	1,3	24,5	740	145
4430105142	14x2x1	1,3	26,0	845	155
4430105162	16x2x1	1,3	28,0	965	165
4430105192	19x2x1	1,3	30,0	1120	180
4430105242	24x2x1	1,3	33,5	1420	200
4430105272	27x2x1	1,3	35,5	1580	215
4430105302	30x2x1	1,3	37,5	1750	225
4430105322	32x2x1	1,3	38,5	1855	230
4430105372	37x2x1	1,3	41,0	2130	245

Table continues on next page

**S13 BU(i) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4430105013	1x3x1	1,3	9,0	105	55
4430105023	2x3x1	1,3	14,0	200	85
4430105033	3x3x1	1,3	15,0	275	90
4430105043	4x3x1	1,3	16,5	350	100
4430105073	7x3x1	1,3	20,0	565	120
4430105083	8x3x1	1,3	21,5	650	130
4430105103	10x3x1	1,3	25,0	820	150
4430105123	12x3x1	1,3	26,0	955	155
4430105143	14x3x1	1,3	28,0	1095	165
4430105163	16x3x1	1,3	29,5	1245	180
4430105193	19x3x1	1,3	32,0	1455	190
4430105243	24x3x1	1,3	36,0	1850	215
4430105273	27x3x1	1,3	38,0	2055	225
4430105303	30x3x1	1,3	40,0	2280	240
4430105323	32x3x1	1,3	41,0	2420	245
4430105373	37x3x1	1,3	44,0	2780	265
4430107012	1x2x1,5	1,6	9,5	105	55
4430107014	1x4x1,5	1,6	11,0	170	65
4430107022	2x2x1,5	1,6	15,0	210	90
4430107032	3x2x1,5	1,6	15,5	275	95
4430107042	4x2x1,5	1,6	17,5	355	105
4430107072	7x2x1,5	1,6	21,5	570	130
4430107082	8x2x1,5	1,6	23,0	665	140
4430107102	10x2x1,5	1,6	26,5	825	160
4430107122	12x2x1,5	1,6	27,5	955	165
4430107142	14x2x1,5	1,6	30,0	1110	180
4430107162	16x2x1,5	1,6	31,5	1245	190
4430107192	19x2x1,5	1,6	34,5	1485	205
4430107242	24x2x1,5	1,6	38,5	1860	230
4430107272	27x2x1,5	1,6	40,5	2065	245
4430107302	30x2x1,5	1,6	43,0	2305	260
4430107322	32x2x1,5	1,6	44,0	2445	265
4430107372	37x2x1,5	1,6	47,5	2805	285
4430107013	1x3x1,5	1,6	10,5	140	60
4430107023	2x3x1,5	1,6	16,0	260	95
4430107033	3x3x1,5	1,6	17,0	355	100
4430107043	4x3x1,5	1,6	18,5	455	110
4430107073	7x3x1,5	1,6	22,5	745	135
4430107083	8x3x1,5	1,6	24,5	865	150
4430107103	10x3x1,5	1,6	28,5	1075	170
4430107123	12x3x1,5	1,6	29,5	1255	180
4430107143	14x3x1,5	1,6	32,0	1455	190
4430107163	16x3x1,5	1,6	34,0	1645	205
4430107193	19x3x1,5	1,6	37,0	1955	220
4430107243	24x3x1,5	1,6	41,5	2450	250
4430107273	27x3x1,5	1,6	43,5	2730	260
4430107303	30x3x1,5	1,6	46,0	3045	275
4430107323	32x3x1,5	1,6	47,5	3230	285
4430107373	37x3x1,5	1,6	50,5	3715	305

## S13 BU(i) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4430108012	1x2x2,5	2,0	10,5	140	65
4430108014	1x4x2,5	2,0	12,5	225	75
4430108022	2x2x2,5	2,0	16,5	275	100
4430108032	3x2x2,5	2,0	17,5	370	105
4430108042	4x2x2,5	2,0	19,5	480	120
4430108072	7x2x2,5	2,0	24,0	785	145
4430108082	8x2x2,5	2,0	26,0	900	155
4430108102	10x2x2,5	2,0	29,5	1115	180
4430108122	12x2x2,5	2,0	31,5	1330	190
4430108142	14x2x2,5	2,0	33,5	1520	200
4430108162	16x2x2,5	2,0	35,5	1730	215
4430108192	19x2x2,5	2,0	38,5	2035	230
4430108242	24x2x2,5	2,0	43,5	2570	260
4430108272	27x2x2,5	2,0	46,0	2860	275
4430108302	30x2x2,5	2,0	48,5	3190	290
4430108322	32x2x2,5	2,0	50,0	3380	300
4430108372	37x2x2,5	2,0	53,5	3880	320
4430108013	1x3x2,5	2,0	11,0	180	65
4430108023	2x3x2,5	2,0	17,5	355	105
4430108033	3x3x2,5	2,0	18,5	485	110
4430108043	4x3x2,5	2,0	21,0	625	125
4430108073	7x3x2,5	2,0	25,5	1045	155
4430108083	8x3x2,5	2,0	27,5	1195	165
4430108103	10x3x2,5	2,0	31,5	1485	190
4430108123	12x3x2,5	2,0	33,5	1770	200
4430108143	14x3x2,5	2,0	36,0	2035	215
4430108163	16x3x2,5	2,0	38,0	2315	230
4430108193	19x3x2,5	2,0	41,5	2730	250
4430108243	24x3x2,5	2,0	46,5	3445	280
4430108273	27x3x2,5	2,0	49,0	3840	295
4430108303	30x3x2,5	2,0	52,0	4280	310
4430108323	32x3x2,5	2,0	53,5	4545	320
4430108373	37x3x2,5	2,0	57,0	5220	340

Table continues on next page

**S13 MUD BU(i) 250V mud resistant**

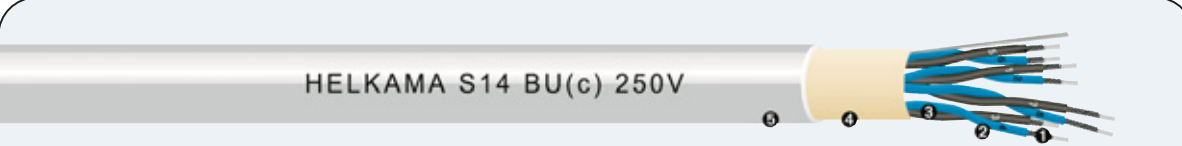
Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4530104012	1x2x0,75	1,1	8,0	75	50
4530104014	1x4x0,75	1,1	9,0	110	55
4530104022	2x2x0,75	1,1	12,5	145	75
4530104032	3x2x0,75	1,1	13,0	185	80
4530104042	4x2x0,75	1,1	14,5	240	90
4530104072	7x2x0,75	1,1	18,0	380	105
4530104082	8x2x0,75	1,1	19,0	425	115
4530104102	10x2x0,75	1,1	21,5	525	130
4530104122	12x2x0,75	1,1	22,5	605	135
4530104142	14x2x0,75	1,1	24,5	715	150
4530104162	16x2x0,75	1,1	26,0	805	155
4530104192	19x2x0,75	1,1	28,5	945	170
4530104242	24x2x0,75	1,1	31,5	1170	190
4530104272	27x2x0,75	1,1	33,5	1330	200
4530104302	30x2x0,75	1,1	35,5	1460	210
4530104322	32x2x0,75	1,1	36,5	1540	220
4530104372	37x2x0,75	1,1	39,0	1770	235
4530104013	1x3x0,75	1,1	8,5	90	50
4530104023	2x3x0,75	1,1	13,0	175	80
4530104033	3x3x0,75	1,1	14,0	230	85
4530104043	4x3x0,75	1,1	15,5	300	95
4530104073	7x3x0,75	1,1	19,0	480	115
4530104083	8x3x0,75	1,1	20,0	540	120
4530104103	10x3x0,75	1,1	23,0	670	140
4530104123	12x3x0,75	1,1	24,5	780	145
4530104143	14x3x0,75	1,1	26,5	915	160
4530104163	16x3x0,75	1,1	28,0	1030	165
4530104193	19x3x0,75	1,1	30,5	1215	180
4530104243	24x3x0,75	1,1	34,0	1510	205
4530104273	27x3x0,75	1,1	36,0	1715	215
4530104303	30x3x0,75	1,1	37,5	1880	225
4530104323	32x3x0,75	1,1	39,0	1995	235
4530104373	37x3x0,75	1,1	41,5	2290	250
4530105012	1x2x1	1,3	8,5	85	50
4530105014	1x4x1	1,3	9,5	125	60
4530105022	2x2x1	1,3	13,0	170	80
4530105032	3x2x1	1,3	14,0	225	85
4530105042	4x2x1	1,3	15,5	280	90
4530105072	7x2x1	1,3	18,5	450	110
4530105082	8x2x1	1,3	20,0	515	120
4530105102	10x2x1	1,3	23,5	650	140
4530105122	12x2x1	1,3	24,5	755	145
4530105142	14x2x1	1,3	26,0	860	155
4530105162	16x2x1	1,3	28,0	980	165
4530105192	19x2x1	1,3	30,0	1140	180
4530105242	24x2x1	1,3	33,5	1445	200
4530105272	27x2x1	1,3	35,5	1605	215
4530105302	30x2x1	1,3	37,5	1780	225
4530105322	32x2x1	1,3	38,5	1880	230
4530105372	37x2x1	1,3	41,0	2160	245
4530105013	1x3x1	1,3	9,0	105	55
4530105023	2x3x1	1,3	14,0	205	85
4530105033	3x3x1	1,3	15,0	285	90
4530105043	4x3x1	1,3	16,5	355	100
4530105073	7x3x1	1,3	20,0	575	120
4530105083	8x3x1	1,3	21,5	660	130
4530105103	10x3x1	1,3	25,0	835	150
4530105123	12x3x1	1,3	26,0	970	155
4530105143	14x3x1	1,3	28,0	1110	165
4530105163	16x3x1	1,3	29,5	1265	180
4530105193	19x3x1	1,3	32,0	1475	190
4530105243	24x3x1	1,3	36,0	1875	215
4530105273	27x3x1	1,3	38,0	2085	225
4530105303	30x3x1	1,3	40,0	2310	240
4530105323	32x3x1	1,3	41,0	2450	245
4530105373	37x3x1	1,3	44,0	2815	265

## S13 MUD BU(i) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4530107012	1x2x1,5	1,6	9,5	105	55
4530107014	1x4x1,5	1,6	11,0	175	65
4530107022	2x2x1,5	1,6	15,0	215	90
4530107032	3x2x1,5	1,6	15,5	285	95
4530107042	4x2x1,5	1,6	17,5	365	105
4530107072	7x2x1,5	1,6	21,5	585	130
4530107082	8x2x1,5	1,6	23,0	675	140
4530107102	10x2x1,5	1,6	26,5	840	160
4530107122	12x2x1,5	1,6	27,5	975	165
4530107142	14x2x1,5	1,6	30,0	1130	180
4530107162	16x2x1,5	1,6	31,5	1265	190
4530107192	19x2x1,5	1,6	34,5	1505	205
4530107242	24x2x1,5	1,6	38,5	1890	230
4530107272	27x2x1,5	1,6	40,5	2095	245
4530107302	30x2x1,5	1,6	43,0	2345	260
4530107322	32x2x1,5	1,6	44,0	2480	265
4530107372	37x2x1,5	1,6	47,5	2845	285
4530107013	1x3x1,5	1,6	10,5	145	60
4530107023	2x3x1,5	1,6	16,0	270	95
4530107033	3x3x1,5	1,6	17,0	360	100
4530107043	4x3x1,5	1,6	18,5	465	110
4530107073	7x3x1,5	1,6	22,5	760	135
4530107083	8x3x1,5	1,6	24,5	880	150
4530107103	10x3x1,5	1,6	28,5	1090	170
4530107123	12x3x1,5	1,6	29,5	1275	180
4530107143	14x3x1,5	1,6	32,0	1475	190
4530107163	16x3x1,5	1,6	34,0	1665	205
4530107193	19x3x1,5	1,6	37,0	1980	220
4530107243	24x3x1,5	1,6	41,5	2485	250
4530107273	27x3x1,5	1,6	43,5	2765	260
4530107303	30x3x1,5	1,6	46,0	3085	275
4530107323	32x3x1,5	1,6	47,5	3270	285
4530107373	37x3x1,5	1,6	50,5	3760	305
4530108012	1x2x2,5	2,0	10,5	145	65
4530108014	1x4x2,5	2,0	12,5	230	75
4530108022	2x2x2,5	2,0	16,5	285	100
4530108032	3x2x2,5	2,0	17,5	380	105
4530108042	4x2x2,5	2,0	19,5	490	120
4530108072	7x2x2,5	2,0	24,0	800	145
4530108082	8x2x2,5	2,0	26,0	915	155
4530108102	10x2x2,5	2,0	29,5	1135	180
4530108122	12x2x2,5	2,0	31,5	1350	190
4530108142	14x2x2,5	2,0	33,5	1545	200
4530108162	16x2x2,5	2,0	35,5	1755	215
4530108192	19x2x2,5	2,0	38,5	2065	230
4530108242	24x2x2,5	2,0	43,5	2610	260
4530108272	27x2x2,5	2,0	46,0	2900	275
4530108302	30x2x2,5	2,0	48,5	3235	290
4530108322	32x2x2,5	2,0	50,0	3425	300
4530108372	37x2x2,5	2,0	53,5	3930	320
4530108013	1x3x2,5	2,0	11,0	185	65
4530108023	2x3x2,5	2,0	17,5	365	105
4530108033	3x3x2,5	2,0	18,5	490	110
4530108043	4x3x2,5	2,0	21,0	640	125
4530108073	7x3x2,5	2,0	25,5	1060	155
4530108083	8x3x2,5	2,0	27,5	1210	165
4530108103	10x3x2,5	2,0	31,5	1505	190
4530108123	12x3x2,5	2,0	33,5	1795	200
4530108143	14x3x2,5	2,0	36,0	2060	215
4530108163	16x3x2,5	2,0	38,0	2345	230
4530108193	19x3x2,5	2,0	41,5	2765	250
4530108243	24x3x2,5	2,0	46,5	3490	280
4530108273	27x3x2,5	2,0	49,0	3885	295
4530108303	30x3x2,5	2,0	52,0	4330	310
4530108323	32x3x2,5	2,0	53,5	4595	320
4530108373	37x3x2,5	2,0	57,0	5275	340

# S14 and S14+MUD BU(c) 250V

Fire resistant control, instrumentation and telecommunication cable.



**HELKAMA S14 BU(c) 250V**

DESIGN:	STANDARDS:
	IEC 60092-376, design
<b>1. Conductor</b> -stranded tinned annealed conductor	IEC 60228, class 2
<b>2. Insulation</b> -mica tape -halogen free EP-Rubber	IEC 60092-360 (HF EPR)
<b>3. Twisted pair &amp; pair screen</b> - two or three insulated cores twisted together to form a pair or triplex	
<b>4. Collective screen</b> - plastic coated copper tape and tinned copper drain wire (optional: separator tape)	
<b>5. Sheath (S14)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF2)
<b>5. Sheath (S14+MUD)</b> -halogen free thermosetting, -standard colour grey	IEC 60092-360 (SHF MUD)

**MUD-resistant** (only S14+MUD) ●

**OIL-resistant** ●

**FLAME-retardant** ●

**FIRE-resistant** ●

**Halogen-free** ●

**Low smoke emission** ●

**Application:** Fixed installation in most areas and on open deck  
Meets the requirement for cable type S14 in NEK TS 606:2009.  
Meets the requirement for cable type S14+MUD in NEK TS 606:2009.

## Main characteristics

Rated voltage	<b>AC 150/250V (300V)</b>
Maximum conductor temperature	<b>+ 90 °C</b>
Flame-retardant	<b>IEC 60332-1-2</b> -test for single insulated wire and cable <b>IEC 60332-3-22</b> -test for bunched wires and cables, category A
Fire resistant	<b>IEC 60331</b> series
Halogen-free	<b>IEC 60754</b> series
Smoke emission	<b>IEC 61034</b> series
Oil resistance	<b>IEC 60811-2-1</b> conditions according to 60092-359
MUD resistant (only S14+MUD)	<b>NEK TS 606:2009</b>

**Minimum recommended installation temperature -15 °C**  
**Lowest operation temperature -40 °C**

**Core identification:** see technical information section

**Identification:** Lot number, cable type/voltage, number of cores, cross-section, cross-section of braid, temperature, standards, manufacturer's name, production month-year, and meter marking printed on the sheath

## S14 BU(c) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4440104012	1x2x0,75	1,1	8,5	80	50
4440104014	1x4x0,75	1,1	9,5	115	55
4440104022	2x2x0,75	1,1	13,0	150	75
4440104032	3x2x0,75	1,1	13,5	185	80
4440104042	4x2x0,75	1,1	15,0	225	90
4440104072	7x2x0,75	1,1	18,0	330	105
4440104082	8x2x0,75	1,1	19,0	380	115
4440104102	10x2x0,75	1,1	22,0	475	130
4440104122	12x2x0,75	1,1	23,0	535	140
4440104142	14x2x0,75	1,1	25,0	615	150
4440104162	16x2x0,75	1,1	26,0	680	155
4440104192	19x2x0,75	1,1	28,5	795	170
4440104242	24x2x0,75	1,1	31,5	985	190
4440104272	27x2x0,75	1,1	33,5	1100	200
4440104302	30x2x0,75	1,1	35,0	1195	210
4440104322	32x2x0,75	1,1	36,5	1280	220
4440104372	37x2x0,75	1,1	38,5	1440	230
4440104013	1x3x0,75	1,1	8,5	105	50
4440104023	2x3x0,75	1,1	13,5	185	80
4440104033	3x3x0,75	1,1	14,5	230	85
4440104043	4x3x0,75	1,1	16,0	290	95
4440104073	7x3x0,75	1,1	19,0	445	115
4440104083	8x3x0,75	1,1	21,0	510	125
4440104103	10x3x0,75	1,1	23,5	630	140
4440104123	12x3x0,75	1,1	25,0	725	150
4440104143	14x3x0,75	1,1	26,5	830	160
4440104163	16x3x0,75	1,1	28,0	925	170
4440104193	19x3x0,75	1,1	30,5	1095	185
4440104243	24x3x0,75	1,1	34,5	1360	205
4440104273	27x3x0,75	1,1	36,0	1505	215
4440104303	30x3x0,75	1,1	38,0	1675	230
4440104323	32x3x0,75	1,1	39,0	1770	235
4440104373	37x3x0,75	1,1	42,0	2025	250
4440105012	1x2x1	1,3	8,5	90	50
4440105014	1x4x1	1,3	10,0	130	60
4440105022	2x2x1	1,3	13,5	175	80
4440105032	3x2x1	1,3	14,0	210	85
4440105042	4x2x1	1,3	15,5	260	95
4440105072	7x2x1	1,3	19,0	400	115
4440105082	8x2x1	1,3	20,0	440	120
4440105102	10x2x1	1,3	23,0	555	140
4440105122	12x2x1	1,3	24,5	640	145
4440105142	14x2x1	1,3	26,0	725	155
4440105162	16x2x1	1,3	28,0	820	165
4440105192	19x2x1	1,3	30,0	940	180
4440105242	24x2x1	1,3	33,5	1185	200
4440105272	27x2x1	1,3	35,5	1305	210
4440105302	30x2x1	1,3	37,0	1445	225
4440105322	32x2x1	1,3	38,5	1525	230
4440105372	37x2x1	1,3	41,0	1755	245

Table continues on next page

**S14 BU(c) 250V**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4440105013	1x3x1	1,3	9,0	125	55
4440105023	2x3x1	1,3	14,0	210	85
4440105033	3x3x1	1,3	15,5	280	90
4440105043	4x3x1	1,3	16,5	340	100
4440105073	7x3x1	1,3	20,0	525	120
4440105083	8x3x1	1,3	22,0	610	130
4440105103	10x3x1	1,3	25,0	750	150
4440105123	12x3x1	1,3	26,5	870	160
4440105143	14x3x1	1,3	28,0	985	170
4440105163	16x3x1	1,3	30,0	1130	180
4440105193	19x3x1	1,3	32,5	1305	195
4440105243	24x3x1	1,3	36,0	1630	215
4440105273	27x3x1	1,3	38,5	1835	230
4440105303	30x3x1	1,3	40,0	2010	240
4440105323	32x3x1	1,3	41,5	2145	250
4440105373	37x3x1	1,3	44,5	2470	270
4440107012	1x2x1,5	1,6	10,0	125	60
4440107014	1x4x1,5	1,6	11,0	165	65
4440107022	2x2x1,5	1,6	15,0	215	90
4440107032	3x2x1,5	1,6	16,0	275	95
4440107042	4x2x1,5	1,6	17,5	335	105
4440107072	7x2x1,5	1,6	21,5	520	130
4440107082	8x2x1,5	1,6	23,0	595	140
4440107102	10x2x1,5	1,6	26,5	745	160
4440107122	12x2x1,5	1,6	28,0	850	165
4440107142	14x2x1,5	1,6	29,5	965	180
4440107162	16x2x1,5	1,6	32,0	1105	190
4440107192	19x2x1,5	1,6	34,5	1290	205
4440107242	24x2x1,5	1,6	38,5	1625	230
4440107272	27x2x1,5	1,6	41,0	1790	245
4440107302	30x2x1,5	1,6	43,0	1975	255
4440107322	32x2x1,5	1,6	44,0	2090	265
4440107372	37x2x1,5	1,6	47,5	2405	285
4440107013	1x3x1,5	1,6	10,0	155	60
4440107023	2x3x1,5	1,6	16,0	275	95
4440107033	3x3x1,5	1,6	17,0	355	105
4440107043	4x3x1,5	1,6	19,0	450	115
4440107073	7x3x1,5	1,6	23,0	715	140
4440107083	8x3x1,5	1,6	25,0	825	150
4440107103	10x3x1,5	1,6	29,0	1025	175
4440107123	12x3x1,5	1,6	30,0	1180	180
4440107143	14x3x1,5	1,6	32,5	1360	195
4440107163	16x3x1,5	1,6	34,5	1540	205
4440107193	19x3x1,5	1,6	37,0	1785	220
4440107243	24x3x1,5	1,6	42,0	2280	250
4440107273	27x3x1,5	1,6	44,0	2520	265
4440107303	30x3x1,5	1,6	46,5	2785	280
4440107323	32x3x1,5	1,6	48,0	2945	285
4440107373	37x3x1,5	1,6	51,5	3390	310



## S14 BU(c) 250V

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4440108012	1x2x2,5	2,0	11,0	150	65
4440108014	1x4x2,5	2,0	12,0	215	75
4440108022	2x2x2,5	2,0	17,0	280	100
4440108032	3x2x2,5	2,0	17,5	355	105
4440108042	4x2x2,5	2,0	19,5	450	120
4440108072	7x2x2,5	2,0	24,0	715	145
4440108082	8x2x2,5	2,0	26,0	815	155
4440108102	10x2x2,5	2,0	30,0	1025	180
4440108122	12x2x2,5	2,0	31,5	1180	190
4440108142	14x2x2,5	2,0	33,5	1360	200
4440108162	16x2x2,5	2,0	35,5	1520	215
4440108192	19x2x2,5	2,0	38,5	1775	230
4440108242	24x2x2,5	2,0	43,0	2235	260
4440108272	27x2x2,5	2,0	46,0	2515	275
4440108302	30x2x2,5	2,0	48,0	2750	290
4440108322	32x2x2,5	2,0	49,5	2935	300
4440108372	37x2x2,5	2,0	53,5	3375	320
4440108013	1x3x2,5	2,0	11,0	205	65
4440108023	2x3x2,5	2,0	18,0	365	110
4440108033	3x3x2,5	2,0	19,0	480	115
4440108043	4x3x2,5	2,0	21,5	620	130
4440108073	7x3x2,5	2,0	26,0	985	155
4440108083	8x3x2,5	2,0	28,0	1140	170
4440108103	10x3x2,5	2,0	32,0	1410	195
4440108123	12x3x2,5	2,0	33,5	1635	200
4440108143	14x3x2,5	2,0	36,0	1885	215
4440108163	16x3x2,5	2,0	38,5	2155	230
4440108193	19x3x2,5	2,0	42,0	2525	250
4440108243	24x3x2,5	2,0	47,5	3210	285
4440108273	27x3x2,5	2,0	49,5	3560	300
4440108303	30x3x2,5	2,0	52,0	3930	315
4440108323	32x3x2,5	2,0	53,5	4165	320
4440108373	37x3x2,5	2,0	57,5	4790	345

Table continues on next page

**S14 MUD BU(c) 250V mud resistant**

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4540104012	1x2x0,75	1,1	8,5	85	50
4540104014	1x4x0,75	1,1	9,5	120	55
4540104022	2x2x0,75	1,1	13,0	155	75
4540104032	3x2x0,75	1,1	13,5	190	80
4540104042	4x2x0,75	1,1	15,0	230	90
4540104072	7x2x0,75	1,1	18,0	340	105
4540104082	8x2x0,75	1,1	19,0	390	115
4540104102	10x2x0,75	1,1	22,0	490	130
4540104122	12x2x0,75	1,1	23,0	550	140
4540104142	14x2x0,75	1,1	25,0	630	150
4540104162	16x2x0,75	1,1	26,0	700	155
4540104192	19x2x0,75	1,1	28,5	815	170
4540104242	24x2x0,75	1,1	31,5	1010	190
4540104272	27x2x0,75	1,1	33,5	1125	200
4540104302	30x2x0,75	1,1	35,0	1225	210
4540104322	32x2x0,75	1,1	36,5	1310	220
4540104372	37x2x0,75	1,1	38,5	1475	230
4540104013	1x3x0,75	1,1	8,5	110	50
4540104023	2x3x0,75	1,1	13,5	190	80
4540104033	3x3x0,75	1,1	14,5	235	85
4540104043	4x3x0,75	1,1	16,0	300	95
4540104073	7x3x0,75	1,1	19,0	455	115
4540104083	8x3x0,75	1,1	21,0	525	125
4540104103	10x3x0,75	1,1	23,5	645	140
4540104123	12x3x0,75	1,1	25,0	740	150
4540104143	14x3x0,75	1,1	26,5	845	160
4540104163	16x3x0,75	1,1	28,0	940	170
4540104193	19x3x0,75	1,1	30,5	1115	185
4540104243	24x3x0,75	1,1	34,5	1390	205
4540104273	27x3x0,75	1,1	36,0	1530	215
4540104303	30x3x0,75	1,1	38,0	1710	230
4540104323	32x3x0,75	1,1	39,0	1805	235
4540104373	37x3x0,75	1,1	42,0	2060	250
4540105012	1x2x1	1,3	8,5	95	50
4540105014	1x4x1	1,3	10,0	135	60
4540105022	2x2x1	1,3	13,5	180	80
4540105032	3x2x1	1,3	14,0	215	85
4540105042	4x2x1	1,3	15,5	265	95
4540105072	7x2x1	1,3	19,0	410	115
4540105082	8x2x1	1,3	20,0	455	120
4540105102	10x2x1	1,3	23,0	570	140
4540105122	12x2x1	1,3	24,5	655	145
4540105142	14x2x1	1,3	26,0	745	155
4540105162	16x2x1	1,3	28,0	840	165
4540105192	19x2x1	1,3	30,0	965	180
4540105242	24x2x1	1,3	33,5	1215	200
4540105272	27x2x1	1,3	35,5	1335	210
4540105302	30x2x1	1,3	37,0	1475	225
4540105322	32x2x1	1,3	38,5	1560	230
4540105372	37x2x1	1,3	41,0	1800	245
4540105013	1x3x1	1,3	9,0	125	55
4540105023	2x3x1	1,3	14,0	220	85
4540105033	3x3x1	1,3	15,5	285	90
4540105043	4x3x1	1,3	16,5	345	100
4540105073	7x3x1	1,3	20,0	535	120
4540105083	8x3x1	1,3	22,0	620	130
4540105103	10x3x1	1,3	25,0	765	150
4540105123	12x3x1	1,3	26,5	885	160
4540105143	14x3x1	1,3	28,0	1005	170
4540105163	16x3x1	1,3	30,0	1150	180
4540105193	19x3x1	1,3	32,5	1330	195
4540105243	24x3x1	1,3	36,0	1655	215
4540105273	27x3x1	1,3	38,5	1870	230
4540105303	30x3x1	1,3	40,0	2045	240
4540105323	32x3x1	1,3	41,5	2180	250
4540105373	37x3x1	1,3	44,5	2510	270

## S14 MUD BU(c) 250V mud resistant

Part number Normal	Number of conductors & cross-section n x mm <sup>2</sup>	Conductor diameter mm	Nominal outer diameter mm	Approximate weight kg/km	Min. bending radius fixed installation mm
4540107012	1x2x1,5	1,6	10,0	125	60
4540107014	1x4x1,5	1,6	11,0	170	65
4540107022	2x2x1,5	1,6	15,0	225	90
4540107032	3x2x1,5	1,6	16,0	285	95
4540107042	4x2x1,5	1,6	17,5	345	105
4540107072	7x2x1,5	1,6	21,5	530	130
4540107082	8x2x1,5	1,6	23,0	610	140
4540107102	10x2x1,5	1,6	26,5	765	160
4540107122	12x2x1,5	1,6	28,0	870	165
4540107142	14x2x1,5	1,6	29,5	990	180
4540107162	16x2x1,5	1,6	32,0	1135	190
4540107192	19x2x1,5	1,6	34,5	1320	205
4540107242	24x2x1,5	1,6	38,5	1660	230
4540107272	27x2x1,5	1,6	41,0	1830	245
4540107302	30x2x1,5	1,6	43,0	2020	255
4540107322	32x2x1,5	1,6	44,0	2135	265
4540107372	37x2x1,5	1,6	47,5	2460	285
4540107013	1x3x1,5	1,6	10,0	160	60
4540107023	2x3x1,5	1,6	16,0	285	95
4540107033	3x3x1,5	1,6	17,0	360	105
4540107043	4x3x1,5	1,6	19,0	460	115
4540107073	7x3x1,5	1,6	23,0	725	140
4540107083	8x3x1,5	1,6	25,0	840	150
4540107103	10x3x1,5	1,6	29,0	1045	175
4540107123	12x3x1,5	1,6	30,0	1200	180
4540107143	14x3x1,5	1,6	32,5	1385	195
4540107163	16x3x1,5	1,6	34,5	1565	205
4540107193	19x3x1,5	1,6	37,0	1815	220
4540107243	24x3x1,5	1,6	42,0	2320	250
4540107273	27x3x1,5	1,6	44,0	2565	265
4540107303	30x3x1,5	1,6	46,5	2830	280
4540107323	32x3x1,5	1,6	48,0	2995	285
4540107373	37x3x1,5	1,6	51,5	3445	310
4540108012	1x2x2,5	2,0	11,0	155	65
4540108014	1x4x2,5	2,0	12,0	220	75
4540108022	2x2x2,5	2,0	17,0	290	100
4540108032	3x2x2,5	2,0	17,5	365	105
4540108042	4x2x2,5	2,0	19,5	465	120
4540108072	7x2x2,5	2,0	24,0	730	145
4540108082	8x2x2,5	2,0	26,0	830	155
4540108102	10x2x2,5	2,0	30,0	1050	180
4540108122	12x2x2,5	2,0	31,5	1205	190
4540108142	14x2x2,5	2,0	33,5	1390	200
4540108162	16x2x2,5	2,0	35,5	1555	215
4540108192	19x2x2,5	2,0	38,5	1815	230
4540108242	24x2x2,5	2,0	43,0	2280	260
4540108272	27x2x2,5	2,0	46,0	2570	275
4540108302	30x2x2,5	2,0	48,0	2810	290
4540108322	32x2x2,5	2,0	49,5	2995	300
4540108372	37x2x2,5	2,0	53,5	3445	320
4540108013	1x3x2,5	2,0	11,0	210	65
4540108023	2x3x2,5	2,0	18,0	375	110
4540108033	3x3x2,5	2,0	19,0	490	115
4540108043	4x3x2,5	2,0	21,5	630	130
4540108073	7x3x2,5	2,0	26,0	1000	155
4540108083	8x3x2,5	2,0	28,0	1160	170
4540108103	10x3x2,5	2,0	32,0	1430	195
4540108123	12x3x2,5	2,0	33,5	1660	200
4540108143	14x3x2,5	2,0	36,0	1915	215
4540108163	16x3x2,5	2,0	38,5	2185	230
4540108193	19x3x2,5	2,0	42,0	2560	250
4540108243	24x3x2,5	2,0	47,5	3255	285
4540108273	27x3x2,5	2,0	49,5	3610	300
4540108303	30x3x2,5	2,0	52,0	3985	315
4540108323	32x3x2,5	2,0	53,5	4220	320
4540108373	37x3x2,5	2,0	57,5	4855	345

## GENERAL INFORMATION

### Insulation material:

The following designations are used for insulation materials in this catalog. All materials are halogen-free.

EPR stands for ethylene propylene rubber. It is cross-linked and has excellent mechanical and electrical characteristics.

### Sheathing material:

The designation SHF2 stands for oil resistant thermosetting compound. This material is halogen-free, highly flame-retardant and has low smoke emission.

### Definition of terms:

#### Oil- and mud resistance

Sheathing material is oil resistant according to method IEC 60811-2-1 and requirements from IEC 60092-360/SHF2 and NEK 606. The oil resistance is demonstrated by immersion in IRM902 and IRM903 oil for 7 days at 100 °C. Mud resistance is demonstrated by immersion in different drilling fluids for 56 days in 70 °C.

#### Flame-retardant

To be flame-retardant, the cables must withstand the test specified in IEC standard 60332-3 or IEC 60332-1. Flame-retardant cables do not propagate fire, and are self-extinguishing.

**IEC 60332-3** is the test for bunched wires and cables and has three categories A, B and C, defined by different limits for flammable material and burning times. Burning time describes how long the burner is directed towards the bunch of cables. The requirement for passing the test is that after the burner has been removed the cables must extinguish themselves. Burning may not occur more than 2.5 m from the burner as shown in the figure.

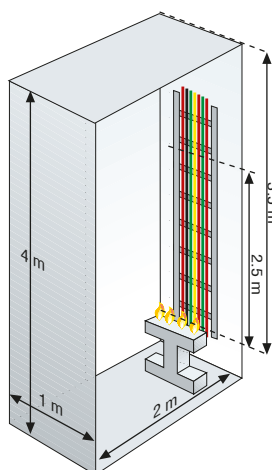
Category	Amount of burning material	Burning time
A	7 litres/m	40 min
B	3,5 litres/m	40 min
C	1,5 litres/m	20 min

All Helkama cables comply with the most severe requirements of category A.

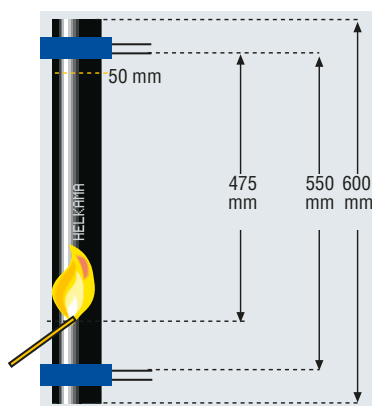
#### Test on bunched cables

##### IEC 60332-3

Burning is allowed up to max. 2.5 meters from the burner within specified time.



**IEC 60332-1** is the test for single insulated wire and cable. Test procedure and requirements according to the picture below.



Min. 50 mm of the cable, measured from the upper support, must remain unburned after the specified time.

#### Fire-resistant

**IEC 60331-1** Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV and with an overall diameter exceeding 20 mm.

**IEC 60331-2** Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV and with an overall diameter **not** exceeding 20 mm.

### Halogen-free

Halogen-free refers to the absence of halogens, such as chlorine and fluorine, and is determined on the basis of halogen content and the acidity of gases of a cable.

**IEC 60754-1** determines the halogen content of the material. To meet the requirements as halogen-free the halogen content of the material may not exceed 0,5 % or 5 mg/g.

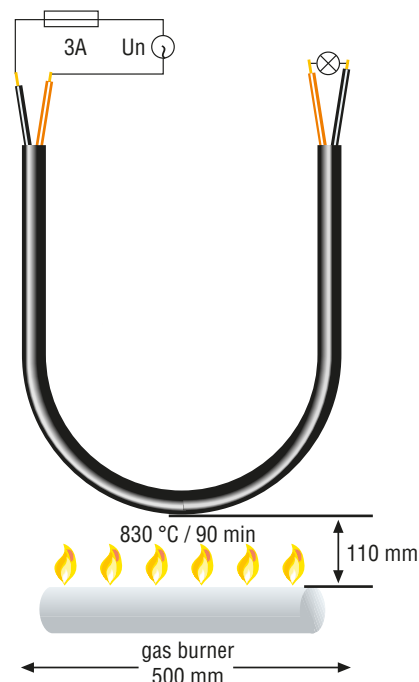
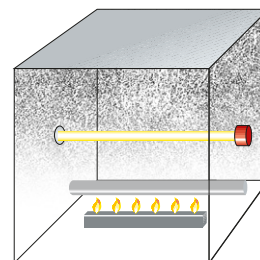
**IEC 60754-2** determines the degree of acidity of gases evolved during combustion. The limit values are 4,3 for pH and 10 mikroS for conductivity.

### Smoke emission

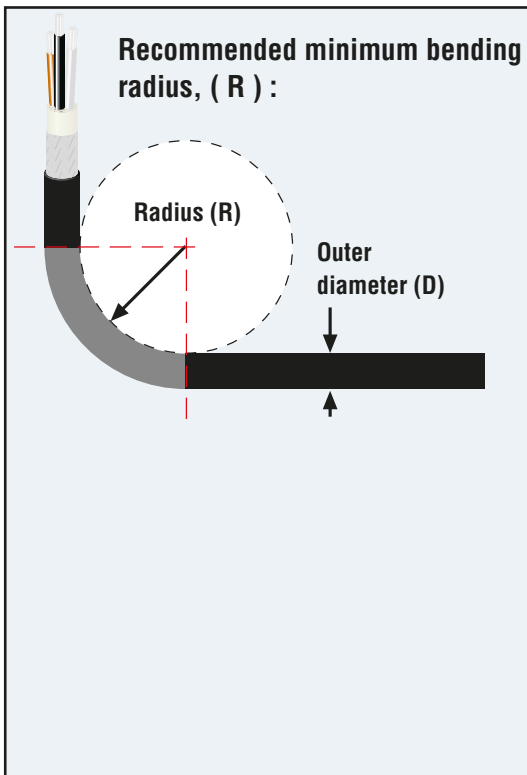
Smoke emission refers to visibility in a fire. The greater the light transmittance, the better the visibility. When tested in accordance with **IEC 61034-1** (test method) and **IEC 61034-2** (test requirements) the smoke emission of a cable during fire must not exceed the following values.

#### 27m<sup>3</sup> cube smoke chamber

Requirements:  
60 % light transmittance



## BENDING RADIUS



### Unarmoured or unscreened cables

P15 UX 0,6/1kV	During installation	R = 6x D	< 25mm
P17 BU 0,6/1kV <sup>a)</sup>	Fixed installation	R = 4x D	
P18 RU 0,6/1kV	During installation	R = 9x D	> 25mm
S11 RU(i) 250V			
S13 BU(i) 250V <sup>a)</sup>			
	Fixed installation	R = 6x D	

### Metal braid screened or armoured

P1/P8 RFOU 0,6/1kV	During installation	R = 9x D
P5/P12 BFOU 0,6/1kV		
RFOU VFD 1,8/3kV	Fixed installation	R = 6x D
TFOU-VFD 1,8/3kV		
S1/S5 RFOU(i) 250V		
S2/S6 RFOU(c) 250V		
S3/S7 BFOU(i) 250V		
S4/S8 BFOU(c) 250V		

### Collective tape screening

P16 IFLI 250V	During installation	R = 12x D
S12 RU(c) 250V	Fixed installation	R = 8x D
S14 BU(c) 250V		

<sup>a)</sup> for defined circuit integrity during installation 9x D, fixed installation 6x D

## DIAMETER TOLERANCE

Cable outer diameter, mm.	Tolerance	Cable outer diameter, mm.	Tolerance
1 – 10	±0,5mm	30,1 – 40	±2,0mm
10,1 – 20	±1,0mm	40,0 – 50	±2,5mm
20,1 – 30	±1,5mm	50,1 – 60	±3,0mm

## CORE IDENTIFICATION S-cables (250V)

Normal type	G-type (with earth conductor)
1-core	BK
2-cores	BU BN
3-cores	BN BK GY
4-cores	Y/G BU BN BK GY
5-cores	Y/G BU BN BK GY BK
7-cores and above	Y/G 1 2 → 6
(black numbers on white base)	(yellow-green and black numbers on white base)

Normal type
Pair:
Triple:

RFOU-VFD 1,8/3kV, TFOU-VFD 1,8/3kV
1-core
3-cores
3-cores + 3-ground cores

## PROTECTIVE EARTH RULES

(PE-Rules, according to IEC 60092-352 Table 2)

Phase conductor	PE-conductor
1,0–16mm <sup>2</sup>	Same as phase conductor
25–300mm <sup>2</sup>	Half of phase conductor but min. 16mm <sup>2</sup>

The protective earth rules apply for power cables when the armour or yellow/green insulated conductor is used for protective earth connection.

Example:

If you install a 3G50 cable you can use the yellow/green 50mm<sup>2</sup> conductor as PE-conductor. Alternatively you can install a 3x50/25 with an armour with cross section 25 mm<sup>2</sup>.

Coverage of armour is > 90% for all power cables. In some cases there is double braiding.

## CURRENT RATING

"Current rating (A) at an ambient temperature of 45°C according to the standard IEC 60092-352 0,6/1 kV +90°C.

**For continuous service.** Continuous service for a cable is to be considered as a current-carrying service (with constant load) having a duration longer than three times the thermal time constant of the cable, i.e. longer than the critical duration (see short time duty).

$$\text{Factor, } n = \frac{1}{N^{(1/3)}}$$

number of cores, N

### For class 2 conductor cables

Cross-section of the conductor	Number of conductors													
	1	2	3	4	5	7	10	12	14	16	19	24	27	37
Factor, n	1	0,85	0,7	0,7	0,58	0,52	0,46	0,44	0,41	0,40	0,37	0,35	0,33	0,30
1,0mm <sup>2</sup>	18	15	13	13	10	9	8	8	7	7	7	6	6	5
1,5mm <sup>2</sup>	23	20	16	16	13	12	11	10	9	9	9	8	7	7
2,5mm <sup>2</sup>	30	26	21	21	17	16	14	13	12	12	11	11	10	9
4mm <sup>2</sup>	40	34	28	28	23									
6mm <sup>2</sup>	52	44	36	36	30									
10mm <sup>2</sup>	72	61	50	50	42									
16mm <sup>2</sup>	96	82	67	67	56									
25mm <sup>2</sup>	127	108	89	89	74									
35mm <sup>2</sup>	157	133	110	110	91									
50mm <sup>2</sup>	196	167	137	137										
70mm <sup>2</sup>	242	206	169	169										
95mm <sup>2</sup>	293	249	205	205										
120mm <sup>2</sup>	339	288	237	237										
150mm <sup>2</sup>	389	331	272	272										
185mm <sup>2</sup>	444	377	311	311										
240mm <sup>2</sup>	522	444	365	365										
300mm <sup>2</sup>	601	511	421	421										
Current rating in ampere, A.														

### For class 5 conductor cables

Cross-section of the conductor	Number of conductors													
	1	2	3	4	5	7	10	12	14	16	19	24	27	37
Factor, n	1	0,85	0,7	0,7	0,58	0,52	0,46	0,44	0,41	0,40	0,37	0,35	0,33	0,30
1,0mm <sup>2</sup>	17	14	12	12	10	9	8	7	7	7	6	6	6	5
1,5mm <sup>2</sup>	22	19	15	15	13	11	10	10	9	9	8	8	7	7
2,5mm <sup>2</sup>	30	26	21	21	17	16	14	13	12	12	11	11	10	9
4mm <sup>2</sup>	39	33	27	27	23									
6mm <sup>2</sup>	50	43	35	35	29									
10mm <sup>2</sup>	71	60	50	50	41									
16mm <sup>2</sup>	94	80	66	66	55									
25mm <sup>2</sup>	123	105	86	86	71									
35mm <sup>2</sup>	153	130	107	107	89									
50mm <sup>2</sup>	196	167	137	137										
70mm <sup>2</sup>	240	204	168	168										
95mm <sup>2</sup>	284	241	199	199										
120mm <sup>2</sup>	331	281	232	232										
150mm <sup>2</sup>	381	324	267	267										
185mm <sup>2</sup>	429	365	300	300										
240mm <sup>2</sup>	507	431	355	355										
300mm <sup>2</sup>	582	495	407	407										
Current rating in ampere, A.														

Ambient temperature	+35°C	+40°C	<b>+45°C</b>	+50°C	+55°C	+60°C	+65°C	+70°C	+75°C	+80°C
Correction factor	1,10	1,05	<b>1,00</b>	0,94	0,88	0,82	0,74	0,64	0,58	0,47

## SHORT CIRCUIT CURRENT

Maximum permissible short circuit current.  
0,6/1 kV +90°C.

Based on formula:

$$I_k = 226 \times \frac{S}{\sqrt{t}} \times \sqrt{I_n \frac{234 + T_k}{234 + T_b}}$$

Formula 1:

$$I_k = 146 \times \frac{S}{\sqrt{t}}$$

$I_k$  = Maximum permissible short circuit current.

$S$  = Cross-section of the conductor in mm<sup>2</sup>.

$t$  = Duration of the short circuit in s.

$T_k$  = Maximum rated conductor temperature, short circuit, °C

$T_b$  = Maximum rated conductor temperature, normal, °C

Formula 1: For 0,6/1kV cable with XLPE or EPR with maximum operating temperature of +90°C ( $T_b$ ) and short circuit temperature of +250°C ( $T_k$ ).

Cross-section of the conductor in mm <sup>2</sup>	Duration of the short circuit in s.					
	0,2	0,5	1	2	3	10
1,0	0,3	0,2	0,1	0,1	0,1	0,0
1,5	0,5	0,3	0,2	0,2	0,1	0,1
2,5	0,8	0,5	0,4	0,3	0,2	0,1
4	1,3	0,8	0,6	0,4	0,3	0,2
6	2,0	1,2	0,9	0,6	0,5	0,3
10	3,3	2,1	1,5	1,0	0,8	0,5
16	5,2	3,3	2,3	1,7	1,3	0,7
25	8,2	5,2	3,7	2,6	2,1	1,2
35	11,4	7,2	5,1	3,6	3,0	1,6
50	16,3	10,3	7,3	5,2	4,2	2,3
70	22,9	14,5	10,2	7,2	5,9	3,2
95	31,0	19,6	13,9	9,8	8,0	4,4
120	39,2	24,8	17,5	12,4	10,1	5,5
150	49,0	31,0	21,9	15,5	12,6	6,9
185	60,4	38,2	27,0	19,1	15,6	8,5
240	78,4	49,6	35,0	24,8	20,2	11,1
300	97,9	61,9	43,8	31,0	25,3	13,9
	Short circuit current in kA					

## SHORT CIRCUIT FACTOR

Short Circuit Factor can be calculated by following formula:

$$\text{SHORT CIRCUIT FACTOR} = \frac{\text{SHORT CIRCUIT CURRENT}}{\text{CURRENT RATING}}$$

## RATED VOLTAGES

Standard rated voltages:		150/250V	0,6/1kV	1,8/3kV
$U_0$	is the rated power-frequency voltage between the conductor and the earth or metallic covering for which cable is designed	150V	0,6kV	1,8kV
$U$	is the rated power-frequency voltage between conductors for which cable is designed	250V	1,0kV	3,0kV
$U_m$	is the maximum value of the highest system voltage for which the equipment may be used	300V	1,2kV	3,6kV
$U_{dc}$	A d.c voltage up to a maximum of 1,5 times the a.c. voltage may be used, provided that the earth voltage does not exceed	250V	0,9kV	–

## TEST VOLTAGES

Routine test voltages: (according to IEC 60092-350)		150/250V	0,6/1kV	1,8/3kV
$U_{ac}$	alternating current (a.c) test voltage for 5min	1,5kV	3,5kV	6,5kV
$U_{dc}$	direct current (d.c) test voltage for 5min	3,6kV	8,6kV	15,6kV

## SHORT TIME DUTY

Short time duty according to the standard IEC 60092-352 0,6/1 kV +90°C.

If a cable is intended to supply motor or equipment operating for periods of half an hour or one hour, its current rating given in table "current rating", may be increased using the relevant correction factors given by formula:

$$\text{correction factor} = \sqrt{\frac{1,12}{1 - \exp(-t_s/T)}}$$

( $t_s$  = service time, min.  $T$  = Time constant, min.)

$$T = 0,245 \times d^{1,35}$$

( $d$  = Overall diameter of the cable, mm.)

Overall diameter of the cable, mm.	Service time, min.		Time constant, min.	Critical duration, min.
	30	60	T	3x T
1	1,058	1,058	0,245	0,735
2	1,058	1,058	0,625	1,874
3	1,058	1,058	1,08	3,24
4	1,058	1,058	1,59	4,78
5	1,058	1,058	2,15	6,46
6	1,058	1,058	2,75	8,26
7	1,058	1,058	3,39	10,2
8	1,059	1,058	4,06	12,2
9	1,059	1,058	4,76	14,3
10	1,061	1,058	5,48	16,5
20	1,126	1,066	14,0	41,9
30	1,255	1,105	24,2	72,5
40	1,403	1,173	35,6	107
50	1,554	1,254	48,2	145
60	1,705	1,341	61,6	185
Correction factor.				

## Intermittent service

Correction factor for intermittent service according to the standard IEC 60092-352

The correction factor given hereby has been roughly calculated for periods of 10 min, of which 4 min are with a constant load and 6 min without load.

Intermittence period = 10min.

Intermittence ratio = 40%.

$$F_i = \sqrt{\frac{1 - \exp(-10/T)}{1 - \exp(-4/T)}}$$

Overall diameter of the cable, mm.	Correction factor.
1	1,000
2	1,001
3	1,012
4	1,042
5	1,083
6	1,127
7	1,170
8	1,208
9	1,242
10	1,273
20	1,433
30	1,490
40	1,518
50	1,534
60	1,544



## VOLTAGE DROP

### Cable types: Cables with class 2 conductor

Size	Resistance at +20°C ohm/km	Resistance at +90°C ohm/km	Voltage reduction mV/Am *)	Resistance at +45°C ohm/km	Current rating A **)	Voltage reduction mV/m ***)
1,0mm <sup>2</sup>	18,1	23,1	46,2	19,9	18	0,72
1,5mm <sup>2</sup>	12,1	15,4	30,9	13,3	23	0,61
2,5mm <sup>2</sup>	7,41	9,45	18,9	8,14	30	0,49
4mm <sup>2</sup>	4,61	5,88	11,8	5,06	40	0,41
6mm <sup>2</sup>	3,08	3,93	7,85	3,38	52	0,35
10mm <sup>2</sup>	1,83	2,33	4,67	2,01	72	0,29
16mm <sup>2</sup>	1,15	1,47	2,93	1,26	96	0,24
25mm <sup>2</sup>	0,727	0,927	1,85	0,798	127	0,20
35mm <sup>2</sup>	0,524	0,668	1,34	0,575	157	0,18
50mm <sup>2</sup>	0,387	0,493	0,99	0,425	196	0,17
70mm <sup>2</sup>	0,268	0,342	0,68	0,294	242	0,14
95mm <sup>2</sup>	0,193	0,246	0,49	0,212	293	0,12
120mm <sup>2</sup>	0,153	0,195	0,39	0,168	339	0,11
150mm <sup>2</sup>	0,124	0,158	0,32	0,136	389	0,11
185mm <sup>2</sup>	0,0991	0,1264	0,25	0,1088	444	0,097
240mm <sup>2</sup>	0,0754	0,0961	0,19	0,0828	522	0,086
300mm <sup>2</sup>	0,0601	0,0766	0,15	0,0660	601	0,079

### Cable types: Cables with class 5 conductor

Size	Resistance at +20°C ohm/km	Resistance at +90°C ohm/km	Voltage reduction mV/Am *)	Resistance at +45°C ohm/km	Current rating A **)	Voltage reduction mV/m ***)
0,75mm <sup>2</sup>	26,0	33,2	66,3	28,6	14	0,80
1,0mm <sup>2</sup>	19,5	24,9	49,7	21,4	17	0,73
1,5mm <sup>2</sup>	13,3	17,0	33,9	14,6	22	0,64
2,5mm <sup>2</sup>	7,98	10,18	20,4	8,76	30	0,53
4mm <sup>2</sup>	4,95	6,31	12,6	5,44	39	0,42
6mm <sup>2</sup>	3,30	4,21	8,42	3,62	50	0,36
10mm <sup>2</sup>	1,91	2,44	4,87	2,10	71	0,30
16mm <sup>2</sup>	1,21	1,54	3,09	1,33	94	0,25
25mm <sup>2</sup>	0,780	0,995	1,99	0,857	123	0,21
35mm <sup>2</sup>	0,554	0,706	1,41	0,608	153	0,19
50mm <sup>2</sup>	0,386	0,492	0,98	0,424	196	0,17
70mm <sup>2</sup>	0,272	0,347	0,69	0,299	240	0,14
95mm <sup>2</sup>	0,206	0,263	0,53	0,226	284	0,13
120mm <sup>2</sup>	0,161	0,205	0,41	0,177	331	0,12
150mm <sup>2</sup>	0,129	0,164	0,33	0,142	389	0,11
185mm <sup>2</sup>	0,106	0,135	0,27	0,116	444	0,10
240mm <sup>2</sup>	0,0801	0,102	0,20	0,088	522	0,09
300mm <sup>2</sup>	0,0641	0,082	0,16	0,070	601	0,08

### Cable types: 250V cables with class2 conductor

Size	Resistance at +20°C ohm/km	Maximum conductor temperature, °C	Resistance at +45°C ohm/km	Voltage reduction mV/Am at +45°C	Resistance at +90°C ohm/km	Voltage reduction mV/Am at +90°C
0,5mm <sup>2</sup>	40,4	90	44,4	88,7	51,5	103,0
0,75mm <sup>2</sup>	26,0	90	28,6	57,1	33,2	66,3
1,5mm <sup>2</sup>	12,8	90	14,1	28,1	16,3	32,6

\*) at +90°C

\*\*) For continuous service (single core, ambient temperature +45°C)

\*\*\*) at maximum current rating for continuous service at +45°C





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