



OFFSHORE CABLES

BS6883 & BS7917



Contact details:

Cable Factory BITNER

30-009 Kraków,
3/3 Friedleina street
POLAND

Production Plant

32-353 Trzyciąż near Krakow
phone: +48 12 389 40 24
fax: +48 12 380 17 00

e-mail: bitner@bitner.com.pl

Export:

phone: +48 12 389 40 24 ext. 193-199
fax: +48 12 389 40 24 ext. 227
e-mail: export@bitner.com.pl



COMPANY PROFILE

CABLE FACTORY BITNER, established in 1996 is a Polish manufacturer of cables, based just outside the city of Krakow. The company ethos is based on the most modern technology whilst having the most reliable and proven team of experienced employees.

In the production of our cables we use the most up-to-date machinery and superior quality raw materials.

CABLE FACTORY BITNER apply significant pressure on the quality of manufactured products, in accordance with Company quality management system's procedures, protection of the environment and workflow. Procedures and requirements are described by integrated Quality and Environmental Management System confirmed by certificates: ISO 9001, AQAP 2120, ISO 14001 and additional homologations and product certificates.

CABLE FACTORY BITNER guarantee professional and complete customer service, flexibility and timely deliveries.

Constant development of product range, modernisation of production processes, IT investments, constant development of employees' qualifications and improvements in logistics allow Cable Factory BITNER to compete effectively on both domestic and export markets.

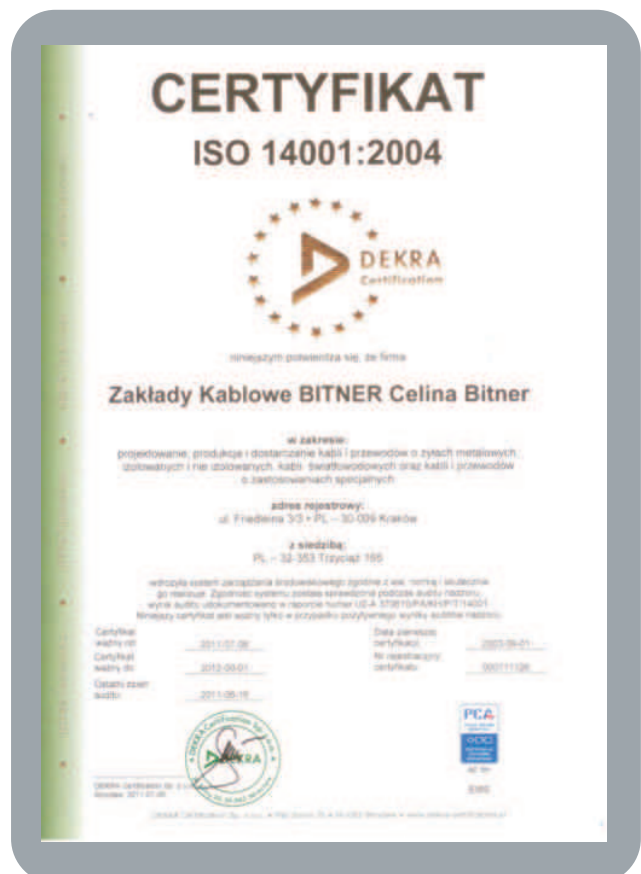


QUALITY, INNOVATION AND ENVIRONMENTAL PROTECTION



A few years ago the Cable Factory Bitner - taking into consideration its development strategy, customer requirements and the steady increase in competition - conducted a complete implementation of an ISO 9001, ISO 14001 Quality Management System.

The Quality Management System covers the entire scope of the company's operations, from the preparation of production, through manufacturing, warehousing, logistics, right up to corporate governance and waste management.



CABLE FACTORY BITNER, a modern manufacturing company which has 20 thousand square metres of production, warehouse and office space and in addition hectares of land adjacent to the factory for our continued expansion.

Within the factory:

modern machinery: insulating lines, sheathing lines, rubber cable production lines, cable stranding machines, braiding machines, and a fully equipped metal workshop for the production of copper and aluminium conductors.

- ✓ 300-strong team of experienced employees
- ✓ Excellently equipped in-house laboratories
- ✓ Experienced production technology and development department
- ✓ Quality certificates and product certificates;
- ✓ Full range of cables up to 20 kV, with plastic and rubber sheaths and insulation, which are incontinuous production.

CABLE FACTORY BITNER has cemented its position as one of the largest manufacturers of cables and wires in the Polish market.

The present position of the company is the result of dynamic development, achieved thanks to numerous investment projects and the dedicated work of the entire team involved.

The quality and effectiveness of operation of the company is confirmed by the steadily growing number of customers and the awards which it has received:

- ✓ the "Gazela Biznesu" (Business Gazelle) prize of Puls Biznesu magazine, awarded to the company a number of times.
- ✓ nomination for the "TERAZ Polska" (Poland NOW) emblem
- ✓ 1st place and the title of "Europejska Firma" (European Company) in a competition organized by Gazeta Prawna magazine (2007)
- ✓ the title of "Dobra Firma 2007" (Good Company 2007) in a ranking organized by Rzeczpospolita newspaper (the 20 best Polish companies)
- ✓ the "Diamenty Forbesa 2008" (Forbes' Diamonds 2008) commendation and "Diamenty Forbesa 2009" (Forbes' Diamonds 2009) prize for the best companies, awarded by FORBES monthly
- ✓ the award "Elektroprodukt Roku 2008"



OFFSHORE CABLES

CABLE FACTORY BITNER'S range of Offshore Energy Cables covers all Power, Control and Instrumentation and are certified by Lloyd's Register Type Approval , for use on any Offshore installation in what is undoubtedly the harshest and most demanding of environments.

Manufactured in accordance with the latest International Standards, our Product Range is consistently being reviewed by our R&D departments to bring the Client the most currently available in the Upstream sector today.

The cables are used by the Oil & Gas Operators on any one of the various types of Upstream Offshore installation's such as Fixed or Mobile Rigs, Drillship's, Jack Ups, Floating Storage Offloading Vessels (FPSO) situated anywhere around the world.

The safety of the personnel aboard is of paramount importance and BITNER covers the full range of Halogen Free & Fire Resistant types available. Halogen Free material reduces the amount of fumes evolved during initial combustion as well as acid and gas emissions during the fire. Therefore assisting for a quick and safe evacuation and preserving human safety at all time, by continuing to provide power and services to directly affected areas of the fire.



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CuSn/EPR/SW4 0,6/1kV

Flame retardant halogen-free power cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 0,6/1 kV

Min Bending Radius during

Installation: 8 x D

Min Bending Radius for fixed

Installation:

≤ 25mm 4xD

> 25mm 6xD

Max Tensile Load During

Installation: 50 N /mm²

Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1 - Flame Retardant

IEC 60332-3-22 - Flame Retardant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Construction:

Conductor: tinned copper (class 2 as per BS6360, IEC 60228,) (*)

Insulation: EPR rubber, GP4 acc. to BS7655: section 1.2

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS7655 section 2.6

Outer sheath colour: multicore - black; single core - black or green/yellow

(*) flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Application:

Unarmoured cable for fixed installation where cable protection is not required. Cable suitable for power, control and lighting application in safe areas. Designed for offshore applications.

Core identification:

All cores are white with black numbers

Electrical parameters:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
2x1,5	12,2	15,3	0,13	0,123	20	210
3x1,5	12,2	15,3	0,13	0,123	16	210
4x1,5	12,2	15,3	0,13	0,123	16	210
5x1,5	12,2	15,3	0,13	0,123	13	210
7x1,5	12,2	15,3	0,13	0,123	12	210
12x1,5	12,2	15,3	0,13	0,123	10	210
19x1,5	12,2	15,3	0,13	0,123	9	210
27x1,5	12,2	15,3	0,13	0,123	8	210
37x1,5	12,2	15,3	0,13	0,123	7	210
2x2,5	7,56	9,64	0,096	0,115	26	350
3x2,5	7,56	9,64	0,096	0,115	21	350
4x2,5	7,56	9,64	0,096	0,115	21	350
5x2,5	7,56	9,64	0,096	0,115	18	350
7x2,5	7,56	9,64	0,096	0,115	16	350
12x2,5	7,56	9,64	0,096	0,115	13	350
19x2,5	7,56	9,64	0,096	0,115	11	350
27x2,5	7,56	9,64	0,096	0,115	10	350
37x2,5	7,56	9,64	0,096	0,115	9	350
2x4	4,7	5,99	0,096	0,115	34	560
3x4	4,7	5,99	0,096	0,115	28	560
4x4	4,7	5,99	0,096	0,115	28	560
2x6	3,11	3,97	0,09	0,108	44	840
3x6	3,11	3,97	0,09	0,108	36	840
4x6	3,11	3,97	0,09	0,108	36	840
1x10	1,84	2,35	0,084	0,101	72	1400
2x10	1,84	2,35	0,084	0,101	61	1400
3x10	1,84	2,35	0,084	0,101	50	1400
4x10	1,84	2,35	0,084	0,101	50	1400

CuSn/EPR/SW4 0,6/1kV

Flame retardant halogen-free power cable. Enhanced oil-resistance.

Electrical parameters cont.:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
1x16	1,16	1,48	0,08	0,096	96	2240
2x16	1,16	1,48	0,08	0,096	82	2240
3x16	1,16	1,48	0,08	0,096	67	2240
4x16	1,16	1,48	0,08	0,096	67	2240
1x25	0,734	0,936	0,079	0,095	127	3500
2x25	0,734	0,936	0,079	0,095	108	3500
3x25	0,734	0,936	0,079	0,095	89	3500
4x25	0,734	0,936	0,079	0,095	89	3500
1x35	0,529	0,675	0,076	0,092	157	4900
2x35	0,529	0,675	0,076	0,092	133	4900
3x35	0,529	0,675	0,076	0,092	110	4900
4x35	0,529	0,675	0,076	0,092	110	4900
1x50	0,391	0,499	0,076	0,092	196	7000
2x50	0,391	0,499	0,076	0,092	167	7000
3x50	0,391	0,499	0,076	0,092	137	7000
4x50	0,391	0,499	0,076	0,092	137	7000
1x70	0,27	0,344	0,075	0,091	242	9800
2x70	0,27	0,344	0,075	0,091	206	9800
3x70	0,27	0,344	0,075	0,091	169	9800
4x70	0,27	0,344	0,075	0,091	169	9800
1x95	0,195	0,249	0,073	0,088	293	13300
2x95	0,195	0,249	0,073	0,088	249	13300
3x95	0,195	0,249	0,073	0,088	205	13300
4x95	0,195	0,249	0,073	0,088	205	13300
1x120	0,154	0,196	0,072	0,086	339	16800
2x120	0,154	0,196	0,072	0,086	288	16800
3x120	0,154	0,196	0,072	0,086	237	16800
4x120	0,154	0,196	0,072	0,086	237	16800
1x150	0,126	0,161	0,072	0,087	389	21000
2x150	0,126	0,161	0,072	0,087	331	21000
3x150	0,126	0,161	0,072	0,087	272	21000
4x150	0,126	0,161	0,072	0,087	272	21000
1x185	0,1	0,128	0,072	0,086	444	25900
2x185	0,1	0,128	0,072	0,086	377	25900
3x185	0,1	0,128	0,072	0,086	311	25900
4x185	0,1	0,128	0,072	0,086	311	25900
1x240	0,0762	0,0972	0,072	0,086	522	33600
2x240	0,0762	0,0972	0,072	0,086	444	33600
3x240	0,0762	0,0972	0,072	0,086	365	33600
4x240	0,0762	0,0972	0,072	0,086	365	33600
1x300	0,0607	0,0774	0,071	0,086	601	42000
2x300	0,0607	0,0774	0,071	0,086	511	42000
3x300	0,0607	0,0774	0,071	0,086	420	42000
4x300	0,0607	0,0774	0,071	0,086	420	42000
1x400	0,0475	0,0596	-	-	670	56000
1x500	0,0369	0,0463	-	-	720	70000
1x630	0,0286	0,0359	-	-	780	88200

CuSn/EPR/SW4 0,6/1kV

Flame retardant halogen-free power cable. Enhanced oil-resistance.

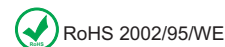
Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
2x1,5	0,8	1,1	8,9	130
3x1,5	0,8	1,1	9,4	150
4x1,5	0,8	1,1	10,2	180
5x1,5	0,8	1,1	11,8	205
7x1,5	0,8	1,2	12,8	250
12x1,5	0,8	1,3	16,6	405
19x1,5	0,8	1,4	19,8	600
27x1,5	0,8	1,6	24,0	850
37x1,5	0,8	1,7	26,8	1100
2x2,5	0,8	1,1	9,7	160
3x2,5	0,8	1,1	10,3	195
4x2,5	0,8	1,1	11,3	230
5x2,5	0,8	1,2	12,5	270
7x2,5	0,8	1,2	13,6	340
12x2,5	0,8	1,4	18,1	550
19x2,5	0,8	1,5	21,5	850
27x2,5	0,8	1,7	27,8	1210
37x2,5	0,8	1,8	31,4	1620
2x4	1,0	1,2	11,9	240
3x4	1,0	1,2	12,6	280
4x4	1,0	1,2	13,8	350
2x6	1,0	1,2	13,0	300
3x6	1,0	1,2	13,8	375
4x6	1,0	1,3	15,3	470
1x10	1,0	1,0	8,4	170
2x10	1,0	1,3	15,0	415
3x10	1,0	1,3	16,0	520
4x10	1,0	1,4	17,7	630
1x16	1,0	1,1	9,6	235
2x16	1,0	1,4	17,3	590
3x16	1,0	1,4	18,4	760
4x16	1,0	1,5	20,6	960
1x25	1,2	1,2	12,0	345
2x25	1,2	1,5	21,7	880
3x25	1,2	1,6	23,3	1140
4x25	1,2	1,7	25,8	1550
1x35	1,2	1,2	12,9	440
2x35	1,2	1,6	23,7	1140
3x35	1,2	1,7	25,4	1490
4x35	1,2	1,8	28,2	1910
1x50	1,4	1,3	14,6	590
2x50	1,4	1,7	27,1	1580
3x50	1,4	1,8	29,1	2015
4x50	1,4	1,9	32,4	2600
1x70	1,4	1,3	16,5	810
2x70	1,4	1,9	31,1	2120
3x70	1,4	2,0	33,5	2780
4x70	1,4	2,1	37,1	3510
1x95	1,6	1,4	18,7	1100
2x95	1,6	2,1	35,8	2890
3x95	1,6	2,2	38,4	3780
4x95	1,6	2,3	42,8	4850
1x120	1,6	1,5	20,8	1380
2x120	1,6	2,2	39,4	3570
3x120	1,6	2,3	42,5	4650
4x120	1,6	2,5	47,3	5970
1x150	1,8	1,6	22,9	1650
2x150	1,8	2,3	43,8	3820
3x150	1,8	2,5	47,0	5580
4x150	1,8	2,7	52,4	7250
1x185	2,0	1,7	25,3	2050
2x185	2,0	2,5	48,4	4890
3x185	2,0	2,7	52,4	7100
4x185	2,0	2,9	58,3	9100
1x240	2,2	1,8	28,5	2680
2x240	2,2	2,8	55,1	7050
3x240	2,2	2,9	59,1	10090
4x240	2,2	3,2	66,2	12500
1x300	2,4	1,9	31,6	3300
2x300	2,4	3,0	61,0	7980
3x300	2,4	3,2	65,9	11030
4x300	2,4	3,5	73,6	14070
1x400	2,6	2,0	35,5	4610
1x500	2,8	2,2	39,4	6080
1x630	2,8	2,3	43,2	7200

* - cable sizes out of range of BS 6883, construction according to factory standard

CuSn/EPR/SW4/GSWB/SW4 0,6/1kV

Flame retardant halogen-free power cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 0,6/1 kV

Min Bending Radius during

Installation: 8 x D

Min Bending Radius for fixed installation:

≤ 25mm 4xD

> 25mm 6xD

Max Tensile Load During

Installation: 50 N /mm²

Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1 - Flame Retardant

IEC 60332-3-22 - Flame Retardant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Construction:

Conductor: tinned copper (class 2 as per BS6360, IEC 60228,) (*)

Insulation: EPR rubber, GP4 acc. to BS 7655: section 1.2

Lay up: Cores laid up in concentric layers

Inner sheath: Flame retardant and halogen-free thermoset compound

Tape over inner sheath: PET tape + rubberized Polyamide tape

Armour: Galvanized Steel Wire Braid for multicore cables & Tinned Copper or Tinned Phosphor Bronze Wire Braid for single core cable

Tape over armour: PET tape + rubberized Polyamide tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6

Outer sheath colour: Black

(*) flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Application:

Armoured cable for fixed installation for power, control or lighting in both EX- and safe areas where cable protection is required. Designed for offshore applications.

Core identification:

All cores are white with black numbers

Electrical parameters:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
2x1,5	12,2	15,3	0,13	0,123	20	210
3x1,5	12,2	15,3	0,13	0,123	16	210
4x1,5	12,2	15,3	0,13	0,123	16	210
5x1,5	12,2	15,3	0,13	0,123	13	210
7x1,5	12,2	15,3	0,13	0,123	12	210
12x1,5	12,2	15,3	0,13	0,123	10	210
19x1,5	12,2	15,3	0,13	0,123	9	210
27x1,5	12,2	15,3	0,13	0,123	8	210
37x1,5	12,2	15,3	0,13	0,123	7	210
2x2,5	7,56	9,64	0,096	0,115	26	350
3x2,5	7,56	9,64	0,096	0,115	21	350
4x2,5	7,56	9,64	0,096	0,115	21	350
5x2,5	7,56	9,64	0,096	0,115	18	350
7x2,5	7,56	9,64	0,096	0,115	16	350
12x2,5	7,56	9,64	0,096	0,115	13	350
19x2,5	7,56	9,64	0,096	0,115	11	350
27x2,5	7,56	9,64	0,096	0,115	10	350
37x2,5	7,56	9,64	0,096	0,115	9	350
2x4	4,7	5,99	0,096	0,115	34	560
3x4	4,7	5,99	0,096	0,115	28	560
4x4	4,7	5,99	0,096	0,115	28	560
2x6	3,11	3,97	0,09	0,108	44	840
3x6	3,11	3,97	0,09	0,108	36	840
4x6	3,11	3,97	0,09	0,108	36	840
2x10	1,84	2,35	0,084	0,101	61	1400
3x10	1,84	2,35	0,084	0,101	50	1400
4x10	1,84	2,35	0,084	0,101	50	1400

CuSn/EPR/SW4/GSWB/SW4 0,6/1kV

Flame retardant halogen-free power cable. Enhanced oil-resistance.

Electrical parameters cont.:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
1x16	1,16	1,48	0,08	0,096	96	2240
2x16	1,16	1,48	0,08	0,096	82	2240
3x16	1,16	1,48	0,08	0,096	67	2240
4x16	1,16	1,48	0,08	0,096	67	2240
1x25	0,734	0,936	0,079	0,095	127	3500
2x25	0,734	0,936	0,079	0,095	108	3500
3x25	0,734	0,936	0,079	0,095	89	3500
4x25	0,734	0,936	0,079	0,095	89	3500
1x35	0,529	0,675	0,076	0,092	157	4900
2x35	0,529	0,675	0,076	0,092	133	4900
3x35	0,529	0,675	0,076	0,092	110	4900
4x35	0,529	0,675	0,076	0,092	110	4900
1x50	0,391	0,499	0,076	0,092	190	7000
2x50	0,391	0,499	0,076	0,092	167	7000
3x50	0,391	0,499	0,076	0,092	137	7000
4x50	0,391	0,499	0,076	0,092	137	7000
1x70	0,27	0,344	0,075	0,091	242	9800
2x70	0,27	0,344	0,075	0,091	206	9800
3x70	0,27	0,344	0,075	0,091	189	9800
4x70	0,27	0,344	0,075	0,091	169	9800
1x95	0,195	0,249	0,073	0,088	293	13300
2x95	0,195	0,249	0,073	0,088	249	13300
3x95	0,195	0,249	0,073	0,088	205	13300
4x95	0,195	0,249	0,073	0,088	205	13300
1x120	0,154	0,196	0,072	0,086	339	16800
2x120	0,154	0,196	0,072	0,086	288	16800
3x120	0,154	0,196	0,072	0,086	237	16800
4x120	0,154	0,196	0,072	0,086	237	16800
1x150	0,126	0,161	0,072	0,087	389	21000
2x150	0,126	0,161	0,072	0,087	331	21000
3x150	0,126	0,161	0,072	0,087	272	21000
4x150	0,126	0,161	0,072	0,087	272	21000
1x185	0,1	0,128	0,072	0,086	444	25900
2x185	0,1	0,128	0,072	0,086	377	25900
3x185	0,1	0,128	0,072	0,086	311	25900
4x185	0,1	0,128	0,072	0,086	311	25900
1x240	0,0762	0,0972	0,072	0,086	522	33600
2x240	0,0762	0,0972	0,072	0,086	444	33600
3x240	0,0762	0,0972	0,072	0,086	365	33600
4x240	0,0762	0,0972	0,072	0,086	365	33600
1x300	0,0607	0,0774	0,071	0,086	601	42000
2x300	0,0607	0,0774	0,071	0,086	511	42000
3x300	0,0607	0,0774	0,071	0,086	420	42000
4x300	0,0607	0,0774	0,071	0,086	420	42000
1x400	0,0475	0,0596	-	-	670	56000
1x500	0,0369	0,0463	-	-	720	70000
1x630	0,0286	0,0359	-	-	780	88200

CuSn/EPR/SW4/GSWB/SW4 0,6/1kV

Flame retardant halogen-free power cable. Enhanced oil-resistance.

Construction:

n x mm ²	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
2x1,5	0,8	1,1	8,9	0,3	1,2	13,0	250
3x1,5	0,8	1,1	9,4	0,3	1,2	13,5	290
4x1,5	0,8	1,1	10,2	0,3	1,3	14,5	320
5x1,5	0,8	1,1	11,8	0,3	1,3	15,9	360
7x1,5	0,8	1,2	12,8	0,3	1,3	17,1	480
12x1,5	0,8	1,3	16,8	0,3	1,5	21,8	750
19x1,5	0,8	1,4	19,7	0,3	1,6	25,1	970
27x1,5	0,8	1,6	23,8	0,3	1,8	29,4	1250
37x1,5	0,8	1,7	26,9	0,45	1,9	33,4	1650
2x2,5	0,8	1,1	9,7	0,3	1,2	13,8	320
3x2,5	0,8	1,1	10,3	0,3	1,3	14,5	370
4x2,5	0,8	1,1	11,3	0,3	1,3	15,4	425
5x2,5	0,8	1,2	12,8	0,3	1,3	17,1	500
7x2,5	0,8	1,2	13,9	0,3	1,4	18,7	630
12x2,5	0,8	1,4	18,6	0,3	1,6	23,9	920
19x2,5	0,8	1,5	21,8	0,3	1,7	27,5	1300
27x2,5	0,8	1,7	27,8	0,45	1,9	34,4	1850
37x2,5	0,8	1,8	31,4	0,45	2,0	38,0	2450
2x4	1	1,2	11,9	0,3	1,3	16,1	390
3x4	1	1,2	12,6	0,3	1,3	16,8	445
4x4	1	1,2	13,8	0,3	1,4	18,2	550
2x6	1	1,2	13,0	0,3	1,4	17,4	490
3x6	1	1,2	13,8	0,3	1,4	18,2	580
4x6	1	1,3	15,3	0,3	1,5	19,9	690
2x10	1	1,3	15,0	0,3	1,4	19,4	570
3x10	1	1,3	16,0	0,3	1,5	20,8	780
4x10	1	1,4	17,7	0,3	1,6	22,7	980
1x16**	1	1,1	9,6	0,3	1,2	13,7	480
2x16	1	1,4	17,3	0,3	1,5	22,1	850
3x16	1	1,4	18,4	0,3	1,6	23,4	1070
4x16	1	1,5	20,6	0,3	1,7	25,6	1300
1x25**	1,2	1,2	12,0	0,3	1,3	16,2	570
2x25	1,2	1,5	21,7	0,3	1,7	26,7	1110
3x25	1,2	1,6	23,3	0,3	1,8	28,5	1620
4x25	1,2	1,7	25,8	0,45	1,9	32,2	2120
1x35**	1,2	1,2	12,9	0,3	1,4	17,3	720
2x35	1,2	1,6	23,7	0,3	1,8	28,9	1710
3x35	1,2	1,7	25,4	0,45	1,9	31,8	2180
4x35	1,2	1,8	28,2	0,45	2,0	34,7	2650
1x50**	1,4	1,3	14,6	0,3	1,4	19,1	950
2x50	1,4	1,7	27,1	0,45	2,0	33,6	2500
3x50	1,4	1,8	29,1	0,45	2,0	35,6	2980
4x50	1,4	1,9	32,4	0,45	2,2	39,2	3450
1x70**	1,4	1,3	16,5	0,3	1,5	21,2	1250
2x70	1,4	1,9	31,2	0,45	2,1	37,8	3120
3x70	1,4	2,0	33,5	0,45	2,2	40,2	3900
4x70	1,4	2,1	37,1	0,45	2,4	44,5	4600
1x95**	1,6	1,4	18,8	0,3	1,6	23,7	1650
2x95	1,6	2,1	35,8	0,45	2,3	43,0	4180
3x95	1,6	2,2	38,4	0,45	2,4	45,8	5140
4x95	1,6	2,3	42,8	0,45	2,6	50,3	5930
1x120**	1,6	1,5	20,8	0,3	1,7	25,8	1750
2x120	1,6	2,2	39,4	0,45	2,5	47,0	4530
3x120	1,6	2,3	42,5	0,45	2,6	50,1	6320
4x120	1,6	2,5	47,3	0,45	2,8	55,5	6790
1x150**	1,8	1,6	22,9	0,3	1,8	28,1	2180
2x150	1,8	2,3	43,8	0,45	2,6	51,6	5890
3x150	1,8	2,5	47,0	0,45	2,8	55,2	7280
4x150	1,8	2,7	52,4	0,45	3,0	61,1	8150
1x185**	2	1,7	25,3	0,45	1,9	31,7	2650
2x185	2	2,5	48,4	0,45	2,8	56,6	7360
3x185	2	2,7	52,4	0,45	3,0	61,0	9420
4x185	2	2,9	58,3	0,45	3,2	67,3	10100
1x240**	2,2	1,8	28,5	0,45	2,0	35,0	3340
2x240	2,2	2,8	55,1	0,45	3,1	63,9	8860
3x240	2,2	2,9	59,1	0,45	3,2	68,2	11600
4x240	2,2	3,2	66,2	0,45	3,5	75,8	12900
1x300**	2,4	1,9	31,6	0,45	2,1	38,2	4120
2x300	2,4	3,0	61,0	0,45	3,3	70,2	10500
3x300	2,4	3,2	65,9	0,45	3,5	75,5	14030
4x300	2,4	3,5	73,6	0,45	3,8	83,9	16210
1x400**	2,6	2,0	35,5	0,45	2,3	42,6	5620
1x500**	2,8	2,2	39,4	0,45	2,5	46,9	7180
1x630**	2,8	2,3	43,2	0,45	2,6	51,0	8790

**--Tinned Copper or Tinned Phosphor Bronze Wire Braid

CuSn/MGT/EPR/SW4 0,6/1kV

Fire resistant, Flame retardant halogen-free power cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 0,6/1 kV

Min Bending Radius during

Installation: 8 x D

Min Bending Radius for fixed installation:

≤ 25mm 4xD

> 25mm 6xD

Max Tensile Load During

Installation: 50 N /mm²

Min Installation Temperature: -20°C

Construction:

Conductor: tinned copper (class 2 as per BS6360, IEC 60228,) (*)

Insulation: Mica glass tape / EPR rubber, GP4 acc. to BS 7655: section 1.2

Lay up: Cores laid up in concentric layers

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6

Outer sheath colour: Black

(*) flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Standards applied:

BS 7917 / BS6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1 & 3-22 - Flame Retardant

IEC 60331-21 - Fire Resistant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Application:

Unarmoured cable for fixed installation for power, control or lighting where cable protection is not required in both EX and safe areas, emergency and critical systems where there is a requirement for fire resistant cables.

Core identification:

All cores are white with black numbers

Electrical parameters:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
2x1,5	12,2	15,3	0,108	0,13	20	210
3x1,5	12,2	15,3	0,108	0,13	16	210
4x1,5	12,2	15,3	0,108	0,13	16	210
5x1,5	12,2	15,3	0,108	0,13	13	210
7x1,5	12,2	15,3	0,108	0,13	12	210
12x1,5	12,2	15,3	0,108	0,13	10	210
19x1,5	12,2	15,3	0,108	0,13	9	210
27x1,5	12,2	15,3	0,108	0,13	8	210
37x1,5	12,2	15,3	0,108	0,13	7	210
2x2,5	7,56	9,64	0,101	0,121	26	350
3x2,5	7,56	9,64	0,101	0,121	21	350
4x2,5	7,56	9,64	0,101	0,121	21	350
5x2,5	7,56	9,64	0,101	0,121	18	350
7x2,5	7,56	9,64	0,101	0,121	16	350
12x2,5	7,56	9,64	0,101	0,121	13	350
19x2,5	7,56	9,64	0,101	0,121	11	350
27x2,5	7,56	9,64	0,101	0,121	10	350
37x2,5	7,56	9,64	0,101	0,121	9	350
2x4	4,7	5,99	0,100	0,120	34	560
3x4	4,7	5,99	0,100	0,120	28	560
4x4	4,7	5,99	0,100	0,120	28	560
2x6	3,11	3,97	0,094	0,112	44	840
3x6	3,11	3,97	0,094	0,112	36	840
4x6	3,11	3,97	0,094	0,112	36	840
2x10	1,84	2,35	0,088	0,105	61	1400
3x10	1,84	2,35	0,088	0,105	50	1400
4x10	1,84	2,35	0,088	0,105	50	1400
1x16	1,16	1,48	0,082	0,099	96	2240
2x16	1,16	1,48	0,082	0,099	82	2240
3x16	1,16	1,48	0,082	0,099	67	2240
4x16	1,16	1,48	0,082	0,099	67	2240

CuSn/MGT/EPR/SW4 0,6/1kV

Fire resistant, Flame retardant halogen-free power cable. Enhanced oil-resistance.

Electrical parameters cont.:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
1x25	0,734	0,936	0,081	0,097	127	3500
2x25	0,734	0,936	0,081	0,097	108	3500
3x25	0,734	0,936	0,081	0,097	89	3500
4x25	0,734	0,936	0,081	0,097	89	3500
1x35	0,529	0,675	0,078	0,094	157	4900
2x35	0,529	0,675	0,078	0,094	133	4900
3x35	0,529	0,675	0,078	0,094	110	4900
4x35	0,529	0,675	0,078	0,094	110	4900
1x50	0,391	0,499	0,078	0,093	196	7000
2x50	0,391	0,499	0,078	0,093	167	7000
3x50	0,391	0,499	0,078	0,093	137	7000
4x50	0,391	0,499	0,078	0,093	137	7000
1x70	0,270	0,344	0,075	0,090	242	9800
2x70	0,270	0,344	0,075	0,090	206	9800
3x70	0,270	0,344	0,075	0,090	169	9800
4x70	0,270	0,344	0,075	0,090	169	9800
1x95	0,195	0,249	0,075	0,090	293	13300
2x95	0,195	0,249	0,075	0,090	249	13300
3x95	0,195	0,249	0,075	0,090	205	13300
4x95	0,195	0,249	0,075	0,090	205	13300
1x120	0,154	0,196	0,073	0,088	339	16800
2x120	0,154	0,196	0,073	0,088	288	16800
3x120	0,154	0,196	0,073	0,088	237	16800
4x120	0,154	0,196	0,073	0,088	237	16800
1x150	0,126	0,161	0,073	0,088	389	21000
2x150	0,126	0,161	0,073	0,088	331	21000
3x150	0,126	0,161	0,073	0,088	272	21000
4x150	0,126	0,161	0,073	0,088	272	21000
1x185	0,100	0,128	0,073	0,088	444	25900
2x185	0,100	0,128	0,073	0,088	377	25900
3x185	0,100	0,128	0,073	0,088	311	25900
4x185	0,100	0,128	0,073	0,088	311	25900
1x240	0,0762	0,0972	0,072	0,087	522	33600
2x240	0,0762	0,0972	0,072	0,087	444	33600
3x240	0,0762	0,0972	0,072	0,087	365	33600
4x240	0,0762	0,0972	0,072	0,087	365	33600
1x300	0,0607	0,0774	0,072	0,086	601	42000
2x300	0,0607	0,0774	0,072	0,086	511	42000
3x300	0,0607	0,0774	0,072	0,086	420	42000
4x300	0,0607	0,0774	0,072	0,086	420	42000
1x400	0,0475	0,0596	-	-	670	56000
1x500	0,0369	0,0463	-	-	720	70000
1x630	0,0286	0,0359	-	-	780	88200

CuSn/MGT/EPR/SW4 0,6/1kV

Fire resistant, Flame retardant halogen-free power cable. Enhanced oil-resistance.

Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
2x1,5	0,8	1,1	9,7	140
3x1,5	0,8	1,1	10,3	165
4x1,5	0,8	1,1	11,3	200
5x1,5	0,8	1,1	12,3	225
7x1,5	0,8	1,2	13,5	275
12x1,5	0,8	1,3	17,8	430
19x1,5	0,8	1,4	21,2	640
27x1,5	0,8	1,6	25,6	890
37x1,5	0,8	1,7	28,9	1190
2x2,5	0,8	1,1	10,2	170
3x2,5	0,8	1,1	11,3	210
4x2,5	0,8	1,1	12,3	250
5x2,5	0,8	1,2	13,6	300
7x2,5	0,8	1,2	14,8	370
12x2,5	0,8	1,4	19,8	580
19x2,5	0,8	1,5	23,4	880
27x2,5	0,8	1,6	25,6	1300
37x2,5	0,8	1,7	28,9	1730
2x4	1,0	1,2	12,7	255
3x4	1,0	1,2	11,3	300
4x4	1,0	1,2	12,3	375
2x6	1,0	1,2	13,6	320
3x6	1,0	1,2	14,7	400
4x6	1,0	1,3	16,3	495
2x10	1,0	1,3	15,9	430
3x10	1,0	1,3	16,9	550
4x10	1,0	1,4	18,7	660
1x16	1,0	1,1	10,0	250
2x16	1,0	1,4	18,1	620
3x16	1,0	1,4	19,3	790
4x16	1,0	1,5	21,6	1080
1x25	1,2	1,2	12,4	360
2x25	1,2	1,5	22,5	960
3x25	1,2	1,6	24,2	1250
4x25	1,2	1,7	26,8	1690
1x35	1,2	1,2	13,2	470
2x35	1,2	1,6	24,4	1280
3x35	1,2	1,7	26,3	1600
4x35	1,2	1,8	29,1	2080
1x50	1,4	1,3	15,0	620
2x50	1,4	1,7	27,9	1670
3x50	1,4	1,8	29,9	2185
4x50	1,4	1,9	33,4	2800
1x70	1,4	1,3	16,8	870
2x70	1,4	1,9	31,9	2280
3x70	1,4	2,0	34,3	2930
4x70	1,4	2,1	38,0	3790
1x95	1,6	1,4	19,2	1210
2x95	1,6	2,1	36,6	3010
3x95	1,6	2,2	39,3	3990
4x95	1,6	2,3	43,7	5080
1x120	1,6	1,5	21,2	1450
2x120	1,6	2,2	40,3	3710
3x120	1,6	2,3	43,3	4920
4x120	1,6	2,5	53,3	6350
1x150	1,8	1,6	23,3	1740
2x150	1,8	2,3	44,5	3970
3x150	1,8	2,5	47,9	5830
4x150	1,8	2,7	53,4	7510
1x185	2,0	1,7	25,7	2180
2x185	2,0	2,5	49,2	5230
3x185	2,0	2,7	53,2	7430
4x185	2,0	2,9	59,2	9580
1x240	2,2	1,8	28,9	2790
2x240	2,2	2,8	55,9	7290
3x240	2,2	2,9	60,0	10380
4x240	2,2	3,2	67,1	12860
1x300	2,4	1,9	32,0	3400
2x300	2,4	3,0	61,8	8190
3x300	2,4	3,2	66,7	11330
4x300	2,4	3,5	74,6	14450
1x400	2,6	2,0	35,8	4720
1x500	2,8	2,2	39,8	6200
1x630	2,8	2,3	43,6	7420

CuSn/MGT/EPR/SW4/GSWB/SW4 0,6/1kV

Fire resistant, Flame retardant halogen-free power cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 0,6/1 kV

Min Bending Radius during

Installation: 8 x D

Min Bending Radius for fixed

installation:

≤ 25mm 4xD

> 25mm 6xD

Max Tensile Load During

Installation: 50 N/mm²

Min Installation Temperature: -20°C

Standards applied:

BS 7917 / BS6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1 & 3-22 - Flame Retardant

IEC 60331-21 - Fire Resistant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Construction:

Conductor: tinned copper (class 2 as per BS6360, IEC 60228,*) (*)

Insulation: Mica glass tape / EPR rubber, GP4 acc. to BS 7655: section 1.2

Lay up: Cores laid up in concentric layers

Inner sheath: Flame retardant and halogen-free thermoset compound

Tape over inner sheath: PET tape + rubberized Polyamide tape

Armour: Galvanized Steel Wire Braid for multicore cables & Tinned Copper or Tinned Phosphor Bronze Wire Braid for single core cable

Tape over armour: PET tape + rubberized Polyamide tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6

Outer sheath colour: Black

(*) flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Application:

Armoured cable for fixed installation for power, control or lighting in both EX and safe areas, emergency and critical systems where there is a requirement for fire resistant cables.

Core identification:

All cores are white with black numbers

Electrical parameters:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
2x1,5	12,2	15,3	0,108	0,13	20	210
3x1,5	12,2	15,3	0,108	0,13	16	210
4x1,5	12,2	15,3	0,108	0,13	16	210
5x1,5	12,2	15,3	0,108	0,13	13	210
7x1,5	12,2	15,3	0,108	0,13	12	210
12x1,5	12,2	15,3	0,108	0,13	10	210
19x1,5	12,2	15,3	0,108	0,13	9	210
27x1,5	12,2	15,3	0,108	0,13	8	210
37x1,5	12,2	15,3	0,108	0,13	7	210
2x2,5	7,56	9,64	0,101	0,121	26	350
3x2,5	7,56	9,64	0,101	0,121	21	350
4x2,5	7,56	9,64	0,101	0,121	21	350
5x2,5	7,56	9,64	0,101	0,121	18	350
7x2,5	7,56	9,64	0,101	0,121	16	350
12x2,5	7,56	9,64	0,101	0,121	13	350
19x2,5	7,56	9,64	0,101	0,121	11	350
27x2,5	7,56	9,64	0,101	0,121	10	350
37x2,5	7,56	9,64	0,101	0,121	9	350
2x4	4,70	5,99	0,100	0,120	34	560
3x4	4,70	5,99	0,100	0,120	28	560
4x4	4,70	5,99	0,100	0,120	28	560
2x6	3,11	3,97	0,094	0,112	44	840
3x6	3,11	3,97	0,094	0,112	36	840
4x6	3,11	3,97	0,094	0,112	36	840
2x10	1,84	2,35	0,088	0,105	61	1400
3x10	1,84	2,35	0,088	0,105	50	1400
4x10	1,84	2,35	0,088	0,105	50	1400
1x16	1,16	1,48	0,082	0,099	96	2240
2x16	1,16	1,48	0,082	0,099	82	2240
3x16	1,16	1,48	0,082	0,099	67	2240
4x16	1,16	1,48	0,082	0,099	67	2240

CuSn/MGT/EPR/SW4/GSWB/SW4 0,6/1kV

Fire resistant, Flame retardant halogen-free power cable. Enhanced oil-resistance.

Electrical parameters cont.:

Type [n x mm ²]	Resistance at 20°C, max. [Ohm/km]	Resistance at 90°C, max. [Ohm/km]	Reactance at 50 Hz, [Ohm/km]	Reactance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
1x25	0,734	0,936	0,081	0,097	127	3500
2x25	0,734	0,936	0,081	0,097	108	3500
3x25	0,734	0,936	0,081	0,097	89	3500
4x25	0,734	0,936	0,081	0,097	89	3500
1x35	0,529	0,675	0,078	0,094	157	4900
2x35	0,529	0,675	0,078	0,094	133	4900
3x35	0,529	0,675	0,078	0,094	110	4900
4x35	0,529	0,675	0,078	0,094	110	4900
1x50	0,391	0,499	0,078	0,093	196	7000
2x50	0,391	0,499	0,078	0,093	167	7000
3x50	0,391	0,499	0,078	0,093	137	7000
4x50	0,391	0,499	0,078	0,093	137	7000
1x70	0,270	0,344	0,075	0,09	242	9800
2x70	0,270	0,344	0,075	0,09	206	9800
3x70	0,270	0,344	0,075	0,09	169	9800
4x70	0,270	0,344	0,075	0,09	169	9800
1x95	0,195	0,249	0,075	0,09	293	13300
2x95	0,195	0,249	0,075	0,09	249	13300
3x95	0,195	0,249	0,075	0,09	205	13300
4x95	0,195	0,249	0,075	0,09	205	13300
1x120	0,154	0,196	0,073	0,088	339	16800
2x120	0,154	0,196	0,073	0,088	288	16800
3x120	0,154	0,196	0,073	0,088	237	16800
4x120	0,154	0,196	0,073	0,088	237	16800
1x150	0,126	0,161	0,073	0,088	389	21000
2x150	0,126	0,161	0,073	0,088	331	21000
3x150	0,126	0,161	0,073	0,088	272	21000
4x150	0,126	0,161	0,073	0,088	272	21000
1x185	0,100	0,128	0,073	0,088	444	25900
2x185	0,100	0,128	0,073	0,088	377	25900
3x185	0,100	0,128	0,073	0,088	311	25900
4x185	0,100	0,128	0,073	0,088	311	25900
1x240	0,0762	0,0972	0,072	0,087	522	33600
2x240	0,0762	0,0972	0,072	0,087	444	33600
3x240	0,0762	0,0972	0,072	0,087	365	33600
4x240	0,0762	0,0972	0,072	0,087	365	33600
1x300	0,0607	0,0774	0,072	0,086	601	42000
2x300	0,0607	0,0774	0,072	0,086	511	42000
3x300	0,0607	0,0774	0,072	0,086	420	42000
4x300	0,0607	0,0774	0,072	0,086	420	42000
1x400	0,0475	0,0596	-	-	670	56000
1x500	0,0369	0,0463	-	-	720	70000
1x630	0,0286	0,0359	-	-	780	88200

CuSn/MGT/EPR/SW4/GSWB/SW4 0,6/1kV

Fire resistant, Flame retardant halogen-free power cable. Enhanced oil-resistance.

Construction:

n x mm ²	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
2x1,5	0,8	1,1	9,7	0,3	1,2	13,7	275
3x1,5	0,8	1,1	10,3	0,3	1,2	14,3	320
4x1,5	0,8	1,1	11,3	0,3	1,3	15,4	350
5x1,5	0,8	1,1	12,25	0,3	1,3	16,5	390
7x1,5	0,8	1,2	13,5	0,3	1,3	17,75	520
12x1,5	0,8	1,3	17,8	0,3	1,5	22,6	790
19x1,5	0,8	1,4	21,15	0,3	1,6	25,95	1050
27x1,5	0,8	1,6	25,6	0,3	1,8	31	1340
37x1,5	0,8	1,7	28,9	0,45	1,9	35,1	1780
2x2,5	0,8	1,1	10,6	0,3	1,2	14,55	340
3x2,5	0,8	1,1	11,25	0,3	1,3	15,4	400
4x2,5	0,8	1,1	12,25	0,3	1,3	16,5	455
5x2,5	0,8	1,2	13,55	0,3	1,3	17,75	550
7x2,5	0,8	1,2	14,75	0,3	1,4	19,15	680
12x2,5	0,8	1,4	19,75	0,3	1,6	24,7	990
19x2,5	0,8	1,5	23,4	0,3	1,7	28,4	1400
2x4	1,0	1,2	12,65	0,3	1,3	16,85	420
3x4	1,0	1,2	13,45	0,3	1,3	17,65	480
4x4	1,0	1,2	14,7	0,3	1,4	19,1	590
2x6	1,0	1,2	13,75	0,3	1,4	18,15	525
3x6	1,0	1,2	14,65	0,3	1,4	19,05	620
4x6	1,0	1,3	16,3	0,3	1,5	21,05	750
2x10	1,0	1,3	15,85	0,3	1,4	20,2	610
3x10	1,0	1,3	16,85	0,3	1,5	21,6	840
4x10	1,0	1,4	18,7	0,3	1,6	23,65	1060
1x16**	1,0	1,1	10	0,3	1,2	14,05	520
2x16	1,0	1,4	18,1	0,3	1,5	22,85	940
3x16	1,0	1,4	19,25	0,3	1,6	24,25	1200
4x16	1,0	1,5	21,55	0,3	1,7	26,55	1420
1x25**	1,2	1,2	12,35	0,3	1,3	16,55	630
2x25	1,2	1,5	22,45	0,3	1,7	27,45	1260
3x25	1,2	1,6	24,15	0,3	1,8	29,35	1770
4x25	1,2	1,7	26,8	0,45	1,9	33,15	2310
1x35**	1,2	1,2	13,2	0,3	1,4	17,65	770
2x35	1,2	1,6	24,4	0,3	1,8	29,6	1870
3x35	1,2	1,7	26,25	0,45	1,9	32,55	2360
4x35	1,2	1,8	29,1	0,45	2,0	35,6	2800
1x50**	1,4	1,3	15	0,3	1,4	19,4	1050
2x50	1,4	1,7	27,85	0,45	2,0	34,4	2780
3x50	1,4	1,8	29,9	0,45	2,0	36,45	3240
4x50	1,4	1,9	33,4	0,45	2,2	40,1	3600
1x70**	1,4	1,3	16,8	0,3	1,5	21,6	1320
2x70	1,4	1,9	31,9	0,45	2,1	38,5	3250
3x70	1,4	2,0	34,3	0,45	2,2	41,25	4070
4x70	1,4	2,1	38	0,45	2,4	45,4	4790
1x95**	1,6	1,4	19,15	0,3	1,6	24,1	1750
2x95	1,6	2,1	36,55	0,45	2,3	43,7	4250
3x95	1,6	2,2	39,25	0,45	2,4	46,6	5350
4x95	1,6	2,3	43,7	0,45	2,6	51,5	6310
1x120**	1,6	1,5	21,2	0,3	1,7	26,2	1830
2x120	1,6	2,2	40,3	0,45	2,5	47,75	4710
3x120	1,6	2,3	43,3	0,45	2,6	51,1	6580
4x120	1,6	2,5	48,25	0,45	2,8	56,45	7040
1x150**	1,8	1,6	23,3	0,3	1,8	30,1	2320
2x150	1,8	2,3	44,5	0,45	2,6	52,35	6250
3x150	1,8	2,5	47,85	0,45	2,8	56	7500
4x150	1,8	2,7	53,4	0,45	3,0	62	8460
1x185**	2,0	1,7	25,7	0,45	1,9	32,05	2810
2x185	2,0	2,5	49,2	0,45	2,8	57,4	7490
3x185	2,0	2,7	53,2	0,45	3,0	61,85	9620
4x185	2,0	2,9	59,2	0,45	3,2	68,25	10630
1x240**	2,2	1,8	28,9	0,45	2,0	35,4	3550
2x240	2,2	2,8	55,85	0,45	3,1	64,7	9110
3x240	2,2	2,9	59,95	0,45	3,2	69	12100
4x240	2,2	3,2	67,05	0,45	3,5	76,75	13340
1x300**	2,4	1,9	32	0,45	2,1	38,55	4320
2x300	2,4	3,0	61,8	0,45	3,3	71	11050
3x300	2,4	3,2	66,7	0,45	3,5	76,35	15000
4x300	2,4	3,5	74,55	0,45	3,8	84,8	16840
1x400**	2,6	2,0	35,8	0,45	2,3	42,95	5860
1x500**	2,8	2,2	39,75	0,45	2,5	47,25	7490
1x630**	2,8	2,3	43,6	0,45	2,6	51,4	9240

**Tinned Copper or Tinned Phosphor Bronze Wire Braid

CuSn/SCS/EPR/CTS/SW4/TPWB/SW4

3,8/6,6kV

Single Core Flame Retardant Medium Voltage Power Cable Enhanced Oil Resistance.



Technical data:

Operating temperature: 90°C
Operating Voltage: 3,8/6,6 kV
Min Bending Radius: 12 x D
Max Tensile Load During Installation: 50 N /mm²
Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA/ Radial Field - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: stranded tinned copper (class 2 as per BS6360, IEC 60228,) (*)
Conductor screen: semi-conductive tape or extruded layer of semi-conductive compound
Insulation: Halogen free EPR, type GP5 acc. to BS 7655-1.2
Insulation screen: semi-conductive tape or extruded layer of semi-conductive compound
Metalic screen: copper tape
Bedding: Flame retardant, halogen-free, (LSF), SW4 acc. to BS 7655 section 2.6
Armour: Phosphor bronze wire braid and PET tape
Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6 and pet tape
Outer sheath colour: red

(*) possibility of flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Note: Fire resistant version available upon request

Application:

Armoured cable for fixed installation on offshore platforms and drilling rigs.

Electrical parameters:

Type [n x mm ²]	DC resistance at 20°C,max. [Ohm/km]	AC resistance at 20°C,max. [Ohm/km]	Braid resistance at 20°C,max. [Ohm/km]	Inductive reactance at 60 Hz, [Ohm/km]	Impedance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
1x16	1,16	1,48	11,76	0,198	1,49	95	2,29
1x25	0,734	0,936	10,16	0,179	0,953	125	3,58
1x35	0,529	0,675	10,16	0,173	0,697	155	5,01
1x50	0,391	0,499	8,91	0,165	0,526	190	7,15
1x70	0,270	0,345	8,07	0,157	0,379	240	6,99
1x95	0,195	0,249	8,07	0,148	0,290	290	9,49
1x120	0,154	0,197	8,51	0,144	0,244	340	12,00
1x150	0,126	0,162	6,91	0,142	0,215	385	15,00
1x185	0,100	0,129	6,91	0,138	0,189	440	18,50
1x240	0,0762	0,0996	5,89	0,129	0,163	520	24,00
1x300	0,0607	0,0805	5,37	0,126	0,150	590	30,00
1x400	0,0475	0,0646	5,37	0,122	0,138	670	40,00
1x500	0,0369	0,0523	5,16	0,120	0,131	720	49,90
1x630	0,0286	0,0429	3,58	0,117	0,124	780	62,90

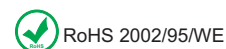
Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Inner Sheath Thickness [mm]	Braid Wire Diameter [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x16	3,0	1,30	0,3	1,40	21,30	-
1x25	3,0	1,30	0,3	1,50	23,00	1070
1x35	3,0	1,40	0,3	1,50	24,00	1220
1x50	3,0	1,40	0,3	1,60	25,40	1400
1x70	3,0	1,50	0,3	1,70	27,40	1650
1x95	3,0	1,60	0,3	1,80	29,60	1980
1x120	3,0	1,60	0,3	1,80	31,30	2370
1x150	3,0	1,70	0,45	1,90	33,80	2570
1x185	3,0	1,80	0,45	2,00	36,00	3140
1x240	3,0	1,90	0,45	2,10	40,40	3970
1x300	3,0	2,00	0,45	2,20	43,40	4550
1x400	3,0	2,10	0,45	2,40	47,30	-
1x500	3,0	2,30	0,45	2,50	51,70	-
1x630	3,0	2,40	0,45	2,70	55,90	-

CuSn/SCS/EPR/CTS/SW4/GSWB/SW4

3,8/6,6 kV

Three Core Flame Retardant Medium Voltage Power Cable Enhanced Oil Resistance.



Technical data:

Operating temperature: 90°C
Operating Voltage: 3,8/6,6 kV
Min Bending Radius: 12 x D
Max Tensile Load During Installation: 50 N/mm²
Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA/ Radial Field - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: stranded tinned copper (class 2 as per BS6360, IEC 60228,*) (*)
Conductor screen: semi-conductive tape or extruded layer of semi-conductive compound
Insulation: halogen free EPR, type GP5 acc. to BS 7655-1.2
Insulation screen: semi-conductive tape or extruded layer of semi-conductive compound
Metallic screen: copper tape
Bedding: flame retardant, halogen-free (LSF), SW4 acc. to BS 7655 section 2.6 and PET tape
Armour: galvanised Mild Steel Wire Braid and PET tape
Outer sheath: flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6
Outer sheath colour: red

(*) possibility of flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Note: Fire resistant version available upon request

Application:

Armoured cable for fixed installation on offshore platforms and drilling rigs.

Electrical parameters:

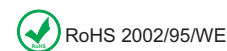
Type [n x mm ²]	DC resistance at 20°C, max. [Ohm/km]	AC resistance at 20°C, max. [Ohm/km]	Braid resistance at 20°C, max. [Ohm/km]	Inductive reactance at 60 Hz, [Ohm/km]	Impedance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
3x16	1,16	1,48	7,19	0,152	1,49	67	2,29
3x25	0,734	0,936	7,19	0,136	0,946	89	3,58
3x35	0,529	0,675	6,50	0,131	0,687	105	5,01
3x50	0,391	0,499	6,50	0,125	0,515	135	7,15
3x70	0,270	0,345	6,30	0,119	0,365	170	6,99
3x95	0,195	0,250	4,37	0,112	0,274	205	9,49
3x120	0,154	0,198	4,09	0,109	0,226	240	12,00
3x150	0,126	0,163	4,09	0,106	0,194	270	15,00
3x185	0,100	0,130	3,36	0,103	0,166	305	18,50
3x240	0,0762	0,101	3,30	0,0981	0,141	365	24,00
3x300	0,0607	0,0825	2,96	0,0958	0,126	415	30,00

Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Inner Sheath Thickness [mm]	Braid Wire Diameter [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
3x16	3,0	1,80	0,45	2,10	39,10	-
3x25	3,0	2,00	0,45	2,20	43,10	3700
3x35	3,0	2,00	0,45	2,30	45,10	4230
3x50	3,0	2,20	0,45	2,40	48,20	4880
3x70	3,0	2,30	0,45	2,60	52,60	5990
3x95	3,0	2,50	0,45	2,80	57,30	7270
3x120	3,0	2,60	0,45	2,90	60,80	8500
3x150	3,0	2,70	0,45	3,10	64,60	9730
3x185	3,0	2,90	0,45	3,20	69,00	-
3x240	3,0	3,10	0,45	3,50	78,90	-
3x300	3,0	3,30	0,45	3,70	85,10	-

CuSn/SCS/EPR/CTS/SW4/TPWB/SW4

6,35/11kV

 Single Core Flame Retardant Medium Voltage Power Cable Enhanced Oil Resistance.

Technical data:

Operating temperature: 90°C
Operating Voltage: 6,35/11 kV
Min Bending Radius: 12 x D
Max Tensile Load During Installation: 50 N /mm²
Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA/ Radial Field - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: stranded tinned copper (class 2 as per BS6360, IEC 60228,*) (*)
Conductor screen: semi-conductive tape or extruded layer of semi-conductive compound
Insulation: halogen free EPR, type GP5 acc. to BS 7655-1.2
Insulation screen: semi-conductive tape or extruded layer of semi-conductive compound
Metallic screen: copper tape
Bedding: flame retardant, halogen-free (LSF), SW4 acc. to BS 7655 section 2.6 and PET tape
Armour: phosphor bronze wire braid and PET tape
Outer sheath: flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6
Outer sheath colour: red

(*) possibility of flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Note: Fire resistant version available upon request

Application:

Armoured cable for fixed installation on offshore platforms and drilling rigs.

Electrical parameters:

Type [n x mm ²]	DC resistance at 20°C,max. [Ohm/km]	AC resistance at 20°C,max. [Ohm/km]	Braid resistance at 20°C,max. [Ohm/km]	Inductive reactance at 60 Hz, [Ohm/km]	Impedance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
1x16	1,16	1,48	10,16	0,197	1,49	95	2,29
1x25	0,734	0,936	10,16	0,179	0,953	125	3,58
1x35	0,529	0,675	8,91	0,172	0,696	155	5,01
1x50	0,391	0,499	8,91	0,165	0,525	190	7,15
1x70	0,270	0,345	8,07	0,156	0,378	240	6,99
1x95	0,195	0,249	8,51	0,147	0,290	290	9,49
1x120	0,154	0,197	6,91	0,146	0,245	340	12,00
1x150	0,126	0,162	6,91	0,141	0,215	385	15,00
1x185	0,100	0,129	6,91	0,137	0,188	440	18,50
1x240	0,0762	0,0996	5,89	0,129	0,163	520	24,00
1x300	0,0607	0,0805	5,37	0,126	0,149	590	30,00
1x400	0,0475	0,0646	5,37	0,121	0,137	670	40,00
1x500	0,0369	0,0523	5,16	0,118	0,129	720	49,90
1x630	0,0286	0,0434	3,58	0,109	0,118	780	62,90

Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Inner Sheath Thickness [mm]	Braid Wire Diameter [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x16	3,4	1,30	0,3	1,50	22,30	-
1x25	3,4	1,40	0,3	1,50	24,10	1160
1x35	3,4	1,40	0,3	1,60	25,10	1400
1x50	3,4	1,50	0,3	1,60	26,40	1520
1x70	3,4	1,50	0,3	1,70	28,30	1810
1x95	3,4	1,60	0,3	1,80	30,50	2160
1x120	3,4	1,70	0,45	1,90	33,30	2550
1x150	3,4	1,70	0,45	2,00	34,90	3100
1x185	3,4	1,80	0,45	2,00	36,80	3480
1x240	3,4	1,90	0,45	2,20	41,60	4280
1x300	3,4	2,00	0,45	2,30	44,50	5120
1x400	3,4	2,10	0,45	2,40	48,20	-
1x500	3,4	2,30	0,45	2,50	52,10	-
1x630	3,4	2,40	0,45	2,70	56,40	-

CuSn/SCS/EPR/CTS/SW4/GSWB/SW4

6,35/11kV

Three Core Flame Retardant Medium Voltage Power Cable Enhanced Oil Resistance.



Technical data:

Operating temperature: 90°C
Operating Voltage: 6,35/11 kV
Min Bending Radius: 12 x D
Max Tensile Load During Installation: 50 N/mm²
Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA/ Radial Field - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: stranded tinned copper (class 2 as per BS6360, IEC 60228,*) (*)
Conductor screen: semi-conductive tape or extruded layer of semi-conductive compound
Insulation: halogen free EPR, type GP5 acc. to BS 7655-1.2
Insulation screen: semi-conductive tape or extruded layer of semi-conductive compound
Metallic screen: copper tape
Bedding: flame retardant, halogen-free (LSF), SW4 acc. to BS 7655 section 2.6 and PET tape
Armour: galvanised Mild Steel Wire Braid and PET tape
Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6
Outer sheath colour: red

(*) possibility of flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Note: Fire resistant version available upon request

Application:

Armoured cable for fixed installation on offshore platforms and drilling rigs.

Electrical parameters:

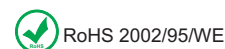
Type [n x mm ²]	DC resistance at 20°C, max. [Ohm/km]	AC resistance at 20°C, max. [Ohm/km]	Braid resistance at 20°C, max. [Ohm/km]	Inductive reactance at 60 Hz, [Ohm/km]	Impedance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
3x16	1,16	1,48	7,19	0,157	1,49	67	2,29
3x25	0,734	0,936	6,50	0,141	0,947	89	3,58
3x35	0,529	0,675	6,50	0,135	0,688	105	5,01
3x50	0,391	0,499	6,30	0,129	0,516	135	7,15
3x70	0,270	0,345	4,37	0,122	0,366	170	6,99
3x95	0,195	0,250	4,37	0,116	0,275	205	9,49
3x120	0,154	0,198	4,09	0,112	0,227	240	12,00
3x150	0,126	0,163	3,36	0,109	0,196	270	15,00
3x185	0,100	0,130	3,18	0,106	0,168	305	18,50
3x240	0,0762	0,101	3,30	0,100	0,142	365	24,00
3x300	0,0607	0,0825	3,27	0,0979	0,128	415	30,00

Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Inner Sheath Thickness [mm]	Braid Wire Diameter [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
3x16	3,4	1,90	0,45	2,10	41,30	-
3x25	3,4	2,00	0,45	2,30	45,10	4300
3x35	3,4	2,10	0,45	2,40	47,30	4850
3x50	3,4	2,20	0,45	2,50	50,20	5600
3x70	3,4	2,40	0,45	2,70	54,80	6650
3x95	3,4	2,50	0,45	2,80	61,00	7950
3x120	3,4	2,70	0,45	3,00	63,20	9210
3x150	3,4	2,80	0,45	3,10	66,60	-
3x185	3,4	3,00	0,45	3,30	71,20	-
3x240	3,4	3,20	0,45	3,60	81,10	-
3x300	3,4	3,40	0,45	3,80	87,30	-

CuSn/SCS/EPR/CTS/SW4/TPWB/SW4

8,7/15kV

 Single Core Flame Retardant Medium Voltage Power Cable Enhanced Oil Resistance.

Technical data:

Operating temperature: 90°C
Operating Voltage: 8,7/15 kV
Min Bending Radius: 12 x D
Max Tensile Load During Installation: 50 N /mm²
Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA/ Radial Field - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: stranded tinned copper (class 2 as per BS6360, IEC 60228,)* (*)
Conductor screen: semi-conductive tape or extruded layer of semi-conductive compound
Insulation: Halogen free EPR, type GP5 acc. to BS 7655-1.2
Insulation screen: semi-conductive tape or extruded layer of semi-conductive compound
Metallic screen: copper tape
Bedding: flame retardant, halogen-free (LSF), SW4 acc. to BS 7655 section 2.6 and PET tape
Armour: phosphor bronze wire braid and PET tape
Outer sheath: flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6
Outer sheath colour: red

(*) possibility of flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Note: Fire resistant version available upon request

Application:

Armoured cable for fixed installation on offshore platforms and drilling rigs.

Electrical parameters:

Type [n x mm ²]	DC resistance at 20°C,max. [Ohm/km]	AC resistance at 20°C,max. [Ohm/km]	Braid resistance at 20°C,max. [Ohm/km]	Inductive reactance at 60 Hz, [Ohm/km]	Impedance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
1x25	0,734	0,936	8,91	0,186	0,954	125	3,58
1x35	0,529	0,675	8,07	0,179	0,698	155	5,01
1x50	0,391	0,499	8,07	0,171	0,527	190	7,15
1x70	0,270	0,345	8,51	0,162	0,381	240	6,99
1x95	0,195	0,249	6,91	0,156	0,294	290	9,49
1x120	0,154	0,197	6,91	0,151	0,248	340	12,00
1x150	0,126	0,162	6,91	0,146	0,218	385	15,00
1x185	0,100	0,129	5,89	0,141	0,191	440	18,50
1x240	0,0762	0,0996	5,37	0,133	0,166	520	24,00
1x300	0,0607	0,0805	5,37	0,129	0,152	590	30,00
1x400	0,0475	0,0646	5,16	0,124	0,140	670	40,00
1x500	0,0369	0,0523	3,58	0,122	0,132	720	49,90
1x630	0,0286	0,0434	3,58	0,118	0,126	780	62,90

Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Inner Sheath Thickness [mm]	Braid Wire Diameter [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x25	4,5	1,50	0,3	1,60	26,50	-
1x35	4,5	1,50	0,3	1,70	27,60	1510
1x50	4,5	1,50	0,3	1,70	28,70	1680
1x70	4,5	1,60	0,3	1,80	30,80	1950
1x95	4,5	1,70	0,45	1,90	34,00	2420
1x120	4,5	1,80	0,45	2,00	35,70	2850
1x150	4,5	1,80	0,45	2,10	37,40	3250
1x185	4,5	1,90	0,45	2,10	39,30	4560
1x240	4,5	2,00	0,45	2,20	43,90	4690
1x300	4,5	2,10	0,45	2,40	47,00	5430
1x400	4,5	2,20	0,45	2,50	50,60	-
1x500	4,5	2,40	0,45	2,60	54,60	-
1x630	4,5	2,50	0,45	2,80	58,80	-

CuSn/SCS/EPR/CTS/SW4/GSWB/SW4

8,7/15kV

 Three Core Flame Retardant Medium Voltage Power Cable Enhanced Oil Resistance.

Technical data:

Operating temperature: 90°C
Operating Voltage: 8,7/15 kV
Min Bending Radius: 12 x D
Max Tensile Load During Installation: 50 N/mm²
Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA/ Radial Field - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: stranded tinned copper (class 2 as per BS6360, IEC 60228,) (*)
Conductor screen: semi-conductive tape or extruded layer of semi-conductive compound
Insulation: halogen free EPR, type GP5 acc. to BS 7655-1.2
Insulation screen: semi-conductive tape or extruded layer of semi-conductive compound
Metalic screen: copper tape
Bedding: flame retardant, halogen-free (LSF), SW4 acc. to BS 7655 section 2.6 and PET tape
Armour: galvanised Mild Steel Wire Braid and PET tape
Outer sheath: flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6
Outer sheath colour: red

(*) possibility of flexible versions with "Class 5/2" conductors: flexibility of class 5 as per IEC 60228 and BS6360 and conductor resistance of class 2 as per IEC 60228 and BS6360

Note: Fire resistant version available upon request

Application:

Armoured cable for fixed installation on offshore platforms and drilling rigs.

Electrical parameters:

Type [n x mm ²]	DC resistance at 20°C, max. [Ohm/km]	AC resistance at 20°C, max. [Ohm/km]	Braid resistance at 20°C, max. [Ohm/km]	Inductive reactance at 60 Hz, [Ohm/km]	Impedance at 60 Hz, [Ohm/km]	Current carrying capacity at 45°C [A]	Short circuit rating 1 second, Ampere
3x25	0,734	0,936	6,30	0,151	0,948	89	3,58
3x35	0,529	0,675	6,30	0,145	0,690	105	5,01
3x50	0,391	0,499	4,37	0,138	0,518	135	7,15
3x70	0,270	0,345	4,09	0,131	0,369	170	6,99
3x95	0,195	0,250	4,09	0,123	0,278	205	9,49
3x120	0,154	0,198	3,36	0,119	0,231	240	12,00
3x150	0,126	0,163	3,18	0,116	0,199	270	15,00
3x185	0,100	0,130	3,30	0,112	0,172	305	18,50
3x240	0,0762	0,101	2,96	0,106	0,146	365	24,00
3x300	0,0607	0,0825	3,27	0,103	0,132	415	30,00

Construction:

n x mm ²	Nominal Insulation Thickness [mm]	Nominal Inner Sheath Thickness [mm]	Braid Wire Diameter [mm]	Nominal Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
3x25	4,5	2,20	0,45	2,50	50,50	3970
3x35	4,5	2,30	0,45	2,60	52,90	4570
3x50	4,5	2,40	0,45	2,70	55,70	5250
3x70	4,5	2,60	0,45	2,90	60,10	6150
3x95	4,5	2,70	0,45	3,00	64,60	7350
3x120	4,5	2,90	0,45	3,20	68,30	8500
3x150	4,5	3,00	0,45	3,30	72,10	-
3x185	4,5	3,20	0,45	3,50	76,70	-
3x240	4,5	3,40	0,45	3,80	86,60	-
3x300	4,5	3,60	0,45	4,00	92,80	-

CuSn/EPR/IS/SW4 150/250V

Unarmoured Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance



 RoHS 2002/95/WE

 LVD 2006/95/WE

Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min bending radius during installation:
10 x D

Min bending radius for fixed

Installation: 8 x D

Max Tensile Load During Installation:
50 N /mm²

Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-1 - Flame Retardant
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5)

Insulation: EPR rubber, GP4 acc. to BS 7655: section 1.2

Pair/Triple/Quad twisting / lay up:

Cores twisted together to form a pair, triple or quad, which is individually screened with aluminium backed polyester tape with a tinned copper drain wire. Each pair, triple or quad is wrapped with polyester tape to prevent electrical contact with adjacent pairs, triples or quads. Individually shielded pairs, triples or quads are laid up in concentric layers and wrapped with a PETP tape. Pairs, triples, or quads are identified by numbers printed directly on the insulated conductors

Tape over screen: PET tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Quad - Black - White - Red - Blue, numbered

Application:

Armoured cable for fixed installation on offshore platforms and drilling rigs. Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas. Designed for offshore applications.

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance max. [Ohm/km]	Resistance at 20°C max. [Ohm/km]	L/R ratio [microH/Ohm]
Shielded pair 0.75	90	0.85	26,7	20
Shielded triple 0.75	90	0.85	26,7	20
Shielded quad 0.75	90	0.85	26,7	20
Shielded pair 1.0	100	0.8	20,0	25
Shielded triple 1.0	100	0.8	20,0	25
Shielded quad 1.0	100	0.8	20,0	25

CuSn/EPR/IS/SW4 150/250V

Unarmoured Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance

Construction:

Paired cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
1x2x0.75	1.15	0.8	1.0	8.1	85
3x2x0.75	1.15	0.8	1.2	13.6	200
7x2x0.75	1.15	0.8	1.4	18	390
12x2x0.75	1.15	0.8	1.6	22.4	640
20x2x0.75	1.15	0.8	1.9	28.4	1030
27x2x0.75	1.15	0.8	2.0	32.3	1340
37x2x0.75	1.15	0.8	2.2	37.6	1790
1x2x1.0	1.3	0.8	1.0	8.6	95
3x2x1.0	1.3	0.8	1.3	14.5	240
7x2x1.0	1.3	0.8	1.4	19	470
12x2x1.0	1.3	0.8	1.7	24.1	790
20x2x1.0	1.3	0.8	1.9	30.2	1250
27x2x1.0	1.3	0.8	2.1	34.4	1660
37x2x1.0	1.3	0.8	2.3	40.4	2220

*- cable sizes out of range of BS 6883, construction according to factory standard

Triple cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
1x3x0.75	1.15	0.8	1.0	8.5	95
3x3x0.75	1.15	0.8	1.3	15.2	250
7x3x0.75	1.15	0.8	1.5	20.9	510
12x3x0.75	1.15	0.8	1.7	25.8	840
1x3x1.0	1.3	0.8	1.1	9.2	120
3x3x1.0	1.3	0.8	1.3	16.1	300
7x3x1.0	1.3	0.8	1.5	22.2	620
12x3x1.0	1.3	0.8	1.8	27.5	1040

*- cable sizes out of range of BS 6883, construction according to factory standard

Quad cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
1x4x0.75	1.15	0.8	1.1	9.5	115
3x4x0.75	1.15	0.8	1.4	17.4	310
7x4x0.75	1.15	0.8	1.6	23.4	630
1x4x1.0	1.3	0.8	1.1	10	140
3x4x1.0	1.3	0.8	1.4	18.5	360
7x4x1.0	1.3	0.8	1.6	24.9	750

*- cable sizes out of range of BS 6883, construction according to factory standard

CuSn/EPR/CS/SW4 150/250V

Unarmoured Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance



Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min Bending Radius during Installation:
10 x D

Min bending radius for fixed Installation:
8 x D

Max Tensile Load During Installation:
50 N /mm²

Min Installation Temperature: -20°C

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5);

Insulation: EPR rubber, GP4 acc. to BS7655: section 1.2

Pair/Triple/Quad twisting / lay up: Cores twisted together to form a pair or triple, wrapped with polyester tape. Pairs or triples are laid up, collectively screened with aluminium backed polyester tape with tinned copper drain wire. Pairs or triples are identified by numbers printed directly on the insulated conductors.

Tape over screen: PET tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Standards applied:

BS 6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1 - Flame Retardant

IEC 60332-3-22 - Flame Retardant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Application:

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas. Designed for offshore applications.

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance max. [Ohm/km]	Resistance at 20°C max. [Ohm/km]	L/R ratio [microH/Ohm]
Shielded pair 0.75	90	0.85	26,7	20
Shielded triple 0.75	90	0.85	26,7	20
Shielded quad 0.75	90	0.85	26,7	20
Shielded pair 1.0	100	0.8	20,0	25
Shielded triple 1.0	100	0.8	20,0	25
Shielded quad 1.0	100	0.8	20,0	25

CuSn/EPR/CS/SW4 150/250V

Unarmoured Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance

Construction:

Paired cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
3x2x0.75	1.15	0.8	1.2	15	165
7x2x0.75	1.15	0.8	1.4	19.6	320
12x2x0.75	1.15	0.8	1.6	25.1	520
20x2x0.75	1.15	0.8	1.8	32.4	820
27x2x0.75	1.15	0.8	1.9	36.7	1060
37x2x0.75	1.15	0.8	2.1	40.7	1420
3x2x1.0	1.3	0.8	1.2	15.8	175
7x2x1.0	1.3	0.8	1.4	20.3	350
12x2x1.0	1.3	0.8	1.6	27.2	580
20x2x1.0	1.3	0.8	1.8	34.2	910
27x2x1.0	1.3	0.8	2.0	39	1210
37x2x1.0	1.3	0.8	2.2	43.3	1620

*- cable sizes out of range of BS 6883, construction according to factory standard

Triple cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
3x3x0.75	1.15	0.8	1.3	16	220
7x3x0.75	1.15	0.8	1.4	21.7	430
12x3x0.75	1.15	0.8	1.7	26.9	720
3x3x1.0	1.3	0.8	1.3	16.8	250
7x3x1.0	1.3	0.8	1.5	23.2	500
12x3x1.0	1.3	0.8	1.7	28.5	830

*- cable sizes out of range of BS 6883, construction according to factory standard

CuSn/MGT/EPR/IS/SW4 150/250V

Unarmoured Fire resistant, flame retardant halogen-free instrumentation cable. Enhanced oil-resistance



Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min bending radius during installation:
10 x D

Min bending radius for fixed installation:
8 x D

Max Tensile Load During Installation:
50 N /mm²

Min Installation Temperature: -20°C

Standards applied:

BS 7917 / BS6883 / UKOOA - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-1- Flame Retardant
IEC 60332-3-22 - Flame Retardant
IEC 60331-21 - Fire Resistant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5)

Insulation: Mica Glass Tape / EPR rubber, GP4 acc. to BS 7655: section 1.2

Pair/Triple/Quad twisting / lay up:

Cores twisted together to form a pair, triple or quad, which is individually screened with aluminium backed polyester tape with a tinned copper drain wire. Each pair, triple or quad is wrapped with polyester tape to prevent electrical contact with adjacent pairs, triples or quads. Individually shielded pairs, triples or quads are laid up in concentric layers and wrapped with a PETP tape. Pairs, triples, or quads are identified by numbers printed directly on the insulated conductors.

Tape over screen: PET tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Quad - Black - White - Red - Blue, numbered

Application:

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas, emergency and critical systems where there is a requirement for fire resistant cables.

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance max. [Ohm/km]	Resistance at 20°C max. [Ohm/km]	L/R ratio [microH/Ohm]
Shielded pair 0.75	90	0.85	26,7	20
Shielded triple 0.75	90	0.85	26,7	20
Shielded quad 0.75	90	0.85	26,7	20
Shielded pair 1.0	100	0.8	20,0	25
Shielded triple 1.0	100	0.8	20,0	25
Shielded quad 1.0	100	0.8	20,0	25

CuSn/MGT/EPR/IS/SW4 150/250V

Unarmoured Fire resistant, flame retardant halogen-free instrumentation cable. Enhanced oil-resistance

Construction:

Paired cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
1x2x0.75	1.15	0.8	1.0	9.0	85
3x2x0.75	1.15	0.8	1.2	15	200
7x2x0.75	1.15	0.8	1.4	20	390
12x2x0.75	1.15	0.8	1.6	25.1	640
20x2x0.75	1.15	0.8	1.9	31.9	1030
27x2x0.75	1.15	0.8	2.0	36.2	1340
37x2x0.75	1.15	0.8	2.2	42.4	1790
1x2x1.0	1.3	0.8	1.0	9.4	95
3x2x1.0	1.3	0.8	1.3	16	240
7x2x1.0	1.3	0.8	1.4	21.2	470
12x2x1.0	1.3	0.8	1.7	26.7	790
20x2x1.0	1.3	0.8	1.9	33.7	1250
27x2x1.0	1.3	0.8	2.1	38.5	1660
37x2x1.0	1.3	0.8	2.3	45	2220

*- cable sizes out of range of BS 7917, construction according to factory standard

Triple cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
1x3x0.75	1.15	0.8	1.0	9	95
3x3x0.75	1.15	0.8	1.3	16	250
7x3x0.75	1.15	0.8	1.5	22	510
12x3x0.75	1.15	0.8	1.7	27.1	840
1x3x1.0	1.3	0.8	1.1	9.6	120
3x3x1.0	1.3	0.8	1.3	16.8	300
7x3x1.0	1.3	0.8	1.5	23.2	620
12x3x1.0	1.3	0.8	1.8	28.9	1040

*- cable sizes out of range of BS 7917, construction according to factory standard

Quad cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
1x4x0.75	1.15	0.8	1.1	10	115
3x4x0.75	1.15	0.8	1.4	18.4	310
7x4x0.75	1.15	0.8	1.6	24.8	630
1x4x1.0	1.3	0.8	1.1	10.5	140
3x4x1.0	1.3	0.8	1.4	19.5	360
7x4x1.0	1.3	0.8	1.6	26.3	750

*- cable sizes out of range of BS 7917, construction according to factory standard

CuSn/MGT/EPR/CS/SW4 150/250V

Unarmoured Fire resistant, flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min Bending Radius during Installation:
10 x D

Min bending radius for fixed Installation:
8 x D

Max Tensile Load During Installation:
50 N /mm²

Min Installation Temperature: -20°C

Standards applied:

BS 7917 / BS6883 / UKOOA - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-1 &
IEC 60332-3-22 - Flame Retardant
IEC 60331-21 - Fire Resistant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5);

Insulation: Mica Glass Tape/EPR EPR rubber, GP4 acc. to BS7655: section 1.2

Pair/Triple/Quad twisting/lay up: Cores twisted together to form a pair or triple, wrapped with polyester tape. Pairs or triples are laid up, collectively screened with aluminium backed polyester tape with tinned copper drain wire. Pairs or triples are identified by numbers printed directly on the insulated conductors

Tape over screen: PET tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Application:

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas. Designed for offshore applications.

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance max. [Ohm/km]	Resistance at 20°C max. [Ohm/km]	L/R ratio [microH/Ohm]
Shielded pair 0.75	90	0.85	26,7	20
Shielded triple 0.75	90	0.85	26,7	20
Shielded quad 0.75	90	0.85	26,7	20
Shielded pair 1.0	100	0.8	20,0	25
Shielded triple 1.0	100	0.8	20,0	25
Shielded quad 1.0	100	0.8	20,0	25

CuSn/MGT/EPR/CS/SW4 150/250V

Unarmoured Fire resistant, flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.

Construction:

Paired cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
3x2x0.75	1.15	0.8	1.2	15	165
7x2x0.75	1.15	0.8	1.4	19.6	320
12x2x0.75	1.15	0.8	1.6	25.1	520
20x2x0.75	1.15	0.8	1.8	32.4	820
27x2x0.75	1.15	0.8	1.9	36.7	1060
37x2x0.75	1.15	0.8	2.1	40.7	1420
3x2x1.0	1.3	0.8	1.2	15.8	175
7x2x1.0	1.3	0.8	1.4	20.3	350
12x2x1.0	1.3	0.8	1.6	27.2	580
20x2x1.0	1.3	0.8	1.8	34.2	910
27x2x1.0	1.3	0.8	2.0	39	1210
37x2x1.0	1.3	0.8	2.2	43.3	1620

*- cable sizes out of range of BS 7917, construction according to factory standard

Triple cables

Type	Nominal Conductor Diameter [mm]	Nominal Insulation Thickness [mm]	Nominal Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Cable Weight [kg/km]
3x3x0.75	1.15	0.8	1.3	16	220
7x3x0.75	1.15	0.8	1.4	21.7	430
12x3x0.75	1.15	0.8	1.7	26.9	720
3x3x1.0	1.3	0.8	1.3	16.8	250
7x3x1.0	1.3	0.8	1.5	23.2	500
12x3x1.0	1.3	0.8	1.7	28.5	830

*- cable sizes out of range of BS 7917, construction according to factory standard



CuSn/EPR/IS/SW4/GSWB/SW4 150/250V

Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min bending radius during installation: 10 x D

Min bending radius for fixed installation: 8 x D

Max Tensile Load During

Installation: 50 N /mm²

Min Installation Temperature -20°C

Standards applied:

BS 6883 / UKOOA - Design
BS 6360 class 2 or 5 - Conductor
BS 7655 section 1.2 - Insulation
BS 7655 section 2.6 - Sheath
IEC 60332-1 - Flame Retardant
IEC 60332-3-22 - Flame Retardant
IEC 60754-1,2 - Halogen Free
IEC 61034-1,2 - Low Smoke

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Quad - Black - White - Red - Blue, numbered

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5)

Insulation: EPR rubber, GP4 acc. to BS 7655: section 1.2

Pair/Triple/Quad twisting / lay up:

Cores twisted together to form a pair, triple or quad, which is individually screened with aluminium backed polyester tape with a tinned copper drain wire. Each pair, triple or quad is wrapped with polyester tape to prevent electrical contact with adjacent pairs, triples or quads. Individually shielded pairs, triples or quads are laid up in concentric layers and wrapped with a PETP tape. Pairs, triples, or quads are identified by numbers printed directly on the insulated conductors.

Inner sheath: Flame retardant and halogen-free thermoset compound

Tape over inner sheath: PET tape + rubberized Polyamide tape

Armour: Galvanized steel wire braid

Tape over armour: PET tape + rubberized Polyamide tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Application:

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas. Designed for offshore applications.

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance [mH/km]	Resistance at 20°C, max. [Ohm/km]	L/R ratio, [microH/Ohm]
Shielded pair 0,75 mm ²	90	0,85	26,7	20
Shielded triple 0,75 mm ²	90	0,85	26,7	20
Shielded quad 0,75 mm ²	90	0,85	26,7	20
Shielded pair 1,0 mm ²	100	0,80	20,0	25
Shielded triple 1,0 mm ²	100	0,80	20,0	25
Shielded quad 1,0 mm ²	100	0,80	20,0	25

CuSn/EPR/IS/SW4/GSWB/SW4 150/250V

Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.

Construction:

Paired cables

n x 2 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x2x0,75	1,15	0,8	1,0	8,2	0,3	1,2	12,0	245
3x2x0,75	1,15	0,8	1,2	13,6	0,3	1,4	17,9	510
7x2x0,75	1,15	0,8	1,4	18,0	0,3	1,6	22,9	745
12x2x0,75	1,15	0,8	1,6	22,5	0,3	1,8	27,7	1190
20x2x0,75	1,15	0,8	1,9	28,4	0,45	2,1	35,1	1690
27x2x0,75	1,15	0,8	2,0	32,4	0,45	2,3	39,3	2020
37x2x0,75	1,15	0,8	2,2	37,6	0,45	2,5	45,2	2750
1x2x1,0	1,3	0,8	1,0	8,6	0,3	1,2	12,5	255
3x2x1,0	1,3	0,8	1,3	14,5	0,3	1,4	18,8	520
7x2x1,0	1,3	0,8	1,4	19,1	0,3	1,6	24,0	770
12x2x1,0	1,3	0,8	1,7	24,1	0,45	1,9	30,2	1285
20x2x1,0	1,3	0,8	1,9	30,2	0,45	2,2	37,1	1950
27x2x1,0	1,3	0,8	2,1	34,4	0,45	2,4	41,8	2490
37x2x1,0	1,3	0,8	2,3	40,4	0,45	2,6	48,1	3200

*- cable sizes out of range of BS 6883, construction according to factory standard

Triple cables

n x 3 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x3x0,75	1,15	0,8	1,0	8,6	0,3	1,2	12,4	285
3x3x0,75	1,15	0,8	1,3	15,2	0,3	1,5	19,8	600
7x3x0,75	1,15	0,8	1,5	20,9	0,3	1,7	25,9	1150
12x3x0,75	1,15	0,8	1,7	25,8	0,45	2,0	32,3	1580
1x3x1,0	1,3	0,8	1,1	9,3	0,3	1,2	13,1	300
3x3x1,0	1,3	0,8	1,3	16,1	0,3	1,5	20,9	620
7x3x1,0	1,3	0,8	1,5	22,3	0,3	1,7	27,3	1210
12x3x1,0	1,3	0,8	1,8	27,6	0,45	2,0	34,1	1700

*- cable sizes out of range of BS 6883, construction according to factory standard

Quad cables

n x 4 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x4x0,75	1,15	0,8	1,1	9,5	0,3	1,2	13,4	320
3x4x0,75	1,15	0,8	1,4	17,5	0,3	1,5	22,4	620
7x4x0,75	1,15	0,8	1,6	23,4	0,3	1,7	28,6	1210
1x4x1,0	1,3	0,8	1,1	10,0	0,3	1,2	13,9	340
3x4x1,0	1,3	0,8	1,4	18,6	0,3	1,6	23,5	680
7x4x1,0	1,3	0,8	1,6	24,9	0,45	1,8	30,7	1310

*- cable sizes out of range of BS 6883, construction according to factory standard

CuSn/EPR/CS/SW4/GSWB/SW4 150/250V

Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min Bending Radius during

Installation: 10 x D

Min bending radius for fixed

Installation 8 x D

Max Tensile Load During

Installation: 50 N /mm²

Min Installation Temperature: -20°C

Standards applied:

BS 6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1 - Flame Retardant

IEC 60332-3-22 - Flame Retardant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5);

Insulation: EPR rubber, GP4 acc. to BS7655: section 1.2

Pair/Triple/Quad twisting / lay up: Cores twisted together to form a pair or triple, wrapped with polyester tape. Pairs or triples are laid up, collectively screened with aluminium backed polyester tape with tinned copper drain wire. Pairs or triples are identified by numbers printed directly on the insulated conductors.

Inner sheath: Flame retardant and halogen-free thermoset compound

Tape over inner sheath: PET tape + rubberized Polyamide tape

Armour: Galvanized steel wire braid

Tape over armour/screen: PET tape + rubberized Polyamide tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Application:

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas.

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance [mH/km]	Resistance at 20°C, max. [Ohm/km]	L/R ratio, (microH/Ohm)
Unshielded pair 0,75 mm ²	80	0,85	26,7	20
Unshielded triple 0,75 mm ²	80	0,85	26,7	20
Unshielded pair 1,0 mm ²	90	0,80	20,0	25
Unshielded triple 1,0 mm ²	90	0,80	20,0	25

CuSn/EPR/CS/SW4/GSWB/SW4 150/250V

Flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.

Construction:

Paired cables

n x 2 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
3x2x0,75	1,15	0,8	1,2	13,6	0,3	1,4	17,9	490
7x2x0,75	1,15	0,8	1,4	17,7	0,3	1,5	22,4	700
12x2x0,75	1,15	0,8	1,6	23,0	0,3	1,7	28,0	1140
20x2x0,75	1,15	0,8	1,8	28,7	0,45	2,0	35,2	1670
27x2x0,75	1,15	0,8	1,9	32,7	0,45	2,2	39,4	1980
37x2x0,75	1,15	0,8	2,1	36,1	0,45	2,3	43,3	2710
3x2x1,0	1,3	0,8	1,2	14,3	0,3	1,4	18,6	500
7x2x1,0	1,3	0,8	1,4	18,7	0,3	1,6	23,6	810
12x2x1,0	1,3	0,8	1,6	24,4	0,3	1,8	29,6	1260
20x2x1,0	1,3	0,8	1,8	30,5	0,45	2,1	37,3	1860
27x2x1,0	1,3	0,8	2,0	35,0	0,45	2,2	42,0	2360
37x2x1,0	1,3	0,8	2,2	38,6	0,45	2,4	46,0	3010

*- cable sizes out of range of BS 6883, construction according to factory standard

Triple cables

n x 3 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Thickness Inner Sheath [mm]	Approx Diameter Inner Sheath [mm]	Diameter Braid Wire [mm]	Thickness Outer Sheath [mm]	Approx Overall Diameter [mm]	Weight of Cable Approx. [Kg/Km]
3x3x0,75	1,15	0,8	1,3	15,2	0,3	1,4	19,5	580
7x3x0,75	1,15	0,8	1,4	20,7	0,3	1,6	25,5	1100
12x3x0,75	1,15	0,8	1,7	25,5	0,45	1,9	31,1	1520
3x3x1,0	1,3	0,8	1,3	16,1	0,3	1,5	20,8	600
7x3x1,0	1,3	0,8	1,5	22,2	0,3	1,7	27,2	1180
12x3x1,0	1,3	0,8	1,7	27,2	0,45	2,0	33,7	1650

*- cable sizes out of range of BS 6883, construction according to factory standard

CuSn/MGT/EPR/IS/SW4/GSWB/SW4

150/250V

Fire resistant, flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min bending radius during installation: 10 x D

Min bending radius for fixed installation: 8 x D

Max Tensile Load During Installation: 50 N /mm²

Min Installation Temperature -20°C

Standards applied:

BS 7917 / BS6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1- Flame Retardant

IEC 60332-3-22 - Flame Retardant

IEC 60331-21 - Fire Resistant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5)

Insulation: Mica Glass Tape / EPR rubber, GP4 acc. to BS 7655: section 1.2

Pair/Triple/Quad twisting / lay up:

Cores twisted together to form a pair, triple or quad, which is individually screened with aluminium backed polyester tape with a tinned copper drain wire. Each pair, triple or quad is wrapped with polyester tape to prevent electrical contact with adjacent pairs, triples or quads. Individually shielded pairs, triples or quads are laid up in concentric layers and wrapped with a PETP tape. Pairs, triples, or quads are identified by numbers printed directly on the insulated conductors.

Inner sheath: Flame retardant and halogen-free thermoset compound

Tape over inner sheath: PET tape + rubberized Polyamide tape

Armour: Galvanized steel wire braid

Tape over armour: PET tape + rubberized Polyamide tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 acc. to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Application:

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas, emergency and critical systems where there is a requirement for fire resistant cables.

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Quad - Black - White - Red - Blue, numbered

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance [mH/km]	Resistance at 20°C, max. [Ohm/km]	L/R ratio, [microH/Ohm]
Shielded pair 0,75 mm ²	90	0,85	26,7	20
Shielded triple 0,75 mm ²	90	0,85	26,7	20
Shielded quad 0,75 mm ²	90	0,85	26,7	20
Shielded pair 1,0 mm ²	100	0,80	20,0	25
Shielded triple 1,0 mm ²	100	0,80	20,0	25
Shielded quad 1,0 mm ²	100	0,80	20,0	25

CuSn/MGT/EPR/IS/SW4/GSWB/SW4

150/250V Fire resistant, flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.

Construction:

Paired cables

n x 2 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x2x0,75	1,15	0,8	1,0	8,95	0,3	1,2	12,8	260
3x2x0,75	1,15	0,8	1,2	15	0,3	1,4	19,3	530
7x2x0,75	1,15	0,8	1,4	20,05	0,3	1,6	24,95	790
12x2x0,75	1,15	0,8	1,6	25,1	0,3	1,8	30,3	1280
20x2x0,75	1,15	0,8	1,9	26,95	0,45	2,1	38,5	1980
27x2x0,75	1,15	0,8	2,0	36,25	0,45	2,3	43,45	2410
37x2x0,75	1,15	0,8	2,2	42,4	0,45	2,5	49,8	3120
1x2x1,0	1,3	0,8	1,0	9,4	0,3	1,2	13,25	270
3x2x1,0	1,3	0,8	1,3	16	0,3	1,4	20,3	550
7x2x1,0	1,3	0,8	1,4	21,25	0,3	1,6	26,05	850
12x2x1,0	1,3	0,8	1,7	26,7	0,45	1,9	33,05	1395
20x2x1,0	1,3	0,8	1,9	33,7	0,45	2,2	40,7	2210
27x2x1,0	1,3	0,8	2,1	38,5	0,45	2,4	45,9	2780
37x2x1,0	1,3	0,8	2,3	45	0,45	2,6	52,85	3570

*- cable sizes out of range of BS 7917, construction according to factory standard

Triple cables

n x 3 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x3x0,75	1,15	0,8	1,0	8,95	0,3	1,2	12,8	300
3x3x0,75	1,15	0,8	1,3	16	0,3	1,5	20,7	630
7x3x0,75	1,15	0,8	1,5	22,05	0,3	1,7	27,05	1240
12x3x0,75	1,15	0,8	1,7	27,15	0,45	2,0	33,7	1680
1x3x1,0	1,3	0,8	1,1	9,6	0,3	1,2	13,45	330
3x3x1,0	1,3	0,8	1,3	16,85	0,3	1,5	21,55	660
7x3x1,0	1,3	0,8	1,5	23,25	0,3	1,7	28,25	1290
12x3x1,0	1,3	0,8	1,8	28,85	0,45	2,0	35,4	1810

*- cable sizes out of range of BS 7917, construction according to factory standard

Quad cables

n x 4 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
1x4x0,75	1,15	0,8	1,1	10	0,3	1,2	13,8	340
3x4x0,75	1,15	0,8	1,4	18,45	0,3	1,5	23,35	660
7x4x0,75	1,15	0,8	1,6	24,8	0,3	1,7	30,0	1270
1x4x1,0	1,3	0,8	1,1	10,5	0,3	1,2	14,3	360
3x4x1,0	1,3	0,8	1,4	19,5	0,3	1,6	24,4	710
7x4x1,0	1,3	0,8	1,6	26,25	0,45	1,8	32,4	1400

*- cable sizes out of range of BS 7917, construction according to factory standard

CuSn/MGT/EPR/CS/SW4/GSWB/SW4

150/250V

Fire resistant, flame retardant halogen-free instrumentation cable. Enhanced oil-resistance.



Technical data:

Operating temperature: 90°C

Operating Voltage: 150/250V

Min Bending Radius during

Installation: 10 x D

Min bending radius for fixed

Installation 8 x D

Max Tensile Load During

Installation: 50 N/mm²

Min Installation Temperature: -20°C

Standards applied:

BS 7917 / BS6883 / UKOOA - Design

BS 6360 class 2 or 5 - Conductor

BS 7655 section 1.2 - Insulation

BS 7655 section 2.6 - Sheath

IEC 60332-1 &

IEC 60332-3-22 - Flame Retardant

IEC 60331-21 - Fire Resistant

IEC 60754-1,2 - Halogen Free

IEC 61034-1,2 - Low Smoke

Construction:

Conductor: Multi-stranded tinned copper, 0.75, 1.0mm (BS6360, IEC 60228 class 5);

Insulation: Mica Glass Tape/EPR EPR rubber, GP4 acc. to BS7655: section 1.2

Pair/Triple/Quad twisting/lay up: Cores twisted together to form a pair or triple, wrapped with polyester tape. Pairs or triples are laid up, collectively screened with aluminium backed polyester tape with tinned copper drain wire. Pairs or triples are identified by numbers printed directly on the insulated conductors.

Inner sheath: Flame retardant and halogen-free thermoset compound

Tape over inner sheath: PET tape + rubberized Polyamide tape

Armour: Galvanized steel wire braid

Tape over armour/screen: PET tape + rubberized Polyamide tape

Outer sheath: Flame retardant, halogen-free, enhanced oil-resisting thermoset compound (LSF), SW4 to BS 7655 section 2.6

Outer sheath colour: Grey or Blue

Application:

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas, emergency and critical systems where there is a requirement for fire resistant cables.

Core identification:

Pair - Black - White, numbered

Triple - Black - White - Red, numbered

Electrical parameters:

Type	Nominal Capacitance [nF/km]	Nominal Inductance [mH/km]	Resistance at 20°C, max. [Ohm/km]	L/R ratio, [microH/Ohm]
Shielded pair 0,75 mm ²	80	0,85	26,7	20,0
Shielded triple 0,75 mm ²	80	0,85	26,7	20,0
Shielded pair 1,0 mm ²	90	0,80	20,0	25,0
Shielded triple 1,0 mm ²	90	0,80	20,0	25,0

CuSn/MGT/EPR/CS/SW4/GSWB/SW4

150/250V Fire resistant, flame retardant halogen-free
instrumentation cable. Enhanced oil-resistance.

Construction:

Paired cables

n x 2 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Inner Sheath Thickness [mm]	Nominal Inner Sheath Diameter [mm]	Braid Wire Diameter [mm]	Outer Sheath Thickness [mm]	Nominal Outer Diameter [mm]	Nominal Cable Weight [kg/km]
3x2x0,75	1,15	0,8	1,2	15,0	0,3	1,4	19,3	520
7x2x0,75	1,15	0,8	1,4	19,7	0,3	1,5	24,4	750
12x2x0,75	1,15	0,8	1,6	25,7	0,3	1,7	30,9	1220
20x2x0,75	1,15	0,8	1,8	32,4	0,45	2,0	38,8	1810
27x2x0,75	1,15	0,8	1,9	36,7	0,45	2,2	43,7	2240
37x2x0,75	1,15	0,8	2,1	40,7	0,45	2,3	47,8	2940
3x2x1,0	1,3	0,8	1,2	15,8	0,3	1,4	20,1	530
7x2x1,0	1,3	0,8	1,4	20,8	0,3	1,6	30,6	840
12x2x1,0	1,3	0,8	1,6	27,2	0,3	1,8	32,6	1320
20x2x1,0	1,3	0,8	1,8	34,2	0,45	2,1	41,0	2110
27x2x1,0	1,3	0,8	2,0	39,1	0,45	2,2	46,0	2640
37x2x1,0	1,3	0,8	2,2	43,3	0,45	2,4	50,7	3380

*- cable sizes out of range of BS 7917, construction according to factory standard

Triple cables

n x 3 x mm ²	Conductor diameter [mm]	Insulation Thickness [mm]	Thickness Inner Sheath [mm]	Approx Diameter Inner Sheath [mm]	Diameter Braid Wire [mm]	Thickness Outer Sheath [mm]	Approx Overall Diameter [mm]	Weight of Cable Approx. [Kg/Km]
3x3x0,75	1,15	0,8	1,3	16,0	0,3	1,4	20,3	610
7x3x0,75	1,15	0,8	1,4	21,8	0,3	1,6	26,6	1180
12x3x0,75	1,15	0,8	1,7	27,0	0,45	1,9	33,3	1650
3x3x1,0	1,3	0,8	1,3	16,8	0,3	1,5	21,5	640
7x3x1,0	1,3	0,8	1,5	23,2	0,3	1,7	28,2	1250
12x3x1,0	1,3	0,8	1,7	28,5	0,45	2,0	35,0	1740

*- cable sizes out of range of BS 7917, construction according to factory standard

Notepad



UK Offshore Operators Association (UKOOA)

Guidelines & Coding for INSTRUMENTATION, POWER AND CONTROL CABLES FOR FIXED & MOBILE PRODUCTION FACILITIES

UKOOA INSTRUMENTATION, POWER & CONTROL CABLE CODING

1st Character (Fire Performance / Voltage Rating)

F. Fire resistant, reduced halogen	150/250v	M. Flame retardant, reduced halogen	3.8/6.6Kv
G. Fire resistant, LSF	150/250v	N. Flame retardant, reduced halogen	1.9/3.3Kv
H. Flame retardant, reduced halogen	8.7/15Kv	P. Flame retardant, reduced halogen	6.35/11Kv
J. Flame retardant, reduced halogen	150/250v	W. Flame retardant, LSF	600/1000v
K. Flame retardant, LSF	150/250v	X. Fire resistant, reduced halogen	600/1000v
L. Flame retardant, reduced halogen	600/1000v	Y. Fire resistant, LSF	600/1000v

2nd Character (Cable Construction)

Basic Construction	Sheath Colour	Armour	Screen
A. Flame retardant	Black 0.6/1kv, Red(HV)	TPBWB	See note 3
B. Flame retardant	Black 0.6/1kv, Red(HV)	GSWB	See note 3
C. Fire resistant	Black 0.6/1kv	TPBWB	See note 3
D. Fire resistant	Black 0.6/1kv	GSWB	See note 3
E. Flame retardant	Green/Yellow	None	None
F. Flame retardant	Black	None	None
G. Flame retardant	Light Blue	GSWB	Collective
H. Flame retardant	Light Blue	GSWB	Individual
J. Flame retardant	Grey	GSWB	Collective
K. Flame retardant	Grey	GSWB	Individual
L. Fire resistant	Light Blue	GSWB	Collective
M. Fire resistant	Light Blue	GSWB	Individual
N. Fire resistant	Grey	GSWB	Collective
P. Fire resistant	Grey	GSWB	Individual
Y. Flame retardant	Orange	GSWB	Co-axial

3rd Character (No of cores, pairs, triples, quads)

1. Single core	B. 19 core	K. 12 pair	T. 7 triple
2. 2 core	C. 27 core	L. 20 pair	U. 12 triple
3. 3 core	D. 37 core	M. 27 pair	X. 1 quad
4. 4 core	F. 1 pair	N. 37 pair	Y. 3 quad
7. 7 core	H. 3 pair	R. 1 triple	Z. 7 quad
A. 12 core	J. 7 pair	S. 3 triple	

4th & 5th Characters (Conductor Cross Sectional Area)

00	0.75mm ²	Flex Class 5 Tin Str Cu	50	50mm ²	Tinned Standed Cu
01	1.0mm ²	Flex Class 5 Tin Str Cu	70	70mm ²	Tinned Standed Cu
02	1.5mm ²	Flex Class 5 Tin Str Cu	95	95mm ²	Tinned Standed Cu
03	2.5mm ²	Tinned Standed Cu	0A	120mm ²	Tinned Standed Cu
04	4mm ²	Tinned Standed Cu	0B	150mm ²	Tinned Standed Cu
05	4mm ²	Solid Tinned Cu(special)	0C	185mm ²	Tinned Standed Cu
06	6mm ²	Tinned Standed Cu	0D	240mm ²	Tinned Standed Cu
10	10mm ²	Tinned Standed Cu	0E	300mm ²	Tinned Standed Cu
16	16mm ²	Tinned Standed Cu	0F	400mm ²	Tinned Standed Cu
25	25mm ²	Tinned Standed Cu	0G	500mm ²	Tinned Standed Cu
35	35mm ²	Tinned Standed Cu	0H	630mm ²	Tinned Standed Cu

Note 3: HV Cables above 1.9/3.3kv rating have tinned copper tape and semi-conducting insulation screen



OFFSHORE CABLE - BS6883:1999 - UKOOA CODE - 2014

SIZE	Description:CuSn-EPR-SW4-GSWB-SW4 600/1000v (TPWB or TCWB - Single Core)									
mm ²	1c	2c	3c	4c	5c	7c	12c	19c	27c	37c
1.5		WB202	WB302	WB402	WB502	WB702	WBA02	WBB02	WBC02	WBD02
2.5		WB203	WB303	WB403	WB503	WB703	WBA03	WBB03	WBC03	WBD03
4		WB204	WB304	WB404						
6		WB206	WB306	WB406						
10		WB210	WB310	WB410						
16	WA116	WB216	WB316	WB416						
25	WA125	WB225	WB325	WB425						
35	WA135	WB235	WB335	WB435						
50	WA150	WB250	WB350	WB450						
70	WA170	WB270	WB370	WB470						
95	WA195	WB295	WB395	WB495						
120	WA10A	WB20A	WB30A	WB40A						
150	WA10B	WB20B	WB30B	WB40B						
185	WA10C	WB20C	WB30C	WB40C						
240	WA10D	WB20D	WB30D	WB40D						
300	WA10E	WB20E	WB30E	WB40E						

SIZE	Description:CuSn-EPR-SW4 600/1000v (WE - Green/Yellow or WF - Black- Single Core)									
mm ²	1c		1c							
6	WE106		WF106							
10	WE110		WF110							
16	WE116		WF116							
25	WE125		WF125							
35	WE135		WF135							
50	WE150		WF150							
70	WE170		WF170							
95	WE195		WF195							
120	WE10A		WF10A							
150	WE10B		WF10B							
185	WE10C		WF10C							
240	WE10D		WF10D							
300	WE10E		WF10E							



OFFSHORE CABLE - BS6883:1999 - UKOOA CODE - 2014

SIZE	PAIRS - INDIVIDUALLY SCREENED - Description:CuSn-EPR-IS-SW4-GSWB-SW4 150/250v									
mm ²	1	3	5	7	12	20				**
0.75	**F00	**H00	X	**J00	**K00	**L00				KK-GREY
1.0	**F01									KH-BLUE
1.5	X	X	X	X	X	X				

SIZE	TRIPLES - INDIVIDUALLY SCREENED - Description:CuSn-EPR-IS-SW4-GSWB-SW4 150/250v									
mm ²	1	3	7	12						**
0.75	**R00	**S00	**T00	**U00						KK-GREY
1.0	**R01									KH-BLUE
1.5	X	X	X	X						

SIZE	QUADS - INDIVIDUALLY SCREENED - Description:CuSn-EPR-IS-SW4-GSWB-SW4 150/250v									
mm ²	1	3	7							**
0.75	**X00	**Y00	**Z00							KK-GREY
1.0	**X01									KH-BLUE
1.5	X	X	X							

SIZE	PAIRS - COLLECTIVELY SCREENED - Description:CuSn-EPR-CS-SW4-GSWB-SW4 150/250v									
mm ²	3	5	7	12	20					**
0.75	**H00	X	**J00	**K00	**L00					KJ-GREY
1.0	**H01									KG-BLUE
1.5	X	X	X	X	X					

SIZE	TRIPLES - COLLECTIVELY SCREENED - Description:CuSn-EPR-CS-SW4-GSWB-SW4 150/250v									
mm ²	3	7	12							**
0.75	**S00	**T00	**U00							KJ-GREY
1.0	**S01									KG-BLUE
1.5	X	X	X							



OFFSHORE CABLE - BS7917:1999 - UKOOA CODE - 2014

SIZE	Description: CuSn-MGT-EPR-SW4-GSWB-SW4 600/1000v (TPWB or TCWB - Single Core)									
mm ²	1	2	3	4	5	7	12	19	27	37
1.5		YD202	YD302	YD402	YD502	YD702	YDA02	YDB02	YDC02	YDD02
2.5		YD203	YD303	YD403	YD503	YD703	YDA03	YDB03	YDC03	YDD03
4		YD204	YD304	YD404						
6		YD206	YD306	YD406						
10		YD210	YD310	YD410						
16	YC116	YD216	YD316	YD416						
25	YC125	YD225	YD325	YD425						
35	YC135	YD235	YD335	YD435						
50	YC150	YD250	YD350	YD450						
70	YC170	YD270	YD370	YD470						
95	YC195	YD295	YD395	YD495						
120	YC10A	YD20A	YD30A	YD40A						
150	YC10B	YD20B	YD30B	YD40B						
185	YC10C	YD20C	YD30C	YD40C						
240	YC10D	YD20D	YD30D	YD40D						
300	YC10E	YD20E	YD30E	YD40E						



OFFSHORE CABLE - BS7917:1999 - UKOOA CODE - 2014

SIZE	PAIRS - INDIVIDUALLY SCREENED - Description:CuSn-MGT--EPR-IS-SW4-GSWB-SW4 150/250v								
mm ²	1	3	5	7	12	20			**
0.75	**F00	**H00	X	**J00	**K00	**L00			GP-GREY
1.0	**F01								GM-BLUE
1.5	X	X	X	X	X	X			

SIZE	TRIPLES - INDIVIDUALLY SCREENED - Description:CuSn-MGT-EPR-IS-SW4-GSWB-SW4 150/250v								
mm ²	1	3	7	12					**
0.75	**R00	**S00	**T00	**U00					GP-GREY
1.0	**R01								GM-BLUE
1.5	X	X	X	X					

SIZE	QUADS - INDIVIDUALLY SCREENED - Description:CuSn-MGT-EPR-IS-SW4-GSWB-SW4 150/250v								
mm ²	1	3	7						**
0.75	**X00	**Y00	**Z00						GP-GREY
1.0	**X01								GM-BLUE
1.5	X	X	X						

SIZE	PAIRS - COLLECTIVELY SCREENED - Description:CuSn-MGT-EPR-CS-SW4-GSWB-SW4 150/250v								
mm ²	3	5	7	12	20				**
0.75	**H00	X	**J00	**K00	**L00				GN-GREY
1.0	**H01								GL-BLUE
1.5	X	X	X	X	X				

SIZE	TRIPLES - COLLECTIVELY SCREENED - Description:CuSn-MGT-EPR-CS-SW4-GSWB-SW4 150/250v								
mm ²	3	7	12						**
0.75	**S00	**T00	**U00						GN-GREY
1.0	**S01								GL-BLUE
1.5	X	X	X						



LLOYD'S REGISTER EMEA
TYPE APPROVAL CERTIFICATE 13/20043(E1)
STANDARD:BS6883:1999
ELASTOMER INSULATED CABLES FOR FIXED
WIRING IN SHIPS AND ON MOBILE AND FIXED
OFFSHORE UNITS



Lloyd's
Register

Type Approval Certificate Extension

This is to certify that Certificate No. 13/20043 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER

Zakłady Kablowe BITNER Celina Bitner
ul. Friedleina 3/3
30-009 Kraków
Poland

**PLACE OF
PRODUCTION**

Zakłady Kablowe BITNER Celina Bitner
Trzyciąż 165
32-353 Trzyciąż
Poland

DESCRIPTION

Flame retardant halogen-free braided and unbraided single and multicore power and instrumentation cables for fixed wiring in ships and on mobile and fixed offshore units.

TYPES

CuSn/EPR/SW4 0.6/1kV

2x1.5mm ²	3x1.5mm ²
4x1.5mm ²	5x1.5mm ²
7x1.5mm ²	12x1.5mm ²
19x1.5mm ²	27x1.5mm ²
37x1.5mm ²	2x2.5mm ²
3x2.5mm ²	4x2.5mm ²
5x2.5mm ²	7x2.5mm ²
12x2.5mm ²	19x2.5mm ²
27x2.5mm ²	37x2.5mm ²
2x4mm ²	3x4mm ²
4x4mm ²	2x6mm ²
3x6mm ²	4x6mm ²
1x10mm ²	2x10mm ²
3x10mm ²	4x10mm ²

Certificate No.

13/20043 (E1)

Issue Date

18 June 2014

Expiry Date

17 June 2019

Sheet

1 of 5

Sven Lutz

Hamburg Technical Support Office
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Lloyd's
Register

TYPES CONTINUED

1x16mm ²	2x16mm ²
3x16mm ²	4x16mm ²
1x25mm ²	2x25mm ²
3x25mm ²	4x25mm ²
1x35mm ²	2x35mm ²
3x35mm ²	4x35mm ²
1x50mm ²	2x50mm ²
3x50mm ²	4x50mm ²
1x70mm ²	2x70mm ²
3x70mm ²	4x70mm ²
1x95mm ²	2x95mm ²
3x95mm ²	4x95mm ²
1x120mm ²	2x120mm ²
3x120mm ²	4x120mm ²
1x150mm ²	2x150mm ²
3x150mm ²	4x150mm ²
1x185mm ²	2x185mm ²
3x185mm ²	4x185mm ²
1x240mm ²	2x240mm ²
3x240mm ²	4x240mm ²
1x300mm ²	2x300mm ²
3x300mm ²	4x300mm ²
1x400mm ²	1x500mm ²
1x630mm ²	

CuSn/EPR/SW4/GSWB/SW4 0.6/1kV	
2x1.5mm ²	3x1.5mm ²
4x1.5mm ²	5x1.5mm ²
7x1.5mm ²	12x1.5mm ²
19x1.5mm ²	27x1.5mm ²
37x1.5mm ²	2x2.5mm ²
3x2.5mm ²	4x2.5mm ²
5x2.5mm ²	7x2.5mm ²
12x2.5mm ²	19x2.5mm ²
27x2.5mm ²	37x2.5mm ²
2x4mm ²	3x4mm ²

Certificate No.	13/20043 (E1)
Issue Date	18 June 2014
Expiry Date	17 June 2019
Sheet	2 of 5

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TYPES CONTINUED

4x4mm ²	2x6mm ²
3x6mm ²	4x6mm ²
2x10mm ²	3x10mm ²
4x10mm ²	1x16mm ² **
2x16mm ²	3x16mm ²
4x16mm ²	1x25mm ² **
2x25mm ²	3x25mm ²
4x25mm ²	1x35mm ² **
2x35mm ²	3x35mm ²
4x35mm ²	1x50mm ² **
2x50mm ²	3x50mm ²
4x50mm ²	1x70mm ² **
2x70mm ²	3x70mm ²
4x70mm ²	1x95mm ² **
2x95mm ²	3x95mm ²
4x95mm ²	1x120mm ² **
2x120mm ²	3x120mm ²
4x120mm ²	1x150mm ² **
2x150mm ²	3x150mm ²
4x150mm ²	1x185mm ² **
2x185mm ²	3x185mm ²
4x185mm ²	1x240mm ² **
2x240mm ²	3x240mm ²
4x240mm ²	1x300mm ² **
2x300mm ²	3x300mm ²
4x300mm ²	1x400mm ² **
1x500mm ² **	1x630mm ² **

** - Tinned copper wire braid, only (cable marking: CuSn/EPR/SW4/TCWB/SW4 0.6/1kV).

CuSn/EPR/IS/SW4 150/250V

1x2x0.75mm ²	3x2x0.75mm ²
7x2x0.75mm ²	12x2x0.75mm ²
20x2x0.75mm ²	27x2x0.75mm ²
37x2x0.75mm ²	1x2x1.0mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²

Certificate No.	13/20043 (E1)
Issue Date	18 June 2014
Expiry Date	17 June 2019
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Sven Lutz
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

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TYPES CONTINUED

27x2x1.0mm ²	37x2x1.0 mm ²
1x3x0.75mm ²	3x3x0.75mm ²
7x3x0.75mm ²	12x3x0.75mm ²
1x3x1.0mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²
1x4x0.75mm ²	3x4x0.75mm ²
7x4x0.75mm ²	1x4x1.0mm ²
3x4x1.0mm ²	7x4x1.0mm ²

CuSn/EPR/IS/SW4/GSWB/SW4 150/250V

1x2x0.75mm ²	3x2x0.75mm ²
7x2x0.75mm ²	12x2x0.75mm ²
20x2x0.75mm ²	27x2x0.75mm ²
37x2x0.75mm ²	1x2x1.0mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²
27x2x1.0mm ²	37x2x1.0 mm ²
1x3x0.75mm ²	3x3x0.75mm ²
7x3x0.75mm ²	12x3x0.75mm ²
1x3x1.0mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²
1x4x0.75mm ²	3x4x0.75mm ²
7x4x0.75mm ²	1x4x1.0mm ²
3x4x1.0mm ²	7x4x1.0mm ²

CuSn/EPR/CS/SW4 150/250V

3x2x0.75mm ²	7x2x0.75mm ²
12x2x0.75mm ²	20x2x0.75mm ²
27x2x0.75mm ²	37x2x0.75mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²
27x2x1.0mm ²	37x2x1.0mm ²
3x3x0.75mm ²	7x3x0.75mm ²
12x3x0.75mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²

Certificate No.	13/20043 (E1)
Issue Date	18 June 2014
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Lloyd's
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TYPES CONTINUED

CuSn/EPR/CS/SW4/GSWB/SW4 150/250V	
3x2x0.75mm ²	7x2x0.75mm ²
12x2x0.75mm ²	20x2x0.75mm ²
27x2x0.75mm ²	37x2x0.75mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²
27x2x1.0mm ²	37x2x1.0mm ²
3x3x0.75mm ²	7x3x0.75mm ²
12x3x0.75mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²

APPLICATION

Power and instrumentation cables for fixed wiring in ships and on mobile and fixed offshore units.

SPECIFIED STANDARDS

BS 6883:1999
EN 60332-1-2:2004
IEC 60332-3-22:2000 + A1:2008, cat. A
IEC 60754-2:2011
IEC 61034-2:2005

OTHER CONDITIONS

The installation temperature of -20°C has not been verified by documentary evidence. Unarmoured cables may not be used in hazardous areas except when serving intrinsically safe circuits or unless they are adequately protected against mechanical or chemical damage.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. HTS/ETS 29847-14 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 13/20043 to which this extension should be attached.

Certificate No.	13/20043 (E1)
Issue Date	18 June 2014
Expiry Date	17 June 2019
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**LLOYD'S REGISTER EMEA
TYPE APPROVAL CERTIFICATE 13/20044(E1)
STANDARD:BS7917:1999
ELASTOMER INSULATED FIRE RESISTANT
(LIMITED CIRCUIT INTEGRITY) CABLES
FOR FIXED WIRING IN SHIPS AND ON MOBILE
AND FIXED OFFSHORE UNITS**



Lloyd's
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Type Approval Certificate Extension

This is to certify that Certificate No. 13/20044 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER

Zakłady Kablowe BITNER Celina Bitner
ul. Friedleina 3/3
30-009 Kraków
Poland

**PLACE OF
PRODUCTION**

Zakłady Kablowe BITNER Celina Bitner
Trzyciąż 165
32-353 Trzyciąż
Poland

DESCRIPTION

Fire resistant halogen-free braided and unbraided single and multicore power and instrumentation cables for fixed wiring in ships and on mobile and fixed offshore units.

TYPES

CuSn/MGT/EPR/SW4 0.6/1kV

2x1.5mm ²	3x1.5mm ²
4x1.5mm ²	5x1.5mm ²
7x1.5mm ²	12x1.5mm ²
19x1.5mm ²	27x1.5mm ²
37x1.5mm ²	2x2.5mm ²
3x2.5mm ²	4x2.5mm ²
5x2.5mm ²	7x2.5mm ²
12x2.5mm ²	19x2.5mm ²
27x2.5mm ²	37x2.5mm ²
2x4mm ²	3x4mm ²
4x4mm ²	2x6mm ²
3x6mm ²	4x6mm ²
2x10mm ²	3x10mm ²
4x10mm ²	1x16mm ²

Certificate No.

13/20044 (E1)

Issue Date

18 June 2014

Expiry Date

17 June 2019

Sheet

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TYPES CONTINUED

2x16mm ²	3x16mm ²
4x16mm ²	1x25mm ²
2x25mm ²	3x25mm ²
4x25mm ²	1x35mm ²
2x35mm ²	3x35mm ²
4x35mm ²	1x50mm ²
2x50mm ²	3x50mm ²
4x50mm ²	1x70mm ²
2x70mm ²	3x70mm ²
4x70mm ²	1x95mm ²
2x95mm ²	3x95mm ²
4x95mm ²	1x120mm ²
2x120mm ²	3x120mm ²
4x120mm ²	1x150mm ²
2x150mm ²	3x150mm ²
4x150mm ²	1x185mm ²
2x185mm ²	3x185mm ²
4x185mm ²	1x240mm ²
2x240mm ²	3x240mm ²
4x240mm ²	1x300mm ²
2x300mm ²	3x300mm ²
4x300mm ²	1x400mm ²
1x500mm ²	1x630mm ²
CuSn/MGT/EPR/SW4/GSWB/SW4 0.6/1kV	
2x1.5mm ²	3x1.5mm ²
4x1.5mm ²	5x1.5mm ²
7x1.5mm ²	12x1.5mm ²
19x1.5mm ²	27x1.5mm ²
37x1.5mm ²	2x2.5mm ²
3x2.5mm ²	4x2.5mm ²
5x2.5mm ²	7x2.5mm ²
12x2.5mm ²	19x2.5mm ²
2x4mm ²	3x4mm ²
4x4mm ²	2x6mm ²
3x6mm ²	4x6mm ²

Certificate No.	13/20044 (E1)
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TYPES CONTINUED

2x10mm ²	3x10mm ²
4x10mm ²	1x16mm ² **
2x16mm ²	3x16mm ²
4x16mm ²	1x25mm ² **
2x25mm ²	3x25mm ²
4x25mm ²	1x35mm ² **
2x35mm ²	3x35mm ²
4x35mm ²	1x50mm ² **
2x50mm ²	3x50mm ²
4x50mm ²	1x70mm ² **
2x70mm ²	3x70mm ²
4x70mm ²	1x95mm ² **
2x95mm ²	3x95mm ²
4x95mm ²	1x120mm ² **
2x120mm ²	3x120mm ²
4x120mm ²	1x150mm ² **
2x150mm ²	3x150mm ²
4x150mm ²	1x185mm ² **
2x185mm ²	3x185mm ²
4x185mm ²	1x240mm ² **
2x240mm ²	3x240mm ²
4x240mm ²	1x300mm ² **
2x300mm ²	3x300mm ²
4x300mm ²	1x400mm ² **
1x500mm ² **	1x630mm ² **

**-Tinned copper wire braid, only (cable marking: CuSn/MGT/EPR/SW4/TCWB/SW4 0.6/1kV).

CuSn/MGT/EPR/IS/SW4 150/250V

1x2x0.75mm ²	3x2x0.75mm ²
7x2x0.75mm ²	12x2x0.75mm ²
20x2x0.75mm ²	27x2x0.75mm ²
37x2x0.75mm ²	1x2x1.0mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²
27x2x1.0mm ²	37x2x1.0mm ²
1x3x0.75mm ²	3x3x0.75mm ²

Certificate No.	13/20044 (E1)
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TYPES CONTINUED

7x3x0.75mm ²	12x3x0.75mm ²
1x3x1.0mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²
1x4x0.75mm ²	3x4x0.75mm ²
7x4x0.75mm ²	1x4x1.0mm ²
3x4x1.0mm ²	7x4x1.0mm ²

CuSn/MGT/EPR/IS/SW4/GSWB/SW4 150/250V

1x2x0.75mm ²	3x2x0.75mm ²
7x2x0.75mm ²	12x2x0.75mm ²
20x2x0.75mm ²	27x2x0.75mm ²
37x2x0.75mm ²	1x2x1.0mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²
27x2x1.0mm ²	37x2x1.0mm ²
1x3x0.75mm ²	3x3x0.75mm ²
7x3x0.75mm ²	12x3x0.75mm ²
1x3x1.0mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²
1x4x0.75mm ²	3x4x0.75mm ²
7x4x0.75mm ²	1x4x1.0mm ²
3x4x1.0mm ²	7x4x1.0mm ²

CuSn/MGT/EPR/CS/SW4 150/250V

3x2x0.75mm ²	7x2x0.75mm ²
12x2x0.75mm ²	20x2x0.75mm ²
27x2x0.75mm ²	37x2x0.75mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²
27x2x1.0mm ²	37x2x1.0mm ²
3x3x0.75mm ²	7x3x0.75mm ²
12x3x0.75mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²

Certificate No.	13/20044 (E1)
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TYPES CONTINUED

CuSn/MGT/EPR/CS/SW4/GSWB/SW4 150/250V

3x2x0.75mm ²	7x2x0.75mm ²
12x2x0.75mm ²	20x2x0.75mm ²
27x2x0.75mm ²	37x2x0.75mm ²
3x2x1.0mm ²	7x2x1.0mm ²
12x2x1.0mm ²	20x2x1.0mm ²
27x2x1.0mm ²	37x2x1.0mm ²
3x3x0.75mm ²	7x3x0.75mm ²
12x3x0.75mm ²	3x3x1.0mm ²
7x3x1.0mm ²	12x3x1.0mm ²

APPLICATION

Power and instrumentation cables for fixed wiring in ships and on mobile and fixed offshore units

SPECIFIED STANDARDS

BS 7917:1999
IEC 60331-21:1999
EN 60332-1-2:2004
IEC 60332-3-22:2000 + A1:2008, cat. A
IEC 60754-2:2011
IEC 61034-2:2005

OTHER CONDITIONS

The installation temperature of -20°C has not been verified by documentary evidence. Unarmoured cables may not be used in hazardous areas except when serving intrinsically safe circuits or unless they are adequately protected against mechanical or chemical damage.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. HTS/ETS 29849-14 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 13/20044 to which this extension should be attached.

Certificate No.	13/20044 (E1)
Issue Date	18 June 2014
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Notepad

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Cable Factory BITNER

30-009 Kraków,
3/3 Friedleina street
POLAND

Production Plant

32-353 Trzyciąż near Krakow
phone: +48 12 389 40 24
fax: +48 12 380 17 00

e-mail: bitner@bitner.com.pl

Export:

phone: +48 12 389 40 24 ext. 195-199
fax: +48 12 389 40 24 ext. 227
e-mail: export@bitner.com.pl