Caledonian

NEK606 WATER BLOCKED OFFSHORE & MARINE CABLES

ADDISON

Company Profile


ISO 9001
REGISTERED FIRM

Registration Certificate

This document certifies that the administration systems of

Caledonian Cables Limited

Marchants Industrial Centre, Mill Lane, Laughton, Lewes, Sussex, BN8 6AJ

have been assessed and approved by QAS International to the following management systems, standards and guidelines:

ISO 9001 : 2008

With the permitted exclusion of clauses 7.3 Design and Development

The approved administration systems apply to the following:

The manufacture and supply of electrical cables and ancillary power equipment to customers internationally.

Original Approval 6th September 1997
Current Certificate 7th February 2012
Certificate Expiry 7th February 2013
Certificate Number A6211

On behalf of QAS International

Caledonian, established in 1978, offers one of the most complete lines of fiber and copper cabling system solutions with over hundreds of different cabling system products. Our superior products provide leading edge within every cable series and for every application.

Among the national and international standards with which our cables could comply are: BS - British Standard; LPCB Fire Performance Standard, ISO Standard etc. Caledonian Cables offers a comprehensive stock of cables and cabling products through its nationwide network of resellers and distributors. Caledonian Cables has continually expanded its global presence in Europe and Asia.

Caledonian & Addison, produces a wide range of cables for communication, power and electronics in its primary plants in UK, Italy and Spain. To stay in front, we continually keep expanding our manufacturing capabilities in more low cost region such as Romania, Taiwan, Malaysia etc. This low-cost manufacturing facilities enable us provide a flexible, scalable global system that delivers superior operational performance and optimal results for our customers.

Our extensive global network of manufacturing facilities gives us significant scale and the flexibility to fulfill our customer requirements. This global presence provides design and consultancy solutions that are combined with core cable manufacturing, logistic services, and vertically integrated with our E commerce technologies, to optimize customer operations by lowering costs and reducing time to market.

Caledonian & Addison has been respected for its high standards of quality, excellent service level, competitive pricing and a unique and innovative spirit. With our latest technologies, we are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning, we are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

Our Design Centers work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions. Caledonian & Addison has established an extensive network of design, manufacturing, and logistics facilities in the world's major markets to serve the growing outsourcing needs of both multinational and regional customers.

Table of Content

Fire Resistant Instrumention Cables

Telecommunication Cables

Technical Information

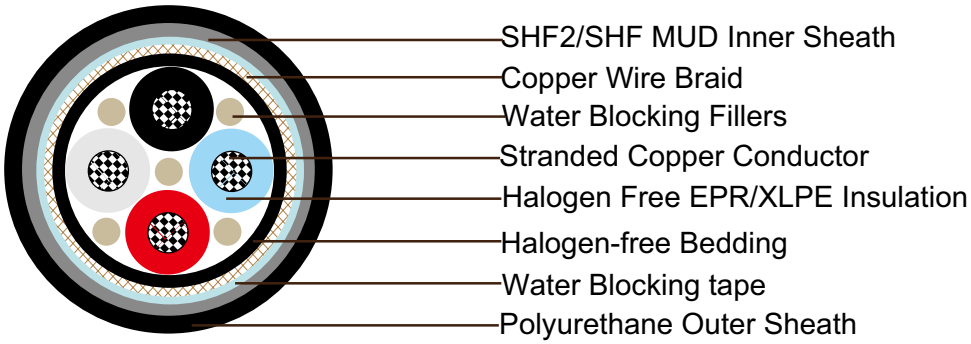
Water Blocked P1 or P1/P8 RFOU/TFOU 0.6/1KV

Applications

These cables are partially water blocked, flame retardant, low smoke, halogen free and mud resistant, used for control, power and lighting systems.

Standards

- IEC 60092-353
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Tinned annealed stranded copper to IEC 60228 class 2.
- **Insulation:** Halogen-free EPR. XLPE can be offered as an option (for TFOU cable)
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements**:Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P1). Halogen free, mud resistant thermosetting compound, SHF MUD (for TYPE P1/P8), coloured black.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	1.5	2.5	4	6	10	16	25	35	50	70
Nominal Conductor Diameter	mm	1.6	2.1	2.6	3.2	4.0	5.1	6.5	7.4	8.7	10.3
Maximum DC Resistant@20˚C	Ω/km	12.2	7.56	4.7	3.11	1.84	1.16	0.734	0.529	0.391	0.27
Continuous Current Rating@45˚C 1 Core	A	23	30	40	52	72	96	127	157	196	242
Continuous Current Rating@45˚C 2 Core	A	20	26	34	44	61	82	108	133	167	206
Continuous Current Rating@45˚C 3&4 Core	A	16	21	28	36	50	67	89	110	137	169
Short Circuit Current 1s	A	210	360	570	860	1430	2290	3580	5010	7150	10020
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Nominal Cross Section Area	mm²	95	120	150	185	240	300	400	500	630
Nominal Conductor Diameter	mm	12.2	13.8	15.1	17.0	19.6	21.9	24.6	27.6	32.5
Maximum DC Resistant@20˚C	Ω/km	0.195	0.154	0.126	0.1	0.0762	0.0607	0.0475	0.0369	0.0286
Continuous Current Rating@45˚C 1 Core	A	293	339	389	444	522	601	690	780	890
Continuous Current Rating@45˚C 2 Core	A	249	288	331	444	444	511	587	663	757
Continuous Current Rating@45˚C 3&4 Core	A	205	237	272	311	365	421	483	546	623
Short Circuit Current 1s	A	13590	17170	21460	26470	34340	42930	57230	71540	90140
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Note: For more than 4-cores, the current ratings may be calculated from the following formula ($I_N = I_1 / \sqrt[3]{N}$), I_1= Current rating for 1-core, N = Number of cores.

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×1.5	1.0	1.1	1.1	1.0	10.9±2	142
1×2.5	1.0	1.1	1.1	1.0	11.3±2	158
1×4	1.0	1.1	1.1	1.0	11.9±2	189
1×6	1.0	1.1	1.1	1.0	12.4±2	215
1×10	1.0	1.1	1.2	1.0	14.2±2	310
1×16	1.0	1.1	1.2	1.0	15.5±2	404
1×25	1.2	1.1	1.2	1.2	17.8±2	551
1×35	1.2	1.1	1.3	1.2	19.3±2	719
1×50	1.4	1.1	1.4	1.2	21.1±2	914
1×70	1.4	1.1	1.4	1.2	22.8±2	1160
1×95	1.6	1.1	1.5	1.4	25.6±2	1507
1×120	1.6	1.2	1.6	1.4	27.7±2	1832
1×150	1.8	1.2	1.6	1.4	29.6±2	2158
1×185	2.0	1.2	1.7	1.4	32.1±2	2688
1×240	2.2	1.2	1.8	1.6	35.7±2	3350
1×300	2.4	1.2	1.9	1.6	38.4±2	4132
1×400	2.4	1.4	2.1	1.6	43.7±2	5313
1×500	2.4	1.4	2.2	1.6	47.2±2	6489
1×630	2.4	1.4	2.3	1.6	51.2±2	8001
2×1.5	1.0	1.1	1.2	1.0	15.6±2	310
2×2.5	1.0	1.1	1.2	1.0	16.4±2	352
2×4	1.0	1.1	1.3	1.0	18.1±2	467
2×6	1.0	1.1	1.3	1.0	19.1±2	546
2×10	1.0	1.1	1.4	1.0	21.3±2	714
2×16	1.0	1.1	1.5	1.0	23.7±2	1003
2×25	1.2	1.2	1.6	1.2	28.3±2	1402
2×35	1.2	1.2	1.7	1.2	30.3±2	1675
2×50	1.4	1.2	1.9	1.2	34.3±2	2363
2×70	1.4	1.2	2.1	1.2	38.2±2	2935
2×95	1.6	1.2	2.3	1.4	44.0±2	3969
2×120	1.6	1.4	2.4	1.4	47.6±2	4788
2×150	1.8	1.4	2.6	1.4	52.0±2	5775
2×185	2.0	1.4	2.7	1.4	56.6±2	7009
2×240	2.2	1.6	3.0	1.6	64.2±2	9035
2×300	2.4	1.6	3.2	1.6	70.2±2	11036
3×1.5	1.0	1.1	1.2	1.0	16.2±2	336
3×2.5	1.0	1.1	1.3	1.0	17.6±2	436

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
3×4	1.0	1.1	1.3	1.0	18.8±2	525
3×6	1.0	1.1	1.4	1.0	20.1±2	635
3×10	1.0	1.1	1.4	1.0	22.3±2	835
3×16	1.0	1.1	1.5	1.0	24.8±2	1181
3×25	1.2	1.2	1.6	1.2	29.9±2	1701
3×35	1.2	1.2	1.7	1.2	32.0±2	2053
3×50	1.4	1.2	1.9	1.2	36.3±2	2867
3×70	1.4	1.4	2.0	1.2	40.8±2	3838
3×95	1.6	1.4	2.2	1.4	46.6±2	5129
3×120	1.6	1.4	2.3	1.4	50.4±2	6300
3×150	1.8	1.6	2.5	1.4	55.2±2	7665
3×185	2.0	1.6	2.7	1.4	61.4±2	9408
3×240	2.2	1.8	2.9	1.6	69.3±2	12191
3×300	2.2	1.8	3.4	1.6	74.1±2	14165
4×1.5	1.0	1.1	1.3	1.0	17.7±2	368
4×2.5	1.0	1.1	1.3	1.0	18.6±2	446
4×4	1.0	1.1	1.4	1.0	20.1±2	620
4×6	1.0	1.1	1.4	1.0	21.5±2	761
4×10	1.0	1.1	1.5	1.0	24.1±2	1003
4×16	1.0	1.2	1.6	1.0	27.2±2	1444
4×25	1.2	1.2	1.7	1.2	32.4±2	2063
4×35	1.2	1.2	1.8	1.2	34.8±2	2531
4×50	1.4	1.4	2.0	1.2	39.7±2	3533
4×70	1.4	1.4	2.2	1.2	44.5±2	4809
4×95	1.6	1.4	2.4	1.4	51.0±2	6321
4×120	1.6	1.6	2.5	1.4	55.5±2	7812
4×150	1.8	1.6	2.9	1.4	61.1±2	9240
4×185	2.0	1.6	3.1	1.4	66.8±2	11298
4×240	2.2	1.8	3.4	1.6	75.6±2	14585
4×300	2.4	1.8	3.7	1.6	83.0±2	18275
5×1.5	1.0	1.1	1.3	1.0	18.7±2	441
6×1.5	1.0	1.1	1.3	1.0	19.8±2	520
7×1.5	1.0	1.1	1.3	1.0	19.8±2	567
8×1.5	1.0	1.1	1.5	1.0	22.3±2	677
9×1.5	1.0	1.1	1.5	1.0	23.5±2	709
10×1.5	1.0	1.1	1.5	1.0	23.8±2	740
12×1.5	1.0	1.1	1.5	1.0	24.5±2	845
14×1.5	1.0	1.1	1.6	1.0	25.6±2	903
16×1.5	1.0	1.1	1.7	1.0	26.9±2	987
19×1.5	1.0	1.1	1.7	1.0	28.0±2	1155

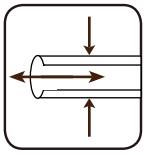
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
20×1.5	1.0	1.1	1.7	1.0	29.2±2	1187
23×1.5	1.0	1.1	1.8	1.0	31.3±2	1349
24×1.5	1.0	1.1	1.8	1.0	32.0±2	1370
27×1.5	1.0	1.1	1.9	1.0	32.8±2	1533
30×1.5	1.0	1.1	1.9	1.0	33.8±2	1596
33×1.5	1.0	1.2	2.0	1.0	35.5±2	1754
37×1.5	1.0	1.2	2.0	1.0	36.6±2	1932
44×1.5	1.0	1.2	2.2	1.0	41.2±2	2321
5×2.5	1.0	1.1	1.4	1.0	20.0±2	583
6×2.5	1.0	1.1	1.4	1.0	21.2±2	620
7×2.5	1.0	1.1	1.4	1.0	21.2±2	688
8×2.5	1.0	1.1	1.5	1.0	23.8±2	814
9×2.5	1.0	1.1	1.6	1.0	25.3±2	824
10×2.5	1.0	1.1	1.6	1.0	25.6±2	908
12×2.5	1.0	1.1	1.6	1.0	26.5±2	1003
14×2.5	1.0	1.1	1.7	1.0	27.5±2	1124
16×2.5	1.0	1.1	1.7	1.0	28.7±2	1213
19×2.5	1.0	1.1	1.8	1.0	30.2±2	1428
20×2.5	1.0	1.1	1.8	1.0	31.5±2	1481
23×2.5	1.0	1.1	1.9	1.0	33.8±2	1691
24×2.5	1.0	1.2	2.0	1.0	35.2±2	1775
27×2.5	1.0	1.2	2.0	1.0	35.9±2	1906
30×2.5	1.0	1.2	2.0	1.0	36.9±2	2058
33×2.5	1.0	1.2	2.1	1.0	38.7±2	2300
37×2.5	1.0	1.2	2.1	1.0	40.0±2	2489
44×2.5	1.0	1.2	2.3	1.0	44.6±2	2935

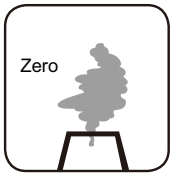
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

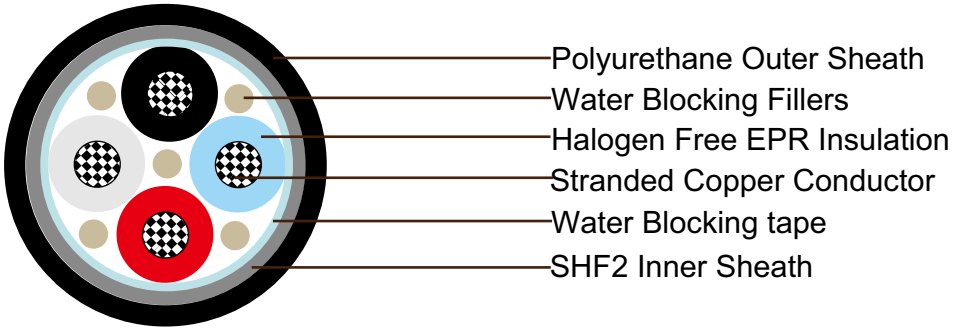
Water Blocked P18 RU 0.6/1kV

Applications

These cables are partially water blocked, flame retardant, low smoke and halogen free, used for control, power and lighting systems.

Standards

- IEC 60092-353
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Tinned annealed stranded copper to IEC 60228 class 2.
- **Insulation:** Halogen-free EPR.
- **Filler:** Water blocking fillers, if required
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2, coloured black.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional, but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	1.5	2.5	4	6	10	16	25	35
Nominal Conductor Diameter	mm	1.6	2.1	2.6	3.2	4	5.1	6.5	7.4
Maximum DC Resistant@20˚C	Ω/km	12.2	7.56	4.7	3.11	1.84	1.16	0.734	0.529
Continuous Current Rating@45˚C 1 Core	A	23	30	40	52	72	96	127	157
Continuous Current Rating@45˚C 2 Core	A	20	26	34	44	61	82	108	133
Continuous Current Rating@45˚C 3&4 Core	A	16	21	28	36	50	67	89	110

Short Circuit Current 1s	A	210	360	570	860	1430	2290	3580	5010
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1
Nominal Cross Section Area	mm²	50	70	95	120	150	185	240	300
Nominal Conductor Diameter	mm	8.7	10.3	12.2	13.8	15.1	17.0	19.6	21.9
Maximum DC Resistant@20˚C	Ω/km	0.391	0.27	0.195	0.154	0.126	0.1	0.0762	0.0607
Continuous Current Rating@45˚C 1 Core	A	196	242	293	339	389	444	522	601
Continuous Current Rating@45˚C 2 Core	A	167	206	249	288	331	444	444	511
Continuous Current Rating@45˚C 3&4 Core	A	137	169	205	237	272	311	365	421
Short Circuit Current 1s	A	7150	10020	13590	17170	21460	26470	34340	42930
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Note: For more than 4-cores, the current ratings may be calculated from the following formula ($I_N = I_1 / \sqrt[3]{N}$), I_1= Current rating for 1-core, N = Number of cores.

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×1.5	1.0	1.0	1.0	8.0±2	63
1×2.5	1.0	1.0	1.0	8.5±2	84
1×4	1.0	1.0	1.0	9.1±2	116
1×6	1.0	1.0	1.0	9.6±2	137
1×10	1.0	1.1	1.0	10.5±2	173
1×16	1.0	1.1	1.0	11.8±2	247
1×25	1.2	1.2	1.2	14.1±2	373
1×35	1.2	1.2	1.2	15.2±2	478
1×50	1.4	1.3	1.2	16.8±2	625

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×70	1.4	1.4	1.2	18.7±2	845
1×95	1.6	1.5	1.4	21.5±2	1145
1×120	1.6	1.5	1.4	23.1±2	1412
1×150	1.8	1.6	1.4	25.2±2	1717
1×185	2.0	1.7	1.4	27.7±2	2179
1×240	2.2	1.8	1.6	31.2±2	2793
1×300	2.4	1.9	1.6	34.0±2	3507
2×1.5	1.0	1.1	1.0	11.7±2	152
2×2.5	1.0	1.1	1.0	12.5±2	184
2×4	1.0	1.2	1.0	13.6±2	236
2×6	1.0	1.2	1.0	14.9±2	310
2×10	1.0	1.3	1.0	16.8±2	441
2×16	1.0	1.4	1.0	19.2±2	635
2×25	1.2	1.5	1.2	23.7±2	987
2×35	1.2	1.6	1.2	25.7±2	1244
2×50	1.4	1.8	1.2	29.3±2	1664
2×70	1.4	1.9	1.2	34.3±2	2394
2×95	1.6	2.1	1.4	39.7±2	3245
2×120	1.6	2.2	1.4	43.1±2	3969
2×150	1.8	2.4	1.4	47.5±2	4872
2×185	2.0	2.6	1.4	52.3±2	6038
2×240	2.2	2.8	1.6	59.3±2	7833
2×300	2.4	3.0	1.6	65.2±2	9728
3×1.5	1.0	1.1	1.0	12.3±2	173
3×2.5	1.0	1.2	1.0	13.1±2	215
3×4	1.0	1.2	1.0	14.5±2	294
3×6	1.0	1.3	1.0	15.6±2	378
3×10	1.0	1.3	1.0	18.0±2	557
3×16	1.0	1.4	1.0	20.5±2	809
3×25	1.2	1.6	1.2	25.3±2	1260
3×35	1.2	1.7	1.2	274±2	1601
3×50	1.4	1.8	1.2	31.1±2	2132
3×70	1.4	2.0	1.2	35.0±2	2903
3×95	1.6	2.2	1.4	40.4±2	3932
3×120	1.6	2.3	1.4	44.0±2	4872
3×150	1.8	2.5	1.4	48.5±2	5959
3×185	2.0	2.7	1.4	54.0±2	7560
3×240	2.2	3.0	1.6	60.7±2	9765
3×300	2.4	3.2	1.6	70.0±2	12684
4×1.5	1.0	1.2	1.0	13.2±2	210

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
4×2.5	1.0	1.2	1.0	14.4±2	268
4×4	1.0	1.3	1.0	15.7±2	357
4×6	1.0	1.3	1.0	17.2±2	478
4×10	1.0	1.4	1.0	19.5±2	698
4×16	1.0	1.5	1.0	22.4±2	1019
4×25	1.2	1.7	1.2	27.9±2	1607
4×35	1.2	1.8	1.2	30.2±2	2053
4×50	1.4	2.0	1.2	34.3±2	2730
4×70	1.4	2.1	1.2	38.7±2	3717
4×95	1.6	2.4	1.4	44.8±2	5056
4×120	1.6	2.5	1.4	48.8±2	6263
4×150	1.8	2.7	1.4	56.3±2	8106
4×185	2.0	2.9	1.4	62.0±2	10049
4×240	2.2	3.2	1.6	70.5±2	13104
4×300	2.4	3.5	1.6	77.8±2	16664
5×1.5	1.0	1.2	1.0	15.1±2	257
6×1.5	1.0	1.3	1.0	16.4±2	289
7×1.5	1.0	1.3	1.0	16.4±2	299
8×1.5	1.0	1.4	1.0	18.9±2	399
9×1.5	1.0	1.4	1.0	20.1±2	415
10×1.5	1.0	1.4	1.0	20.4±2	457
12×1.5	1.0	1.4	1.0	21.0±2	509
14×1.5	1.0	1.5	1.0	22.2±2	593
16×1.5	1.0	1.5	1.0	23.3±2	646
19×1.5	1.0	1.6	1.0	24.6±2	751
20×1.5	1.0	1.6	1.0	25.8±2	819
23×1.5	1.0	1.7	1.0	27.9±2	950
24×1.5	1.0	1.7	1.0	28.6±2	966
27×1.5	1.0	1.7	1.0	29.2±2	1034
30×1.5	1.0	1.8	1.0	30.4±2	1166
33×1.5	1.0	1.8	1.0	31.5±2	1250
37×1.5	1.0	1.9	1.0	32.8±2	1381
44×1.5	1.0	2.0	1.0	36.8±2	1638
5×2.5	1.0	1.3	1.0	16.3±2	320
6×2.5	1.0	1.3	1.0	17.6±2	378
7×2.5	1.0	1.3	1.0	17.6±2	410
8×2.5	1.0	1.4	1.0	20.4±2	520
9×2.5	1.0	1.5	1.0	21.9±2	530
10×2.5	1.0	1.5	1.0	22.2±2	599
12×2.5	1.0	1.5	1.0	22.9±2	656

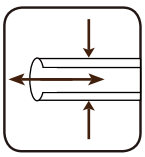
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
14×2.5	1.0	1.5	1.0	23.9±2	772
16×2.5	1.0	1.6	1.0	25.3±2	851
19×2.5	1.0	1.6	1.0	26.6±2	982
20×2.5	1.0	1.7	1.0	28.1±2	1087
23×2.5	1.0	1.8	1.0	30.4±2	1265
24×2.5	1.0	1.8	1.0	31.2±2	1281
27×2.5	1.0	1.8	1.0	31.9±2	1360
30×2.5	1.0	1.9	1.0	33.1±2	1549
33×2.5	1.0	1.9	1.0	34.3±2	1664
37×2.5	1.0	2.0	1.0	35.8±2	1817
44×2.5	1.0	2.2	1.0	40.4±2	2205

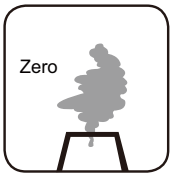
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

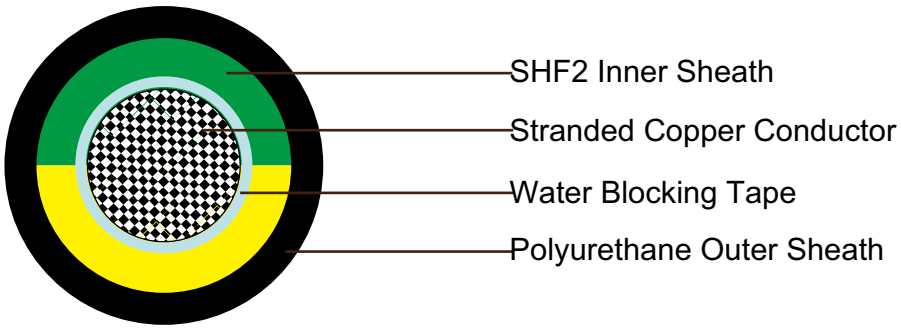
Water Blocked P15 UX 0.6/1kV

Applications

These cables are partially water blocked, flame retardant, low smoke and halogen free, used for earthing and bonding services.

Standards

- IEC 60092-353
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Tinned annealed stranded copper to IEC 60228 class 2 or class 5.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2. When used as protective earth (PE) wire, the cables coloured yellow/green. When used as single wire, the cables coloured off-white, black, red or blue.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	10	16	25	35	50	70
Nominal Conductor Diameter	mm	4	5.1	6.5	7.4	8.7	10.3
Maximum DC Resistant@20˚C	Ω/km	1.84	1.16	0.734	0.529	0.391	0.27
Continuous Current Rating@45˚C 1 Core	A	72	96	127	157	196	242
Short Circuit Current 1s	A	1430	2290	3580	5010	7150	10020
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Nominal Cross Section Area	mm²	95	120	150	185	240	300
Nominal Conductor Diameter	mm	12.2	13.8	15.1	17.0	19.6	21.9
Maximum DC Resistant@20˚C	Ω/km	0.195	0.154	0.126	0.1	0.0762	0.0607
Continuous Current Rating@45˚C 1 Core	A	293	339	389	444	522	601
Short Circuit Current 1s	A	13590	17170	21460	26470	34340	42930
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

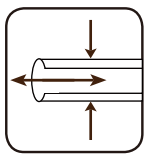
Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×10	1.0	1.0	8.6±2	131
1×16	1.0	1.0	9.7±2	194
1×25	1.2	1.2	11.9±2	305
1×35	1.2	1.2	12.8±2	399
1×50	1.4	1.2	14.5±2	536
1×70	1.4	1.2	16.0±2	735
1×95	1.6	1.4	18.3±2	998
1×120	1.6	1.4	20.3±2	1265
1×150	1.8	1.4	22.2±2	1544
1×185	2.0	1.4	24.5±2	1969
1×240	2.2	1.6	27.9±2	2541
1×300	2.4	1.6	30.4±2	3213

Standard

Standard

Standard


Water Tightness
VG 95218-29

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

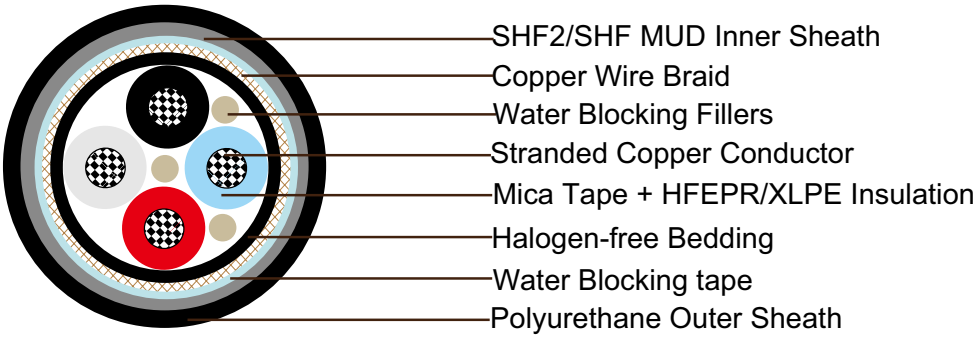
Water Blocked P5 or P5/P12 BFOU 0.6/1KV

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke, halogen free and mud resistant, used for control, power and lighting systems.

Standards

- IEC 60092-353
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Tinned annealed stranded compacted copper to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR/Mica tape + XLPE.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P5). Halogen free, mud resistant thermosetting compound, SHF MUD (for TYPE P5/P12), coloured black.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	1.5	2.5	4	6	10	16	25	35	50
Nominal Conductor Diameter	mm	1.6	2.1	2.6	3.2	4	5.1	6.5	7.4	8.7
Maximum DC Resistant@20˚C	Ω/km	12.2	7.56	4.7	3.11	1.84	1.16	0.734	0.529	0.391
Continuous Current Rating@45˚C 1 Core	A	23	30	40	52	72	96	127	157	196
Continuous Current Rating@45˚C 2 Core	A	20	26	34	44	61	82	108	133	167
Continuous Current Rating@45˚C 3&4 Core	A	16	21	28	36	50	67	89	110	137
Short Circuit Current 1s	A	210	360	570	860	1430	2290	3580	5010	7150
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Nominal Cross Section Area	mm²	70	95	120	150	185	240	300	400	630
Nominal Conductor Diameter	mm	10.3	12.2	13.8	15.1	17.0	19.6	21.9	24.6	32.5
Maximum DC Resistant@20˚C	Ω/km	0.27	0.195	0.154	0.126	0.1	0.0762	0.0607	0.0475	0.0286
Continuous Current Rating@45˚C 1 Core	A	242	293	339	389	444	522	601	690	890
Continuous Current Rating@45˚C 2 Core	A	206	249	288	331	444	444	511	587	757
Continuous Current Rating@45˚C 3&4 Core	A	169	205	237	272	311	365	421	483	623
Short Circuit Current 1s	A	10020	13590	17170	21460	26470	34340	42930	57230	90140
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Note: For more than 4-cores, the current ratings may be calculated from the following formula ($I_N = I_1 / \sqrt[3]{N}$), I_1= Current rating for 1-core, N = Number of cores.

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×1.5	1.0	1.1	1.1	1.0	11.3±2	152
1×2.5	1.0	1.1	1.1	1.0	11.7±2	168
1×4	1.0	1.1	1.1	1.0	12.4±2	231
1×6	1.0	1.1	1.1	1.0	12.9±2	263
1×10	1.0	1.1	1.2	1.0	14.7±2	326
1×16	1.0	1.1	1.2	1.0	15.9±2	410
1×25	1.2	1.1	1.3	1.2	18.7±2	614
1×35	1.2	1.1	1.3	1.2	19.6±2	725
1×50	1.4	1.1	1.4	1.2	21.4±2	935
1×70	1.4	1.1	1.4	1.2	23.0±2	1166
1×95	1.6	1.1	1.5	1.4	25.9±2	1512
1×120	1.6	1.2	1.6	1.4	27.8±2	1822
1×150	1.8	1.2	1.7	1.4	29.8±2	2163
1×185	2.0	1.2	1.7	1.4	32.2±2	2672
1×240	2.2	1.2	1.8	1.6	35.8±2	3329
1×300	2.4	1.2	1.9	1.6	38.5±2	4106
1×400	2.4	1.4	2.1	1.6	44.2±2	5355
1×630	2.8	1.4	2.3	1.6	51.7±2	8043
2×1.5	1.0	1.1	1.2	1.0	16.2±2	326
2×2.5	1.0	1.1	1.3	1.0	17.1±2	378
2×4	1.0	1.1	1.3	1.0	18.6±2	494
2×6	1.0	1.1	1.4	1.0	19.9±2	583
2×10	1.0	1.1	1.4	1.0	21.9±2	740
2×16	1.0	1.1	1.5	1.0	24.5±2	1034
2×25	1.2	1.2	1.6	1.2	28.8±2	1428
2×35	1.2	1.2	1.7	1.2	30.8±2	1701
2×50	1.4	1.2	1.9	1.2	34.8±2	2405
2×70	1.4	1.2	2.1	1.2	40.4±2	3423
2×95	1.6	1.2	2.3	1.4	44.4±2	4106
2×120	1.6	1.4	2.4	1.4	48.1±2	4946
2×150	1.8	1.4	2.6	1.4	52.5±2	5954
2×185	2.0	1.4	2.7	1.4	57.1±2	7182
2×240	2.2	1.6	3.0	1.6	64.7±2	9230
2×300	2.4	1.6	3.2	1.6	71.0±2	11162
3×1.5	1.0	1.1	1.3	1.0	16.8±2	362
3×2.5	1.0	1.1	1.3	1.0	18.2±2	467
3×4	1.0	1.1	1.3	1.0	19.4±2	557

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
3×6	1.0	1.1	1.4	1.0	20.7±2	667
3×10	1.0	1.1	1.5	1.0	23.1±2	872
3×16	1.0	1.1	1.5	1.0	25.7±2	1218
3×25	1.2	1.2	1.7	1.2	30.5±2	1722
3×35	1.2	1.2	1.8	1.2	32.6±2	2079
3×50	1.4	1.2	2.0	1.2	36.7±2	2888
3×70	1.4	1.2	2.2	1.2	41.4±2	3859
3×95	1.6	1.4	2.4	1.4	47.5±2	5203
3×120	1.6	1.4	2.5	1.4	51.1±2	6337
3×150	1.8	1.4	2.7	1.4	56.0±2	7723
3×185	2.0	1.6	2.9	1.4	62.3±2	9476
3×240	2.2	1.6	3.2	1.6	69.7±2	12170
3×300	2.4	1.8	3.4	1.6	75.8±2	14427
4×1.5	1.0	1.1	1.3	1.0	18.4±2	420
4×2.5	1.0	1.1	1.3	1.0	19.3±2	530
4×4	1.0	1.1	1.4	1.0	20.8±2	651
4×6	1.0	1.1	1.4	1.0	22.1±2	788
4×10	1.0	1.1	1.5	1.0	24.7±2	1034
4×16	1.0	1.2	1.6	1.0	27.9±2	1470
4×25	1.2	1.2	1.8	1.2	33.1±2	2095
4×35	1.2	1.2	1.9	1.2	35.5±2	2562
4×50	1.4	1.4	2.0	1.2	40.6±2	3602
4×70	1.4	1.4	2.2	1.2	45.1±2	4830
4×95	1.6	1.6	2.4	1.4	52.2±2	6442
4×120	1.6	1.6	2.5	1.4	56.4±2	7891
4×150	1.8	1.6	2.9	1.4	61.8±2	9461
4×185	2.0	1.6	3.1	1.4	67.5±2	11550
4×240	2.2	1.8	3.4	1.6	76.3±2	14868
4×300	2.4	1.8	3.7	1.6	83.9±2	18428
5×1.5	1.0	1.1	1.4	1.0	19.7±2	536
6×1.5	1.0	1.1	1.4	1.0	21.0±2	572
7×1.5	1.0	1.1	1.4	1.0	21.0±2	620
8×1.5	1.0	1.1	1.5	1.0	23.8±2	751
9×1.5	1.0	1.1	1.6	1.0	25.3±2	756
10×1.5	1.0	1.1	1.6	1.0	25.6±2	830
12×1.5	1.0	1.2	1.6	1.0	26.3±2	924
14×1.5	1.0	1.2	1.7	1.0	27.5±2	1013
16×1.5	1.0	1.2	1.7	1.0	28.7±2	1087
19×1.5	1.0	1.2	1.7	1.0	29.4±2	1244
20×1.5	1.0	1.2	1.8	1.0	31.5±2	1323

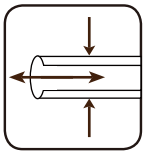
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
23×1.5	1.0	1.2	1.9	1.0	33.8±2	1507
24×1.5	1.0	1.2	2.0	1.0	35.2±2	1586
27×1.5	1.0	1.2	2.0	1.0	35.9±2	1696
30×1.5	1.0	1.2	2.0	1.0	36.9±2	1822
32×1.5	1.0	1.4	2.0	1.0	37.5±2	1890
33×1.5	1.0	1.4	2.0	1.0	38.7±2	2037
37×1.5	1.0	1.4	2.0	1.0	40.0±2	2195
44×1.5	1.0	1.4	2.3	1.0	44.6±2	2583
5×2.5	1.0	1.1	1.4	1.0	20.8±2	625
6×2.5	1.0	1.1	1.4	1.0	22.4±2	683
7×2.5	1.0	1.1	1.4	1.0	22.4±2	735
8×2.5	1.0	1.1	1.5	1.0	25.5±2	830
9×2.5	1.0	1.1	1.6	1.0	27.1±2	903
10×2.5	1.0	1.1	1.6	1.0	27.4±2	1003
12×2.5	1.0	1.2	1.6	1.0	28.1±2	1097
14×2.5	1.0	1.2	1.7	1.0	29.3±2	1218
16×2.5	1.0	1.2	1.8	1.0	30.8±2	1328
19×2.5	1.0	1.2	1.8	1.0	31.6±2	1517
20×2.5	1.0	1.2	1.9	1.0	33.8±2	1622
23×2.5	1.0	1.4	2.0	1.0	36.7±2	1895
24×2.5	1.0	1.4	2.0	1.0	37.8±2	1943
27×2.5	1.0	1.4	2.0	1.0	37.4±2	2069
30×2.5	1.0	1.4	2.1	1.0	40.1±2	2347
33×2.5	1.0	1.4	2.2	1.0	41.6±2	2510
37×2.5	1.0	1.4	2.3	1.0	43.2±2	2741
44×2.5	1.0	1.4	2.4	1.0	48.2±2	3229

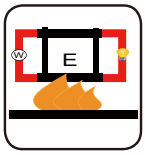
Standard

Standard

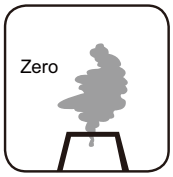
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

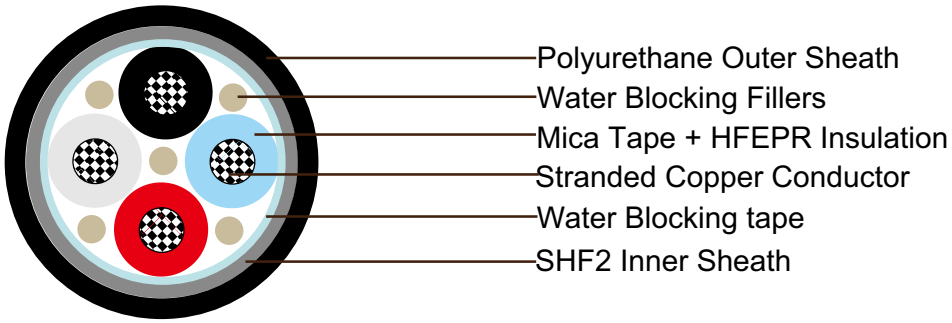
Water Blocked P17 BU 0.6/1 kV

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke and halogen free, used for control, power and lighting systems.

Standards

- IEC 60092-353
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Tinned annealed stranded copper to IEC 60228 class 2.
- **Filler:** Water blocking fillers, if required.
- **Insulation:** Mica tape + Halogen free EPR.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2, coloured black.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	1.5	2.5	4	6	10	16	25	35
Nominal Conductor Diameter	mm	1.6	2.1	2.6	3.2	4	5.1	6.5	7.4
Maximum DC Resistant@20˚C	Ω/km	12.2	7.56	4.7	3.11	1.84	1.16	0.734	0.529
Continuous Current Rating@45˚C 1 Core	A	23	30	40	52	72	96	127	157
Continuous Current Rating@45˚C 2 Core	A	20	26	34	44	61	82	108	133

Continuous Current Rating@45˚C 3&4 Core	A	16	21	28	36	50	67	89	110
Short Circuit Current 1s	A	210	360	570	860	1430	2290	3580	5010
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1
Nominal Cross Section Area	mm²	50	70	95	120	150	185	240	300
Nominal Conductor Diameter	mm	8.7	10.3	12.2	13.8	15.1	17.0	19.6	21.9
Maximum DC Resistant@20˚C	Ω/km	0.391	0.27	0.195	0.154	0.126	0.1	0.0762	0.0607
Continuous Current Rating@45˚C 1 Core	A	196	242	293	339	389	444	522	601
Continuous Current Rating@45˚C 2 Core	A	167	206	249	288	331	444	444	511
Continuous Current Rating@45˚C 3&4 Core	A	137	169	205	237	272	311	365	421
Short Circuit Current 1s	A	7150	10020	13590	17170	21460	26470	34340	42930
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Note: For more than 4-cores, the current ratings may be calculated from the following formula ($I_N = I_1 / \sqrt[3]{N}$), I_1= Current rating for 1-core, N = Number of cores.

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×1.5	1.0	1.0	1.0	8.4±2	68
1×2.5	1.0	1.0	1.0	8.8±2	79
1×4	1.0	1.0	1.0	9.4±2	100
1×6	1.0	1.0	1.0	9.9±2	126
1×10	1.0	1.1	1.0	10.8±2	179
1×16	1.0	1.1	1.0	12.2±2	252
1×25	1.2	1.2	1.2	14.4±2	378
1×35	1.2	1.2	1.2	15.5±2	478

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×50	1.4	1.3	1.2	17.1±2	630
1×70	1.4	1.4	1.2	19.0±2	845
1×95	1.6	1.5	1.4	21.8±2	1150
1×120	1.6	1.5	1.4	23.4±2	1412
1×150	1.8	1.6	1.4	25.5±2	1717
1×185	2.0	1.7	1.4	28.0±2	2174
1×240	2.2	1.8	1.6	31.6±2	2788
1×300	2.4	1.9	1.6	34.3±2	3502
2×1.5	1.0	1.1	1.0	12.3±2	163
2×2.5	1.0	1.2	1.0	13.0±2	200
2×4	1.0	1.2	1.0	14.3±2	263
2×6	1.0	1.3	1.0	15.4±2	326
2×10	1.0	1.3	1.0	17.6±2	467
2×16	1.0	1.4	1.0	20.2±2	667
2×25	1.2	1.6	1.2	24.4±2	1019
2×35	1.2	1.7	1.2	26.4±2	1276
2×50	1.4	1.8	1.2	29.8±2	1696
2×70	1.4	1.9	1.2	35.0±2	2452
2×95	1.6	2.1	1.4	40.4±2	3313
2×120	1.6	2.3	1.4	44.0±2	4069
2×150	1.8	2.4	1.4	48.2±2	4961
2×185	2.0	2.6	1.4	53.0±2	6137
2×240	2.2	2.8	1.6	60.0±2	7949
2×300	2.4	3.1	1.6	66.2±2	9865
3×1.5	1.0	1.2	1.0	12.9±2	189
3×2.5	1.0	1.2	1.0	13.9±2	242
3×4	1.0	1.2	1.0	15.1±2	310
3×6	1.0	1.3	1.0	16.2±2	394
3×10	1.0	1.4	1.0	18.5±2	578
3×16	1.0	1.5	1.0	21.3±2	835
3×25	1.2	1.6	1.2	25.9±2	1281
3×35	1.2	1.7	1.2	28.0±2	1622
3×50	1.4	1.9	1.2	31.9±2	2179
3×70	1.4	2.0	1.2	35.6±2	2914
3×95	1.6	2.2	1.4	41.3±2	3990
3×120	1.6	2.4	1.4	44.8±2	4919
3×150	1.8	2.5	1.4	49.1±2	5969
3×185	2.0	2.7	1.4	54.6±2	7576
3×240	2.2	3.0	1.6	61.2±2	9786
3×300	2.4	3.2	1.6	70.8±2	12894

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
4×1.5	1.0	1.2	1.0	14.1±2	236
4×2.5	1.0	1.2	1.0	15.0±2	289
4×4	1.0	1.3	1.0	16.5±2	383
4×6	1.0	1.4	1.0	17.8±2	515
4×10	1.0	1.4	1.0	20.4±2	730
4×16	1.0	1.5	1.0	23.5±2	1055
4×25	1.2	1.7	1.2	28.5±2	1628
4×35	1.2	1.8	1.2	30.9±2	2069
4×50	1.4	2.0	1.2	35.2±2	2777
4×70	1.4	2.2	1.2	39.3±2	3722
4×95	1.6	2.4	1.4	45.6±2	5093
4×120	1.6	2.6	1.4	49.3±2	6263
4×150	1.8	2.8	1.4	57.4±2	8421
4×185	2.0	3.0	1.4	63.1±2	10427
4×240	2.2	3.3	1.6	71.6±2	13566
4×300	2.4	3.5	1.6	78.7±2	16795
5×1.5	1.0	1.3	1.0	16.3±2	278
6×1.5	1.0	1.3	1.0	17.6±2	320
7×1.5	1.0	1.3	1.0	17.6±2	336
8×1.5	1.0	1.4	1.0	20.4±2	446
9×1.5	1.0	1.5	1.0	21.9±2	462
10×1.5	1.0	1.5	1.0	22.2±2	520
12×1.5	1.0	1.5	1.0	22.9±2	557
14×1.5	1.0	1.6	1.0	23.9±2	662
16×1.5	1.0	1.6	1.0	25.3±2	725
19×1.5	1.0	1.6	1.0	26.6±2	830
20×1.5	1.0	1.7	1.0	28.1±2	924
23×1.5	1.0	1.8	1.0	30.4±2	1082
24×1.5	1.0	1.8	1.0	31.2±2	1087
27×1.5	1.0	1.8	1.0	31.9±2	1134
30×1.5	1.0	1.9	1.0	33.1±2	1313
33×1.5	1.0	1.9	1.0	34.3±2	1402
37×1.5	1.0	2.0	1.0	35.8±2	1517
44×1.5	1.0	2.2	1.0	40.4±2	1853
5×2.5	1.0	1.3	1.0	16.5±2	357
6×2.5	1.0	1.4	1.0	19.0±2	415
7×2.5	1.0	1.4	1.0	19.0±2	441
8×2.5	1.0	1.5	1.0	22.0±2	562
9×2.5	1.0	1.5	1.0	23.5±2	588
10×2.5	1.0	1.5	1.0	23.8±2	651

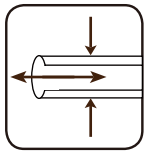
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
12×2.5	1.0	1.6	1.0	24.7±2	714
14×2.5	1.0	1.6	1.0	25.9±2	851
16×2.5	1.0	1.7	1.0	27.4±2	940
19×2.5	1.0	1.7	1.0	28.8±2	1050
20×2.5	1.0	1.8	1.0	30.4±2	1197
23×2.5	1.0	1.9	1.0	32.9±2	1391
24×2.5	1.0	1.9	1.0	33.8±2	1407
27×2.5	1.0	1.9	1.0	34.5±2	1465
30×2.5	1.0	2.0	1.0	35.9±2	1701
33×2.5	1.0	2.0	1.0	37.2±2	1822
37×2.5	1.0	2.1	1.0	38.8±2	1958
44×2.5	1.0	2.3	1.0	43.8±2	2410

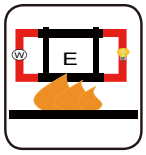
Standard

Standard

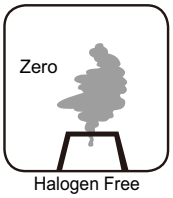
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

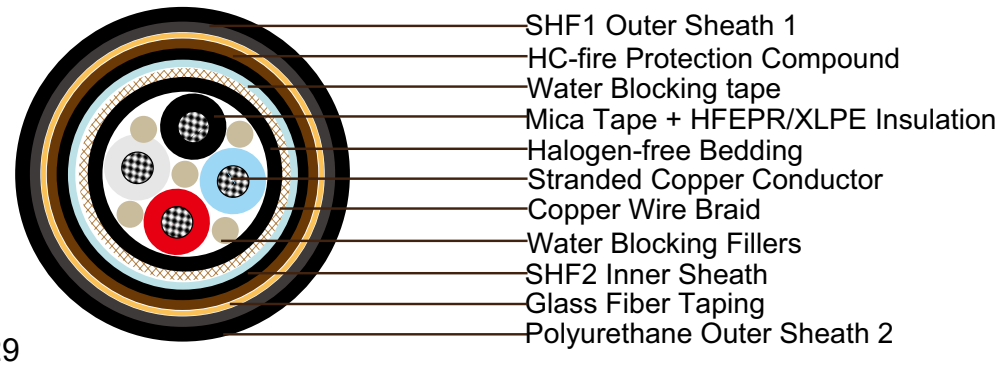
Water Blocked P34 BFOU-HCF 0.6/1 kV

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke and halogen free, used for emergency control, power and lighting systems that need to be operational during a 1100˚C hydrocarbon fire.

Standards

- IEC 60092-353
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Tinned annealed stranded compacted copper to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR/XLPE.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2.
- **HC-fire protection:** Extruded thermoplastic fire protection compound.
- **Taping:** Lapped glass fibre tape.
- **Outer Sheath 1:** Flame retardant halogen-free thermoplastic compound, SHF1, coloured black.
- **Outer Sheath 2:** Polyurethane for providing transversal water tightness, PE is

optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	1.5	2.5	4	6	16	35
Nominal Conductor Diameter	mm	1.6	2.1	2.6	3.2	5.1	7.4
Maximum DC Resistant@20˚C	Ω/km	12.2	7.56	4.7	3.11	1.16	0.529
Continuous Current Rating@45˚C 1 Core	A	23	30	40	52	96	157
Continuous Current Rating@45˚C 2 Core	A	20	26	34	44	82	133
Continuous Current Rating@45˚C 3&4 Core	A	16	21	28	36	67	110
Short Circuit Current 1s	A	210	360	570	860	2290	5010
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Nominal Cross Section Area	mm²	50	70	95	120	150	185	240	300
Nominal Conductor Diameter	mm	8.7	10.3	12.2	13.8	15.1	17.0	19.6	21.9
Maximum DC Resistant@20˚C	Ω/km	0.391	0.27	0.195	0.154	0.126	0.1	0.0762	0.0607
Continuous Current Rating@45˚C 1 Core	A	196	242	293	339	389	444	522	601
Continuous Current Rating@45˚C 2 Core	A	167	206	249	288	331	444	444	511
Continuous Current Rating@45˚C 3&4 Core	A	137	169	205	237	272	311	365	421
Short Circuit Current 1s	A	7150	10020	13590	17170	21460	26470	34340	42930
Operating Voltage	KV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1

Note: For more than 4-cores, the current ratings may be calculated from the following formula ($I_N = I_1 / \sqrt[3]{N}$), I_1= Current rating for 1-core, N = Number of cores.

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 20×OD (during installation); 12×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

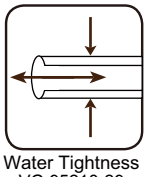
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Diameter Over Bedding mm	Nominal Diameter Over Sheath1 mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×50	1.4	15.0	18.5	47.9±2	3045
1×70	1.4	16.5	20.5	49.9±2	3465
1×95	1.6	18.5	23.0	53.3±2	3990
1×120	1.6	20.5	25.0	55.3±2	4473
1×150	1.8	23.0	27.0	57.3±2	4988
1×185	2.0	25.0	29.5	60.3±2	5649
1×240	2.2	28.0	32.5	69.2±2	7403
1×300	2.4	30.5	35.5	71.2±2	8400
2×1.5	1.0	10.0	13.0	42.5±2	1985
2×2.5	1.0	11.0	14.5	44.0±2	2184
3×1.5	1.0	10.5	14.0	44.0±2	2247
3×2.5	1.0	11.5	15.0	44.5±2	2310
3×4	1.0	13.0	16.5	45.0±2	2520
3×6	1.0	14.0	18.0	47.0±2	2730
3×16	1.0	18.5	23.0	52.4±2	3675
3×35	1.2	25.0	29.5	59.9±2	5082
3×70	1.4	33.0	39.0	74.4±2	8558
3×120	1.6	41.0	48.0	83.9±2	11865
3×150	1.8	46.0	54.5	91.3±2	13965
4×2.5	1.0	12.5	16.5	46.8±2	2415
4×6	1.0	15.5	19.5	50.3±2	3014
4×16	1.0	20.5	25.0	55.5±2	4022
7×1.5	1.0	14.0	17.5	46.5±2	2678
12×1.5	1.0	18.5	22.5	52.0±2	3297
27×1.5	1.0	26.5	31.0	66.5±2	5324
7×2.5	1.0	15.0	19.0	48.0±2	2898
12×2.5	1.0	20.5	24.5	54.0±2	3675

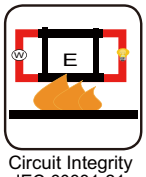
Standard

Standard

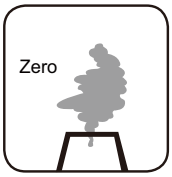
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

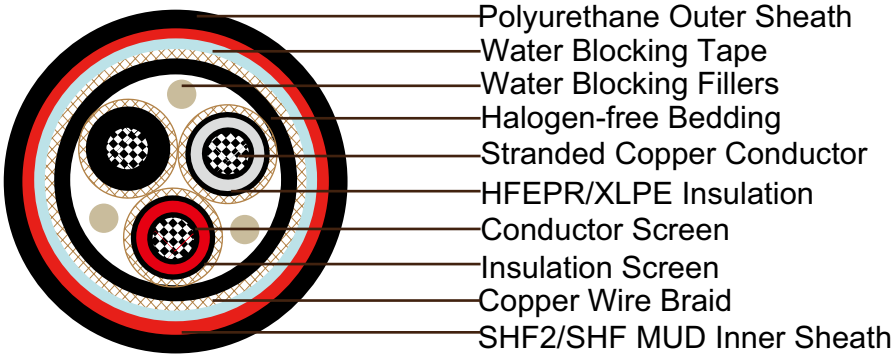
Water Blocked P2 or P2/P9 RFOU/TFOU 3.6/6KV

Applications

These cables are partially water blocked, flame retardant, low smoke, halogen free and mud resistant, used for fixed installation for medium voltage power.

Standards

- IEC 60092-354
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Halogen-free EPR. XLPE can be offered as an option (for TFOU cable).
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P2), or halogen free mud resistant thermosetting compound, SHF MUD (for TYPE P2/P9), coloured red.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	16	25	35	50	70	95	120
Nominal Conductor Diameter	mm	5.1	6.5	7.4	8.7	10.3	12.2	13.8
Maximum DC Resistant@20˚C	Ω/km	1.16	0.734	0.529	0.391	0.27	0.195	0.154
Continuous Current Rating@45˚C 1 Core	A	96	127	157	196	242	293	339
Continuous Current Rating@45˚C 3 Core	A	67	89	110	137	169	205	237
Short Circuit Current 1s	A	2290	3580	5010	7150	10020	13590	17170
Operating Voltage	KV	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6

Nominal Cross Section Area	mm²	150	185	240	300	400	500	630
Nominal Conductor Diameter	mm	15.1	17.0	19.6	21.9	24.6	27.6	32.5
Maximum DC Resistant@20˚C	Ω/km	0.126	0.1	0.0762	0.0607	0.0475	0.0369	0.0286
Continuous Current Rating@45˚C 1 Core	A	389	444	522	601	690	780	890
Continuous Current Rating@45˚C 3 Core	A	272	311	365	421	483	546	623
Short Circuit Current 1s	A	21460	26470	34340	42930	57230	71540	90140
Operating Voltage	KV	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 15×OD (during installation); 9×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×16	2.5	1.4	1.1	1.0	24.8±2	819
1×25	2.5	1.5	1.1	1.2	26.4±2	1071
1×35	2.5	1.5	1.2	1.2	27.5±2	1213
1×50	2.5	1.6	1.2	1.2	28.7±2	1386

NEK606 Water Blocked Offshore & Marine Cables

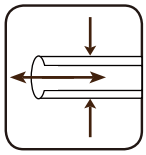
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×70	2.5	1.6	1.3	1.2	30.6±2	1675
1×95	2.5	1.7	1.3	1.4	32.8±2	2000
1×120	2.5	1.8	1.4	1.4	34.6±2	2347
1×150	2.5	1.8	1.4	1.4	36.3±2	2678
1×185	2.5	1.9	1.5	1.4	38.0±2	3166
1×240	2.6	2.0	1.5	1.6	42.0±2	3911
1×300	2.8	2.1	1.6	1.6	45.5±2	4856
1×400	3.0	2.2	1.7	1.6	49.8±2	5691
1×500	3.2	2.4	1.8	1.6	54.0±2	6941
1×630	3.2	2.5	1.9	1.6	58.3±2	8579
3×16	2.5	2.2	1.6	1.0	46.9±2	3077
3×25	2.5	2.3	1.7	1.2	47.8±2	3560
3×35	2.5	2.4	1.8	1.2	50.0±2	4011
3×50	2.5	2.5	1.9	1.2	53.3±2	4720
3×70	2.5	2.7	2.0	1.2	57.2±2	5864
3×95	2.5	2.8	2.1	1.4	61.7±2	7103
3×120	2.5	3.0	2.2	1.4	66.3±2	8573
3×150	2.5	3.1	2.3	1.4	70.2±2	9970
3×185	2.5	3.3	2.4	1.4	78.6±2	11193
3×240	2.6	3.5	2.5	1.6	85.5±2	12243
3×300	2.8	3.8	2.7	1.6	92.5±2	13587

Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

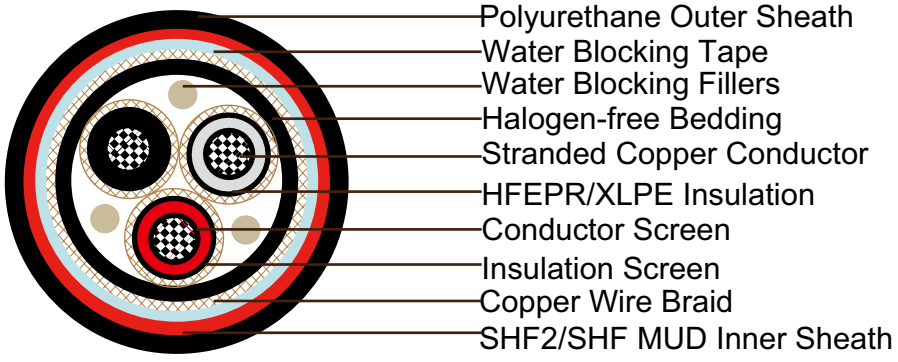
Water Blocked P3 or P3/P10 RFOU/TFOU 6/10KV

Applications

These cables are partially water blocked, flame retardant, low smoke, halogen free and mud resistant, used for fixed installation for medium voltage power.

Standards

- IEC 60092-354
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Halogen-free EPR. XLPE can be offered as an option (for TFOU cable).
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P3), or halogen free mud resistant thermosetting compound, SHF MUD (for TYPE P3/P10), coloured red.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	16	25	35	50	70	95	120
Nominal Conductor Diameter	mm	5.2	6.5	7.4	8.7	10.3	12.2	13.8
Maximum DC Resistant@20˚C	Ω/km	1.16	0.734	0.529	0.391	0.27	0.195	0.154
Continuous Current Rating@45˚C 1 Core	A	96	127	157	196	242	293	339
Continuous Current Rating@45˚C 3 Core	A	67	89	110	137	169	205	237
Short Circuit Current 1s	A	2290	3580	5010	7150	10020	13590	17170
Operating Voltage	KV	6/10	6/10	6/10	6/10	6/10	6/10	6/10

Nominal Cross Section Area	mm²	150	185	240	300	400	500	630
Nominal Conductor Diameter	mm	15.1	17.0	19.6	21.9	24.5	27.5	32.3
Maximum DC Resistant@20˚C	Ω/km	0.126	0.1	0.0762	0.0607	0.0475	0.0369	0.0286
Continuous Current Rating@45˚C 1 Core	A	389	444	522	601	690	780	890
Continuous Current Rating@45˚C 3 Core	A	272	311	365	421	483	546	623
Short Circuit Current 1s	A	21460	26470	34340	42930	57230	71540	90140
Operating Voltage	KV	6/10	6/10	6/10	6/10	6/10	6/10	6/10

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 15×OD (during installation); 9×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×16	3.4	1.5	1.1	1.0	26.0±2	945
1×25	3.4	1.5	1.2	1.2	28.4±2	1197
1×35	3.4	1.6	1.2	1.2	29.3±2	1328
1×50	3.4	1.6	1.2	1.2	30.7±2	1533
1×70	3.4	1.7	1.3	1.2	32.4±2	1796
1×95	3.4	1.8	1.3	1.4	34.8±2	2163

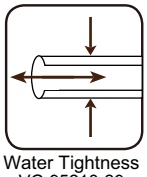
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×120	3.4	1.8	1.4	1.4	36.6±2	2499
1×150	3.4	1.9	1.4	1.4	38.1±2	2835
1×185	3.4	2.0	1.5	1.4	40.6±2	3386
1×240	3.4	2.1	1.6	1.6	44.2±2	4190
1×300	3.4	2.2	1.6	1.6	46.9±2	4998
1×400	3.4	2.3	1.7	1.6	48.7±2	6195
1×500	3.4	2.4	1.8	1.6	52.7±2	7718
1×630	3.4	2.6	1.9	1.6	57.7±2	9188
3×16	3.4	2.3	1.7	1.0	48.0±2	3465
3×25	3.4	2.4	1.8	1.2	52.5±2	4100
3×35	3.4	2.5	1.8	1.2	54.6±2	4578
3×50	3.4	2.6	1.9	1.2	57.5±2	5444
3×70	3.4	2.7	2.0	1.2	61.3±2	6431
3×95	3.4	2.9	2.1	1.4	66.3±2	7875
3×120	3.4	3.0	2.2	1.4	70.4±2	9214
3×150	3.4	3.2	2.3	1.4	74.1±2	10747
3×185	3.4	3.4	2.4	1.4	76.8±2	11865
3×240	3.4	3.6	2.6	1.6	82.7±2	13965
3×300	3.4	3.8	2.7	1.6	88.2±2	17115

Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

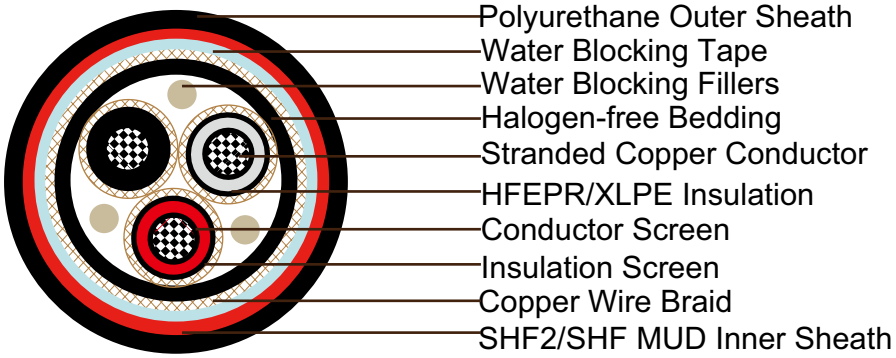
Water Blocked P4 or P4/P11 RFOU/TFOU 8.7/15KV

Applications

These cables are partially water blocked, flame retardant, low smoke, halogen free and mud resistant, used for fixed installation for medium voltage power.

Standards

- IEC 60092-354
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Halogen-free EPR. XLPE can be offered as an option (for TFOU cable).
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P4), or halogen free mud resistant thermosetting compound, SHF MUD (for TYPE P4/P11), coloured red.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	25	35	50	70	95	120
Nominal Conductor Diameter	mm	6.5	7.4	8.7	10.3	12.2	13.8
Maximum DC Resistant@20˚C	Ω/km	0.734	0.529	0.391	0.27	0.195	0.154
Continuous Current Rating@45˚C 1 Core	A	127	157	196	242	293	339
Continuous Current Rating@45˚C 3 Core	A	89	110	137	169	205	237
Short Circuit Current 1s	A	3580	5010	7150	10020	13590	17170
Operating Voltage	KV	8.7/15	8.7/15	8.7/15	8.7/15	8.7/15	8.7/15

Nominal Cross Section Area	mm²	150	185	240	300	400	500	630
Nominal Conductor Diameter	mm	15.1	17.0	19.6	21.9	24.5	27.5	32.3
Maximum DC Resistant@20˚C	Ω/km	0.126	0.1	0.0762	0.0607	0.0475	0.0369	0.0286
Continuous Current Rating@45˚C 1 Core	A	389	444	522	601	690	780	890
Continuous Current Rating@45˚C 3 Core	A	272	311	365	421	483	546	623
Short Circuit Current 1s	A	21460	26470	34340	42930	57230	71540	90140
Operating Voltage	KV	8.7/15	8.7/15	8.7/15	8.7/15	8.7/15	8.7/15	8.7/15

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 15×OD (during installation); 9×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×25	4.5	1.6	1.2	1.2	30.8±2	1370
1×35	4.5	1.6	1.3	1.2	31.7±2	1502
1×50	4.5	1.7	1.3	1.2	33.1±2	1701
1×70	4.5	1.8	1.3	1.2	34.8±2	1995
1×95	4.5	1.8	1.4	1.4	37.2±2	2363
1×120	4.5	1.9	1.5	1.4	39.4±2	2756

NEK606 Water Blocked Offshore & Marine Cables

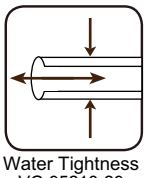
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×150	4.5	2.0	1.5	1.4	40.9±2	3087
1×185	4.5	2.0	1.5	1.4	43.4±2	3722
1×240	4.5	2.1	1.6	1.6	46.6±2	4431
1×300	4.5	2.2	1.7	1.6	49.5±2	5324
1×400	4.5	2.4	1.8	1.6	53.4±2	6048
1×500	4.5	2.5	1.8	1.6	56.8±2	7224
1×630	4.5	2.6	1.9	1.6	61.1±2	8883
3×25	4.5	2.6	1.9	1.2	57.7±2	4961
3×35	4.5	2.7	2.0	1.2	59.9±2	5476
3×50	4.5	2.8	2.0	1.2	63.0±2	6258
3×70	4.5	2.9	2.1	1.2	66.8±2	7387
3×95	4.5	3.1	2.2	1.4	71.5±2	8789
3×120	4.5	3.2	2.3	1.4	75.5±2	10232
3×150	4.5	3.4	2.4	1.4	79.6±2	11697
3×185	4.5	3.6	2.6	1.4	87.0±2	14165
3×240	4.5	3.8	2.7	1.6	93.8±2	16653
3×300	4.5	4.0	2.9	1.6	99.8±2	19236

Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

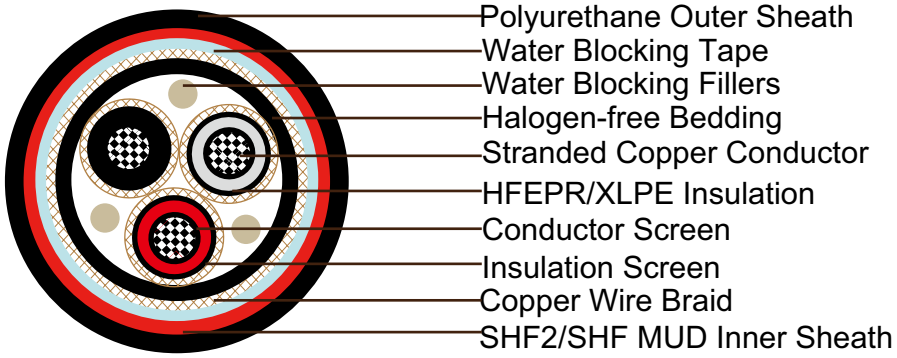
Water Blocked P19 or P19/P21 RFOU 12/20KV

Applications

These cables are partially water blocked, flame retardant, low smoke, halogen free and mud resistant, used for fixed installation for medium voltage power.

Standards

- IEC 60092-354
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Halogen-free EPR. XLPE can be offered as an option (for TFOU cable).
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P19), or halogen free mud resistant thermosetting compound, SHF MUD (for TYPE P19/P21), coloured red.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Optional

P20 or P20/P22 RFOU/TFOU 18/30(36) kV

Electrical Characteristics

Nominal Cross Section Area	mm²	16	25	35	50	70	95
Nominal Conductor Diameter	mm	5.2	6.5	7.4	8.7	10.3	12.2
Maximum DC Resistant@20˚C	Ω/km	1.16	0.734	0.529	0.391	0.27	0.195
Continuous Current Rating@45˚C 1 Core	A	96	127	157	196	242	293
Continuous Current Rating@45˚C 3 Core	A	67	89	110	137	169	205
Short Circuit Current 1s	A	2290	3580	5010	7150	10020	13590
Operating Voltage	KV	12/20	12/20	12/20	12/20	12/20	12/20

Nominal Cross Section Area	mm²	120	150	185	240	300
Nominal Conductor Diameter	mm	13.8	15.1	17.0	19.6	21.9
Maximum DC Resistant@20˚C	Ω/km	0.154	0.126	0.1	0.0762	0.0607
Continuous Current Rating@45˚C 1 Core	A	339	389	444	522	601
Continuous Current Rating@45˚C 3 Core	A	237	272	311	365	421
Short Circuit Current 1s	A	17170	21460	26470	34340	42930
Operating Voltage	KV	12/20	12/20	12/20	12/20	12/20

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 15×OD (during installation); 9×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

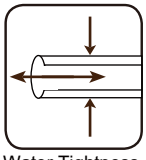
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×16	5.5	1.4	1.2	1.0	30.0±2	1260
1×25	5.5	1.5	1.2	1.2	34.0±2	1607
1×35	5.5	1.8	1.3	1.2	34.7±2	1675
1×50	5.5	1.8	1.4	1.2	36.2±2	1885
1×70	5.5	1.9	1.4	1.2	37.0±2	2174
1×95	5.5	2.0	1.5	1.4	39.8±2	2594
1×120	5.5	2.0	1.5	1.4	41.6±2	2951
1×150	5.5	2.1	1.6	1.4	43.5±2	3407
1×185	5.5	2.2	1.6	1.4	45.7±2	3953
1×240	5.5	2.3	1.7	1.6	49.0±2	4736
1×300	5.5	2.4	1.8	1.6	51.7±2	5581
3×16	5.5	1.8	2.0	1.0	57.1±2	5198
3×25	5.5	1.9	2.0	1.2	64.6±2	5990
3×35	5.5	2.9	2.1	1.2	65.0±2	6290
3×50	5.5	3.0	2.2	1.2	67.8±2	7077
3×70	5.5	3.1	2.3	1.2	71.5±2	8180
3×95	5.5	3.3	2.4	1.4	75.8±2	9608
3×120	5.5	3.4	2.5	1.4	79.8±2	11109
3×150	5.5	3.6	2.6	1.4	84.7±2	12752
3×185	5.5	3.8	2.7	1.4	92.3±2	12878
3×240	5.5	4.0	2.9	1.6	99.3±2	15461
3×300	5.5	4.2	3.0	1.6	105.1±2	18050

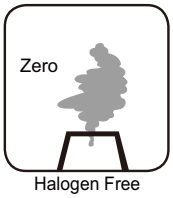
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

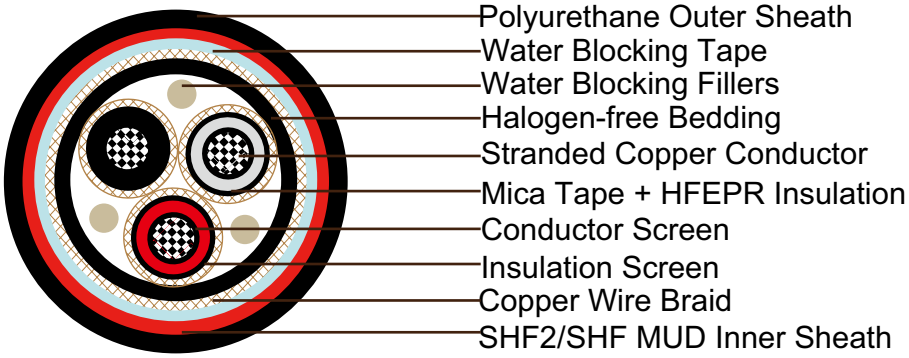
Water Blocked P6 or P6/P13 BFOU 3.6/6kV

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke, halogen free and mud resistant, used for fixed installation for medium voltage power.

Standards

- IEC 60092-354
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Mica tape + Halogen free EPR.
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P6), or halogen free mud resistant thermosetting compound, SHF MUD (for TYPE P6/P13), coloured red.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	25	35	50	70	95	120	150
Nominal Conductor Diameter	mm	6.5	7.4	8.7	10.3	12.2	13.8	15.1
Maximum DC Resistant@20˚C	Ω/km	0.734	0.529	0.391	0.27	0.195	0.154	0.126
Continuous Current Rating@45˚C 1 Core	A	127	157	196	242	293	339	389
Continuous Current Rating@45˚C 3 Core	A	89	110	137	169	205	237	272
Short Circuit Current 1s	A	3580	5010	7150	10020	13590	17170	21460
Operating Voltage	KV	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6	3.6/6

Nominal Cross Section Area	mm²	185	240	300	400	500	630
Nominal Conductor Diameter	mm	17.0	19.6	21.9	24.5	27.5	32.3
Maximum DC Resistant@20˚C	Ω/km	0.1	0.0762	0.0607	0.0475	0.0369	0.0286
Continuous Current Rating@45˚C 1 Core	A	444	522	601	690	780	890
Continuous Current Rating@45˚C 3 Core	A	311	365	421	483	546	623
Short Circuit Current 1s	A	26470	34340	42930	57230	71540	90140
Operating Voltage	KV	3.6/6	3.6/6	3.6/6	8.7/15	8.7/15	8.7/15

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 15×OD (during installation); 9×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×16	2.5	1.5	1.2	1.0	26.8±2	998
1×25	2.5	1.6	1.2	1.2	28.7±2	1166
1×35	2.5	1.6	1.2	1.2	30.0±2	1323
1×50	2.5	1.7	1.3	1.2	31.5±2	1533

NEK606 Water Blocked Offshore & Marine Cables

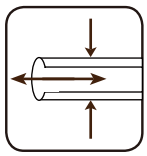
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×70	2.5	1.7	1.3	1.2	33.3±2	1827
1×95	2.5	1.8	1.4	1.4	36.0±2	2216
1×120	2.5	1.9	1.4	1.4	37.7±2	2552
1×150	2.5	1.9	1.4	1.4	39.7±2	3035
1×185	2.5	2.0	1.5	1.4	41.9±2	3539
1×240	2.6	2.1	1.6	1.6	45.4±2	4305
1×300	2.8	2.2	1.6	1.6	47.9±2	5051
1×400	3.0	2.3	1.7	1.6	51.3±2	6101
1×500	3.2	2.5	1.8	1.6	55.3±2	7382
1×630	3.2	2.6	1.9	1.6	59.7±2	9062
3×16	2.5	2.3	1.7	1.0	49.8±2	3728
3×25	2.5	2.5	1.8	1.2	53.9±2	4389
3×35	2.5	2.6	1.9	1.2	57.1±2	5061
3×50	2.5	2.7	1.9	1.2	59.8±2	5765
3×70	2.5	2.8	2.0	1.2	64.0±2	6920
3×95	2.5	3.0	2.1	1.4	69.0±2	8316
3×120	2.5	3.1	2.2	1.4	72.9±2	9608
3×150	2.5	3.3	2.3	1.4	76.8±2	10983
3×185	2.5	3.4	2.4	1.4	81.4±2	12611
3×240	2.6	3.7	2.6	1.6	89.5±2	15425
3×300	2.8	3.9	2.8	1.6	95.1±2	17987

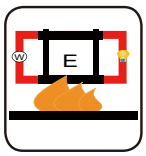
Standard

Standard

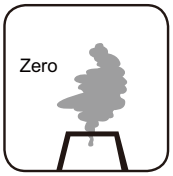
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

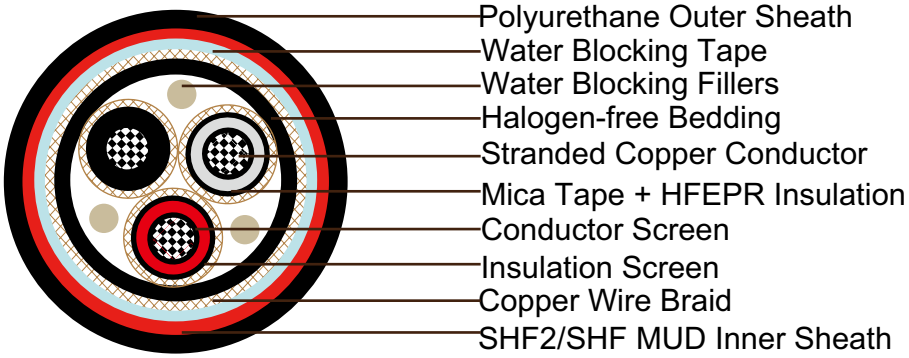
Water Blocked P7 or P7/P14 BFOU 6/10kV

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke, halogen free and mud resistant, used for fixed installation for medium voltage power.

Standards

- IEC 60092-354
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Mica tape + Halogen free EPR.
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P7), or halogen free mud resistant thermosetting compound, SHF MUD (for TYPE P7/P14), coloured red.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	25	35	50	70	95	120	150
Nominal Conductor Diameter	mm	6.5	7.4	8.7	10.3	12.2	13.8	15.1
Maximum DC Resistant@20˚C	Ω/km	0.734	0.529	0.391	0.27	0.195	0.154	0.126
Continuous Current Rating@45˚C 1 Core	A	127	157	196	242	293	339	389
Continuous Current Rating@45˚C 3 Core	A	89	110	137	169	205	237	272
Short Circuit Current 1s	A	3580	5010	7150	10020	13590	17170	21460
Operating Voltage	KV	6/10	6/10	6/10	6/10	6/10	6/10	6/10

Nominal Cross Section Area	mm²	185	240	300	400	500	630
Nominal Conductor Diameter	mm	17.0	19.6	21.9	24.5	27.5	32.3
Maximum DC Resistant@20˚C	Ω/km	0.1	0.0762	0.0607	0.0475	0.0369	0.0286
Continuous Current Rating@45˚C 1 Core	A	444	522	601	690	780	890
Continuous Current Rating@45˚C 3 Core	A	311	365	421	483	546	623
Short Circuit Current 1s	A	26470	34340	42930	57230	71540	90140
Operating Voltage	KV	6/10	6/10	6/10	8.7/15	8.7/15	8.7/15

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 15×OD (during installation); 9×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×16	3.4	1.5	1.2	1.0	27.6±2	1040
1×25	3.4	1.6	1.2	1.2	29.5±2	1208
1×35	3.4	1.7	1.2	1.2	30.9±2	1386
1×50	3.4	1.7	1.3	1.2	32.3±2	1575

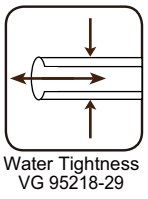
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×70	3.4	1.8	1.3	1.2	34.3±2	1901
1×95	3.4	1.8	1.4	1.4	36.8±2	2268
1×120	3.4	1.9	1.4	1.4	38.9±2	2741
1×150	3.4	2.0	1.5	1.4	40.9±2	3140
1×185	3.4	2.0	1.5	1.4	42.7±2	3612
1×240	3.4	2.2	1.6	1.6	46.3±2	4389
1×300	3.4	2.3	1.7	1.6	49.1±2	5177
1×400	3.4	2.4	1.7	1.6	52.2±2	6195
1×500	3.4	2.5	1.8	1.6	55.7±2	7424
1×630	3.4	2.7	1.9	1.6	60.2±2	9125
3×16	3.4	2.4	1.8	1.0	52.2±2	3969
3×25	3.4	2.5	1.8	1.2	55.6±2	4599
3×35	3.4	2.6	1.9	1.2	58.8±2	5292
3×50	3.4	2.7	2.0	1.2	61.7±2	6027
3×70	3.4	2.9	2.1	1.2	66.1±2	7245
3×95	3.4	3.1	2.2	1.4	71.2±2	8684
3×120	3.4	3.2	2.3	1.4	74.9±2	9944
3×150	3.4	3.3	2.4	1.4	78.8±2	11340
3×185	3.4	3.5	2.5	1.4	83.6±2	12989
3×240	3.4	3.7	2.7	1.6	91.4±2	15792
3×300	3.4	3.9	2.9	1.6	97.2±2	18323

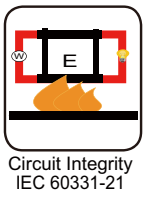
Standard

Standard

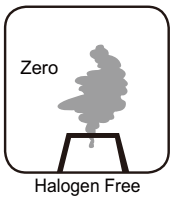
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

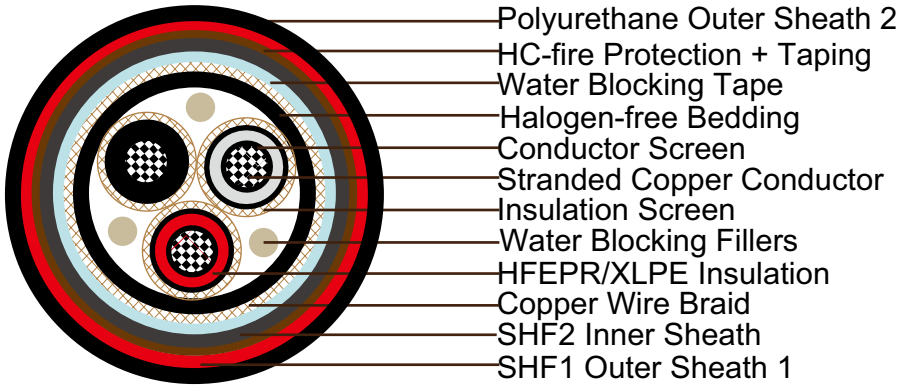
Water Blocked P30 RFOU-HCF / TFOU-HCF 6/10(12) kV

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke and halogen free, used for emergency control, power and lighting systems that need to be operational during a 1100˚C hydrocarbon fire.

Standards

- IEC 60092-354
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Halogen-free EPR. XLPE can be offered as an option.
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2, coloured red.
- **HC-fire protection:** Extruded thermoplastic fire protection compound.
- **Taping:** Lapped glass fibre tape.
- **Outer Sheath 1:** Flame retardant halogen-free thermoplastic compound, SHF1,

coloured red.

- **Outer Sheath 2**: Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Optional

P31 RFOU-HCF / TFOU-HCF 8.7/15kV
P32 RFOU-HCF / TFOU-HCF 12/20(24) kV
P33 RFOU-HCF / TFOU-HCF 18/30(36) kV

Electrical Characteristics

Nominal Cross Section Area	mm²	70	95	120	150	185	240	300
Nominal Conductor Diameter	mm	10.3	12.2	13.8	15.1	17.0	19.6	21.9
Maximum DC Resistant@20˚C	Ω/km	0.27	0.195	0.154	0.126	0.1	0.0762	0.0607
Continuous Current Rating@45˚C 1 Core	A	242	293	339	389	444	522	601
Continuous Current Rating@45˚C 3 Core	A	169	205	237	272	311	365	421
Short Circuit Current 1s	A	10020	13590	17170	21460	26470	34340	42930
Operating Voltage	KV	6/10	6/10	6/10	6/10	6/10	6/10	6/10

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- **Bending Radius:** 20×OD (during installation); 12×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

NEK606 Water Blocked Offshore & Marine Cables

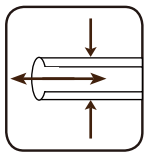
Construction No. of cores×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Diameter Over Bedding mm	Nominal Diameter Over Inner Sheath mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×70	3.4	23.5	30.0	64.4±2	5481
1×95	3.4	25.5	32.0	67.3±2	6195
1×120	3.4	27.5	34.0	69.3±2	6657
1×150	3.4	28.5	35.0	70.3±2	7004
1×185	3.4	30.5	36.5	71.8±2	7686
1×240	3.4	33.0	39.0	75.2±2	8663
1×300	3.4	35.0	41.5	77.7±2	9744
3×50	3.4	47.0	55.0	91.4±2	11519
3×95	3.4	54.0	62.5	99.8±2	14942
3×150	3.4	60.0	70.5	108.8±2	18270

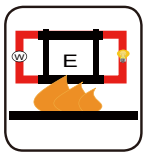
Standard

Standard

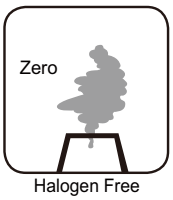
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

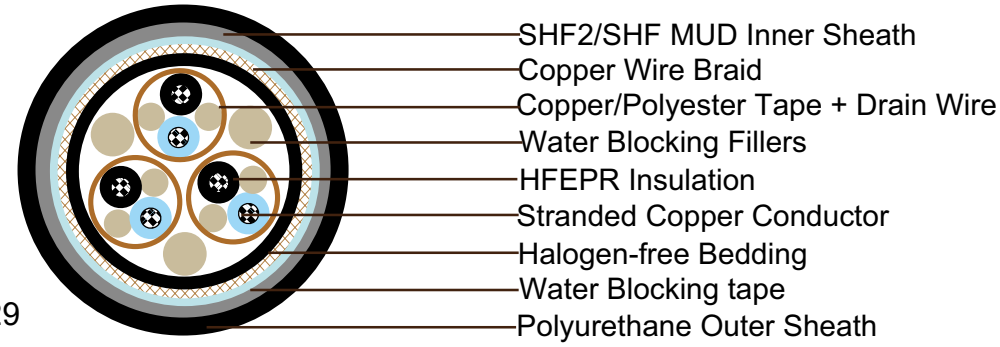
Water Blocked S1 or S1/S5 RFOU(i) 250V

Applications

These cables are partially water blocked, flame retardant, low smoke, halogen free and mud resistant, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Filler:** Water blocking fillers, if required.
- **Individual Shielding:** Each pairs/triples are screened by copper backed polyester tape in contact with a stranded tinned copper drain wire and wrapped with polyester tape. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE S1). Halogen free MUD resistant thermosetting compound, SHF MUD (for TYPE S1/S5), coloured

grey (blue for intrinsically safe).

- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5	2.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6	2.0
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9	8.02
Mutual Capacitance	nF/km	90	100	110	120
Nominal Inductance@1KHz	MH/km	0.686	0.649	0.637	0.598
Maximum L/R@1KHz	μH/Ω	20	25	35	50
Operating Voltage	V	250	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.75	0.6	1.1	1.1	1.0	12.9±2	221
2×2×0.75	0.6	1.1	1.3	1.0	15.2±2	341
4×2×0.75	0.6	1.1	1.3	1.0	18.2±2	504
7×2×0.75	0.6	1.1	1.4	1.0	21.0±2	704
8×2×0.75	0.6	1.1	1.4	1.0	22.4±2	793
9×2×0.75	0.6	1.1	1.5	1.0	24.6±2	877
10×2×0.75	0.6	1.1	1.5	1.0	25.5±2	919
12×2×0.75	0.6	1.1	1.5	1.0	26.1±2	1061
14×2×0.75	0.6	1.1	1.6	1.0	27.3±2	1092
15×2×0.75	0.6	1.1	1.6	1.0	28.9±2	1176
16×2×0.75	0.6	1.1	1.6	1.0	29.3±2	1223
18×2×0.75	0.6	1.1	1.7	1.0	30.7±2	1334
19×2×0.75	0.6	1.1	1.7	1.0	31.0±2	1428
20×2×0.75	0.6	1.1	1.7	1.0	32.1±2	1491
21×2×0.75	0.6	1.1	1.8	1.0	33.0±2	1565
23×2×0.75	0.6	1.1	1.8	1.0	33.5±2	1675

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
24×2×0.75	0.6	1.2	1.8	1.0	35.4±2	1806
27×2×0.75	0.6	1.2	1.9	1.0	36.0±2	1859
30×2×0.75	0.6	1.2	1.9	1.0	37.1±2	2006
32×2×0.75	0.6	1.2	2.0	1.0	38.1±2	2163
33×2×0.75	0.6	1.2	2.0	1.0	38.9±2	2268
37×2×0.75	0.6	1.2	2.0	1.0	40.0±2	2447
1×3×0.75	0.6	1.1	1.2	1.0	13.3±2	236
2×3×0.75	0.6	1.1	1.3	1.0	18.4±2	515
3×3×0.75	0.6	1.1	1.4	1.0	19.2±2	546
4×3×0.75	0.6	1.1	1.4	1.0	20.5±2	641
5×3×0.75	0.6	1.1	1.5	1.0	21.8±2	756
6×3×0.75	0.6	1.1	1.5	1.0	23.7±2	877
7×3×0.75	0.6	1.1	1.5	1.0	23.7±2	914
8×3×0.75	0.6	1.1	1.6	1.0	25.5±2	998
9×3×0.75	0.6	1.1	1.6	1.0	26.6±2	1118
10×3×0.75	0.6	1.1	1.7	1.0	28.4±2	1150
12×3×0.75	0.6	1.1	1.7	1.0	29.3±2	1339
14×3×0.75	0.6	1.1	1.8	1.0	30.5±2	1386
15×3×0.75	0.6	1.1	1.8	1.0	31.3±2	1465
16×3×0.75	0.6	1.1	1.8	1.0	32.1±2	1538
18×3×0.75	0.6	1.1	1.9	1.0	33.6±2	1680
19×3×0.75	0.6	1.1	1.9	1.0	33.9±2	1738
20×3×0.75	0.6	1.2	2.0	1.0	35.2±2	1911
21×3×0.75	0.6	1.2	2.0	1.0	35.8±2	1985
23×3×0.75	0.6	1.2	2.0	1.0	37.1±2	2153
24×3×0.75	0.6	1.2	2.0	1.0	38.0±2	2331
27×3×0.75	0.6	1.2	2.1	1.0	39.9±2	2452
30×3×0.75	0.6	1.2	2.2	1.0	41.7±2	2683
32×3×0.75	0.6	1.2	2.2	1.0	42.7±2	2825
1×2×1.0	0.6	1.1	1.2	1.0	13.4±2	242
2×2×1.0	0.6	1.1	1.3	1.0	16.5±2	389
3×2×1.0	0.6	1.1	1.3	1.0	18.6±2	541
4×2×1.0	0.6	1.1	1.4	1.0	19.4±2	625
5×2×1.0	0.6	1.1	1.4	1.0	21.1±2	719
6×2×1.0	0.6	1.1	1.5	1.0	22.7±2	830
7×2×1.0	0.6	1.1	1.5	1.0	22.7±2	861
8×2×1.0	0.6	1.1	1.6	1.0	23.6±2	919
9×2×1.0	0.6	1.1	1.6	1.0	25.8±2	1045
10×2×1.0	0.6	1.1	1.6	1.0	26.8±2	1061
12×2×1.0	0.6	1.1	1.7	1.0	27.6±2	1255

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
14×2×1.0	0.6	1.1	1.7	1.0	28.7±2	1271
15×2×1.0	0.6	1.1	1.8	1.0	30.5±2	1386
16×2×1.0	0.6	1.1	1.8	1.0	31.0±2	1444
18×2×1.0	0.6	1.1	1.9	1.0	32.5±2	1575
19×2×1.0	0.6	1.1	1.9	1.0	32.8±2	1633
20×2×1.0	0.6	1.1	1.9	1.0	33.9±2	1764
21×2×1.0	0.6	1.2	2.0	1.0	35.3±2	1880
23×2×1.0	0.6	1.2	2.0	1.0	35.7±2	2016
24×2×1.0	0.6	1.2	2.0	1.0	37.2±2	2116
27×2×1.0	0.6	1.2	2.1	1.0	38.5±2	2294
30×2×1.0	0.6	1.2	2.1	1.0	39.7±2	2483
33×2×1.0	0.6	1.2	2.2	1.0	41.2±2	2699
37×2×1.0	0.6	1.2	2.2	1.0	42.4±2	2914
1×3×1.0	0.6	1.1	1.2	1.0	13.8±2	263
2×3×1.0	0.6	1.1	1.4	1.0	19.3±2	583
3×3×1.0	0.6	1.1	1.4	1.0	19.9±2	620
4×3×1.0	0.6	1.1	1.4	1.0	21.4±2	735
5×3×1.0	0.6	1.1	1.5	1.0	22.7±2	866
6×3×1.0	0.6	1.1	1.6	1.0	25.0±2	1024
7×3×1.0	0.6	1.1	1.6	1.0	25.0±2	1040
8×3×1.0	0.6	1.1	1.6	1.0	26.4±2	1150
9×3×1.0	0.6	1.1	1.7	1.0	28.4±2	1307
10×3×1.0	0.6	1.1	1.8	1.0	30.0±2	1328
12×3×1.0	0.6	1.1	1.8	1.0	30.9±2	1575
14×3×1.0	0.6	1.1	1.8	1.0	32.0±2	1622
15×3×1.0	0.6	1.1	1.9	1.0	33.1±2	1738
16×3×1.0	0.6	1.1	1.9	1.0	33.8±2	1964
18×3×1.0	0.6	1.2	2.0	1.0	35.9±2	2032
19×3×1.0	0.6	1.2	2.0	1.0	36.2±2	2142
20×3×1.0	0.6	1.2	2.0	1.0	37.1±2	2258
21×3×1.0	0.6	1.2	2.1	1.0	37.9±2	2357
23×3×1.0	0.6	1.2	2.1	1.0	39.6±2	2651
24×3×1.0	0.6	1.2	2.1	1.0	40.7±2	2819
27×3×1.0	0.6	1.2	2.2	1.0	42.3±2	2924
30×3×1.0	0.6	1.2	2.3	1.0	44.1±2	3203
32×3×1.0	0.6	1.2	2.3	1.0	45.2±2	3376
1×2×1.5	0.7	1.1	1.2	1.0	14.4±2	284
2×2×1.5	0.7	1.1	1.4	1.0	17.8±2	520
3×2×1.5	0.7	1.1	1.4	1.0	19.9±2	672
4×2×1.5	0.7	1.1	1.5	1.0	21.5±2	751

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
5×2×1.5	0.7	1.1	1.5	1.0	23.5±2	893
6×2×1.5	0.7	1.1	1.6	1.0	25.3±2	1040
7×2×1.5	0.7	1.1	1.6	1.0	25.3±2	1082
8×2×1.5	0.7	1.1	1.7	1.0	26.8±2	1187
9×2×1.5	0.7	1.1	1.7	1.0	28.9±2	1292
10×2×1.5	0.7	1.1	1.8	1.0	30.2±2	1334
12×2×1.5	0.7	1.1	1.8	1.0	31.3±2	1444
14×2×1.5	0.7	1.1	1.8	1.0	32.2±2	1596
15×2×1.5	0.7	1.2	1.9	1.0	34.7±2	1769
16×2×1.5	0.7	1.2	2.0	1.0	35.4±2	1864
18×2×1.5	0.7	1.2	2.0	1.0	37.0±2	2016
19×2×1.5	0.7	1.2	2.0	1.0	37.3±2	2090
20×2×1.5	0.7	1.2	2.1	1.0	39.2±2	2368
21×2×1.5	0.7	1.2	2.1	1.0	40.2±2	2462
23×2×1.5	0.7	1.2	2.2	1.0	41.0±2	2667
24×2×1.5	0.7	1.2	2.2	1.0	42.7±2	2741
27×2×1.5	0.7	1.2	2.3	1.0	43.7±2	2914
30×2×1.5	0.7	1.2	2.3	1.0	45.1±2	3155
33×2×1.5	0.7	1.4	2.4	1.0	47.1±2	3654
37×2×1.5	0.7	1.4	2.5	1.0	48.7±2	3780
1×3×1.5	0.7	1.1	1.2	1.0	15.0±2	315
2×3×1.5	0.7	1.1	1.4	1.0	19.5±2	536
3×3×1.5	0.7	1.1	1.5	1.0	22.1±2	777
4×3×1.5	0.7	1.1	1.5	1.0	23.8±2	914
5×3×1.5	0.7	1.1	1.6	1.0	25.3±2	1097
6×3×1.5	0.7	1.1	1.7	1.0	27.9±2	1292
7×3×1.5	0.7	1.1	1.7	1.0	28.0±2	1328
8×3×1.5	0.7	1.1	1.8	1.0	29.8±2	1475
9×3×1.5	0.7	1.1	1.8	1.0	31.5±2	1664
10×3×1.5	0.7	1.1	1.9	1.0	33.8±2	1764
12×3×1.5	0.7	1.2	2.0	1.0	35.1±2	2048
14×3×1.5	0.7	1.2	2.0	1.0	36.6±2	2121
15×3×1.5	0.7	1.2	2.0	1.0	37.6±2	2252
16×3×1.5	0.7	1.2	2.1	1.0	38.6±2	2573
18×3×1.5	0.7	1.2	2.2	1.0	41.2±2	2709
19×3×1.5	0.7	1.2	2.2	1.0	41.5±2	2809
20×3×1.5	0.7	1.2	2.2	1.0	42.5±2	3019
21×3×1.5	0.7	1.2	2.3	1.0	43.5±2	3150
23×3×1.5	0.7	1.2	2.3	1.0	45.0±2	3423
24×3×1.5	0.7	1.4	2.4	1.0	46.9±2	3476

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
27×3×1.5	0.7	1.4	2.4	1.0	48.4±2	3817
30×3×1.5	0.7	1.4	2.5	1.0	50.5±2	4179
32×3×1.5	0.7	1.4	2.6	1.0	52.0±2	4436
1×2×2.5	0.7	1.1	1.2	1.0	15.3±2	336
2×2×2.5	0.7	1.1	1.4	1.0	19.5±2	557
3×2×2.5	0.7	1.1	1.5	1.0	22.2±2	819
4×2×2.5	0.7	1.1	1.5	1.0	23.5±2	945
5×2×2.5	0.7	1.1	1.6	1.0	25.4±2	1113
6×2×2.5	0.7	1.1	1.7	1.0	27.4±2	1297
7×2×2.5	0.7	1.1	1.7	1.0	27.4±2	1355
8×2×2.5	0.7	1.1	1.7	1.0	29.5±2	1470
9×2×2.5	0.7	1.1	1.8	1.0	31.4±2	1570
10×2×2.5	0.7	1.1	1.9	1.0	32.9±2	1675
12×2×2.5	0.7	1.1	1.9	1.0	33.6±2	1843
14×2×2.5	0.7	1.2	2.0	1.0	35.6±2	2090
15×2×2.5	0.7	1.2	2.1	1.0	38.0±2	2273
16×2×2.5	0.7	1.2	2.1	1.0	38.9±2	2468
18×2×2.5	0.7	1.2	2.2	1.0	40.9±2	2693
19×2×2.5	0.7	1.2	2.2	1.0	41.3±2	2798
20×2×2.5	0.7	1.2	2.2	1.0	42.8±2	3024
21×2×2.5	0.7	1.2	2.3	1.0	44.1±2	3171
23×2×2.5	0.7	1.2	2.3	1.0	44.7±2	3418
24×2×2.5	0.7	1.4	2.4	1.0	47.2±2	3497
27×2×2.5	0.7	1.4	2.4	1.0	48.1±2	3796
30×2×2.5	0.7	1.4	2.5	1.0	49.8±2	4148
33×2×2.5	0.7	1.4	2.6	1.0	51.7±2	4515
37×2×2.5	0.7	1.4	2.6	1.0	53.2±2	4904
1×3×2.5	0.7	1.1	1.3	1.0	15.9±2	373
2×3×2.5	0.7	1.1	1.5	1.0	22.9±2	882
3×3×2.5	0.7	1.1	1.5	1.0	23.6±2	992
4×3×2.5	0.7	1.1	1.6	1.0	25.3±2	1171
5×3×2.5	0.7	1.1	1.7	1.0	27.4±2	1381
6×3×2.5	0.7	1.1	1.8	1.0	30.3±2	1633
7×3×2.5	0.7	1.1	1.8	1.0	30.3±2	1722
8×3×2.5	0.7	1.1	1.8	1.0	32.2±2	1869
9×3×2.5	0.7	1.2	1.9	1.0	34.6±2	2158
10×3×2.5	0.7	1.2	2.0	1.0	37.1±2	2184
12×3×2.5	0.7	1.2	2.1	1.0	38.8±2	2557
14×3×2.5	0.7	1.2	2.1	1.0	40.3±2	2835
15×3×2.5	0.7	1.2	2.2	1.0	41.7±2	3040

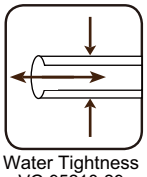
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
16×3×2.5	0.7	1.2	2.2	1.0	42.8±2	3203
18×3×2.5	0.7	1.2	2.3	1.0	44.9±2	3502
19×3×2.5	0.7	1.2	2.3	1.0	45.3±2	3644
20×3×2.5	0.7	1.4	2.4	1.0	46.9±2	3974
21×3×2.5	0.7	1.4	2.4	1.0	47.8±2	4132
23×3×2.5	0.7	1.4	2.5	1.0	49.7±2	4358
24×3×2.5	0.7	1.4	2.5	1.0	50.6±2	4515
27×3×2.5	0.7	1.4	2.6	1.0	53.1±2	5003
30×3×2.5	0.7	1.4	2.7	1.0	55.5±2	5497
32×3×2.5	0.7	1.6	2.8	1.0	57.5±2	5901

Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

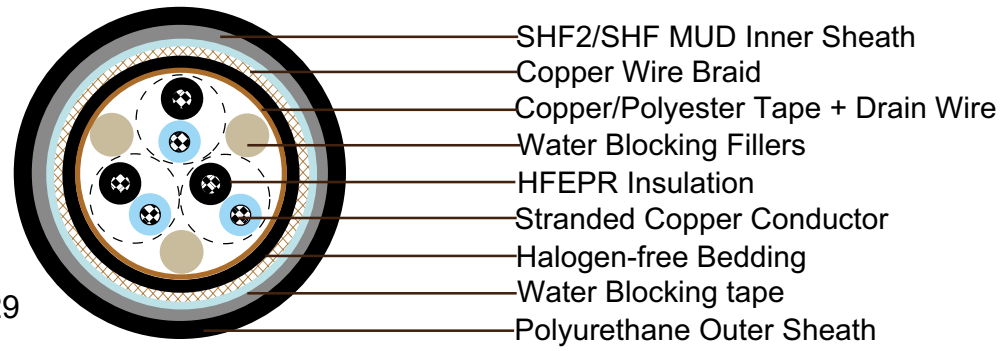
Water Blocked S2 or S2/S6 RFOU(c) 250V

Applications

These cables are partially water blocked, flame retardant, low smoke, halogen free and mud resistant, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Filler:** Water blocking fillers, if required.
- **Collective Shielding:** Pairs/triples are layed up and collectively screened by copper backed polyester tape in contact with a stranded tinned copper drain wire. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE S2). Halogen free MUD resistant thermosetting compound, SHF MUD (for TYPE S2/S6), coloured grey (blue for intrinsically safe).

- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5	2.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6	2.0
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9	8.02
Mutual Capacitance	nF/km	80	90	100	110
Nominal Inductance@1KHz	MH/km	0.682	0.645	0.632	0.593
Maximum L/R@1KHz	μH/Ω	20	25	35	50
Operating Voltage	V	250	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.75	0.6	1.1	1.1	1.0	13.1±2	210
2×2×0.75	0.6	1.1	1.3	1.0	17.0±2	310
3×2×0.75	0.6	1.1	1.3	1.0	17.6±2	373
4×2×0.75	0.6	1.1	1.3	1.0	18.4±2	410
5×2×0.75	0.6	1.1	1.4	1.0	19.8±2	567
6×2×0.75	0.6	1.1	1.4	1.0	21.1±2	641
7×2×0.75	0.6	1.1	1.4	1.0	21.1±2	656
8×2×0.75	0.6	1.1	1.5	1.0	22.7±2	714
9×2×0.75	0.6	1.1	1.5	1.0	23.8±2	782
10×2×0.75	0.6	1.1	1.6	1.0	24.9±2	798
12×2×0.75	0.6	1.1	1.6	1.0	25.4±2	851
14×2×0.75	0.6	1.1	1.6	1.0	26.5±2	919
15×2×0.75	0.6	1.1	1.7	1.0	28.1±2	1008
16×2×0.75	0.6	1.1	1.7	1.0	28.5±2	1061
18×2×0.75	0.6	1.1	1.8	1.0	29.9±2	1134
19×2×0.75	0.6	1.1	1.8	1.0	30.2±2	1171
20×2×0.75	0.6	1.1	1.8	1.0	31.2±2	1271

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
21×2×0.75	0.6	1.1	1.8	1.0	32.0±2	1318
23×2×0.75	0.6	1.1	1.9	1.0	32.6±2	1423
24×2×0.75	0.6	1.1	1.9	1.0	33.9±2	1439
27×2×0.75	0.6	1.2	1.9	1.0	34.9±2	1554
30×2×0.75	0.6	1.2	2.0	1.0	36.1±2	1685
33×2×0.75	0.6	1.2	2.0	1.0	37.3±2	1811
37×2×0.75	0.6	1.2	2.1	1.0	38.9±2	2048
1×3×0.75	0.6	1.1	1.2	1.0	13.7±2	242
2×3×0.75	0.6	1.1	1.3	1.0	16.5±2	378
3×3×0.75	0.6	1.1	1.3	1.0	18.2±2	436
4×3×0.75	0.6	1.1	1.4	1.0	19.6±2	567
5×3×0.75	0.6	1.1	1.4	1.0	21.1±2	677
6×3×0.75	0.6	1.1	1.5	1.0	23.1±2	793
7×3×0.75	0.6	1.1	1.5	1.0	23.1±2	819
8×3×0.75	0.6	1.1	1.6	1.0	24.6±2	887
9×3×0.75	0.6	1.1	1.6	1.0	25.9±2	992
10×3×0.75	0.6	1.1	1.7	1.0	27.7±2	1008
12×3×0.75	0.6	1.1	1.7	1.0	28.4±2	1134
14×3×0.75	0.6	1.1	1.7	1.0	29.5±2	1208
15×3×0.75	0.6	1.1	1.8	1.0	30.5±2	1292
16×3×0.75	0.6	1.1	1.8	1.0	31.2±2	1376
18×3×0.75	0.6	1.1	1.9	1.0	32.7±2	1475
19×3×0.75	0.6	1.1	1.9	1.0	33.0±2	1549
20×3×0.75	0.6	1.1	1.9	1.0	33.8±2	1638
21×3×0.75	0.6	1.2	1.9	1.0	34.7±2	1722
23×3×0.75	0.6	1.2	2.0	1.0	36.1±2	1885
24×3×0.75	0.6	1.2	2.0	1.0	36.6±2	1922
27×3×0.75	0.6	1.2	2.1	1.0	38.8±2	2142
30×3×0.75	0.6	1.2	2.1	1.0	#VALUE!	2321
32×3×0.75	0.6	1.2	2.2	1.0	41.5±2	2462
1×2×1.0	0.6	1.1	1.2	1.0	13.7±2	236
2×2×1.0	0.6	1.1	1.3	1.0	15.4±2	352
3×2×1.0	0.6	1.1	1.3	1.0	18.3±2	494
4×2×1.0	0.6	1.1	1.4	1.0	19.4±2	562
5×2×1.0	0.6	1.1	1.4	1.0	20.7±2	641
6×2×1.0	0.6	1.1	1.5	1.0	22.2±2	735
7×2×1.0	0.6	1.1	1.5	1.0	22.2±2	756
8×2×1.0	0.6	1.1	1.5	1.0	23.8±2	814
9×2×1.0	0.6	1.1	1.6	1.0	25.2±2	893
10×2×1.0	0.6	1.1	1.6	1.0	26.1±2	924

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
12×2×1.0	0.6	1.1	1.6	1.0	26.7±2	1029
14×2×1.0	0.6	1.1	1.7	1.0	28.0±2	1082
15×2×1.0	0.6	1.1	1.8	1.0	29.8±2	1181
16×2×1.0	0.6	1.1	1.8	1.0	30.2±2	1234
18×2×1.0	0.6	1.1	1.8	1.0	31.5±2	1318
19×2×1.0	0.6	1.1	1.8	1.0	31.8±2	1360
20×2×1.0	0.6	1.1	1.9	1.0	33.1±2	1491
21×2×1.0	0.6	1.1	1.9	1.0	33.9±2	1549
23×2×1.0	0.6	1.2	1.9	1.0	34.7±2	1691
24×2×1.0	0.6	1.2	2.0	1.0	36.3±2	1701
27×2×1.0	0.6	1.2	2.0	1.0	37.0±2	1832
30×2×1.0	0.6	1.2	2.1	1.0	38.7±2	2079
33×2×1.0	0.6	1.2	2.1	1.0	40.0±2	2237
37×2×1.0	0.6	1.2	2.2	1.0	41.3±2	2420
1×3×1.0	0.6	1.1	1.2	1.0	14.0±2	263
2×3×1.0	0.6	1.1	1.4	1.0	19.0±2	546
3×3×1.0	0.6	1.1	1.4	1.0	19.4±2	567
4×3×1.0	0.6	1.1	1.4	1.0	20.7±2	656
5×3×1.0	0.6	1.1	1.5	1.0	22.2±2	782
6×3×1.0	0.6	1.1	1.6	1.0	24.4±2	919
7×3×1.0	0.6	1.1	1.6	1.0	24.4±2	950
8×3×1.0	0.6	1.1	1.6	1.0	25.8±2	1029
9×3×1.0	0.6	1.1	1.7	1.0	27.4±2	1134
10×3×1.0	0.6	1.1	1.7	1.0	29.1±2	1208
12×3×1.0	0.6	1.1	1.8	1.0	30.1±2	1328
14×3×1.0	0.6	1.1	1.8	1.0	31.2±2	1423
15×3×1.0	0.6	1.1	1.8	1.0	32.1±2	1512
16×3×1.0	0.6	1.1	1.9	1.0	33.1±2	1649
18×3×1.0	0.6	1.2	1.9	1.0	34.8±2	1759
19×3×1.0	0.6	1.2	2.0	1.0	35.3±2	1838
20×3×1.0	0.6	1.2	2.0	1.0	36.1±2	1974
21×3×1.0	0.6	1.2	2.0	1.0	36.8±2	2048
23×3×1.0	0.6	1.2	2.1	1.0	38.6±2	2326
24×3×1.0	0.6	1.2	2.1	1.0	39.3±2	2310
27×3×1.0	0.6	1.2	2.2	1.0	41.2±2	2546
30×3×1.0	0.6	1.2	2.2	1.0	42.8±2	2762
32×3×1.0	0.6	1.2	2.3	1.0	44.1±2	2930
1×2×1.5	0.7	1.1	1.2	1.0	14.7±2	273
2×2×1.5	0.7	1.1	1.4	1.0	17.4±2	441
3×2×1.5	0.7	1.1	1.4	1.0	19.6±2	614

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
4×2×1.5	0.7	1.1	1.4	1.0	20.8±2	667
5×2×1.5	0.7	1.1	1.5	1.0	23.1±2	809
6×2×1.5	0.7	1.1	1.6	1.0	24.8±2	935
7×2×1.5	0.7	1.1	1.6	1.0	24.8±2	971
8×2×1.5	0.7	1.1	1.6	1.0	25.7±2	1024
9×2×1.5	0.7	1.1	1.7	1.0	28.3±2	1113
10×2×1.5	0.7	1.1	1.7	1.0	29.4±2	1187
12×2×1.5	0.7	1.1	1.8	1.0	30.3±2	1334
14×2×1.5	0.7	1.1	1.8	1.0	31.5±2	1391
15×2×1.5	0.7	1.1	1.9	1.0	33.6±2	1517
16×2×1.5	0.7	1.1	1.9	1.0	34.1±2	1654
18×2×1.5	0.7	1.2	2.0	1.0	36.2±2	1754
19×2×1.5	0.7	1.2	2.0	1.0	36.5±2	1853
20×2×1.5	0.7	1.2	2.1	1.0	38.0±2	1990
21×2×1.5	0.7	1.2	2.1	1.0	39.3±2	2153
23×2×1.5	0.7	1.2	2.1	1.0	39.9±2	2294
24×2×1.5	0.7	1.2	2.2	1.0	41.8±2	2310
27×2×1.5	0.7	1.2	2.2	1.0	42.6±2	2510
30×2×1.5	0.7	1.2	2.3	1.0	44.1±2	2730
33×2×1.5	0.7	1.2	2.3	1.0	45.6±2	2945
37×2×1.5	0.7	1.4	2.4	1.0	47.4±2	3234
1×3×1.5	0.7	1.1	1.2	1.0	15.2±2	310
2×3×1.5	0.7	1.1	1.4	1.0	19.0±2	515
3×3×1.5	0.7	1.1	1.5	1.0	21.5±2	719
4×3×1.5	0.7	1.1	1.5	1.0	22.9±2	824
5×3×1.5	0.7	1.1	1.6	1.0	23.0±2	861
6×3×1.5	0.7	1.1	1.7	1.0	24.8±2	1008
7×3×1.5	0.7	1.1	1.7	1.0	27.1±2	1192
8×3×1.5	0.7	1.1	1.7	1.0	29.0±2	1334
9×3×1.5	0.7	1.1	1.8	1.0	30.9±2	1517
10×3×1.5	0.7	1.1	1.9	1.0	33.1±2	1523
12×3×1.5	0.7	1.1	1.9	1.0	33.5±2	1796
14×3×1.5	0.7	1.2	2.0	1.0	35.8±2	1906
15×3×1.5	0.7	1.2	2.0	1.0	36.8±2	2027
16×3×1.5	0.7	1.2	2.1	1.0	38.0±2	2216
18×3×1.5	0.7	1.2	2.1	1.0	40.1±2	2420
19×3×1.5	0.7	1.2	2.2	1.0	40.6±2	2494
20×3×1.5	0.7	1.2	2.2	1.0	41.6±2	2709
21×3×1.5	0.7	1.2	2.2	1.0	42.4±2	2814
23×3×1.5	0.7	1.2	2.3	1.0	44.0±2	3071

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
24×3×1.5	0.7	1.2	2.3	1.0	44.7±2	3297
27×3×1.5	0.7	1.4	2.4	1.0	47.3±2	3413
30×3×1.5	0.7	1.4	2.5	1.0	49.4±2	3733
32×3×1.5	0.7	1.4	2.5	1.0	50.6±2	3932
1×2×2.5	0.7	1.1	1.2	1.0	15.5±2	315
2×2×2.5	0.7	1.1	1.4	1.0	20.9±2	683
3×2×2.5	0.7	1.1	1.5	1.0	21.9±2	756
4×2×2.5	0.7	1.1	1.5	1.0	23.1±2	861
5×2×2.5	0.7	1.1	1.6	1.0	25.0±2	1013
6×2×2.5	0.7	1.1	1.6	1.0	26.8±2	1160
7×2×2.5	0.7	1.1	1.6	1.0	26.8±2	1208
8×2×2.5	0.7	1.1	1.7	1.0	29.0±2	1318
9×2×2.5	0.7	1.1	1.8	1.0	30.8±2	1454
10×2×2.5	0.7	1.1	1.8	1.0	32.0±2	1502
12×2×2.5	0.7	1.3	1.9	1.0	33.0±2	1622
14×2×2.5	0.7	1.2	1.9	1.0	34.7±2	1817
15×2×2.5	0.7	1.2	2.0	1.0	37.0±2	1979
16×2×2.5	0.7	1.2	2.0	1.0	37.6±2	2069
18×2×2.5	0.7	1.2	2.1	1.0	39.9±2	2347
19×2×2.5	0.7	1.2	2.1	1.0	40.3±2	2431
20×2×2.5	0.7	1.2	2.2	1.0	41.9±2	2657
21×2×2.5	0.7	1.2	2.2	1.0	43.0±2	2762
23×2×2.5	0.7	1.2	2.3	1.0	43.8±2	2888
24×2×2.5	0.7	1.2	2.3	1.0	45.7±2	2993
27×2×2.5	0.7	1.4	2.4	1.0	47.1±2	3308
30×2×2.5	0.7	1.4	2.5	1.0	48.8±2	3607
33×2×2.5	0.7	1.4	2.5	1.0	50.5±2	3901
37×2×2.5	0.7	1.4	2.6	1.0	52.2±2	4242
1×3×2.5	0.7	1.1	1.3	1.0	16.3±2	378
2×3×2.5	0.7	1.1	1.5	1.0	22.5±2	824
3×3×2.5	0.7	1.1	1.5	1.0	23.2±2	919
4×3×2.5	0.7	1.1	1.6	1.0	24.9±2	1087
5×3×2.5	0.7	1.1	1.6	1.0	26.8±2	1265
6×3×2.5	0.7	1.1	1.8	1.0	29.8±2	1502
7×3×2.5	0.7	1.1	1.8	1.0	29.8±2	1580
8×3×2.5	0.7	1.1	1.8	1.0	31.6±2	1706
9×3×2.5	0.7	1.1	1.9	1.0	33.7±2	1948
10×3×2.5	0.7	1.2	2.0	1.0	36.4±2	1985
12×3×2.5	0.7	1.2	2.0	1.0	37.5±2	2216
14×3×2.5	0.7	1.2	2.1	1.0	39.6±2	2567

NEK606 Water Blocked Offshore & Marine Cables

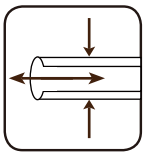
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
15×3×2.5	0.7	1.2	2.2	1.0	40.9±2	2751
16×3×2.5	0.7	1.2	2.2	1.0	42.0±2	2893
18×3×2.5	0.7	1.2	2.3	1.0	44.0±2	3161
19×3×2.5	0.7	1.2	2.3	1.0	44.4±2	3281
20×3×2.5	0.7	1.2	2.3	1.0	45.5±2	3528
21×3×2.5	0.7	1.4	2.4	1.0	46.9±2	3733
23×3×2.5	0.7	1.4	2.5	1.0	48.7±2	4079
24×3×2.5	0.7	1.4	2.5	1.0	49.5±2	4064
27×3×2.5	0.7	1.4	2.6	1.0	52.0±2	4494
30×3×2.5	0.7	1.4	2.7	1.0	54.3±2	4930
32×3×2.5	0.7	1.4	2.7	1.0	55.8±2	5208

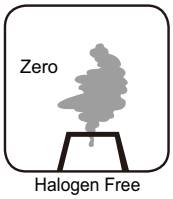
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

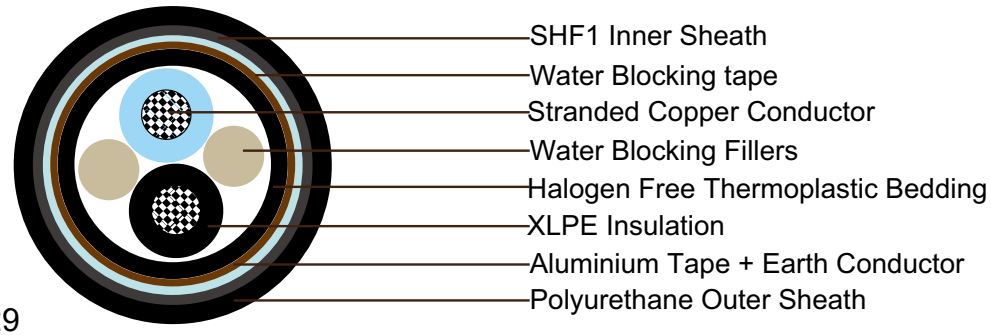
Water Blocked P16 IFLI 250 V

Applications

These cables are partially water blocked, flame retardant, low smoke and halogen free, used for living, quarter and office areas.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular stranded copper wire to IEC 60228 class 2.
- **Insulation:** XLPE.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free thermoplastic compound.
- **Metal Screen:** Longitudinal aluminium tape, thickness 0.2 mm in contact with a stranded copper earth conductor, PETP wrapping tape will be applied over the bedding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermoplastic compound, SHF1, coloured grey.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	2.5
Maximum Resistant@20˚C	Ω/km	7.41
Continuous Current Rating@45˚C 2 Core	A	26
Short Circuit Current 1s	A	360
Operating Voltage	V	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

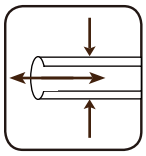
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2×1×2.5	0.7	1.1	1.2	1.0	12.0±2	189

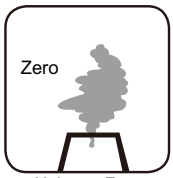
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

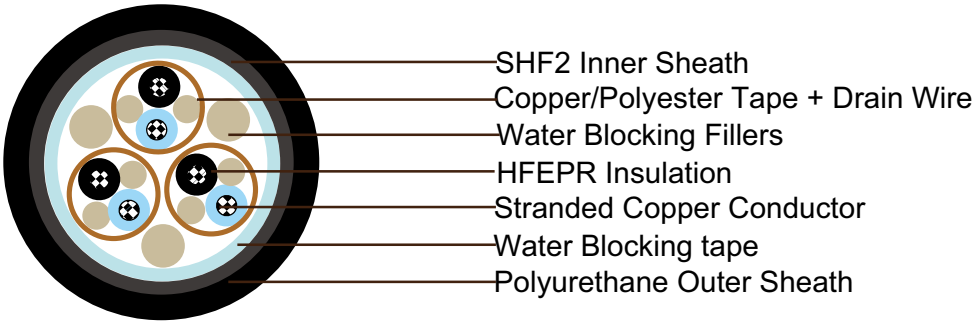
Water Blocked S11 RU(i) 250 V

Applications

These unarmoured cables are partially water blocked, flame retardant, low smoke and halogen free, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Filler:** Water blocking fillers, if required.
- **Individual Shielding:** Each pairs/triples are screened by copper backed polyester tape in contact with a stranded tinned copper drain wire and wrapped with polyester tape. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Filler:** Water blocking fillers, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2, coloured grey (blue for intrinsically safe).
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5	2.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6	2.0
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9	8.02
Mutual Capacitance	nF/km	90	100	110	120
Nominal Inductance@1KHz	MH/km	0.686	0.649	0.637	0.598
Maximum L/R@1KHz	μH/Ω	20	25	35	50
Operating Voltage	V	250	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.75	0.6	1.0	1.0	9.6±2	100
2×2×0.75	0.6	1.1	1.0	11.7±2	189
4×2×0.75	0.6	1.2	1.0	14.1±2	268
7×2×0.75	0.6	1.3	1.0	16.4±2	399
8×2×0.75	0.6	1.3	1.0	17.6±2	446
12×2×0.75	0.6	1.5	1.0	21.0±2	641
16×2×0.75	0.6	1.5	1.0	23.0±2	824
19×2×0.75	0.6	1.6	1.0	24.4±2	940
24×2×0.75	0.6	1.7	1.0	27.6±2	1192
32×2×0.75	0.6	1.8	1.0	30.4±2	1512
1×3×0.75	0.6	1.0	1.0	10.0±2	116
2×3×0.75	0.6	1.2	1.0	13.0±2	189
3×3×0.75	0.6	1.2	1.0	14.7±2	278
4×3×0.75	0.6	1.2	1.0	15.8±2	341
7×3×0.75	0.6	1.4	1.0	18.7±2	525
8×3×0.75	0.6	1.4	1.0	20.0±2	567
12×3×0.75	0.6	1.6	1.0	24.2±2	856
16×3×0.75	0.6	1.6	1.0	26.7±2	1097

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
19×3×0.75	0.6	1.7	1.0	28.2±2	1265
24×3×0.75	0.6	1.9	1.0	32.5±2	1622
1×2×1.0	0.6	1.0	1.0	10.1±2	116
2×2×1.0	0.6	1.1	1.0	12.4±2	226
4×2×1.0	0.6	1.2	1.0	14.9±2	326
7×2×1.0	0.6	1.4	1.0	17.5±2	499
8×2×1.0	0.6	1.4	1.0	19.0±2	567
12×2×1.0	0.6	1.5	1.0	22.5±2	798
16×2×1.0	0.6	1.5	1.0	24.9±2	1045
19×2×1.0	0.6	1.7	1.0	26.1±2	1192
24×2×1.0	0.6	1.8	1.0	29.8±2	1523
32×2×1.0	0.6	1.9	1.0	32.8±2	1943
1×3×1.0	0.6	1.0	1.0	10.5±2	131
3×3×1.0	0.6	1.3	1.0	15.4±2	336
4×3×1.0	0.6	1.3	1.0	16.8±2	415
7×3×1.0	0.6	1.5	1.0	19.9±2	646
12×3×1.0	0.6	1.6	1.0	25.7±2	1040
16×3×1.0	0.6	1.7	1.0	28.5±2	1360
19×3×1.0	0.6	1.8	1.0	30.0±2	1549
24×3×1.0	0.6	2.0	1.0	34.6±2	1995
1×2×1.5	0.7	1.0	1.0	11.1±2	147
2×2×1.5	0.7	1.2	1.0	13.7±2	294
4×2×1.5	0.7	1.3	1.0	16.9±2	431
7×2×1.5	0.7	1.5	1.0	20.0±2	667
8×2×1.5	0.7	1.5	1.0	21.7±2	756
12×2×1.5	0.7	1.6	1.0	25.8±2	1066
16×2×1.5	0.7	1.6	1.0	28.6±2	1397
19×2×1.5	0.7	1.9	1.0	30.3±2	1601
24×2×1.5	0.7	2.0	1.0	34.6±2	2042
32×2×1.5	0.7	2.2	1.0	38.1±2	2599
1×3×1.5	0.7	1.0	1.0	11.5±2	168
2×3×1.5	0.7	1.3	1.0	16.0±2	299
3×3×1.5	0.7	1.3	1.0	17.5±2	446
4×3×1.5	0.7	1.3	1.0	19.0±2	551
7×3×1.5	0.7	1.6	1.0	22.9±2	872
8×3×1.5	0.7	1.6	1.0	24.5±2	945
12×3×1.5	0.7	1.8	1.0	29.6±2	1407
16×3×1.5	0.7	1.9	1.0	33.1±2	1859
19×3×1.5	0.7	2.0	1.0	34.8±2	2121
24×3×1.5	0.7	2.2	1.0	40.4±2	2741

NEK606 Water Blocked Offshore & Marine Cables

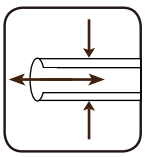
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×2.5	0.7	1.0	1.0	11.8±2	184
1×3×2.5	0.7	1.2	1.0	12.4±2	215

Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

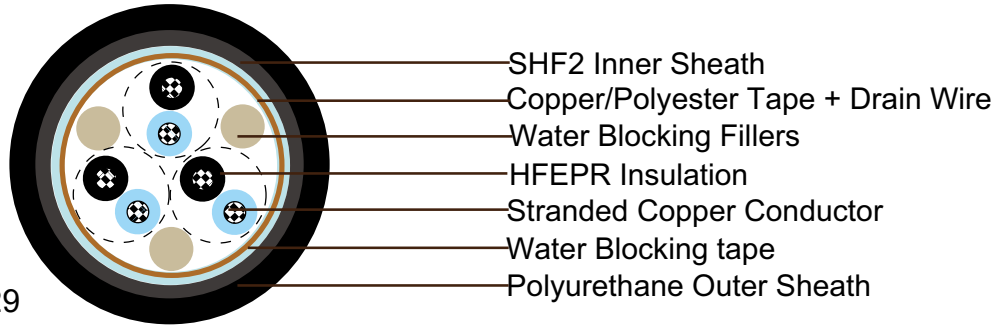
Water Blocked S12 RU(c) 250 V

Applications

These unarmoured cables are partially water blocked, flame retardant, low smoke and halogen free, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Filler:** Water blocking fillers, if required.
- **Collective Shielding:** Pairs/triples are layed up and collectively screened by copper backed polyester tape in contact with a stranded tinned copper drain wire. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2, coloured grey (blue for intrinsically safe).
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9
Mutual Capacitance	nF/km	80	90	100
Nominal Inductance@1KHz	MH/km	0.682	0.645	0.632
Maximum L/R@1KHz	μH/Ω	20	25	35
Operating Voltage	V	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2×2×0.75	0.6	1.1	1.0	11.4±2	168
4×2×0.75	0.6	1.1	1.0	13.5±2	226
7×2×0.75	0.6	1.3	1.0	15.6±2	315
8×2×0.75	0.6	1.3	1.0	16.7±2	357
12×2×0.75	0.6	1.4	1.0	19.6±2	488
16×2×0.75	0.6	1.5	1.0	21.7±2	625
19×2×0.75	0.6	1.5	1.0	22.7±2	698
24×2×0.75	0.6	1.7	1.0	26.1±2	893
32×2×0.75	0.6	2.0	1.0	28.7±2	1118
2×3×0.75	0.6	1.1	1.0	13.0±2	179
3×3×0.75	0.6	1.1	1.0	14.1±2	247
4×3×0.75	0.6	1.2	1.0	15.1±2	294
7×3×0.75	0.6	1.4	1.0	17.7±2	431
8×3×0.75	0.6	1.4	1.0	19.5±2	515
12×3×0.75	0.6	1.5	1.0	22.6±2	677
16×3×0.75	0.6	1.6	1.0	25.1±2	877
19×3×0.75	0.6	1.7	1.0	26.3±2	987
24×3×0.75	0.6	1.8	1.0	30.2±2	1271
2×2×1.0	0.6	1.1	1.0	11.9±2	200
4×2×1.0	0.6	1.1	1.0	14.3±2	268
7×2×1.0	0.6	1.3	1.0	16.7±2	389
8×2×1.0	0.6	1.3	1.0	17.7±2	431
12×2×1.0	0.6	1.5	1.0	20.9±2	593
16×2×1.0	0.6	1.6	1.0	23.1±2	767
19×2×1.0	0.6	1.7	1.0	24.5±2	872
24×2×1.0	0.6	1.8	1.0	27.9±2	1103
32×2×1.0	0.6	2.1	1.0	30.7±2	1381

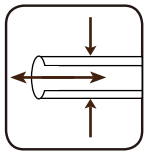
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
3×3×1.0	0.6	1.1	1.0	14.9±2	294
4×3×1.0	0.6	1.3	1.0	16.0±2	352
7×3×1.0	0.6	1.5	1.0	18.9±2	525
12×3×1.0	0.6	1.6	1.0	24.1±2	835
16×3×1.0	0.6	1.6	1.0	26.8±2	1076
19×3×1.0	0.6	1.8	1.0	28.3±2	1234
24×3×1.0	0.6	2.0	1.0	32.4±2	1565
2×2×1.5	0.7	1.2	1.0	13.3±2	263
4×2×1.5	0.7	1.2	1.0	16.1±2	362
7×2×1.5	0.7	1.4	1.0	19.2±2	541
8×2×1.5	0.7	1.4	1.0	20.4±2	604
12×2×1.5	0.7	1.6	1.0	24.4±2	851
16×2×1.5	0.7	1.7	1.0	27.0±2	1097
19×2×1.5	0.7	1.8	1.0	28.4±2	1234
24×2×1.5	0.7	1.9	1.0	32.7±2	1580
32×2×1.5	0.7	2.2	1.0	35.9±2	1985
2×3×1.5	0.7	1.2	1.0	15.5±2	278
3×3×1.5	0.7	1.2	1.0	16.9±2	399
4×3×1.5	0.7	1.3	1.0	18.3±2	488
7×3×1.5	0.7	1.5	1.0	21.8±2	740
8×3×1.5	0.7	1.5	1.0	23.5±2	861
12×3×1.5	0.7	1.7	1.0	28.2±2	1197
16×3×1.5	0.7	1.8	1.0	31.4±2	1549
19×3×1.5	0.7	1.9	1.0	32.9±2	1759
24×3×1.5	0.7	2.1	1.0	38.2±2	2268

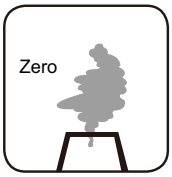
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

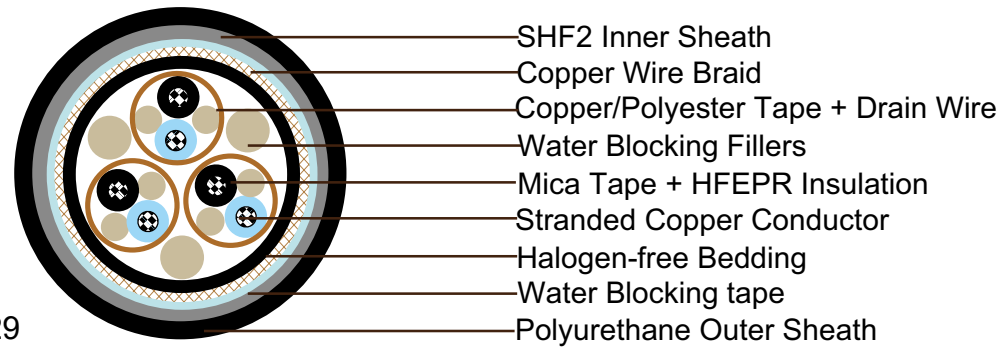
Water Blocked S3 or S3/S7 BFOU(i) 250V

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke, halogen free and mud resistant, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- Filler: Water blocking fillers, if required.
- **Individual Shielding:** Each pairs/triples are screened by copper backed polyester tape in contact with a stranded tinned copper drain wire and wrapped with polyester tape. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.

- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE S3). Halogen free MUD resistant thermosetting compound, SHF MUD (for TYPE S3/S7), coloured grey (blue for intrinsically safe).
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5	2.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6	2.0
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9	8.02
Mutual Capacitance	nF/km	85	95	100	110
Nominal Inductance@1KHz	MH/km	0.731	0.691	0.673	0.629
Maximum L/R@1KHz	μH/Ω	20	25	35	55
Operating Voltage	V	250	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.75	0.6	1.1	1.2	1.0	14.1±2	236
2×2×0.75	0.6	1.1	1.3	1.0	18.7±2	425
3×2×0.75	0.6	1.1	1.4	1.0	19.5±2	567
4×2×0.75	0.6	1.1	1.4	1.0	20.6±2	641
5×2×0.75	0.6	1.1	1.5	1.0	22.2±2	740
6×2×0.75	0.6	1.1	1.5	1.0	23.7±2	845
7×2×0.75	0.6	1.1	1.5	1.0	23.7±2	872
8×2×0.75	0.6	1.1	1.6	1.0	25.6±2	950
9×2×0.75	0.6	1.1	1.7	1.0	27.1±2	1050
10×2×0.75	0.6	1.1	1.7	1.0	28.2±2	1082
12×2×0.75	0.6	1.1	1.7	1.0	28.8±2	1202
14×2×0.75	0.6	1.1	1.8	1.0	30.2±2	1265
15×2×0.75	0.6	1.1	1.8	1.0	32.0±2	1370

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
16×2×0.75	0.6	1.1	1.9	1.0	32.6±2	1486
18×2×0.75	0.6	1.1	1.9	1.0	34.1±2	1549
19×2×0.75	0.6	1.2	1.9	1.0	34.7±2	1654
20×2×0.75	0.6	1.2	2.0	1.0	36.1±2	1785
21×2×0.75	0.6	1.2	2.0	1.0	37.0±2	1853
23×2×0.75	0.6	1.2	2.0	1.0	37.5±2	1990
24×2×0.75	0.6	1.2	2.1	1.0	39.7±2	2079
27×2×0.75	0.6	1.2	2.2	1.0	40.7±2	2273
30×2×0.75	0.6	1.2	2.2	1.0	41.9±2	2452
33×2×0.75	0.6	1.2	2.3	1.0	43.5±2	2662
37×2×0.75	0.6	1.2	2.3	1.0	44.7±2	2861
1×3×0.75	0.6	1.1	1.1	1.0	13.9±2	257
2×3×0.75	0.6	1.1	1.4	1.0	17.5±2	441
3×3×0.75	0.6	1.1	1.4	1.0	20.4±2	609
4×3×0.75	0.6	1.1	1.4	1.0	21.7±2	709
7×3×0.75	0.6	1.1	1.6	1.0	25.6±2	1008
8×3×0.75	0.6	1.1	1.7	1.0	27.0±2	1029
12×3×0.75	0.6	1.3	1.8	1.0	31.6±2	1507
16×3×0.75	0.6	1.4	1.9	1.0	34.6±2	1859
19×3×0.75	0.6	1.4	2.1	1.0	36.4±2	2084
24×3×0.75	0.6	1.8	2.2	1.0	41.6±2	2709
1×2×1.0	0.6	1.1	1.2	1.0	14.5±2	257
2×2×1.0	0.6	1.1	1.4	1.0	19.6±2	473
3×2×1.0	0.6	1.1	1.4	1.0	20.3±2	630
4×2×1.0	0.6	1.1	1.4	1.0	21.3±2	656
5×2×1.0	0.6	1.1	1.5	1.0	23.1±2	966
6×2×1.0	0.6	1.1	1.6	1.0	24.8±2	998
7×2×1.0	0.6	1.1	1.6	1.0	24.8±2	903
8×2×1.0	0.6	1.1	1.6	1.0	26.7±2	1034
9×2×1.0	0.6	1.1	1.7	1.0	28.3±2	1192
10×2×1.0	0.6	1.1	1.7	1.0	29.4±2	1229
12×2×1.0	0.6	1.1	1.8	1.0	30.3±2	1365
14×2×1.0	0.6	1.1	1.8	1.0	31.5±2	1449
15×2×1.0	0.6	1.1	1.9	1.0	33.6±2	1586
16×2×1.0	0.6	1.1	1.9	1.0	34.1±2	1701
18×2×1.0	0.6	1.2	2.0	1.0	36.2±2	1832
19×2×1.0	0.6	1.2	2.0	1.0	36.5±2	1922
20×2×1.0	0.6	1.2	2.1	1.0	38.0±2	2074
21×2×1.0	0.6	1.2	2.1	1.0	39.3±2	2242
23×2×1.0	0.6	1.2	2.1	1.0	39.9±2	2410

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
24×2×1.0	0.6	1.2	2.2	1.0	41.8±2	2452
27×2×1.0	0.6	1.2	2.2	1.0	42.6±2	2625
30×2×1.0	0.6	1.2	2.3	1.0	44.1±2	2856
33×2×1.0	0.6	1.2	2.3	1.0	45.6±2	3087
37×2×1.0	0.6	1.4	2.4	1.0	47.4±2	3392
1×3×1.0	0.6	1.1	1.2	1.0	14.6±2	289
2×3×1.0	0.6	1.1	1.4	1.0	20.8±2	672
3×3×1.0	0.6	1.1	1.5	1.0	21.3±2	698
4×3×1.0	0.6	1.1	1.5	1.0	22.9±2	814
5×3×1.0	0.6	1.1	1.6	1.0	24.8±2	1013
6×3×1.0	0.6	1.1	1.7	1.0	27.4±2	1192
7×3×1.0	0.6	1.1	1.7	1.0	27.4±2	1239
8×3×1.0	0.6	1.1	1.7	1.0	29.0±2	1334
9×3×1.0	0.6	1.1	1.8	1.0	30.9±2	1523
10×3×1.0	0.6	1.1	1.9	1.0	33.1±2	1528
12×3×1.0	0.6	1.1	1.9	1.0	34.0±2	1769
14×3×1.0	0.6	1.2	2.0	1.0	35.8±2	1911
15×3×1.0	0.6	1.2	2.0	1.0	36.8±2	2032
16×3×1.0	0.6	1.2	2.1	1.0	38.0±2	2210
18×3×1.0	0.6	1.2	2.1	1.0	40.1±2	2426
19×3×1.0	0.6	1.2	2.2	1.0	40.6±2	2473
20×3×1.0	0.6	1.2	2.2	1.0	41.6±2	2720
21×3×1.0	0.6	1.2	2.2	1.0	42.4±2	2819
23×3×1.0	0.6	1.2	2.3	1.0	44.0±2	3082
24×3×1.0	0.6	1.2	2.3	1.0	44.8±2	3302
27×3×1.0	0.6	1.4	2.4	1.0	47.3±2	3418
30×3×1.0	0.6	1.4	2.5	1.0	49.4±2	3743
32×3×1.0	0.6	1.4	2.5	1.0	50.6±2	3943
1×2×1.5	0.7	1.1	1.2	1.0	15.5±2	310
2×2×1.5	0.7	1.1	1.4	1.0	21.2±2	572
3×2×1.5	0.7	1.1	1.5	1.0	22.2±2	761
4×2×1.5	0.7	1.1	1.5	1.0	23.5±2	809
5×2×1.5	0.7	1.1	1.6	1.0	25.4±2	1024
6×2×1.5	0.7	1.1	1.7	1.0	27.4±2	1187
7×2×1.5	0.7	1.1	1.7	1.0	27.4±2	1229
8×2×1.5	0.7	1.1	1.7	1.0	29.5±2	1286
9×2×1.5	0.7	1.1	1.8	1.0	31.4±2	1475
10×2×1.5	0.7	1.1	1.9	1.0	32.9±2	1512
12×2×1.5	0.7	1.1	1.9	1.0	33.6±2	1764
14×2×1.5	0.7	1.2	2.0	1.0	35.6±2	1838

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
15×2×1.5	0.7	1.2	2.1	1.0	38.0±2	2006
16×2×1.5	0.7	1.2	2.1	1.0	38.9±2	2158
18×2×1.5	0.7	1.2	2.2	1.0	40.9±2	2373
19×2×1.5	0.7	1.2	2.2	1.0	41.3±2	2515
20×2×1.5	0.7	1.2	2.2	1.0	42.8±2	2667
21×2×1.5	0.7	1.2	2.3	1.0	44.1±2	2793
23×2×1.5	0.7	1.2	2.3	1.0	44.7±2	3008
24×2×1.5	0.7	1.4	2.4	1.0	47.2±2	3234
27×2×1.5	0.7	1.4	2.4	1.0	48.1±2	3313
30×2×1.5	0.7	1.4	2.5	1.0	49.8±2	3612
32×2×1.5	0.7	1.4	2.6	1.0	51.0±2	3869
33×2×1.5	0.7	1.4	2.6	1.0	51.7±2	3927
37×2×1.5	0.7	1.4	2.6	1.0	53.2±2	4242
1×3×1.5	0.7	1.1	1.3	1.0	15.6±2	341
2×3×1.5	0.7	1.1	1.5	1.0	20.5±2	588
3×3×1.5	0.7	1.1	1.5	1.0	23.4±2	840
4×3×1.5	0.7	1.1	1.6	1.0	25.7±2	1024
5×3×1.5	0.7	1.1	1.7	1.0	27.4±2	1255
6×3×1.5	0.7	1.1	1.8	1.0	30.3±2	1475
7×3×1.5	0.7	1.1	1.8	1.0	30.3±2	1544
8×3×1.5	0.7	1.1	1.8	1.0	32.2±2	1664
9×3×1.5	0.7	1.2	1.9	1.0	34.6±2	1927
10×3×1.5	0.7	1.2	2.0	1.0	37.1±2	2032
12×3×1.5	0.7	1.2	2.1	1.0	38.8±2	2221
14×3×1.5	0.7	1.2	2.1	1.0	40.3±2	2478
15×3×1.5	0.7	1.2	2.2	1.0	41.7±2	2657
16×3×1.5	0.7	1.2	2.2	1.0	42.8±2	2914
18×3×1.5	0.7	1.2	2.3	1.0	44.9±2	3050
19×3×1.5	0.7	1.2	2.3	1.0	45.3±2	3360
20×3×1.5	0.7	1.4	2.4	1.0	46.9±2	3470
21×3×1.5	0.7	1.4	2.4	1.0	47.8±2	3602
23×3×1.5	0.7	1.4	2.5	1.0	49.7±2	3943
24×3×1.5	0.7	1.4	2.5	1.0	50.6±2	4121
27×3×1.5	0.7	1.4	2.6	1.0	53.1±2	4321
30×3×1.5	0.7	1.4	2.7	1.0	55.5±2	4736
32×3×1.5	0.7	1.6	2.8	1.0	57.5±2	5093
1×2×2.5	0.7	1.1	1.3	1.0	16.0±2	357
2×2×2.5	0.7	1.1	1.5	1.0	20.5±2	588
3×2×2.5	0.7	1.1	1.5	1.0	23.6±2	908
4×2×2.5	0.7	1.1	1.6	1.0	25.2±2	1061

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
5×2×2.5	0.7	1.1	1.7	1.0	27.3±2	1244
6×2×2.5	0.7	1.1	1.7	1.0	29.4±2	1439
7×2×2.5	0.7	1.1	1.7	1.0	29.4±2	1502
8×2×2.5	0.7	1.1	1.8	1.0	31.9±2	1638
9×2×2.5	0.7	1.1	1.9	1.0	33.9±2	1869
10×2×2.5	0.7	1.2	2.0	1.0	35.8±2	1864
12×2×2.5	0.7	1.2	2.0	1.0	36.6±2	2063
14×2×2.5	0.7	1.2	2.1	1.0	38.9±2	2389
15×2×2.5	0.7	1.2	2.2	1.0	41.5±2	2604
16×2×2.5	0.7	1.2	2.2	1.0	42.1±2	2720
18×2×2.5	0.7	1.2	2.3	1.0	44.3±2	2966
19×2×2.5	0.7	1.2	2.3	1.0	44.7±2	3077
20×2×2.5	0.7	1.4	2.4	1.0	46.8±2	3402
21×2×2.5	0.7	1.4	2.4	1.0	48.1±2	3544
23×2×2.5	0.7	1.4	2.5	1.0	48.9±2	3738
24×2×2.5	0.7	1.4	2.5	1.0	51.1±2	3843
27×2×2.5	0.7	1.4	2.6	1.0	52.3±2	4200
30×2×2.5	0.7	1.4	2.7	1.0	54.2±2	4589
33×2×2.5	0.7	1.4	2.7	1.0	56.1±2	4972
37×2×2.5	0.7	1.6	2.8	1.0	58.4±2	5486
1×3×2.5	0.7	1.1	1.2	1.0	16.5±2	399
2×3×2.5	0.7	1.1	1.6	1.0	24.5±2	998
3×3×2.5	0.7	1.1	1.6	1.0	25.4±2	1108
4×3×2.5	0.7	1.1	1.7	1.0	27.3±2	1313
5×3×2.5	0.7	1.1	1.7	1.0	29.4±2	1533
6×3×2.5	0.7	1.1	1.9	1.0	32.7±2	1822
7×3×2.5	0.7	1.1	1.9	1.0	32.7±2	1922
8×3×2.5	0.7	1.2	2.0	1.0	35.3±2	2126
9×3×2.5	0.7	1.2	2.0	1.0	37.4±2	2405
10×3×2.5	0.7	1.2	2.2	1.0	40.8±2	2525
12×3×2.5	0.7	1.2	2.2	1.0	42.0±2	2819
14×3×2.5	0.7	1.2	2.3	1.0	43.9±2	3150
15×3×2.5	0.7	1.2	2.3	1.0	45.1±2	3350
16×3×2.5	0.7	1.4	2.4	1.0	46.9±2	3591
18×3×2.5	0.7	1.4	2.5	1.0	49.2±2	3927
19×3×2.5	0.7	1.4	2.5	1.0	49.6±2	4079
20×3×2.5	0.7	1.4	2.5	1.0	50.9±2	4394
21×3×2.5	0.7	1.4	2.6	1.0	52.0±2	4589
23×3×2.5	0.7	1.4	2.7	1.0	54.1±2	4998
24×3×2.5	0.7	1.4	2.7	1.0	55.0±2	5024

NEK606 Water Blocked Offshore & Marine Cables

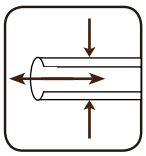
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
27×3×2.5	0.7	1.6	2.8	1.0	58.2±2	5602
30×3×2.5	0.7	1.6	2.9	1.0	60.8±2	6148
32×3×2.5	0.7	1.6	3.0	1.0	62.6±2	6526

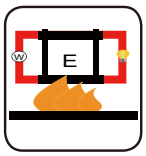
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

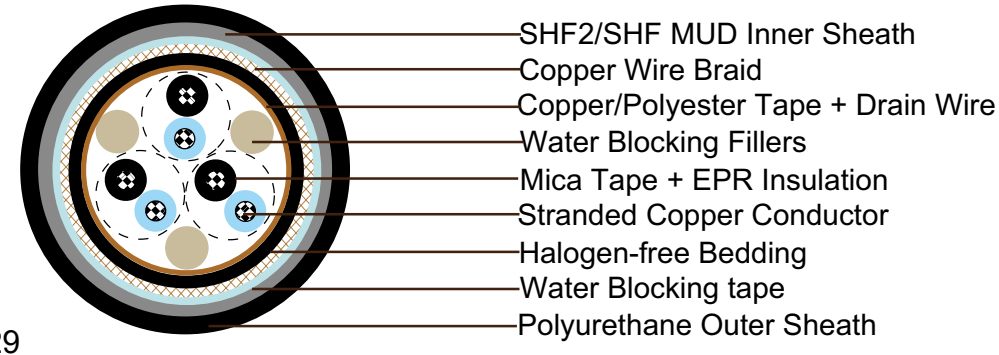
Water Blocked S4 or S4/S8 BFOU(c) 250V

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke, halogen free and mud resistant, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Filler:** Water blocking fillers, if required.
- **Collective Shielding:** Pairs/triples are layed up and collectively screened by copper backed polyester tape in contact with a stranded tinned copper drain wire. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE S4). Halogen

free MUD resistant thermosetting compound, SHF MUD (for TYPE S4/S8), coloured grey (blue for intrinsically safe).

- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5	2.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6	2.0
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9	8.02
Mutual Capacitance	nF/km	75	80	85	95
Nominal Inductance@1KHz	MH/km	0.727	0.686	0.667	0.623
Maximum L/R@1KHz	μH/Ω	20	25	35	55
Operating Voltage	V	250	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.75	0.6	1.1	1.2	1.0	14.1±2	242
2×2×0.75	0.6	1.1	1.3	1.0	18.4±2	357
3×2×0.75	0.6	1.1	1.4	1.0	19.2±2	520
4×2×0.75	0.6	1.1	1.4	1.0	20.2±2	583
5×2×0.75	0.6	1.1	1.5	1.0	21.8±2	672
6×2×0.75	0.6	1.1	1.5	1.0	23.2±2	761
7×2×0.75	0.6	1.1	1.5	1.0	23.2±2	777
8×2×0.75	0.6	1.1	1.6	1.0	25.1±2	845
9×2×0.75	0.6	1.1	1.6	1.0	26.3±2	924
10×2×0.75	0.6	1.1	1.7	1.0	27.6±2	945
12×2×0.75	0.6	1.1	1.7	1.0	28.2±2	998
14×2×0.75	0.6	1.1	1.7	1.0	29.3±2	1087
15×2×0.75	0.6	1.1	1.8	1.0	31.2±2	1187
16×2×0.75	0.6	1.1	1.8	1.0	31.7±2	1234
18×2×0.75	0.6	1.1	1.9	1.0	33.3±2	1339

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
19×2×0.75	0.6	1.1	1.9	1.0	33.6±2	1381
20×2×0.75	0.6	1.2	2.0	1.0	35.3±2	1549
21×2×0.75	0.6	1.2	2.0	1.0	36.1±2	1607
23×2×0.75	0.6	1.2	2.0	1.0	36.6±2	1717
24×2×0.75	0.6	1.2	2.1	1.0	38.8±2	1817
27×2×0.75	0.6	1.2	2.1	1.0	39.5±2	1943
30×2×0.75	0.6	1.2	2.2	1.0	40.9±2	2063
33×2×0.75	0.6	1.2	2.2	1.0	42.3±2	2263
37×2×0.75	0.6	1.2	2.3	1.0	43.7±2	2441
1×3×0.75	0.6	1.1	1.2	1.0	14.6±2	268
2×3×0.75	0.6	1.1	1.4	1.0	19.7±2	572
3×3×0.75	0.6	1.1	1.4	1.0	20.3±2	614
4×3×0.75	0.6	1.1	1.5	1.0	21.7±2	704
5×3×0.75	0.6	1.1	1.5	1.0	23.2±2	809
6×3×0.75	0.6	1.1	1.6	1.0	25.5±2	945
7×3×0.75	0.6	1.1	1.6	1.0	25.5±2	982
8×3×0.75	0.6	1.1	1.7	1.0	27.2±2	1066
9×3×0.75	0.6	1.1	1.7	1.0	28.7±2	1192
10×3×0.75	0.6	1.1	1.8	1.0	30.7±2	1197
12×3×0.75	0.6	1.1	1.8	1.0	31.6±2	1292
14×3×0.75	0.6	1.1	1.9	1.0	33.0±2	1444
15×3×0.75	0.6	1.1	1.9	1.0	33.9±2	1528
16×3×0.75	0.6	1.2	2.0	1.0	35.3±2	1622
18×3×0.75	0.6	1.2	2.0	1.0	36.8±2	1775
19×3×0.75	0.6	1.2	2.0	1.0	37.1±2	1838
20×3×0.75	0.6	1.2	2.1	1.0	38.6±2	2084
21×3×0.75	0.6	1.2	2.1	1.0	39.3±2	2158
23×3×0.75	0.6	1.2	2.2	1.0	40.8±2	2326
24×3×0.75	0.6	1.2	2.2	1.0	41.5±2	2357
27×3×0.75	0.6	1.2	2.3	1.0	43.5±2	2557
30×3×0.75	0.6	1.2	2.3	1.0	45.3±2	2777
32×3×0.75	0.6	1.4	2.4	1.0	46.9±2	2982
1×2×1.0	0.6	1.1	1.2	1.0	14.5±2	257
2×2×1.0	0.6	1.1	1.4	1.0	19.2±2	394
3×2×1.0	0.6	1.1	1.4	1.0	19.9±2	578
4×2×1.0	0.6	1.1	1.4	1.0	21.0±2	646
5×2×1.0	0.6	1.1	1.5	1.0	22.6±2	746
6×2×1.0	0.6	1.1	1.6	1.0	24.4±2	861
7×2×1.0	0.6	1.1	1.6	1.0	24.4±2	887
8×2×1.0	0.6	1.1	1.6	1.0	26.1±2	950

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
9×2×1.0	0.6	1.1	1.7	1.0	27.7±2	1045
10×2×1.0	0.6	1.1	1.7	1.0	28.8±2	1087
12×2×1.0	0.6	1.1	1.7	1.0	29.4±2	1150
14×2×1.0	0.6	1.1	1.8	1.0	30.9±2	1255
15×2×1.0	0.6	1.1	1.9	1.0	32.9±2	1370
16×2×1.0	0.6	1.1	1.9	1.0	33.4±2	1423
18×2×1.0	0.6	1.2	2.0	1.0	35.4±2	1575
19×2×1.0	0.6	1.2	2.0	1.0	35.7±2	1628
20×2×1.0	0.6	1.2	2.0	1.0	37.0±2	1769
21×2×1.0	0.6	1.2	2.1	1.0	38.5±2	1943
23×2×1.0	0.6	1.2	2.1	1.0	39.0±2	2074
24×2×1.0	0.6	1.2	2.2	1.0	40.9±2	2090
27×2×1.0	0.6	1.2	2.2	1.0	41.6±2	2242
30×2×1.0	0.6	1.2	2.2	1.0	42.9±2	2415
33×2×1.0	0.6	1.2	2.3	1.0	44.5±2	2620
37×2×1.0	0.6	1.4	2.4	1.0	46.3±2	2872
1×3×1.0	0.6	1.1	1.2	1.0	15.0±2	294
2×3×1.0	0.6	1.1	1.4	1.0	20.0±2	578
3×3×1.0	0.6	1.1	1.4	1.0	20.7±2	630
4×3×1.0	0.6	1.1	1.5	1.0	22.0±2	725
5×3×1.0	0.6	1.1	1.6	1.0	24.4±2	924
6×3×1.0	0.6	1.1	1.6	1.0	26.6±2	1071
7×3×1.0	0.6	1.1	1.6	1.0	26.6±2	1113
8×3×1.0	0.6	1.1	1.7	1.0	28.4±2	1208
9×3×1.0	0.6	1.1	1.8	1.0	30.2±2	1370
10×3×1.0	0.6	1.1	1.8	1.0	32.2±2	1355
12×3×1.0	0.6	1.1	1.9	1.0	33.3±2	1507
14×3×1.0	0.6	1.2	1.9	1.0	34.9±2	1685
15×3×1.0	0.6	1.2	2.0	1.0	36.0±2	1806
16×3×1.0	0.6	1.2	2.0	1.0	37.0±2	1853
18×3×1.0	0.6	1.2	2.1	1.0	39.2±2	2153
19×3×1.0	0.6	1.2	2.1	1.0	39.5±2	2226
20×3×1.0	0.6	1.2	2.2	1.0	40.7±2	2415
21×3×1.0	0.6	1.2	2.2	1.0	41.4±2	2499
23×3×1.0	0.6	1.2	2.2	1.0	42.8±2	2641
24×3×1.0	0.6	1.2	2.3	1.0	43.7±2	2704
27×3×1.0	0.6	1.2	2.3	1.0	45.7±2	2956
30×3×1.0	0.6	1.4	2.4	1.0	48.1±2	3281
32×3×1.0	0.6	1.4	2.5	1.0	49.5±2	3476
1×2×1.5	0.7	1.1	1.3	1.0	16.3±2	352

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2×2×1.5	0.7	1.1	1.5	1.0	22.5±2	777
3×2×1.5	0.7	1.1	1.5	1.0	23.2±2	845
4×2×1.5	0.7	1.1	1.6	1.0	24.9±2	992
5×2×1.5	0.7	1.1	1.6	1.0	26.8±2	1150
6×2×1.5	0.7	1.1	1.8	1.0	29.8±2	1365
7×2×1.5	0.7	1.1	1.8	1.0	29.8±2	1423
8×2×1.5	0.7	1.1	1.8	1.0	31.6±2	1528
9×2×1.5	0.7	1.1	1.9	1.0	33.7±2	1743
10×2×1.5	0.7	1.1	2.0	1.0	36.4±2	1764
12×2×1.5	0.7	1.1	2.0	1.0	37.5±2	1948
14×2×1.5	0.7	1.2	2.1	1.0	39.6±2	2258
15×2×1.5	0.7	1.2	2.2	1.0	40.9±2	2415
16×2×1.5	0.7	1.2	2.2	1.0	42.0±2	2536
18×2×1.5	0.7	1.2	2.3	1.0	44.0±2	2762
19×2×1.5	0.7	1.2	2.3	1.0	44.4±2	2861
20×2×1.5	0.7	1.2	2.3	1.0	45.5±2	3087
21×2×1.5	0.7	1.2	2.4	1.0	46.9±2	3266
23×2×1.5	0.7	1.2	2.5	1.0	48.7±2	3570
24×2×1.5	0.7	1.2	2.5	1.0	49.5±2	3528
27×2×1.5	0.7	1.4	2.6	1.0	52.0±2	3896
30×2×1.5	0.7	1.4	2.7	1.0	54.3±2	4263
32×2×1.5	0.7	1.4	2.7	1.0	55.8±2	4499
33×2×1.5	0.7	1.4	2.5	1.0	50.5±2	3407
37×2×1.5	0.7	1.4	2.6	1.0	52.2±2	3691
1×3×1.5	0.7	1.1	1.3	1.0	16.3±2	352
2×3×1.5	0.7	1.1	1.5	1.0	22.5±2	777
3×3×1.5	0.7	1.1	1.5	1.0	23.2±2	845
4×3×1.5	0.7	1.1	1.6	1.0	24.9±2	992
5×3×1.5	0.7	1.1	1.6	1.0	26.8±2	1150
6×3×1.5	0.7	1.1	1.8	1.0	29.8±2	1365
7×3×1.5	0.7	1.1	1.8	1.0	29.8±2	1423
8×3×1.5	0.7	1.1	1.8	1.0	31.6±2	1528
9×3×1.5	0.7	1.1	1.9	1.0	33.7±2	1743
10×3×1.5	0.7	1.2	2.0	1.0	36.4±2	1764
12×3×1.5	0.7	1.2	2.0	1.0	37.5±2	1948
14×3×1.5	0.7	1.2	2.1	1.0	39.6±2	2258
15×3×1.5	0.7	1.2	2.2	1.0	40.9±2	2415
16×3×1.5	0.7	1.2	2.2	1.0	42.0±2	2525
18×3×1.5	0.7	1.2	2.3	1.0	44.0±2	2762
19×3×1.5	0.7	1.2	2.3	1.0	44.4±2	2846

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
20×3×1.5	0.7	1.2	2.3	1.0	45.5±2	3087
21×3×1.5	0.7	1.4	2.4	1.0	46.9±2	3266
23×3×1.5	0.7	1.4	2.5	1.0	48.7±2	3570
24×3×1.5	0.7	1.4	2.5	1.0	49.5±2	3602
27×3×1.5	0.7	1.4	2.6	1.0	52.0±2	3896
30×3×1.5	0.7	1.4	2.7	1.0	54.3±2	4263
32×3×1.5	0.7	1.4	2.7	1.0	55.8±2	4499
1×2×2.5	0.7	1.1	1.3	1.0	16.5±2	352
2×2×2.5	0.7	1.1	1.5	1.0	22.4±2	777
3×2×2.5	0.7	1.1	1.5	1.0	23.3±2	840
4×2×2.5	0.7	1.1	1.6	1.0	24.8±2	977
5×2×2.5	0.7	1.1	1.6	1.0	26.7±2	1129
6×2×2.5	0.7	1.1	1.7	1.0	28.9±2	1307
7×2×2.5	0.7	1.1	1.7	1.0	28.9±2	1355
8×2×2.5	0.7	1.1	1.8	1.0	31.3±2	1475
9×2×2.5	0.7	1.1	1.9	1.0	33.3±2	1664
10×2×2.5	0.7	1.2	2.0	1.0	35.2±2	1685
12×2×2.5	0.7	1.2	2.0	1.0	36.0±2	1832
14×2×2.5	0.7	1.2	2.0	1.0	37.6±2	2016
15×2×2.5	0.7	1.2	2.2	1.0	40.8±2	2315
16×2×2.5	0.7	1.2	2.2	1.0	41.4±2	2342
18×2×2.5	0.7	1.2	2.3	1.0	43.5±2	2625
19×2×2.5	0.7	1.2	2.3	1.0	43.9±2	2720
20×2×2.5	0.7	1.2	2.3	1.0	45.5±2	2956
21×2×2.5	0.7	1.4	2.4	1.0	47.2±2	3140
23×2×2.5	0.7	1.4	2.4	1.0	47.8±2	3376
24×2×2.5	0.7	1.4	2.5	1.0	50.2±2	3434
27×2×2.5	0.7	1.4	2.6	1.0	51.4±2	3691
30×2×2.5	0.7	1.4	2.6	1.0	53.0±2	4001
33×2×2.5	0.7	1.4	2.7	1.0	55.1±2	4352
37×2×2.5	0.7	1.4	2.8	1.0	56.9±2	4725
1×3×2.5	0.7	1.1	1.3	1.0	17.1±2	404
2×3×2.5	0.7	1.1	1.5	1.0	24.0±2	924
3×3×2.5	0.7	1.1	1.6	1.0	25.0±2	1040
4×3×2.5	0.7	1.1	1.6	1.0	26.6±2	1208
5×3×2.5	0.7	1.1	1.7	1.0	28.9±2	1418
6×3×2.5	0.7	1.1	1.8	1.0	32.0±2	1675
7×3×2.5	0.7	1.1	1.8	1.0	32.0±2	1754
8×3×2.5	0.7	1.1	1.9	1.0	34.2±2	1911
9×3×2.5	0.7	1.2	2.0	1.0	36.8±2	2210

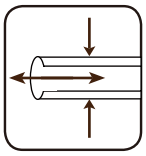
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
10×3×2.5	0.7	1.2	2.1	1.0	39.9±2	2300
12×3×2.5	0.7	1.2	2.2	1.0	41.2±2	2578
14×3×2.5	0.7	1.2	2.2	1.0	42.9±2	2851
15×3×2.5	0.7	1.2	2.3	1.0	44.3±2	3050
16×3×2.5	0.7	1.2	2.3	1.0	45.5±2	3213
18×3×2.5	0.7	1.4	2.4	1.0	48.1±2	3549
19×3×2.5	0.7	1.4	2.5	1.0	48.7±2	3707
20×3×2.5	0.7	1.4	2.5	1.0	49.9±2	3990
21×3×2.5	0.7	1.4	2.5	1.0	50.9±2	4148
23×3×2.5	0.7	1.4	2.6	1.0	52.9±2	4505
24×3×2.5	0.7	1.4	2.6	1.0	53.8±2	4541
27×3×2.5	0.7	1.4	2.7	1.0	56.5±2	4982
30×3×2.5	0.7	1.6	2.9	1.0	59.7±2	5565
32×3×2.5	0.7	1.6	2.9	1.0	61.3±2	5875

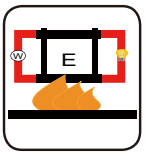
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

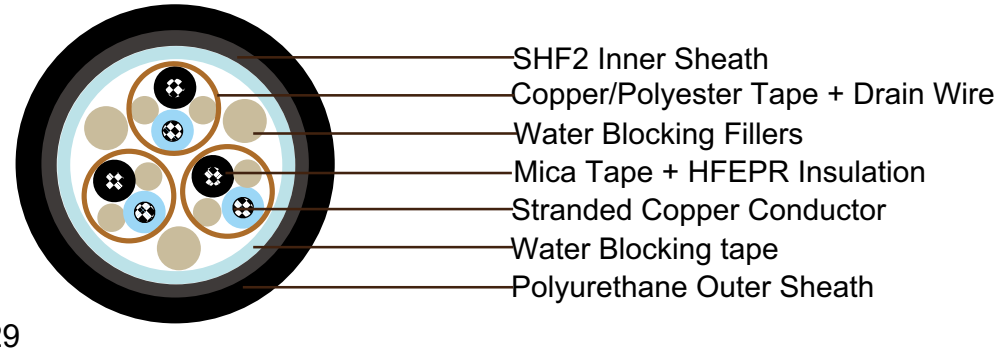
Water Blocked S13 BU(i) 250 V

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke and halogen free, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Filler:** Water blocking fillers, if required.
- **Individual Shielding:** Each pairs/triples are screened by copper backed polyester tape in contact with a stranded tinned copper drain wire and wrapped with polyester tape. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Filler:** Water blocking fillers, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2, coloured grey (blue for intrinsically safe).
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5	2.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6	2.0
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9	8.02
Mutual Capacitance	nF/km	85	95	100	110
Nominal Inductance@1KHz	MH/km	0.731	0.691	0.673	0.629
Maximum L/R@1KHz	μH/Ω	20	25	35	55
Operating Voltage	V	250	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.75	0.6	1.0	1.0	10.2±2	110
2×2×0.75	0.6	1.2	1.0	12.5±2	215
4×2×0.75	0.6	1.2	1.0	15.2±2	305
7×2×0.75	0.6	1.4	1.0	18.0±2	467
8×2×0.75	0.6	1.4	1.0	19.3±2	520
12×2×0.75	0.6	1.6	1.0	23.1±2	740
16×2×0.75	0.6	1.7	1.0	25.5±2	961
19×2×0.75	0.6	1.8	1.0	26.8±2	1087
24×2×0.75	0.6	1.9	1.0	30.6±2	1386
32×2×0.75	0.6	2.0	1.0	33.7±2	1754
1×3×0.75	0.6	1.0	1.0	10.6±2	126
2×3×0.75	0.6	1.2	1.0	14.0±2	215
3×3×0.75	0.6	1.2	1.0	15.8±2	315
4×3×0.75	0.6	1.3	1.0	17.1±2	383
7×3×0.75	0.6	1.5	1.0	20.3±2	588
8×3×0.75	0.6	1.5	1.0	21.5±2	683
12×3×0.75	0.6	1.7	1.0	26.4±2	961
16×3×0.75	0.6	1.8	1.0	29.3±2	1244

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
19×3×0.75	0.6	1.9	1.0	31.0±2	1428
24×3×0.75	0.6	2.1	1.0	35.7±2	1838
1×2×1.0	0.6	1.0	1.0	10.6±2	131
2×2×1.0	0.6	1.2	1.0	13.1±2	252
4×2×1.0	0.6	1.3	1.0	16.0±2	362
7×2×1.0	0.6	1.5	1.0	18.9±2	551
8×2×1.0	0.6	1.5	1.0	20.5±2	630
12×2×1.0	0.6	1.6	1.0	24.3±2	882
16×2×1.0	0.6	1.6	1.0	26.9±2	1150
19×2×1.0	0.6	1.8	1.0	28.5±2	1318
24×2×1.0	0.6	1.9	1.0	32.5±2	1685
32×2×1.0	0.6	2.0	1.0	35.8±2	2132
1×3×1.0	0.6	1.0	1.0	11.1±2	147
3×3×1.0	0.6	1.3	1.0	16.7±2	378
4×3×1.0	0.6	1.3	1.0	18.1±2	462
7×3×1.0	0.6	1.6	1.0	21.7±2	730
12×3×1.0	0.6	1.7	1.0	28.0±2	1171
16×3×1.0	0.6	1.8	1.0	31.2±2	1528
19×3×1.0	0.6	1.9	1.0	33.0±2	1759
24×3×1.0	0.6	2.1	1.0	38.1±2	2252
1×2×1.5	0.7	1.0	1.0	11.6±2	163
2×2×1.5	0.7	1.3	1.0	14.6±2	326
4×2×1.5	0.7	1.4	1.0	18.1±2	473
7×2×1.5	0.7	1.6	1.0	21.4±2	725
8×2×1.5	0.7	1.6	1.0	23.3±2	819
12×2×1.5	0.7	1.7	1.0	27.7±2	1155
16×2×1.5	0.7	1.9	1.0	30.9±2	1523
19×2×1.5	0.7	2.0	1.0	32.5±2	1727
24×2×1.5	0.7	2.2	1.0	37.3±2	2221
32×2×1.5	0.7	2.3	1.0	41.1±2	2814
1×3×1.5	0.7	1.1	1.0	12.1±2	184
2×3×1.5	0.7	1.3	1.0	16.5±2	336
3×3×1.5	0.7	1.3	1.0	18.8±2	494
4×3×1.5	0.7	1.4	1.0	20.4±2	609
7×3×1.5	0.7	1.7	1.0	24.6±2	956
8×3×1.5	0.7	1.7	1.0	25.5±2	1082
12×3×1.5	0.7	1.9	1.0	32.0±2	1549
16×3×1.5	0.7	2.0	1.0	35.6±2	2021
19×3×1.5	0.7	2.1	1.0	37.7±2	2321

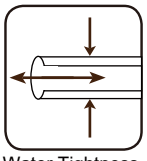
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
24×3×1.5	0.7	2.4	1.0	43.7±2	2998
1×2×2.5	0.7	1.1	1.0	12.5±2	200
1×3×2.5	0.7	1.3	1.0	13.0±2	231

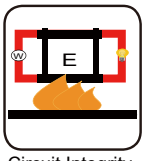
Standard

Standard

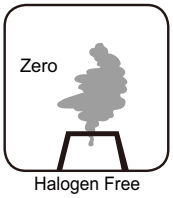
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

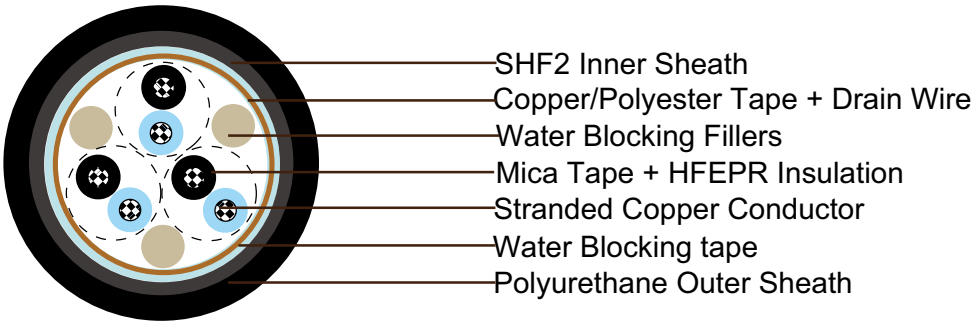
Water Blocked S14 BU(c) 250 V

Applications

These unarmoured cables are partially water blocked, fire resistant, flame retardant, low smoke and halogen free, used for instrumentation, communication, control and alarm systems.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Collective Shielding:** Pairs/triples are layed up and collectively screened by copper backed polyester tape in contact with a stranded tinned copper drain wire. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Filler:** Water blocking fillers, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2, coloured grey (blue for intrinsically safe).
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	0.75	1.0	1.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6
Maximum Resistant@20˚C	Ω/km	26.3	19.3	12.9
Mutual Capacitance	nF/km	75	80	85
Nominal Inductance@1KHz	MH/km	0.727	0.686	0.667
Maximum L/R@1KHz	μH/Ω	20	25	35
Operating Voltage	V	250	250	250

Mechanical and Thermal Properties

- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2×2×0.75	0.6	1.1	1.0	12.2±2	194
4×2×0.75	0.6	1.2	1.0	14.5±2	252
7×2×0.75	0.6	1.4	1.0	17.0±2	368
8×2×0.75	0.6	1.4	1.0	18.3±2	415
12×2×0.75	0.6	1.5	1.0	21.5±2	567
16×2×0.75	0.6	1.6	1.0	23.8±2	725
19×2×0.75	0.6	1.7	1.0	25.2±2	819
24×2×0.75	0.6	1.8	1.0	28.7±2	1034
32×2×0.75	0.6	2.1	1.0	31.6±2	1286
2×3×0.75	0.6	1.2	1.0	14.0±2	215
3×3×0.75	0.6	1.2	1.0	15.1±2	278
4×3×0.75	0.6	1.3	1.0	16.4±2	336
7×3×0.75	0.6	1.3	1.0	19.4±2	499
8×3×0.75	0.6	1.5	1.0	21.5±2	620
12×3×0.75	0.6	1.6	1.0	24.9±2	782
16×3×0.75	0.6	1.7	1.0	27.6±2	1013
19×3×0.75	0.6	1.8	1.0	29.2±2	1150
24×3×0.75	0.6	2.0	1.0	33.6±2	1475
2×2×1.0	0.6	1.1	1.0	12.7±2	221
4×2×1.0	0.6	1.1	1.0	15.3±2	299
7×2×1.0	0.6	1.4	1.0	18.0±2	436
8×2×1.0	0.6	1.4	1.0	19.3±2	488

NEK606 Water Blocked Offshore & Marine Cables

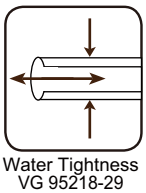
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
12×2×1.0	0.6	1.6	1.0	22.8±2	677
16×2×1.0	0.6	1.7	1.0	25.3±2	866
19×2×1.0	0.6	1.8	1.0	26.7±2	987
24×2×1.0	0.6	1.9	1.0	30.8±2	1260
32×2×1.0	0.6	2.3	1.0	33.8±2	1570
3×3×1.0	0.6	1.2	1.0	16.0±2	326
4×3×1.0	0.6	1.4	1.0	17.3±2	399
7×3×1.0	0.6	1.6	1.0	20.6±2	599
12×3×1.0	0.6	1.6	1.0	26.4±2	945
16×3×1.0	0.6	1.7	1.0	29.3±2	1218
19×3×1.0	0.6	1.9	1.0	31.0±2	1391
24×3×1.0	0.6	2.1	1.0	35.7±2	1785
2×2×1.5	0.7	1.2	1.0	14.1±2	289
4×2×1.5	0.7	1.3	1.0	17.2±2	399
7×2×1.5	0.7	1.5	1.0	20.4±2	593
8×2×1.5	0.7	1.5	1.0	22.0±2	672
12×2×1.5	0.7	1.7	1.0	26.3±2	940
16×2×1.5	0.7	1.8	1.0	29.2±2	1208
19×2×1.5	0.7	1.9	1.0	30.6±2	1360
24×2×1.5	0.7	2.1	1.0	35.5±2	1754
32×2×1.5	0.7	2.3	1.0	39.0±2	2200
2×3×1.5	0.7	1.3	1.0	17.0±2	326
3×3×1.5	0.7	1.3	1.0	18.0±2	441
4×3×1.5	0.7	1.4	1.0	19.7±2	541
7×3×1.5	0.7	1.6	1.0	23.5±2	824
8×3×1.5	0.7	1.6	1.0	25.5±2	977
12×3×1.5	0.7	1.8	1.0	30.5±2	1318
16×3×1.5	0.7	1.9	1.0	33.9±2	1712
19×3×1.5	0.7	2.0	1.0	35.8±2	1948
24×3×1.5	0.7	2.2	1.0	41.3±2	2494

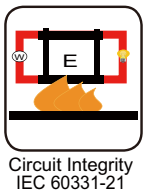
Standard

Standard

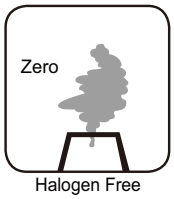
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

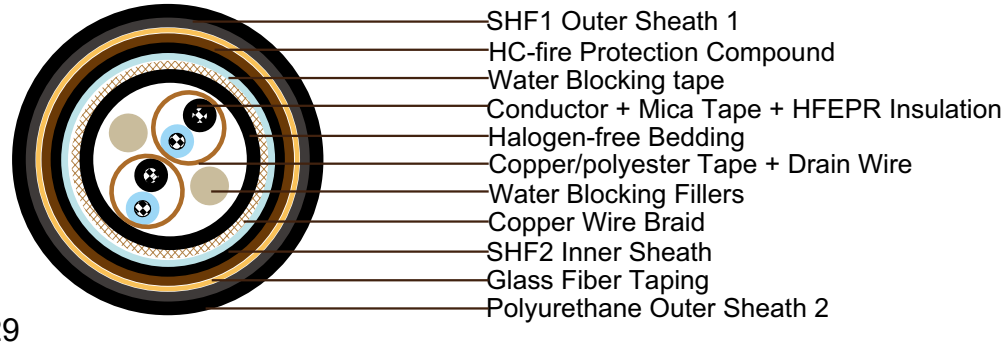
Water Blocked S15 BFOU-HCF(i) 250 V

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke and halogen free, used for emergency instrumentation, communication, control and alarm systems that need to be operational during a 1100˚C hydrocarbon fire.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Individual Shielding:** Each pairs/triples are screened by copper backed polyester tape in contact with a stranded tinned copper drain wire and wrapped with polyester tape. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen free thermosetting compound, SHF2.

- **HC-fire protection:** Extruded thermoplastic fire protection compound.
- **Taping:** Lapped glass fibre tape.
- **Outer Sheath 1:** Flame retardant halogen-free thermoplastic compound, type SHF1, coloured grey (blue for intrinsically safe).
- **Outer Sheath 2:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	1.5
Nominal Conductor Diameter	mm	1.6
Maximum Resistant@20˚C	Ω/km	12.9
Mutual Capacitance	nF/km	100
Nominal Inductance@1KHz	MH/km	0.673
Operating Voltage	V	250

Mechanical and Thermal Properties

- **Bending Radius:** 20×OD (during installation); 12×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

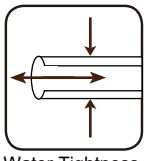
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Diameter Over Bedding mm	Nominal Diameter Over Inner Sheath mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×1.5	0.7	9.0	13.1	41.5±2	1974
2×2×1.5	0.7	13.0	16.8	46.5±2	2573
4×2×1.5	0.7	15.0	20.7	49.5±2	2972
8×2×1.5	0.7	21.0	26.4	56.0±2	3875
12×2×1.5	0.7	25.0	31.2	65.0±2	5460

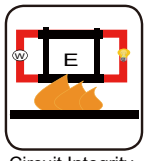
Standard

Standard

Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

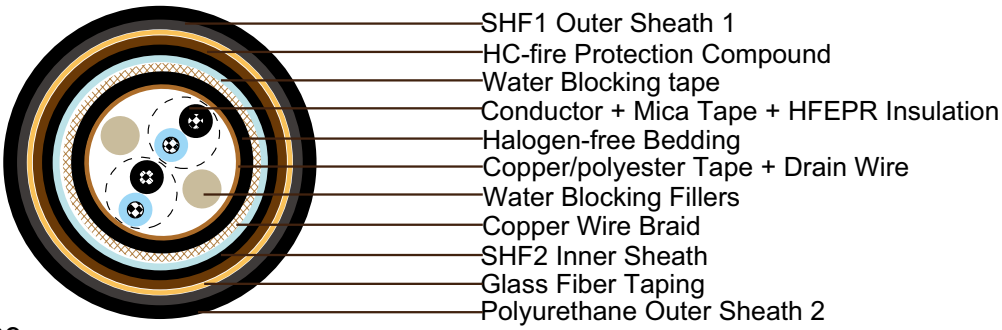
Water Blocked S16 BFOU-HCF(c) 250 V

Applications

These cables are partially water blocked, fire resistant, flame retardant, low smoke and halogen free, used for emergency instrumentation, communication, control and alarm systems that need to be operational during a 1100˚C hydrocarbon fire.

Standards

- IEC 60092-376
- IEC 60092-360
- IEC 60331-21
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Circular tinned stranded copper wire to IEC 60228 class 2.
- **Insulation:** Mica tape + Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Collective Shielding:** Pairs/triples are layed up and collectively screened by copper backed polyester tape in contact with a stranded tinned copper drain wire. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Filler:** Water blocking fillers, if required.
- **Bedding:** Halogen free compound, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.

- **Inner Sheath:** Halogen free thermosetting compound, SHF2.
- **HC-fire protection:** Extruded thermoplastic fire protection compound.
- **Taping:** Lapped glass fibre tape.
- **Outer Sheath 1:** Flame retardant halogen-free thermoplastic compound, type SHF1, coloured grey (blue for intrinsically safe).
- **Outer Sheath 2**: Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Cross Section Area	mm²	1.5
Nominal Conductor Diameter	mm	1.6
Maximum Resistant@20˚C	Ω/km	12.9
Mutual Capacitance	nF/km	85
Nominal Inductance@1KHz	MH/km	0.667
Operating Voltage	V	250

Mechanical and Thermal Properties

- **Bending Radius:** 20×OD (during installation); 12×OD (fixed installed)
- **Temperature Range:** -20˚C ~ +90˚C

Dimensions and Weight

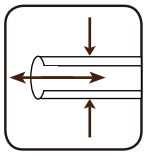
Construction No. of elements×No. of cores in element×Cross section(mm²)	Nominal Insulation Thickness mm	Nominal Diameter Over Bedding mm	Nominal Diameter Over Inner Sheath mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2×2×1.5	0.7	13.0	16.4	46.5±2	2520
4×2×1.5	0.7	15.0	19.9	48.5±2	2783
8×2×1.5	0.7	20.5	25.3	55.0±2	3749
12×2×1.5	0.7	23.5	29.6	59.0±2	4368

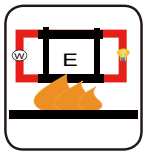
Standard

Standard

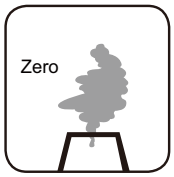
Standard

Standard


Water Tightness
VG 95218-29



Circuit Integrity
IEC 60331-21



Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

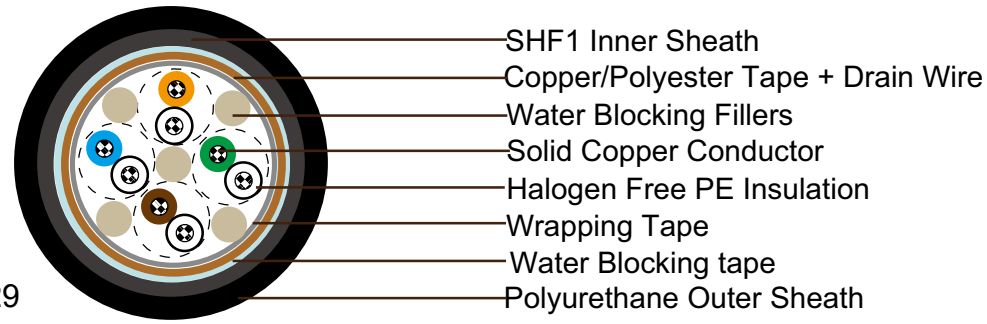
Water Blocked S9 IYXI(c) 60 V

Applications

These cables are partially water blocked, flame retardant, low smoke and halogen free, used for indoor telecommunication.

Standards

- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Solid tinned copper, 0.5mm.
- **Insulation:** Halogen-free thermoplastic compound PE.
- **Twinning:** Colour coded cores twisted together. Pairs are cross-stranded to finished cable or 10 pair units. The units are stranded to 20 - 30 - 50 pair cables. 2 pair is stranded as a star quad.
- **Filler:** Water blocking fillers, if required.
- **Wrapping:** Polyester tape.
- **Collective Shielding:** The cable core is screened by copper backed polyester tape in contact with a 0.5mm solid tinned drain wire.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner sheath:** Halogen-free thermoplastic compound, type SHF1, coloured grey.
- **Outer Sheath:** Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Conductor Diameter	mm	0.5
Maximum Resistant@20˚C	Ω/km	95
Nominal Inductance@1KHz	MH/km	0.61
Mutual Capacitance 1-pair cable	nF/km	90
Mutual Capacitance 2-pair cable	nF/km	80
Mutual Capacitance 4-pair and above cable	nF/km	70
Operating Voltage	V	60

Mechanical and Thermal Properties

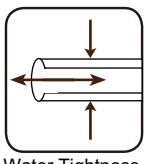
- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -10˚C ~ +60˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Core diameter(mm)	Nominal Insulation Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.5	0.2	1.2	1.0	7.0±2	32
2×2×0.5	0.2	1.2	1.0	7.5±2	37
4×2×0.5	0.2	1.2	1.0	9.0±2	58
10×2×0.5	0.2	1.5	1.0	10.5±2	95
20×2×0.5	0.2	1.5	1.0	13.0±2	155
30×2×0.5	0.2	1.5	1.0	15.5±2	221
50×2×0.5	0.2	1.5	1.0	18.0±2	336

Standard

Standard


Water Tightness
VG 95218-29


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2

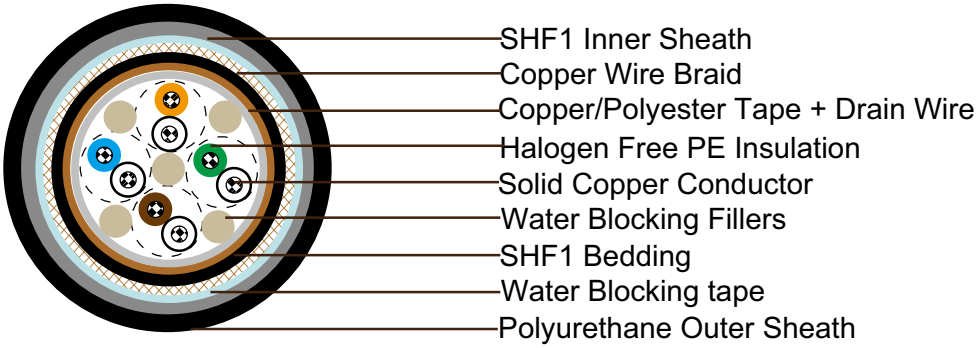
Water Blocked S10 IYOI(c) 60 V

Applications

These cables are partially water blocked, flame retardant, low smoke and halogen free, used for indoor telecommunication.

Standards

- IEC 60092-360
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606
- VG 95218 part 29



Construction

- **Conductors:** Solid tinned copper, 0.5mm.
- **Insulation:** Halogen-free thermoplastic compound PE.
- **Twinning:** Colour coded cores twisted together. Pairs are cross-stranded to finished cable or 10 pair units. The units are stranded to 20 - 30 - 50 pair cables. 2 pair is stranded as a star quad.
- **Filler:** Water blocking fillers, if required.
- **Wrapping:** Polyester tape.
- **Collective Shielding:** The cable core is screened by copper backed polyester tape in contact with a 0.5mm solid tinned drain wire.
- **Bedding:** Halogen-free thermoplastic compound, type SHF1, coloured grey, PETP wrapping tape will be applied over the bedding, if required.
- **Armour:** Tinned copper wire braid, PETP wrapping tape will be applied over the braiding, if required.
- **Water Blocking Elements:** Water blocking tape and strings for providing longitudinal water tightness.
- **Inner Sheath:** Halogen-free thermoplastic compound, type SHF1, coloured grey.
- **Outer Sheath**: Polyurethane for providing transversal water tightness, PE is optional,but can not meet low smoke standard.

Electrical Characteristics

Nominal Conductor Diameter	mm	0.5
Maximum Resistant@20˚C	Ω/km	95
Nominal Inductance@1KHz	MH/km	0.61
Mutual Capacitance 1-pair cable	nF/km	90
Mutual Capacitance 2-pair cable	nF/km	80
Mutual Capacitance 4-pair and above cable	nF/km	70
Operating Voltage	V	60

Mechanical and Thermal Properties

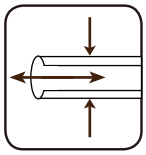
- **Bending Radius:** 8×OD (during installation); 6×OD (fixed installed)
- **Temperature Range:** -10˚C ~ +60˚C

Dimensions and Weight

Construction No. of elements×No. of cores in element×Core diameter(mm)	Nominal Insulation Thickness mm	Nominal Bedding Thickness mm	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
1×2×0.5	0.2	1.2	1.2	1.0	10.0±2.0	100
2×2×0.5	0.2	1.2	1.2	1.0	11.0±2.0	116
4×2×0.5	0.2	1.2	1.2	1.0	12.0±2.0	152
10×2×0.5	0.2	1.5	1.5	1.0	14.0±2.0	210
20×2×0.5	0.2	1.5	1.5	1.0	17.0±2.0	347
30×2×0.5	0.2	1.5	1.5	1.0	19.0±2.0	452
50×2×0.5	0.2	1.5	1.5	1.0	22.0±2.0	609

Standard

Standard


Water Tightness
VG 95218-29


Flame Retardancy
IEC60332-1


Reduced Fire Propagation
IEC60332-3-22

Halogen Free
IEC60754-1


Low Corrosivity
IEC60754-2


Low Smoke Emission
IEC 61034-1&2

Cable Code Designation

A cable code of 2 letters (1. and 4.) or 4 letters is used to describe the construction.
For example:

1st Letter:
Insulation:
B: Fire resistant tape + insulation (Halogen-free)
R: Ethylene propylene rubber - EPR
T: Cross-linked polyethylene XLPE
I: Thermoplastic compound (Halogen-free)
U: Halogen-free thermosetting compound EMA or EVA
A: Fibre, tight buffered
Q: Fibre in loose tube

2nd letter:
Inner Sheath:
F: Bedding/Inner covering or taping (Halogen-free)
Y: Screen (poss. with PE or PP)
I: Thermoplastic compound (Halogen-free) SHF1

3rd letter:
Armour/Screen:
L: Aluminium (laminated to outer sheath)
X: No armour
O: Copper wire braid (Tinned or bare)
A: Strength member of yarn
C: Galvanized steel wire braid

4rd letter:
Outer Sheath:
I: Thermoplastic compound (Halogen-free), SHF1
U: Halogen-free thermosetting compound, SHF2
U: Halogen-free mud resistant thermosetting compound, SHF Mud
B*: Halogen-free mud resistant thermoplastic compound
*QFCB cables only

Additional Abbreviation for Instrumentation Cables:
(c): Collective screen
(i): Individual pair or triple screen

RFOU(i)

Standards and Tests

NEK 606-2004	Cables for Offshore Installations halogen-free and/or mud resistant
VG 95218 part 29	defines two different types of outboard cables LWDC These cables are transversally water blocked up to a pressure of 100 bars and longitudinally completely water blocked up to a pressure of 63 bars. PLWDC These cables are transversally water blocked up to a pressure of 100 bars and longitudinally partially water blocked (all wires are not water blocked) up to a pressure of 63 bars.
IEC 60092-350	Electrical installations in ships Part 350: Low-voltage shipboard power cables. (General construction and test requirements)
IEC 60092-351	Electrical installations in ships Part 351: Insulating materials for shipboard power cables
IEC 60092-352	Electrical installations in ships Part 352: Choice and installation of electric cables for low voltage power systems
IEC 60092-353	Electrical installations in ships Part 353: Single and multicore cables with extruded solid insulation for rated voltages 0,6/1 and 1,8/3 kV
IEC 60092-354	Electrical installations in ships Part 354: Single and three-core power cables with extruded solid insulation for rated voltages 6 kV up to 30 kV.
IEC 60092-360	Electrical installations in ships Part 359: Sheathing materials for shipboard power and telecommunication cables
IEC 60092-375	Electrical installations in ships Part 375: General instrumentation, control and communication cables
IEC 60092-376	Electrical installations in ships Part 376: 150/250 V cables for Control and instrumentation Circuits

IEC 60228	Conductors of insulated cables
IEC 60331-11/12/21/25/31	Fire resisting characteristics of electrical cables
IEC 60332-1/3	Tests on electric cables under fire condition. Part 1: Tests on a single vertical insulated wire or cable. Part 3: Test on bunched wires or cables.
IEC 60446	Basic and safety principles for man-machine interface, marking and identification. Identification of conductors by colours or alphanumerics
IEC 60754-1/2	Test on gases evolved during combustion of electric cables
IEC 60811	Common test methods for insulating and sheathing materials of electric cables
IEC 61034-1/2	Measurement of smoke density of electric cables burning under defined conditions. Part 1: Test apparatus Part 2: Test procedure and requirements

Cable Characteristics

Mud Resistant

The suitability of sheathing materials for use in areas in which the cables are exposed to drilling fluids is heavily dependent upon the type of fluid present. Each type of fluid contains additives which can have a deleterious effect on the sheathing material.

According to NEK 606, the mud resistant cables shall have a SHF Mud sheath that comply with the requirements in IEC 60092-360 for SHF2 and the below specified. The mud resistant cables shall be designed with sheathing compounds suitable for installation and operation in contact with MUD unless otherwise specified.

The MUD resistance test requirements for sheathing compounds SHF Mud are as follows:

Test fluid	Temperature	Duration	Tensile Strength & Elongation At Break Variation	Volume Swell Variation	Weight Increase Variation
Mineral oil type - IRM 903	100˚C	7 d	30%	30%	30%
Calcium Bromide Brine (Waterbased)	70˚C	56 d	25%	20%	15%
Carbo Sea (oil based)	70˚C	56 d	25%	20%	15%

Oil Resistance

All thermoset sheathed cables shall be suitable for an oil production installation. The oil resistance properties shall be demonstrated by a test according to IEC 60092-360 SHF2.

Flame Retardance

The cables shall withstand the test specified in IEC 60332-3-10, -22, -23, -24, -25. Single, earth and bonding wires shall withstand the test specified in IEC 60332-1 or IEC 60332-2.

Fire Resistance

Fire resistance cables shall be tested according to IEC 60331-11, -12, -21, -25 and -31.

Hydrocarbon (HCF) Fire Resistant

The purchaser shall specify which of the curves below in Figure 1 or 2 to comply with the HCF test.

The test requires no breakdown for 30 or 60 minutes when connected to operating voltage. Time to breakdown to be considered in agreement with the customer or approval authority.

Content of Halogen

All cables shall be halogen-free according to IEC 60754-1/2.

Smoke Emission

During a cable fire smoke emission shall be kept to a minimum value of 60% according to IEC 61034-1/2.

Electrical Data

Conductor Resistance

Resistance formula:

$$R = t\frac{L}{A} \qquad [\Omega]$$

p = specific resistance, Ω.mm²/m
A = conductor area, mm²
L = conductor length, m

Resistance as a function of temperature:

$$R = R_0[1 + a](t - 20)$$

R_0= Resistance at t=20˚C
t = conductor temperature ˚C
α= 0.00393 for copper

Short circuit ratings

The following short circuit currents are for cables normally operating at a maximum conductor temperature of 90°C.

The theoretical temperature that arises in the conductor during a short circuit, which is used as a basis of the calculation, is 250˚C. EPR and XLPE insulation are capable of withstanding short term temperatures up to 250°C.

The short circuit currents for copper conductors given in the table are values for one second,for other durations the current may be calculated from the following formula:

$$I = I/\sqrt{t}$$

I_t=short ciricut current for t sec.(Amp)
I=short circuit current for one sec.(Amp)
t=short circuit duration(sec.)

The duration of the short circuit based on these assumptions should be between 0.2 sec. and 5 sec.

Conductor area mm²	Current 1 second amperes	Conductor area mm²	Current 1 second amperes	Conductor area mm²	Current 1 second amperes	Conductor area mm²	Current 1 second amperes
1.0	140	10	1400	70	9800	240	33600
1.5	210	16	2240	95	13300	300	42000
2.5	350	25	3500	120	16800	400	56000
4	560	35	4900	150	21000	500	70000
6	840	50	7000	185	25900	630	88200

Reactance

The reactance of a cable operating in an AC system depends on many factors, including, in particular, the axial spacing between conductors and the proximity and magnetic properties of adjacent steelwork. The former is known for multicore cable, but may vary for single core cables depending upon the spacing between them and their disposition when installed.

Reactance of cables in certain dispositions remote from steelwork is calculable and is shown. The values are for cables with circular conductors.

The value for a sector-shaped conductor should be taken as 90% of the calculated value. Induction for 2-, 3- and 4- conductor cables is given by the formula:

$$L = 0.2 \# \ln \frac{2a}{d} k + 0.25 \quad D \# 10^{-6} \qquad [H/m]$$

a = Axial space between conductors in mm.
d = conductor diameter in mm.

Reactance for 2-, 3- and 4-conductor cables is given by the formula:

$$X = 2 r f L l \qquad [\Omega]$$

f = frequency in Hz
L = Induction in H/m
l = Conductor length in m

Impedance

Induction for 2-, 3- and 4- conductor cables is given by the formula:

$$Z = \sqrt[3]{\hat{R}^2 + X^2 h} \qquad [\Omega]$$

R = Resistance at operating temprature in Ω
X = Reactance in Ω

Core Identification

The identification of insulated conductors (cores) for the 250 V cables

Cable element	Colour of cores		
Pair	Black	Light blue	
Triple	Black	Light blue	Brown
Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors			

The identification of insulated conductors (cores) for the 0.6/1 kV cables according to NEK standard

No. of cores	Colour of cores			
Single core	Off-white(grey)			
Two cores	Off-white(grey)	Black		
Three cores	Off-white(grey)	Black	Red	
Four cores	Off-white(grey)	Black	Red	Blue
above 4 cores	black numbers on white base			
earthing core	yellow/green			

The identification of insulated conductors (cores) for the 0.6/1 kV cables according to standard HD 308 S2

Cables with a green/yellow core					
No. of cores	Colour of cores*				
Three cores	Green/yellow	Blue	Brown		
Four cores**	Green/yellow	-	Brown	Black	Grey
Four cores	Green/yellow	Blue	Brown	Black	
Five cores	Green/yellow	Blue	Brown	Black	Grey

**** For certain applications only.**
***** In this table an uninsulated concentric conductor, such as a metallic sheath, armour or screen wires, is not regarded as a core. A concentric conductor is identified by its position and, therefore, need not be identified by colour.**

Cables without a green/yellow core					
No. of cores	Colour of cores*				
Two cores	Blue	Brown			
Three cores**	-	Brown	Black	Grey	
Three cores	Blue	Brown	Black		
Four cores	Blue	Brown	Black	Grey	
Five cores	Blue	Brown	Black	Grey	Black

**** For certain applications only.**
***** In this table an uninsulated concentric conductor, such as a metallic sheath, armour or screen wires, is not regarded as a core. A concentric conductor is identified by its position and, therefore, need not be identified by colour.**

The identification of insulated conductors (cores) for the 3.6/6kV, 6/10kV, 8.7/15kV,12/20kV and 18/30kV cables

No. of cores	Colour of cores
Single core	off-white insulation + black semi conducting layers
Three cores	off-white insulation + black semi conducting layers identified by White-Black-Red threads under and over the metallic screen on each individual core.
earthing core	yellow/green