Top Cable

Cable catalogue for electric power distribution

www.topcable.com

Top Cable

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Top Cable

Top Cable

TOP CABLE

Top Cable is an internationally recognized manufacturer of electric cables, and is highly thought of by professional Engineers & Electricians around the world. As a multinational Corporation with offices and warehouses located around the globe, Top Cable is committed to providing the best products and services to our clients worldwide.

Teamwork has always been the key to the success of our company. Our emphasis on human capital investments has made Top Cable one of the leading cable manufacturers in Europe. We are **committed to providing electric cables of the highest standards** to our clients on a global scale.

Top Cable's products have passed stringent standards set by European certifying bodies. Our company strongly believes in selecting the best raw materials, adopting rigorous control systems and employing the latest technology in all our production.

Our automated logistic warehouse near Barcelona (Spain), is one example of our commitment to providing **high quality cables and excellent service** to all our clients.

Production Centre Nr 1
and Automated Logistic Warehouse

Production Centre Nr 2

Production Centre Nr 3

Production Centre Nr 4


Top Cable

Value added SERVICE

Our company values all our clients and therefore we adhere to the philosophy of prompt customer service. To further instill the philosophy of value added service, we have invested in a **state of the art logistics centre** with the latest warehouse management system. This sophisticated infrastructure enables our clients to save on storage, distribution and administration costs.

Selecting the best transport companies for each destination as well as the type of shipment guarantees an extension of our service to destinations around the world. A worldwide computing platform co-ordinates all the logistics activities in real time.


Top Cable

An INTEGRATED manufacturing process

Top Cable was founded in 1985, and since then has been focusing on investment in technology which sustains advancement through extensive R&D&i programmes. The aim is to **continuosly improve our cables and to ensure a large production capacity** that can meet the various demands in the global economy.

Our Top Cable Design & Development Centre and research laboratories were established to provide research work and to enable us to constantly provide **high performance cables** that are suited for multiple applications in various industries.

Being conscious of the importance of optimal costing, our company has opted for the **integration of our processes**, through focusing each of our production centers into a specialized production unit, while co-ordinating with one another to optimize common resources.


Top Cable

European Construction Products Regulation (CPR)

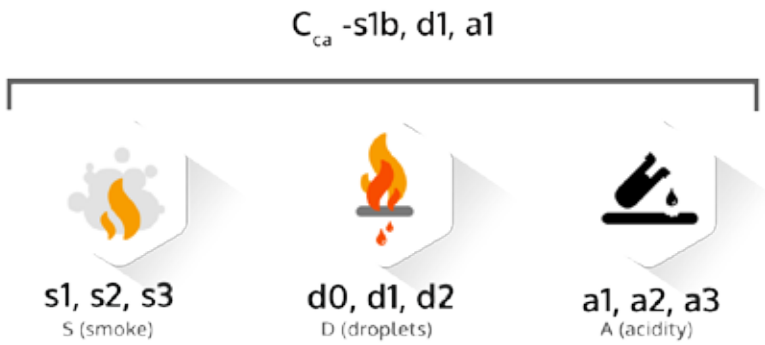
The **CPR** (Construction Products Regulation) is a regulation issued by the European Union, in force since 1st July 2016. The CPR applies to all products intended to be used permanently in construction: public places, housing, civil engineering works, electrical connections to buildings, external lighting, etc.

The purpose of the CPR is to **ensure the harmonisation across Europe, achieve higher safety levels for fire and dangerous substances** and provide greater clarity and traceability of the materials used in construction.

The CPR requires each cable to have a corresponding **Declaration of Performance** (DoP), a legal document that includes all relevant information: manufacturer, cable identification, evaluation system used, applicable standard, certification body and CPR features of the product

When you choose **Top Cable products,** you are guaranteed to purchase **cables that fully comply with the requirements established in the new CPR regulations.**

More information on CPR at https://youtu.be/1ZulVpjp-54




CABLE
Top Cable

Manufacturers of Medium Voltage cables

Our **Medium Voltage product range** is produced in our factory located near Barcelona, using the latest generation of machinery and the most up to date process technology.

The factory is equipped with a modern R&D&i centre that can **design and produce cables according to most international quality standards** and is able to carry out development testing and certification of Medium Voltage cables. All of this is done by **a team experts in cable production.**


Top Cable

A COMPLETE range

We manufacture a **wide range of cables** ranging from control cables for specialized applications to larger power cables for medium voltage applications **in various industries.** We supply cables for construction projects, railway, mining, marine, areonautical, military, OEM's and renewable energy plants.

Conductors can be manufactured in **both copper and aluminium with insulating materials varying depending on the application.**

Every part of the cable is specifically selected and the final product is produced to the highest quality, **meeting international standards** such as ISO 9002, IEC and CE.









Top Cable

ENVIRONMENTAL
& Corporate Social Responsibilities

We can speak of sales growth, benefits and assets yet this would be irrelevant without a sense of social and environmental responsibility as a company.

Top Cable is committed to protecting the environment. We strongly believe in using environmentally friendly processes in all stages of our production. One of our company's goals is to uphold Sustainable Social Development and seek to educate the public about the importance of keeping our planet green for future generations.


Top Cable

Product Range

XTREM
H07RN-F

Flexible rubber cable, for industrial use.

EN 50525-2-21 / IEC 60245-4

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

E_{ca}

Insulation

Rubber (type EPR).

The standard identification of insulated conductors is the following:

1 x	natural
2 x	Brown + Blue
3 G	Brown + Blue + Green/Yellow
4 G	Brown + Black + Grey + Green/Yellow
5 G	Brown + Black + Grey + Blue + Green/Yellow
6 G or more	Black numbered + Green/Yellow

Outer sheath

Flexible rubber. Black colour.

APPLICATIONS

Xtrem H07RN-F rubber cables are designed to supply power to low voltage appliances including electric motors and submersible pumps in deep water installations as well as many other types of electrical equipment. Thanks to its extraordinary flexibility and mechanical strength, the Xtrem H07RN-F cable is ideal for power transmission in both fixed instalation or mobile service. The nominal voltage up to 1000 V thanks to the high dielectric properties of the insulation material (according to HD 516).




CHARACTERISTICS

Electrical performance

H07RN-F: LOW VOLTAGE 450/750 V
DN-F: LOW VOLTAGE 0,6/1kV

Standard

H07RN-F: EN 50525-2-21 / IEC 60245-4
DN-F: UNE 21150

Approvals

CE
SEC
HAR
AENOR
DNV
SASO
RoHS
Safe drinking water certificate

E_{ca}

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations) and -35°C (mobile use).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: 3 x cable Ø (up to 12 mm²).
4 x cable Ø (from 12 mm² onwards).
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Excellent.
Grease & mineral oils resistance: Excellent.

Water performance

Water resistance: AD8 Submersion.
Submersible pumps.
Deep wells.
Drinkable water.

Other

Meter by meter marking.

Installation conditions

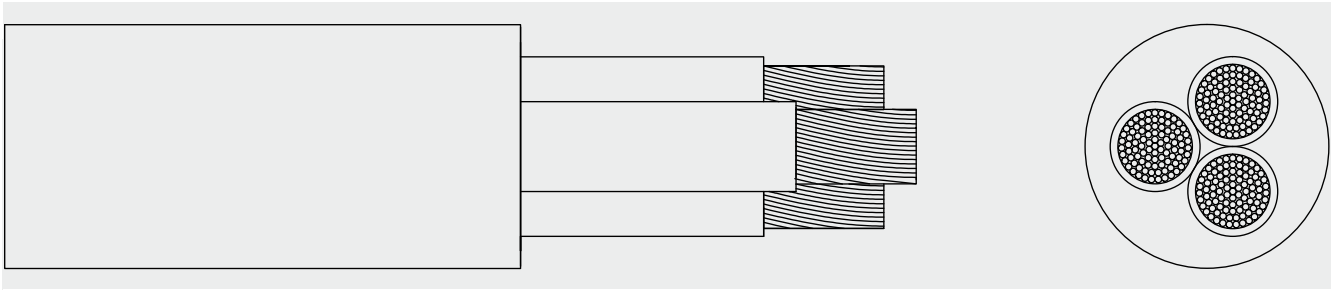
Open Air.

Applications

Industrial use.
Mobile use.
Robotics.
Windmills.
Temporary site installations.

Packaging

Available in coils of 100 m. and drums.



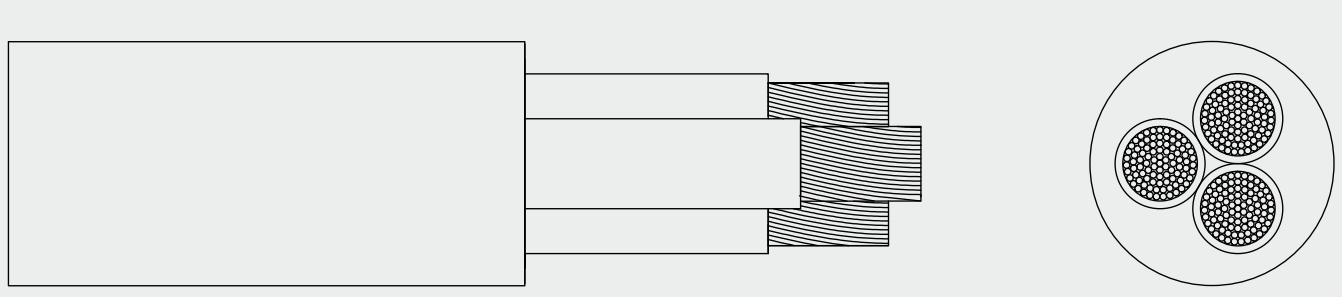
DIMENSIONS H07RN-F 450 / 750 V

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Fixed inst 30°C (A)	Mobile inst. 30°C (A)	Voltage drop (V/A · km)
1 x 1,5	5,9	45	21	16	26,7
1 x 2,5	6,5	60	29	20	16,6
1 x 4	7,4	85	40	30	9,95
1 x 6	8,2	110	53	38	6,63
1 x 10	10	170	74	53	3,84
1 x 16	11,2	235	101	71	2,43
1 x 25	13,2	350	135	94	1,57
1 x 35	14,7	465	169	117	1,11
1 x 50	17	630	207	148	0,776
1 x 70	18,9	840	268	185	0,546
1 x 95	21,4	1.100	328	222	0,414
1 x 120	23,3	1.370	383	260	0,323
1 x 150	25,8	1.685	444	300	0,259
1 x 185	28,1	2.040	510	341	0,213
1 x 240	31,3	2.615	607	407	0,161
1 x 300	34,5	3.275	703	468	0,129
1 x 400	39,3	4.275	823	553	0,0976
1 x 500	43,2	5.410	946	634	0,0772
2 x 1	7,5	80	21	10	45,2
2 x 1,5	8,3	100	26	16	30,9
2 x 2,5	9,8	145	36	25	18,5
2 x 4	10,9	195	49	34	11,5
2 x 6	12,4	265	63	43	7,66
2 x 10	17,5	485	86	60	4,43
2 x 16	19,5	650	115	79	2,81
2 x 25	24,8	1.010	149	105	1,81
2 x 35	27,4	1.295	185	130	1,29
2 x 50	32	1.780	225	165	0,896
2 x 70	35,8	2.335	289	205	0,631
3 G 1	8,2	95	21	10	45,2
3 G 1,5	9,2	125	26	16	30,9
3 G 2,5	10,9	185	36	25	18,5
3 G 4	12,4	260	49	35	11,5
3 G 6	14,4	350	63	44	7,66
3 G 10	19,4	625	86	62	4,43
3 G 16	21,8	855	115	82	2,81
3 G 25	26	1.255	149	109	1,81
3 G 35	29,2	1.655	185	135	1,29
3 G 50	33,5	2.235	225	169	0,896
3 G 70	37,3	2.970	289	211	0,631

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Fixed inst 30°C (A)	Mobile inst. 30°C (A)	Voltage drop (V/A · km)
3 G 95	44	3.935	352	250	0,478
3 G 120	47,5	4.840	410	292	0,373
3 G 150	52,8	5.985	473	335	0,299
3 G 185	57,7	7.210	542	378	0,245
4 G 1	9	120	17	10	39,2
4 G 1,5	10,3	160	23	16	26,7
4 G 2,5	11,9	230	32	20	16
4 G 4	13,8	320	42	30	9,95
4 G 6	15,6	435	54	37	6,63
4 G 10	21,4	770	75	52	3,84
4 G 16	24,3	1.075	100	69	2,43
4 G 25	29,5	1.620	127	92	1,57
4 G 35	32,5	2.105	158	114	1,11
4 G 50	37,4	2.875	192	143	0,776
4 G 70	41,8	3.825	246	178	0,546
4 G 95	47,4	4.980	298	210	0,414
4 G 120	52,3	6.165	346	246	0,323
4 G 150	57,5	7.605	399	282	0,259
4 G 185	63,1	9.205	456	319	0,213
4 G 240	72,1	12.030	538	377	0,161
5 G 1	9,8	145	17	10	39,2
5 G 1,5	11,1	190	23	16	26,7
5 G 2,5	13,2	280	32	20	16
5 G 4	15,3	400	42	30	9,95
5 G 6	17,7	545	54	38	6,63
5 G 10	23,7	945	75	54	3,84
5 G 16	26,9	1.320	100	71	2,43
5 G 25	32,9	1.995	127	94	1,57
5 G 35	35,8	2.560	158	114	1,11
5 G 50	42,2	3.575	192	143	0,776
5 G 70	46,7	4.715	246	178	0,546
5 G 95	52,5	6.105	298	210	0,414
5 G 120	57,2	7.500	346	246	0,323
7 G 1,5	14,5	305	26	16	30,9
7 G 2,5	16,6	425	36	25	18,5
7 G 4	20,2	635	49	34	11,5
8 G 1,5	15,5	350	26	16	30,9
8 G 2,5	18,4	505	36	25	18,5
8 G 4	21,8	735	49	34	11,5
10 G 2,5	19,2	560	36	25	18,5

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information please contact sales@topcable.com



Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Fixed inst 30°C (A)	Mobile inst. 30°C (A)	Voltage drop (V/A · km)
10 G 4	22,8	830	49	34	11,5
12 G 1,5	17,1	445	26	16	30,9
12 G 2,5	19,6	635	36	25	18,5
12 G 4	24,3	945	49	34	11,5
16 G 1,5	19,6	580	26	16	30,9
16 G 2,5	22,5	840	36	25	18,5
18 G 1,5	20,2	635	26	16	30,9
18 G 2,5	23,3	910	36	25	18,5
19 G 1,5	21,1	670	26	16	30,9
19 G 2,5	25,1	995	36	25	18,5
24 G 1,5	23,1	810	26	16	30,9
24 G 2,5	27	1.180	36	25	18,5

Maximum current capacity according to IEC 60364-5-52.
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Top Cable

TOXFREE ZH XTREM H07ZZ-F (AS)

The extra-flexible LSZH rubber cable for mobile service.

EN 50525-3-21

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

LSZH Rubber.

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Brown + Blue
3 G	Brown + Blue + Green/yellow
4 G	Brown + Black + Grey + Green/yellow
5 G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Low Smoke Zero Halogen (LSZH) rubber. Black colour. Fire retardant cable.

APPLICATIONS

Toxfree Xtrem H07ZZ-F is a flexible cable for mobile service, suitable for instalations where low smoke and halogen free fumes under fire conditions are required. Suitable for installations where the cable must withstand medium mechanical stress, for machines in industrial and agricultural workshops, for motors and transportable machines on construction sites, for windmills and for agricultural applications.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 450/750 V

Standard

EN 50525-3-21

Approvals

CE
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit
temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.

Mechanical performance

Minimum bending radius: x3 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Excellent.
Grease & mineral oils resistance: Excellent.

Water performance

Water resistance: AD7 Immersion.

Other

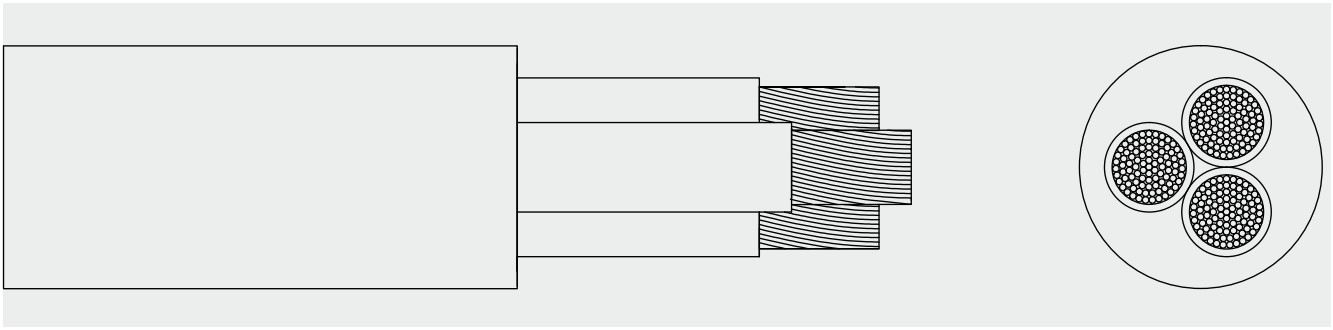
Meter by meter marking.

Installation conditions

Open Air.
In conduit.

Applications

Industrial use.
Mobile use.
Windmills.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 6	8,2	115	43	-	6,86
1 x 10	9,9	180	60	-	3,97
1 x 16	11,2	255	82	-	2,51
1 x 25	13,1	370	110	-	1,62
1 x 35	14,7	485	137	-	1,15
1 x 50	17,1	670	167	-	0,802
1 x 70	19,2	895	216	-	0,565
1 x 95	21,7	1.125	264	-	0,428
1 x 120	23,8	1.425	308	-	0,335
1 x 150	26,2	1.770	356	-	0,268
1 x 185	28,8	2.130	409	-	0,22
1 x 240	32	2.735	485	-	0,166
1 x 300	34,9	3.360	561	-	0,133
2 x 1	8,3	95	17	-	46,8
2 x 1,5	8,7	110	22	-	31,9
2 x 2,5	10,4	160	30	-	19,2
2 x 4	12	220	40	-	11,9
2 x 6	13,5	290	51	-	7,92
2 x 10	17,8	505	70	-	4,58
2 x 16	21,4	730	94	-	2,9
2 x 25	25,5	1.060	119	-	1,87
3 G 1	8,8	110	17	-	46,8
3 G 1,5	9,7	140	22	-	31,9
3 G 2,5	11,4	200	30	-	19,2
3 G 4	13	275	40	-	11,9
3 G 6	14,3	354	51	-	7,92
3 G 10	19,8	650	70	-	4,58

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
3 G 16	22,4	895	94	-	2,9
3 G 25	26,8	1.305	119	-	1,87
3 G 35	29,7	1.700	148	-	1,33
3 G 50	35,4	2.395	180	-	0,926
3 G 70	39,6	3.155	232	-	0,653
4 G 1	9,7	135	14	-	40,5
4 G 1,5	10,6	170	18,5	-	27,6
4 G 2,5	12,6	245	25	-	16,6
4 G 4	14,5	340	34	-	10,3
4 G 6	16,3	460	43	-	6,86
4 G 10	21,3	790	60	-	3,97
4 G 16	24,3	1.105	80	-	2,51
4 G 25	30,2	1.685	101	-	1,62
4 G 35	33,3	2.180	126	-	1,15
4 G 50	38,6	3.020	153	-	0,802
4 G 70	43,1	3.995	196	-	0,565
4 G 95	50,5	5.260	238	-	0,428
5 G 1	10,5	160	14	-	40,5
5 G 1,5	11,6	205	18,5	-	27,6
5 G 2,5	13,9	295	25	-	16,6
5 G 4	16,3	435	34	-	10,3
5 G 6	17,9	555	43	-	6,86
5 G 10	23,6	975	60	-	3,97
5 G 16	27,3	1.380	80	-	2,51
5 G 25	33	2.055	101	-	1,62
5 G 35	36,8	2.715	126	-	1,15
7 G 1,5	14,8	325	18,5	-	27,6

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
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For more information please contact sales@topcable.com

TOPWELD H01N2-D

The special cable for welding.

EN 50525-2-81 / IEC 60245

DESIGN

Conductor

Electrolytic copper, class D (extra-flexible), based on UNE-EN 50525-2-81.

Outer sheath

Flexible rubber. Black colour.

APPLICATIONS

Topweld H01N2-D is a harmonized, flexible, rubber welding cable specially designed for transmitting high currents between the welding generator and the electrode. Its flexibility makes using the welding tool easier and also prevents knots from forming in the cable that could cause the internal conductor to break. It can also be used in automatic welding and machine tools, conveyor systems and production or assembly lines, for example in automobile assembly lines.




CHARACTERISTICS

Electrical performance
LOW VOLTAGE 100/100V

Standard
EN 50525-2-81 / IEC 60245

Approvals
CE
HAR
AENOR
SASO
RoHS

Thermal performance
Maximum service temperature: 85°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -20°C.(mobile use)

Fire performance
Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.

Mechanical performance
Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

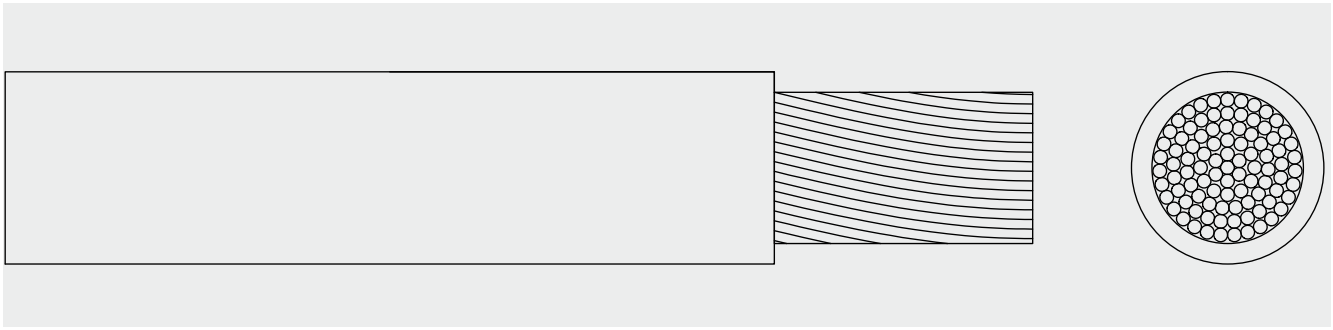
Chemical performance
Chemical & Oil resistance: Excellent.
Grease & mineral oils resistance: Excellent

Water performance
Water resistance: AD3 Sprays

Other
Meter by meter marking.

Installation conditions
Open Air.

Applications
Welding.
Industrial use.
Mobile use.
Robotics.
Conveyors.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Maximum current for a 5 minute period				Voltage drop (V/A · km)
			100%	85%	60%	35%	
1 x 10	8,0	140	100	103	108	122	2,45
1 x 16	9,1	195	135	145	175	230	1,56
1 x 25	10,3	280	180	195	230	300	0,998
1 x 35	11,4	375	245	245	290	375	0,709
1 x 50	13,4	520	285	305	365	480	0,493
1 x 70	15,5	725	355	380	460	600	0,348
1 x 95	17,4	945	430	470	560	730	0,264
1 x 120	19,3	1.195	500	540	650	850	0,206
1 x 150	21,4	1.475	580	630	750	980	0,166
1 x 185	23,3	1.780	665	720	860	1120	0,136

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
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For more information please contact sales@topcable.com

TOPFLEX MS TRI-RATED / H07V2-K

Internal wiring of electrical cabinets. (UL, CSA, BS, EN...)

EN 50525-2-31 / UL 758 / CSA C22.2 / BS 6231

DESIGN

CPR COMPLIANT Construction Products Regulation EN 50575

E_{ca}

Conductor

Electrolytic copper, class 5 (flexible), based on EN60228 / IEC 60228 and BS 6360.

Insulation

Flexible PVC, extra sliding, high service temperature type TI3 according to EN 50363-1 and Class 43 UL 1581.

The standard identification of insulated conductors is the following:

Blue	RAL 5012
Brown	RAL 8003
Black	RAL 9005
Red	RAL 3000
Green/yellow	RAL 1021 / RAL 6018
Grey	RAL 7000
Dark Blue	RAL 5003
White	RAL 9010
Orange	RAL 2003
Violet	RAL 4005
Pink	RAL 3015

Other colours available on request.

APPLICATIONS

Topflex Tri-rated H07V2-K cable has been designed for the internal wiring of electrical cabinets, switch boards and small electrical devices. Due to its manufacturing characteristics, it can be used in conduit or in flexible motor ducts, transformers and other machinery in general.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE
H05V2-K 300/500 V · H07V2-K 450/750 V ·
BS 600/1000 V · UL 600V

Standard

EN 50525-2-31 / UL 758 / CSA C22.2 / BS 6231

Approvals

CE
HAR
CSA
UL LISTED
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 90°C s/HD and BS, 105°C s/UL and CSA.
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations)

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD3 Sprays

Other

Meter by meter marking (from 10 mm2 onwards).

Installation conditions

In conduit.

Applications

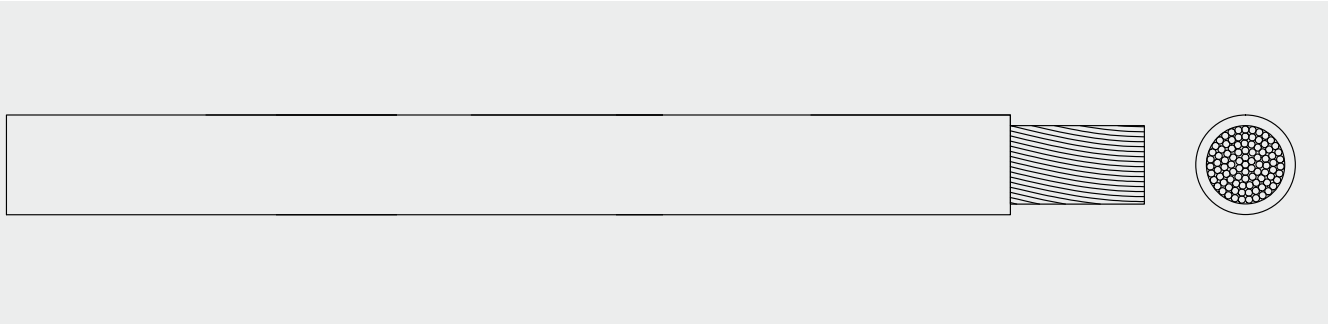
Electrical panel wiring.
Industrial use.

Packaging

These cables are supplied in 100 m reels, barrels or bulk drums (see table below).

CROSS SECTION PACKAGING

0,50-6 mm2	100 m reels (or barrels upon request)
10-16 mm2	100 m reels or bulk drums
25 mm2 onwards	bulk drums



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	In conduit 2cores 30°C (A)	In conduit 3cores 30°C (A)	Voltage drop (V/A · km)
1 x 0,5	24	10	12	10	99,5
1 x 0,75	2,7	13	15	13	66,6
1 x 1	2,8	15	18	16	49,9
1 x 1,5	3,0	20	23	20	34,0
1 x 2,5	3,5	30	31	28	20,4
1 x 4	4,0	45	42	37	12,70
1 x 6	4,6	65	54	48	8,45
1 x 10	6,3	110	75	66	4,89
1 x 16	8,0	180	100	88	3,10
1 x 25	9,4	265	133	117	2,0
1 x 35	10,5	355	164	144	1,42
1 x 50	13,1	510	198	175	0,99
1 x 70	14,5	695	253	222	0,696
1 x 95	16,1	890	306	269	0,527
1 x 120	17,8	1.125	354	312	0,412
1 x 150	20,2	1.415	407	358	0,33
1 x 185	21,9	1.700	464	408	0,27
1 x 240	24,3	2.205	546	481	0,205
1 x 300	27,7	2.800	628	553	0,164
1 x 400	31,6	3.655	751	661	0,124

Cross section (mm2)	AWG MCM	UE Denomination CENELEC HD 21	GB Denomination EN 50525-2-31	UL Denomination UL 758	CSA Denomination CSA 22.2
1 x 0,5	22 AWG	H05V2-K	CK	Style 1015	Type TEW
1 x 0,75	20 AWG	H05V2-K	CK	Style 1015	Type TEW
1 x 1	18 AWG	H05V2-K	CK	Style 1015	Type TEW
1 x 1,5	16 AWG	H07V2-K	CK	Style 1015	Type TEW
1 x 2,5	14 AWG	H07V2-K	CK	Style 1015	Type TEW
1 x 4	12 AWG	H07V2-K	CK	Style 1015	Type TEW
1 x 6	10 AWG	H07V2-K	CK	Style 1015	Type TEW
1 x 10	8 AWG	H07V2-K	CK	Style 1028	Type TEW
1 x 16	6 AWG	H07V2-K	CK	Style 1283	Type TEW
1 x 25	4 AWG	H07V2-K	CK	Style 1283	Type TEW
1 x 35	2 AWG	H07V2-K	CK	Style 1283	Type TEW
1 x 50	1 AWG	07V2-K	CK	Style 1284	Type TEW
1 x 70	2/0 AWG	07V2-K	CK	Style 1284	Type TEW
1 x 95	3/0 AWG	07V2-K	CK	Style 1284	Type TEW
1 x 120	4/0 AWG	07V2-K	CK	Style 1284	Type TEW
1 x 150	250 MCM	07V2-K	CK	Style 1284	-
1 x 185	350 MCM	07V2-K	CK	Style 1284	-
1 x 240	450 MCM	07V2-K	CK	Style 1284	-
1 x 300	550 MCM	07V2-K	-	Style 1284	-
1 x 400	750 MCM	07V2-K	-	Style 1284	-

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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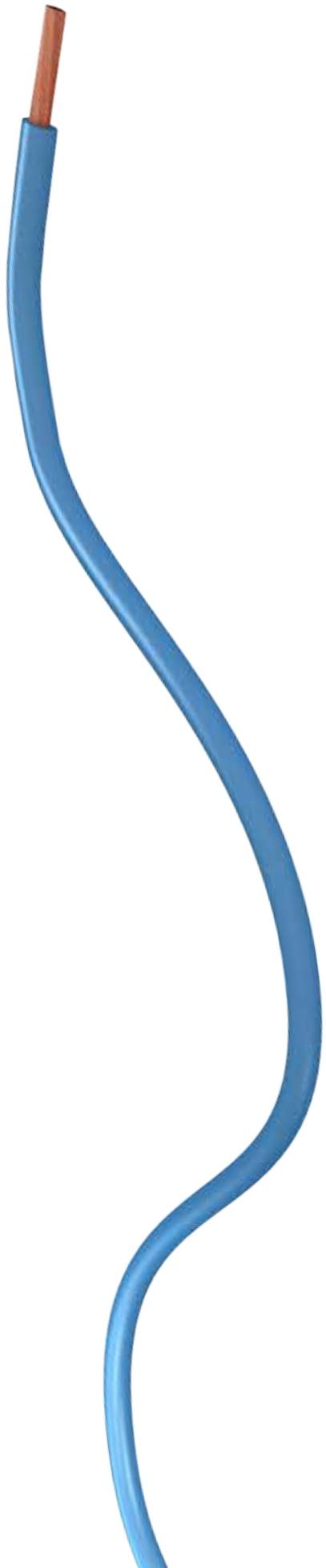
For more information please contact sales@topcable.com



TOPFLEX V-K H05V-K & H07V-K

Electric cabinet wiring and domestic use.

EN 50525-2-31 / IEC 60227-3

CPR COMPLIANT Construction Products Regulation EN 50575

E_{ca}

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Extra sliding PVC.

The standard identification of insulated conductors is the following:

Blue	RAL 5015
Brown	RAL 8003
Black	RAL 9005
Red	RAL 3000
Green/yellow	RAL 1021 / RAL 6018
Grey	RAL 7000
Dark Blue	RAL 5003
White	RAL 9010
Orange	RAL 2003
Violet	RAL 4005

Other colours available on request

APPLICATIONS

Topflex H05V-K & H07V-K cable has been specially designed for installations that require a flexible cable due to the complex nature of their layout. This cable is specially suitable for domestic wiring. It may also be used for equipment wiring, distributors, cabinets and lighting. It is also recommended for installation under false ceilings. Cables with cross section up to 1 mm2 are especially suited for signalling and monitoring installations.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500 V · 450/750 V
Rated Voltage: H05V-K (up to 1 mm2): 300/500 V.
H07V-K (from 1,5 mm2 onwards): 450/750 V."

Standard

EN 50525-2-31 / IEC 60227-3

Approvals

CE
SEC
HAR
AENOR
SASO
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations)

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reaction to fire CPR: E_{ca} according to 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD3 Sprays.

Other

Meter by meter marking (from 10 mm2 onwards).

Installation conditions

In conduit.

Applications

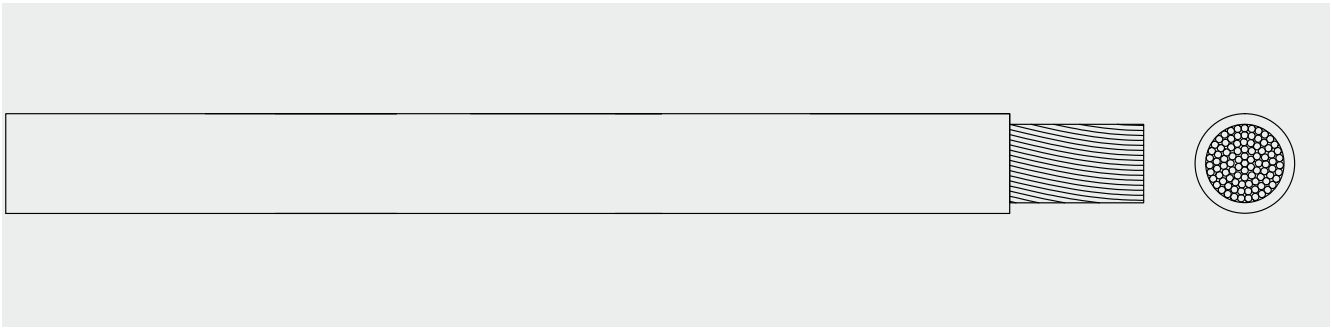
Electrical panel wiring.
Domestic use.

Packaging

Small cross sections (from 0,75 mm2 to 6 mm2) are supplied in high resistant colour boxes (see table below). Medium cross sections (from 10 mm2 to 35 mm2) are supplied in 100 m sealed coils. Cross sections > 35 mm2 are supplied in drums.

BOX COLOUR GUIDE

COLOUR	CROSS-SECTION	LENGHT (M) PER BOX
Violet	0,75 mm2	100 m
Green	1 mm2	100 m or 200 m
Red	1,5 mm2	100 m or 200 m
Blue	2,5 mm2	100 m or 200m
Brown	4 mm2	100 m or 200m
Grey	6 mm2	100 m or 200m



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	In conduit 2cores 30°C (A)	In conduit 3cores 30°C (A)	Voltage drop (V/A · km)
1 x 0,50	2,1	8	8	-	93,4
1 x 0,75	2,3	11	11	-	62,4
1 x 1	2,5	13	14	-	46,8
1 x 1,5	2,9	19	17,5	15,5	31,9
1 x 2,5	3,6	30	24	21	19,2
1 x 4	4,1	44	32	28	11,9
1 x 6	4,6	61	41	36	7,92
1 x 10	5,9	105	57	50	4,58
1 x 16	7	160	76	68	2,9
1 x 25	8,7	245	101	89	1,87
1 x 35	9,9	335	125	110	1,33
1 x 50	11,8	480	151	134	0,926
1 x 70	13,5	655	192	171	0,653
1 x 95	15,6	865	232	207	0,494
1 x 120	17,3	1.095	269	239	0,386
1 x 150	19,3	1.380	-	275	0,31
1 x 185	21,5	1.675	-	314	0,254
1 x 240	24,5	2.210	-	370	0,192
1 x 300	26,9	2.795	-	430	0,153

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

Top Cable

TOXFREE ZH ES05Z1-K & H07Z1-K (AS)

Flexible and halogen free power cable for electrical panel wiring.

EN 50525-3-31 / UNE 211002

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

Extra sliding low smoke zero halogen (LSZH) polyolefin insulation.

The standard identification of insulated conductors is the following:

Blue	RAL 5015
Brown	RAL 8003
Black	RAL 9005
Red	RAL 3000
Green/yellow	RAL 1021 / RAL 6018
Grey	RAL 7000
Dark Blue	RAL 5003
White	RAL 9010

Other colours available on request

APPLICATIONS

Toxfree ES05Z1-K & H07Z1-K is a LSZH safety cable. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 450/750 V

Standard

EN 60332-1 / EN 60332-3 / EN 60754 / EN 61034 / EN 50399

Approvals

CE
SEC
HAR
BUREAU VERITAS
AENOR
SASO
RoHS

$B2_{ca}$ -s1a, d1, a1

Thermal performance

Maximum service temperature: 70°C .
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3, IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$-s1a,d1,a1 according to EN 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD3 Sprays.

Other

Meter by meter marking. (from 10mm2 onwards).

Installation conditions

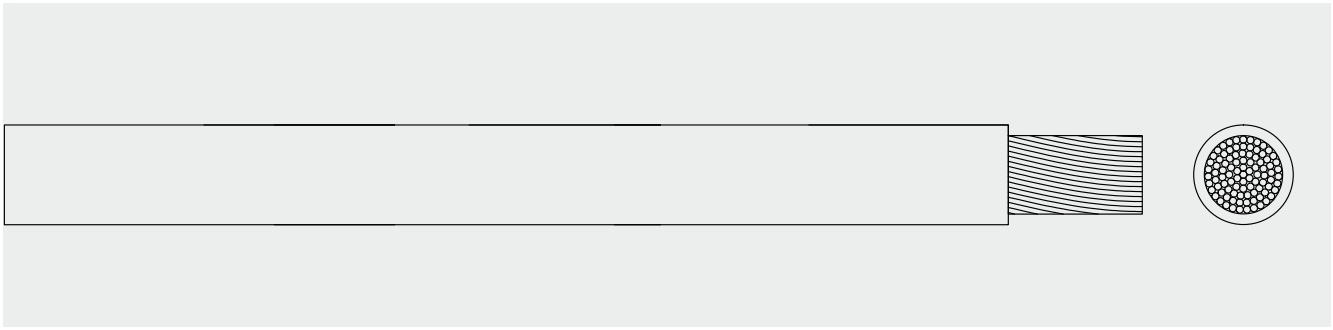
In conduit.

Applications

Domestic use.
Electrical panel wiring.
Public places.

Packaging

Small cross sections (from 1x0,75 mm2 to 1x6 mm2) are supplied in high-resistant boxes. Medium cross sections (from 1x10 mm2 to 1x35 mm2) are supplied in 100 m sealed coils. Greater cross sections (>1x35 mm2) are supplied in drums.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A) (2cores)	Buried 20°C (A) (3cores)	Voltage drop (V/A · km)
1 x 0,75	2,3	11	11	-	62,4
1 x 1	2,5	13	14	-	46,8
1 x 1,5	2,9	20	17,5	15,5	31,9
1 x 2,5	3,6	30	24	21	19,2
1 x 4	4,1	45	32	28	11,9
1 x 6	4,7	65	41	36	7,92
1 x 10	6	110	57	50	4,58
1 x 16	7	160	76	68	2,9
1 x 25	8,8	250	101	89	1,87
1 x 35	9,9	340	125	110	1,33
1 x 50	11,8	480	151	134	0,926
1 x 70	13,5	660	192	171	0,653
1 x 95	15,6	875	232	207	0,494
1 x 120	17	1.100	269	239	0,386
1 x 150	18,9	1.375	300	262	0,31
1 x 185	21,5	1.680	341	296	0,254
1 x 240	24,5	2.205	400	346	0,192

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

TOXFREE ZH H07Z-K

Flexible and halogen free 90°C cable for electrical panel wiring.

EN 50525-3-41

CPR COMPLIANT
Construction Products Regulation
EN 50575

E_{ca}

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

LSZH Rubber.

The standard identification of insulated conductors is the following:

Blue	RAL 5015
Brown	RAL 8003
Black	RAL 9005
Red	RAL 3000
Green/yellow	RAL 1021 / RAL 6018
Grey	RAL 7000

Other colours available on request

APPLICATIONS

Toxfree ZH H07Z-K is a flexible cable for fixed and protected installations. It is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc. Not suitable for wet places or immersed.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 450/750 V

Standard

EN 50525-3-41

Approvals

CE
HAR
AENOR
DNV (in progress)

E_{ca}

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: E_{ca}, according to 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD3 Sprays.

Other

Meter by meter marking. (from 10mm2 onwards).

Installation conditions

In conduit.

Applications

Domestic use.
Electrical panel wiring.
Public places.

DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A) (2cores)	Buried 20°C (A) (3cores)	Voltage drop (V/A · km)
1 x 0,75	2,3	11	15	--	66,3
1 x 1	--	--	18	--	49,7
1 x 1,5	2,9	20	23	20	33,9
1 x 2,5	3,6	30	31	28	20,4
1 x 4	4,1	45	42	37	12,6
1 x 6	4,7	60	54	48	8,4
1 x 10	6,0	105	75	66	4,9
1 x 16	7,0	155	100	88	3,1

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.
For more information: sales@topcable.com

TOXFREE ZH
H07Z1-U / R

Flexible and halogen free cable for electrical panel wiring.

EN 50525-3-31

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1

DESIGN

Conductor

Electrolytic copper, class 1 or class 2, based on EN 60228 and IEC 60228.

Insulation

Extra sliding low smoke zero halogen (LSZH) polyolefin insulation.

The standard identification of insulated conductors is the following:

Blue	RAL 5015
Brown	RAL 8003
Black	RAL 9005
Red	RAL 3000
Green/yellow	RAL 1021 / RAL 6018
Grey	RAL 7000

Other colours available on request.

APPLICATIONS

Toxfree ZH H07Z1-U / R is a LSZH safety cable. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500V (up to 1 mm^2).
LOW VOLTAGE 450/750 V (from 1,5 mm^2 onwards).

Standard

EN 50525-3-31

Approvals

CE
HAR

$B2_{ca}$-s1a,d1,a1

Thermal performance

Maximum service temperature: 70°C (EN 50525-3-31).
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3, IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$-s1a,d1,a1 according to EN 50575

Mechanical performance

Minimum bending radius: x8 cable diameter.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD3 Sprays.

Other

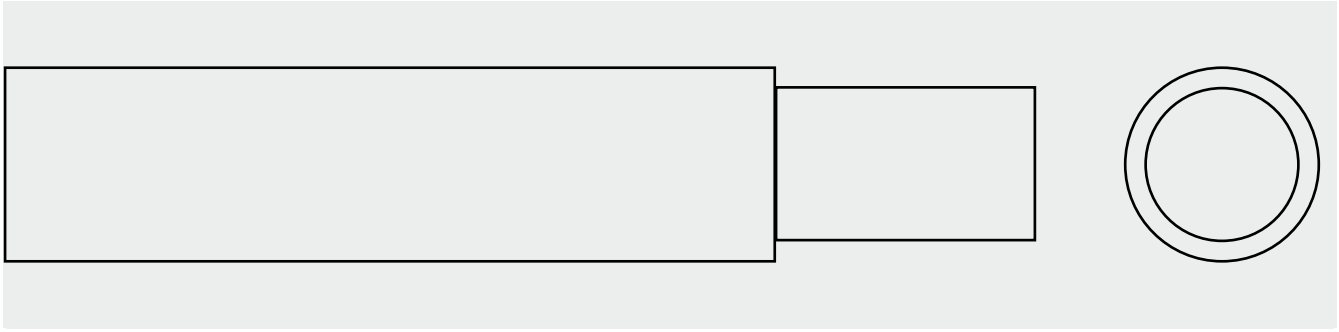
Meter by meter marking (from 10mm2 onwards).

Installation conditions

In conduit.

Applications

Domestic use.
Electrical panel wiring.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A) (2cores)	Open Air 30°C (A) (3cores)	Voltage drop (V/A · km)
1 x 1,5	2,8	20	17,5	15,5	31,9
1 x 2,5	3,3	30	24	21	19,2
1 x 4	3,8	45	32	28	11,9
1 x 6 (*)	4,7	70	41	36	7,92
1 x 10 (*)	5,8	110	57	50	4,58
1 x 16 (*)	6,7	165	76	68	2,9

(*) H07Z1-R cables

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its corresponding Declaration of Performance.
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POWERFLEX RV-K

Industrial flexible cable for power transmission.

IEC 60502-1 - UNE 21123-2

CPR COMPLIANT
Construction Products Regulation
EN 50575

E_{ca}

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE)

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/yellow
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey + Blue (reduced cross-section)
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Flexible PVC, black colour.

APPLICATIONS

Powerflex RV-K cable is suitable for all types of low voltage industrial-type connections, in urban grids, building installations, etc. Its high flexibility makes the installation process substantially easier and, as a result, is particularly suitable for use in difficult layouts. It can be buried or installed in a tube as well as outdoors without requiring additional protection. This cable can withstand damp conditions including total immersion in water (AD7).




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 - UNE 21123-2

Approvals

CE
SEC
BUREAU VERITAS
AENOR
SASO
RoHS
KEMA KEUR

E_{ca}

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD7 Immersion

Other

Meter by meter marking.

Installation conditions

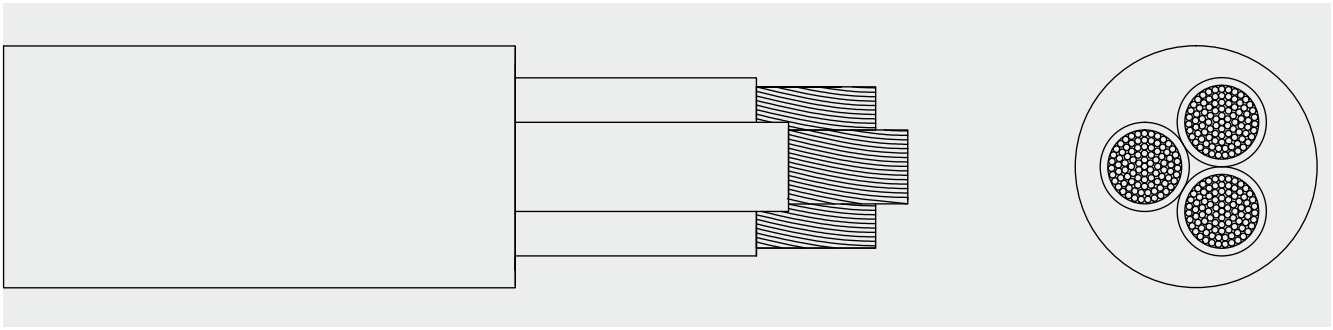
Open Air.
Buried.
In conduit.

Applications

Industrial use.
Urban grids.

Packaging

Available in coils (lengths of 100 m) and drums.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 1,5	5,7	45	23	22	29,5
1 x 2,5	6,2	55	29	29	17,7
1 x 4	6,7	70	40	37	11
1 x 6	7,3	90	53	46	7,32
1 x 10	8,2	135	74	61	4,23
1 x 16	9,2	190	101	79	2,68
1 x 25	11	285	135	101	1,73
1 x 35	12,1	385	169	122	1,23
1 x 50	13,8	520	207	144	0,86
1 x 70	15,7	715	268	178	0,603
1 x 95	17,6	925	328	211	0,457
1 x 120	19,2	1.165	383	240	0,357
1 x 150	21,5	1.450	444	271	0,286
1 x 185	23,9	1.750	510	304	0,235
1 x 240	26,9	2.280	607	351	0,178
1 x 300	29,6	2.830	703	396	0,142
1 x 400	33,8	3.735	823	464	0,108
1 x 500	37,4	4.780	946	525	0,085
1 x 630	42,7	6.280	1.088	596	0,064
2 x 1,5	8,2	90	26	26	34
2 x 2,5	9,2	120	36	34	20,4
2 x 4	10,3	165	49	44	12,7
2 x 6	11,3	215	63	56	8,45
2 x 10	13,2	320	86	73	4,89
2 x 16	14,9	450	115	95	3,1
2 x 25	20,8	810	149	121	1,99
2 x 35	22	1.000	185	146	1,42
2 x 50	25,7	1.375	225	173	0,99
2 x 70	29,5	1.880	289	213	0,694
3 G 1,5	8,9	110	26	26	34
3 G 2,5	9,8	145	36	34	20,4
3 G 4	11	200	49	44	12,7
3 G 6	12,1	265	63	56	8,45
3 G 10	14,3	405	86	73	4,89
3 x 16	16,4	595	100	79	2,68
3 x 25	20,7	955	127	101	1,73
3 x 35	23,1	1.275	158	122	1,23
3 x 50	26,8	1.750	192	144	0,86
3 x 70	29,6	2.370	246	178	0,603
3 x 95	35	3.140	298	211	0,457
3 x 120	39,8	4.115	346	240	0,357
3 x 150	44,7	5.130	399	271	0,286

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
3 x 185	49,9	6.285	456	304	0,235
3x16+1x10	17,6	700	100	79	2,68
3x25+1x16	22,7	1.140	127	101	1,73
3x35+1x16	25	1.480	158	122	1,23
3x50+1x25	29,1	2.050	192	144	0,86
3x70+1x35	33,8	2.850	246	178	0,603
3x95+1x50	38,2	3.700	298	211	0,457
3x120+1x70	42,1	4.750	346	240	0,357
3x150+1x70	46,8	5.800	399	271	0,286
3x185+1x95	53,5	7.200	456	304	0,235
3x240+1x120	58,5	9.100	538	351	0,178
3 x 300	62,3	10.100	621	396	0,142
4 G 1,5	9,7	130	23	22	29,5
4 G 2,5	10,7	175	32	29	17,7
4 G 4	12	245	42	37	11
4 G 6	13,4	330	54	46	7,32
4 G 10	15,7	505	75	61	4,23
4 x 16	18,2	750	100	79	2,68
4 x 25	24,1	1.245	127	101	1,73
4 x 35	26,3	1.675	158	122	1,23
4 x 50	31,3	2.315	192	144	0,86
4 x 70	36,1	3.205	246	178	0,603
4 x 95	40,2	4.130	298	211	0,457
4 x 120	44,6	5.245	346	240	0,357
4 x 150	49,8	6.575	399	271	0,286
4 x 185	56,1	8.050	456	304	0,235
4 x 240	64.5	10.695	538	351	0,178
5 G 1,5	10,4	155	23	22	29,5
5 G 2,5	11,6	215	32	29	17,7
5 G 4	13,2	300	42	37	11
5 G 6	14,7	405	54	46	7,32
5 G 10	17,1	625	75	51	4,23
5 G 16	20,2	935	100	79	2,68
5 G 25	26,6	1.555	127	101	1,73
5 G 35	29,3	2.080	158	122	1,23
5 G 50	34,5	2.895	192	144	0,86
5 G 70	38,7	3.930	246	178	0,603
5 G 95	44,6	5.190	298	211	0,457
5 G 120	49,7	6.560	346	240	0,357
5 G 150	55,6	8.145	399	271	0,286
5 G 185	62,5	9.975	456	304	0,235
5 G 240	71,8	13.210	538	351	0,178

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.
For more information please contact sales@topcable.com

POWERFLEX PLUS YMvKf

The universal cable for power transmission with improved fire proof properties.

HD 604-4-D/ IEC 60502-1

CPR COMPLIANT
Construction Products Regulation
EN 50575

C_{ca}-s3, d2, a3

DESIGN

Conductor

Electrolytic copper, class 5 (flexible) based on IEC 60228.

Insulation

Cross-linked polyethylene (XLPE)

The standard identification of insulated conductors is the following:

1 x	Black
2 x	Blue + Brown
3 G	Blue + brown + green + yellow
4 x	Black + brown + grey + Green/yellow
5 G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Flexible PVC, grey colour.

APPLICATIONS

Powerflex Plus YMvKf cable is suitable for all types of industrial low voltage connections, urban grids, building installations, etc. This cable is recommended for use in public places and hazardous industries. Its flexibility makes installation substantially easier, making it highly suitable for difficult layouts. This cable can also be used in buried installations or in tubes or outdoors without requiring additional protection. This cable withstands damp conditions and even total submersion in water (AD7).




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1

Approvals

CE
KEMA KEUR
RoHS

C_{ca}-s3, d2, a3

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3, IEC 60332-3 and EN 50399.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: C_{ca}-s3, d2, a3, according to EN 50575.

Mechanical performance

Minimum bending radius: x 5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD7 Immersion.

Other

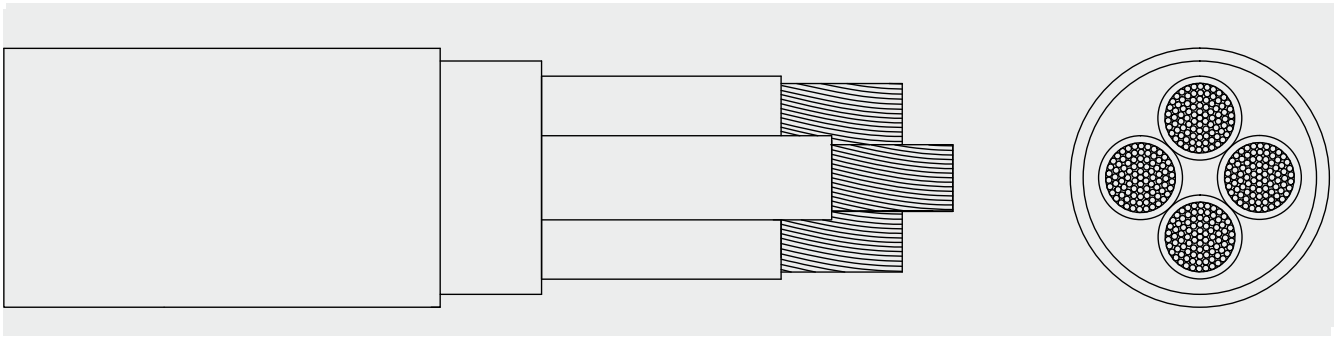
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 1,5	5,9	50	23	22	29,5
1 x 2,5	6,4	60	29	29	17,7
1 x 4	6,9	80	40	37	11
1 x 6	7,5	100	53	46	7,32
1 x 10	8,4	145	74	61	4,23
1 x 16	9,4	205	101	79	2,68
1 x 25	11,1	295	135	101	1,73
1 x 35	12,2	395	169	122	1,23
1 x 50	13,9	535	207	144	0,86
1 x 70	15,8	725	268	178	0,603
1 x 95	17,5	935	328	211	0,457
1 x 120	19,5	1.175	383	240	0,357
1 x 150	21,8	1.460	444	271	0,286
1 x 185	23,9	1.750	510	304	0,235
1 x 240	26,9	2.300	607	351	0,178
1 x 300	29,9	2.900	703	396	0,142
1 x 400	34,4	3.810	823	464	0,108
1 x 500	38,1	4.865	946	525	0,085
1 x 630	43,3	6.385	1.088	595	0,064
2 x 1,5	9,8	130	26	26	34
2 x 2,5	10,7	165	36	34	20,4
2 x 4	11,8	210	49	44	12,7
2 x 6	12,7	260	63	56	8,45
2 x 10	15,8	430	86	73	4,89
2 x 16	17,5	575	115	95	3,1
2 x 25	21	845	149	121	2
2 x 35	23,3	1.100	185	146	1,42
3 G 1,5	10,2	150	26	26	34
3 G 2,5	11,2	190	36	34	20,4
3 G 4	12,4	250	49	44	12,7
3 G 6	13,6	320	63	56	8,45
3 G 10	16,5	515	86	73	4,89
3 x 16	18,5	710	100	79	2,68
3 x 25	21,8	1.040	127	101	1,73
3 x 35	24,2	1.370	158	122	1,23
3 x 50	27,6	1.855	192	144	0,86
3 x 70	30,5	2.490	246	178	0,603
3 x 95	35,2	3.250	298	211	0,457
3 x 120	39,8	4.135	346	240	0,357
3 x 150	44,7	5.160	399	271	0,286
3 x 185	49,4	6.255	456	304	0,235

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
3 x 240	54,9	8.095	538	351	0,178
3 x 16 + 1 x 10	19,5	815	100	79	2,68
3 x 25 + 1 x 16	22,9	1.195	127	101	1,73
3 x 35 + 1 x 25	25,7	1.610	158	122	1,23
3 x 50 + 1 x 25	28,8	2.080	192	144	0,86
3 x 70 + 1 x 35	33,1	2.840	246	178	0,603
3 x 95 + 1 x 50	36,7	3.675	298	211	0,457
4 G 1,5	10,9	175	23	22	29,5
4 G 2,5	11,9	225	32	29	17,7
4 G 4	13,4	300	42	37	11
4 G 6	14,7	390	54	46	7,32
4 G 10	17,9	625	75	61	4,23
4 G 16	20,2	880	100	79	2,68
4 G 25	23,6	1.285	127	101	1,73
4 G 35	25,8	1.695	158	122	1,23
4 G 50	30,8	2.345	192	144	0,86
4 G 70	35,4	3.210	246	178	0,603
4 G 95	38,7	4.120	298	211	0,457
4 G 120	45,4	5.390	346	240	0,357
4 G 150	49,7	6.585	399	271	0,286
4 G 185	55,1	8.000	456	304	0,235
4 G 240	61,7	10.395	538	351	0,178
4 x 35 + 1 G 25	28,6	1.995	158	122	1,23
4 x 50 + 1 G 25	32,5	2.610	192	144	0,86
4 x 70 + 1 G 35	37,6	3.585	246	178	0,603
4 x 95 + 1 G 50	41,6	4.645	298	211	0,457
5 G 1,5	11,8	200	23	22	29,5
5 G 2,5	13,1	265	32	29	17,7
5 G 4	14,5	355	42	37	11
5 G 6	16	465	54	46	7,32
5 G 10	19,4	745	75	61	4,23
5 G 16	21,9	1.060	100	79	2,68
5 G 25	26,3	1.580	127	101	1,73
5 G 35	28,7	2.080	158	122	1,23
5 G 50	33,7	2.850	192	144	0,86
5 G 70	38,6	3.915	246	178	0,603
5 G 95	44,7	5.210	298	211	0,457
5 G 120	49,7	6.575	346	240	0,357
5 G 150	55,9	8.195	399	271	0,286
5 G 185	62,4	9.970	456	304	0,235
5 G 240	69,8	12.945	538	351	0,178

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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POWERHARD F

RVFV-K

Armoured cable with double steel or aluminium tape armour.

IEC 60502-1 / UNE 21123-2

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

E_{ca}

Insulation

Cross-linked polyethylene (XLPE).

The standard identification of insulated conductors is the following:

1 x	natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/yellow
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey+ Blue (reduced cross section)
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow
6 G or more conductors:	Black numbered + Green/yellow.

Armour bedding

PVC.

Armour

Double steel or aluminium tape armour. Aluminium armour is used in single-core cables to avoid parasite currents that may overheat the cable. Steel tape is used in the multi-core cables.

Outer sheath

Flexible PVC, black colour.

APPLICATIONS

Powerhard RVFV-K cable is especially suitable for fixed installations that may be subject to mechanical aggression. It is highly recommended for use in installations where the presence of rodents could imply a threat to the cable (such as warehouses, production plants and agricultural facilities). At the same time, its use is recommended for street lighting installations.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / UNE 21123-2

Approvals

CE
BUREAU VERITAS
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x10 cable diameter.
Impact resistance: AG4 High severity.
Rodent proof

Chemical performance

Chemical & Oil resistance: Good
UV Resistant: UNE 211605.

Water performance

Water resistance: AD7 Immersion.

Other

Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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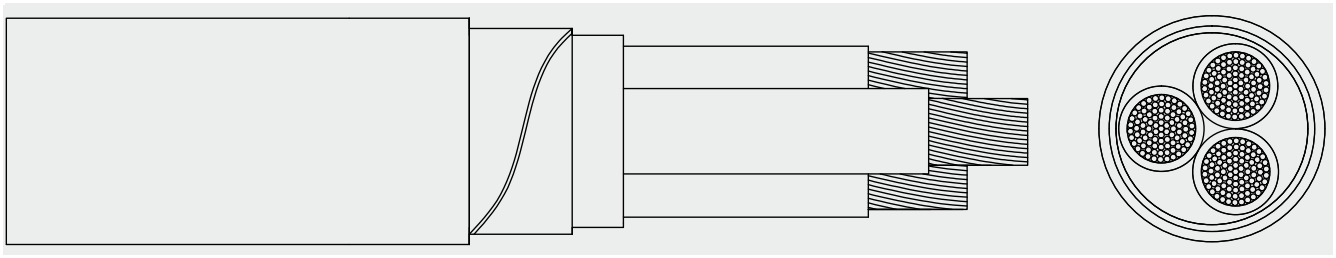


DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 16	14,4	370	101	79	2,68
1 x 25	16	485	135	101	1,73
1 x 35	17,1	595	169	122	1,23
1 x 50	18,6	730	207	144	0,86
1 x 70	20,3	960	268	178	0,603
1 x 95	22,4	1.255	328	211	0,457
1 x 120	24,4	1.510	383	240	0,357
1 x 150	26,3	1.810	444	271	0,286
1 x 185	28,3	2.215	510	304	0,235
1 x 240	31,3	2.805	607	351	0,178
1 x 300	34	3.420	703	396	0,142
1 x 400	38,6	4.225	823	464	0,108
1 x 500	42,3	5.330	946	525	0,085
2 x 1,5	12,3	225	26	26	34
2 x 2,5	13,2	270	36	34	20,4
2 x 4	14,1	320	49	44	12,7
2 x 6	15,7	420	63	56	8,45
2 x 10	17,1	530	86	73	4,89
2 x 16	18,6	690	115	95	3,1
3 G 1,5	12,8	255	23	22	34
3 G 2,5	13,8	300	32	29	20,4
3 x 4	15,1	380	42	37	12,7
3 x 6	16,4	485	54	46	8,45
3 x 10	17,8	630	75	61	4,89
3 x 16	19,6	845	100	79	2,68
3 x 25	23,9	1.270	127	101	1,73
3 x 35	26,2	1.630	158	122	1,23
3 x 50	29,8	2.105	192	144	0,86
3 x 70	33,3	2.755	246	178	0,603
3 x 95	40,1	3.960	298	211	0,457
3 x 16 + 1 x 10	20,5	960	100	79	2,68
3 x 25 + 1 x 16	25	1.355	127	101	1,73
3 x 35 + 1 x 16	27,3	1.695	158	122	1,23
3 x 50 + 1 x 25	31,5	2.315	192	144	0,86
3 x 70 + 1 x 35	36	3.120	246	178	0,603
3 x 95 + 1 x 50	41,6	4.425	298	211	0,457
3 x 120 + 1 x 70	46,8	5.895	346	240	0,357
3 x 150 + 1 x 70	51,5	7.005	399	271	0,286
3 x 185 + 1 x 95	56,5	8.730	456	304	0,235
3 x 240 + 1 x 120	63,4	11.040	538	351	0,178
4 G 1,5	13,7	285	23	22	29,5
4 G 2,5	14,6	345	32	29	17,7
4 x 4	16,1	440	42	37	11
4 x 6	17,2	560	54	46	7,32
4 x 10	18,9	750	75	61	4,23
4 x 16	21	1.025	100	79	2,68

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
4 x 25	26	1.550	127	101	1,73
4 x 35	28,8	2.050	158	122	1,23
4 x 50	32,8	2.645	192	144	0,86
4 x 70	39,9	3.900	246	178	0,603
4 x 95	43,8	4.895	298	211	0,457
4 x 120	49,2	6.330	346	240	0,357
4 x 150	54,8	7.800	399	271	0,286
4 x 185	60,3	9.360	456	304	0,235
4 x 240	67,4	12.100	538	351	0,178
5 G 1,5	14,3	315	23	22	29,5
5 G 2,5	15,6	395	32	29	17,7
5 G 4	17	500	42	37	11
5 G 6	18,6	625	54	46	7,32
5 G 10	20,7	900	75	61	4,23
5 G 16	23,5	1.210	100	79	2,68
5 G 25	28,5	1.785	127	101	1,73
5 G 35	31,5	2.355	158	122	1,23
5 G 50	37,1	3.255	192	144	0,86
5 G 70	42,5	4.725	246	178	0,603
5 G 95	47,9	6.065	298	211	0,457
5 G 120	53,5	7.580	346	240	0,357
6 G 1,5	14,3	325	26	26	33,9
6 G 2,5	15,9	420	36	34	20,4
6 G 4	17,5	540	49	44	11,9
7 G 1,5	14,1	335	26	26	33,9
7 G 2,5	15,6	430	36	34	20,4
7 G 4	17,3	565	49	44	11,9
10 G 1,5	16,4	435	26	26	33,9
10 G 2,5	17,7	555	36	34	20,4
12 G 1,5	17,1	480	26	26	33,9
12 G 4	22,4	880	36	34	20,4
14 G 1,5	18,6	545	49	44	11,9
14 G 2,5	20,8	725	26	26	33,9
16 G 1,5	19,3	600	36	34	20,4
16 G 2,5	21,3	785	26	26	33,9
19 G 1,5	20	660	36	34	20,4
19 G 2,5	22,5	890	26	26	33,9
19 G 4	25,9	1.230	36	34	20,4
24 G 1,5	22	775	49	44	11,9
24 G 2,5	24,5	1.045	26	26	33,9
24 G 4	30	1.510	36	34	20,4
27 G 1,5	23,4	850	49	44	11,9
27 G 2,5	27	1.170	26	26	33,9
37 G 1,5	25,9	1.065	36	34	20,4
37 G 2,5	29,4	1.465	26	26	33,9
61 G 1,5	36,9	2.285	26	26	33,9

POWERHARD M RVMV-K

Galvanized steel wire armour cable.

IEC 60502-1 / UNE 21123-2

DESIGN

CPR COMPLIANT Construction Products Regulation EN 50575

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

E_{ca}

Insulation

Cross-linked polyethylene (XLPE).

The standard identification of insulated conductors is the following:

1 x	natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/yellow
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey+ Blue (reduced cross section)
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow
6 G or more conductors:	Black numbered + Green/yellow.

Armour bedding

PVC.

Armour

Galvanized steel wire armour. Aluminium armour is used in single-core cables to avoid parasite currents that may overheat the cable.

Outer sheath

Flexible PVC, black colour.

APPLICATIONS

Powerhard RVMV-K cable has been specially designed for use in petrol stations, petrochemical plants, flammable product warehouses, etc. At the same time, it can be used in installations such as production plants, agricultural facilities, street lighting and installations in general where the cable is subject to high mechanical aggression.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / UNE 21123-2

Approvals

CE
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x10 cable diameter.
Impact resistance: AG4 High severity.
Rodent proof

Chemical performance

Chemical & Oil resistance: Good.
UV Resistant: UNE 211605.
Potentially explosion hazard locations. (ATEX)

Water performance

Water resistance: AD7 Immersion.

Other

Meter by meter marking.

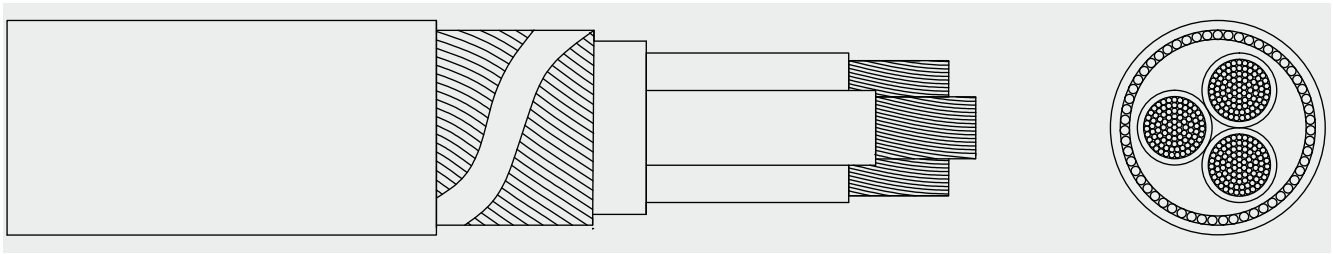
Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.

THIS CABLE IS ALSO AVAILABLE IN HYDROCARBON RESISTANT VERSION



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 16	13,9	336	101	79	2,55
1 x 25	15,6	469	135	101	1,61
1 x 35	16,8	583	169	122	1,16
1 x 50	18,2	719	207	144	0,86
1 x 70	19,9	949	268	178	0,594
1 x 95	23,6	1.353	328	211	0,428
1 x 120	25,6	1.623	383	240	0,339
1 x 150	27,5	1.933	444	271	0,275
1 x 185	29,7	2.358	510	304	0,22
1 x 240	32,7	2.967	607	351	0,167
1 x 300	35,6	3.416	703	396	0,142
1 x 400	40,0	4.381	823	464	0,108
1 x 500	44,3	5.621	946	525	0,085
1 x 630	50,3	7.284	1088	596	0,064
2 x 1,5	13,1	315	26	26	31,0
2 x 2,5	14,0	362	36	34	19,0
2 x 4	14,9	423	49	44	11,8
2 x 6	16,1	502	63	56	7,88
2 x 10	17,9	658	86	73	4,68
2 x 16	19,4	750	115	95	2,94
2 x 25	25,1	1.533	149	121	2,0
2 x 35	27,1	1.854	185	146	1,42
2 x 50	30,6	2.306	225	173	0,99
3 x 1,5	13,8	350	23	22	29,5
3 x 2,5	14,5	398	32	29	17,7
3 x 4	15,8	482	42	37	11,0
3 x 6	16,9	572	54	46	7,32
3 x 10	18,6	764	75	61	4,23
3 x 16	20,4	996	100	79	2,68
3 x 25	26,3	1.799	127	101	1,73
3 x 35	28,8	2.241	158	122	1,23
3 x 50	32,4	2.790	192	144	0,86
3 x 70	35,5	3.541	246	178	0,603
3 x 95	41,5	4.560	298	211	0,457
3 x 16 + 1 x 10	22,9	1.413	100	79	2,68
3 x 25 + 1 x 16	27,6	1.922	127	101	1,73
3 x 35 + 1 x 16	29,9	2.330	158	122	1,23
3 x 50 + 1 x 25	34,1	3.043	192	144	0,86
4 x 1,5	14,6	389	23	22	29,5
4 x 2,5	15,4	452	32	29	17,7
4 x 4	16,8	551	42	37	11,0
4 x 6	18,2	667	54	46	7,32

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
4 x 10	19,8	892	75	61	4,23
4 x 16	23,4	1.491	100	79	2,68
4 x 25	28,6	2.153	127	101	1,73
4 x 35	31,7	2.651	158	122	1,23
4 x 50	36,3	3.450	192	144	0,86
4 x 70	42,4	5.082	246	178	0,603
4 x 95	47,0	6.310	298	211	0,457
4 x 120	51,6	7.645	346	240	0,357
4 x 150	57,2	9.220	399	271	0,286
4 x 185	63,5	11.033	456	304	0,235
4 x 240	71,0	13.864	538	351	0,178
5 G 1,5	15,5	432	23	22	29,5
5 G 2,5	16,4	509	32	29	17,7
5 G 4	17,8	628	42	37	11,0
5 G 6	19,5	772	54	46	7,32
5 G 10	23,1	1.349	75	61	4,23
5 G 16	25,5	1.766	100	79	2,68
5 G 25	30,9	2.436	127	101	1,73
5 G 35	34,1	3.093	158	122	1,23
5 G 50	39,5	4.119	192	144	0,86
5 G 70	44,5	5.364	246	178	0,603
6 G 1,5	14,9	410	26	26	33,9
6 G 2,5	16,4	515	36	34	20,4
7 G 1,5	14,9	425	26	26	33,9
7 G 2,5	16,4	535	36	34	20,4
10 G 1,5	17,1	535	26	26	33,9
10 G 2,5	18,5	665	36	34	20,4
12 G 1,5	18,2	600	26	26	33,9
12 G 2,5	21,5	1.015	36	34	20,4
14 G 1,5	19,1	665	26	26	33,9
14 G 2,5	23,1	1.130	36	34	20,4
16 G 1,5	22,1	1.010	26	26	33,9
16 G 2,5	24,1	1.230	36	34	20,4
19 G 1,5	22,8	1.080	26	26	33,9
19 G 2,5	25,2	1.360	36	34	20,4
24 G 1,5	24,8	1.230	26	26	33,9
24 G 2,5	27,3	1.555	36	34	20,4
27 G 1,5	26,2	1.335	26	26	33,9
27 G 2,5	28,8	1.685	36	34	20,4
37 G 1,5	28,7	1.605	26	26	33,9
37 G 2,5	32,1	2.080	36	34	20,4

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

POWERHARD RV / U-1000 R2V

Universal cable for power transmission

IEC 60502-1 / NF C 32-321

DESIGN

CPR COMPLIANT Construction Products Regulation EN 50575

E_{ca}

Conductor

Electrolytic copper, class 1 (up to 4 mm2) or class 2 (from 6 mm2)

based on EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE)

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Blue + Brown
3G	Blue + Brown + Green/yellow
3x	Brown + Black + Grey
4G	Brown + Black + Grey + Green/yellow
4x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Flexible PVC, black colour, The outer sheath for each cross-section (up to 6mm^2) is marked with a unique colour stripe.

APPLICATIONS

Powerhard RV / U-1000 R2V cable has been specially designed for low voltage industrial-type connections, urban grids, building installations, etc. It can be buried or installed in a tube as well as outdoors without requiring additional protection. Lastly, the Powerhard RV / U-1000 R2V cable can withstand damp conditions including total immersion in water (AD7).




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / NF C 32-321

Approvals

CE
BUREAU VERITAS
NF-USE
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.
UV Resistant: UNE 211605 and NF-C 32-323.

Water performance

Water resistance: AD7 Immersion.

Other

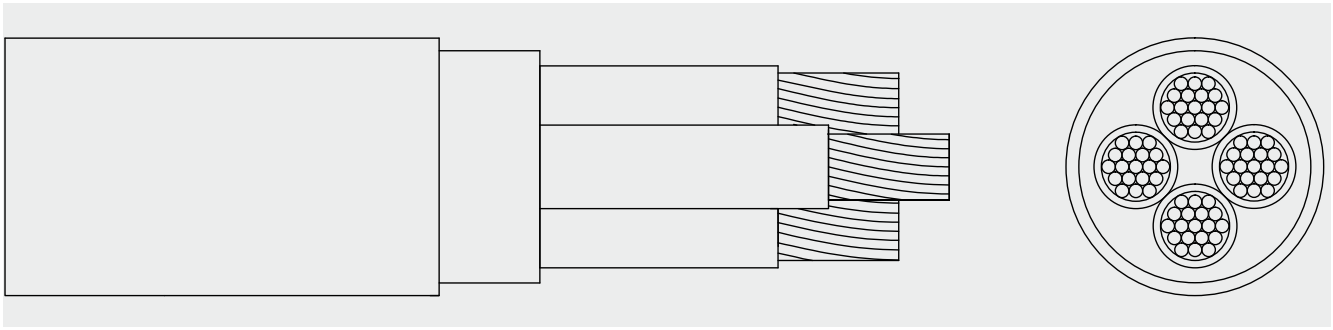
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Distribution network.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 6	7,3	105	53	46	6,83
1 x 10	8	145	74	61	4,06
1 x 16	8,9	200	101	79	2,55
1 x 25	10,9	310	135	101	1,61
1 x 35	11,8	410	169	122	1,16
1 x 50	13,3	530	207	144	0,86
1 x 70	15	745	268	178	0,594
1 x 95	17,2	1.015	328	211	0,428
1 x 120	19,1	1.260	383	240	0,339
1 x 150	21	1.550	444	271	0,275
1 x 185	22,9	1.935	510	304	0,22
1 x 240	26,3	2.500	607	351	0,167
1 x 300	29,2	3.095	703	396	0,133
1 x 400	33,1	4.015	823	464	0,104
2 x 1,5	8,2	100	26	26	31
2 x 2,5	8,8	130	36	34	19
2 x 4	10,1	175	49	44	11,8
2 x 6	11,7	245	63	56	7,88
2 x 10	13,1	340	86	73	4,68
2 x 16	14,6	480	115	95	2,94
3 x 1,5	8,5	115	23	22	26,8
3 x 2,5	9,6	155	32	29	16,4
3 x 4	10,6	215	42	37	10,2
3 x 6	12,4	295	54	46	6,83
3 x 10	13,8	430	75	61	4,06
3 x 16	15,8	630	100	79	2,55
3 x 25	20,8	1.025	127	101	1,61

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
3 x 35	23,5	1.390	158	122	1,16
3 x 50	27,2	1.840	192	144	0,86
3 x 70	31	2.575	246	178	0,594
4 x 1,5	9,3	140	23	22	26,8
4 x 2,5	10,2	185	32	29	16,4
4 x 4	11,6	260	42	37	10,4
4 x 6	13,2	370	54	46	6,83
4 x 10	15	530	75	61	4,06
4 x 16	17,2	785	100	79	2,55
4 x 25	23,6	1.325	127	101	1,61
4 x 35	26,1	1.765	158	122	1,16
4 x 50	30,1	2.335	192	144	0,86
4 x 70	34,4	3.285	246	178	0,594
4 x 95	39,4	4.460	298	211	0,428
4 x 120	44,4	5.610	346	240	0,339
4 x 150	48,7	6.885	399	271	0,275
4 x 185	53,7	8.590	456	304	0,22
4 x 240	61,8	11.200	538	351	0,167
5 G 1,5	10,1	160	23	22	26,8
5 G 2,5	11,3	225	32	29	16,4
5 G 4	12,6	315	42	37	10,2
5 G 6	14,8	445	54	46	6,83
5 G 10	16,9	660	75	61	4,06
5 G 16	19,8	1.020	100	79	2,55
5 G 25	26,1	1.625	127	101	1,61
5 G 35	28,7	2.160	158	122	1,16
5 G 50	33,4	2.870	192	144	0,86

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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POWERHARD
RV AL / U-1000 AR2V

Aluminium cable for power transmission.

HD 603-5N / NF C 32-321

DESIGN

CPR COMPLIANT
Construction Products Regulation
EN 50575

E_{ca}

Conductor

Aluminium, class 2 based on EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE)

Outer sheath

Flexible PVC, Black or grey colour.

APPLICATIONS

This Aluminuim cable is suitable for all types of underground networks for public power distribution, as well as low voltage connexions in industrial plants, urban networks, buildings, etc. Due to its rigidity, its use is recommended in installations with a simple configuration where a flexible cable is not needed.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

HD 603-5N / NF C 32-321

Approvals

CE
NF-USE
AENOR
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x 5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.
UV Resistant: UNE 211605 and NF-C 32-323.

Water performance

Water resistance: AD7 Immersion.

Other

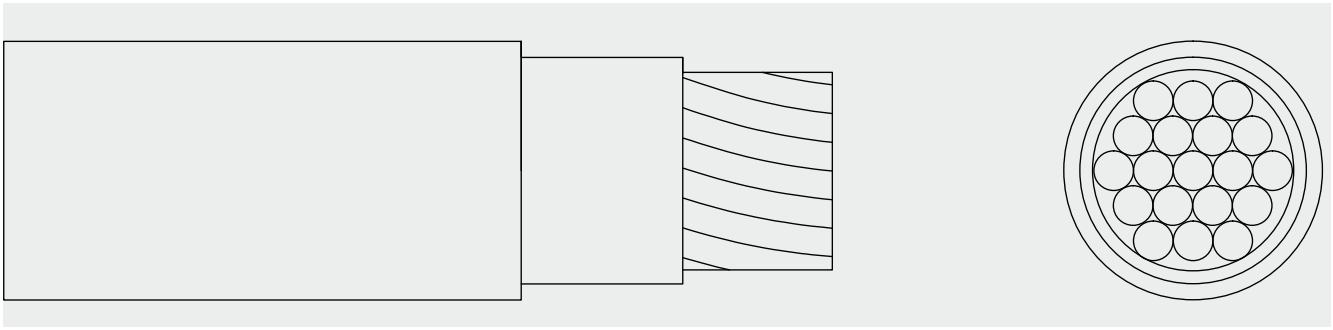
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Distribution network.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 40°C (A)	Buried 25°C (A)	Voltage drop (V/A · km)
1 x 50	12,8	225	159	117	1,42
1 x 70	15,1	310	206	144	0,982
1 x 95	16,5	395	253	172	0,709
1 x 120	18,1	485	296	197	0,561
1 x 150	20,2	595	343	220	0,457
1 x 185	22,6	740	395	250	0,364
1 x 240	24,8	930	471	290	0,277
1 x 300	28,2	1.135	547	326	0,222
1 x 400	31,2	1.460	663	380	0,172
1 x 500	35,4	1.810	770	428	0,134

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 40°C (A)	Buried 25°C (A)	Voltage drop (V/A · km)
1 x 630	40,9	2.385	899	485	0,104
3 x 300	58,8	4.840	471	326	0,222
4 x 35	25,8	880	120	98	1,92
4 x 95	37,8	1.980	227	172	0,709
4 x 120	42	2.470	263	197	0,561
4 x 150	47	3.080	304	220	0,457
4 x 240	58,2	5.080	409	290	0,277

Maximum current capacity according to IEC 60364-5-52.
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For more information please contact sales@topcable.com

TOXFREE ZH RZ1-K (AS) / YMz1Kf

Flexible and halogen free (LSZH) power cable for public places.

IEC 60502-1 / UNE 21123-4

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1
C_{ca}-s1a, d1, a1

XLPE / LSZH SAFETY POWER CABLES

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Cross-linked flame non propagation polyethylene (XLPE)

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Blue + Brown
3 G	Blue + Brown + Yellow/green
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey + Blue (reduced cross-section)
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow
6 G or more conductors:	Black numbered + Green/yellow (*)

(*) Z1Z1-K (AS) cable with special low smoke and halogen free polyolefine insulation.

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Green colour (*), non-toxic and fire retardant.

(*) Other outer sheath colours available on request.

APPLICATIONS

Toxfree ZH RZ1-K (AS) / YMz1Kf is a LSZH safety cable. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1

Approvals

CE
AENOR
SASO
SEC
RoHS

KEMA/KEUR

$B2_{ca}$-s1a, d1, a1 / C_{ca}-s1a, d1, a1
(see cross-sections)

Thermal performance

Maximum service temperature: 90°C.(*)
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD5 Jets.

Fire performance

Flame non propagation based on EN 60332-1 and IEC 60332-1.
No fire propagation based on EN 60332-3, IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on EN 60754 and IEC 60754.
Low smoke emission based on EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: C_{ca}-s1a,d1,a1 or $B2_{ca}$-s1a,d1,a1, according to EN 50575 (see cross-sections).

Other

Meter by meter marking.

Installation conditions

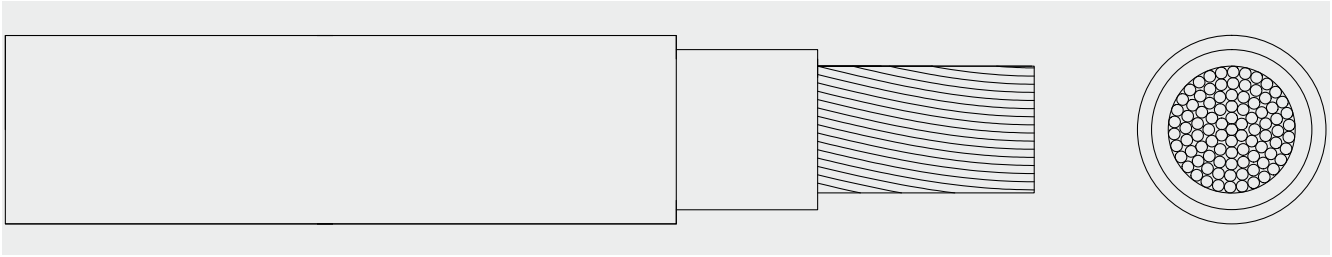
Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.

Packaging

Available in coils (lengths of 50 and 100 m) and drums.

DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 2,5	6,1	57	29	29	17,7
1 x 4	6,7	73	40	37	11
1 x 6	7,1	93	53	46	7,32
1 x 10	8,1	136	74	61	4,23
1 x 16	9,1	192	101	79	2,68
1 x 25	11	288	135	101	1,73
1 x 35	12,1	380	169	122	1,23
1 x 50	13,8	520	207	144	0,86
1 x 70	15,9	716	268	178	0,603
1 x 95	17,6	924	328	211	0,457
1 x 120	19,4	1.167	383	240	0,357
1 x 150	21,5	1.456	444	271	0,286
1 x 185	24,1	1.762	510	304	0,235
1 x 240	26,9	2.283	607	351	0,178
1 x 300	29,6	2.851	703	396	0,142
1 x 400	33,8	3.735	823	464	0,108
1 x 500	38	4.845	946	525	0,085
1 x 630	43,1	6.311	1.088	596	0,064
2 x 1,5	8,3	97	26	26	34
2 x 2,5	9,2	127	36	34	20,4
2 x 4	10,2	168	49	44	12,7
2 x 6	11,1	217	63	56	8,45
2 x 10	13	323	86	73	4,89
2 x 16	15,8	490	115	95	3,1
3 G 1,5	9	116	26	26	34
3 G 2,5	9,8	151	36	34	20,4
3 G 4	11	206	49	44	12,7
3 G 6	11,9	269	63	56	8,45
3 G 10	14,1	412	86	73	4,89
3 x 16	16,9	624	100	79	2,68
3 x 25	20,6	953	127	101	1,73
3 x 35	23,4	1.276	158	122	1,23
3 x 50	26,8	1.752	192	144	0,86
3 x 70	31,5	2.436	246	178	0,603
3 x 95	35,5	3.230	298	211	0,457
3 x 120	39,8	4.110	346	240	0,357
3 x 16 + 1 x 10	18	724	100	79	2,68
3 x 25 + 1 x 16	21,8	1.097	127	101	1,73
3 x 35 + 1 x 16	24,1	1.405	158	122	1,23
3 x 50 + 1 x 25	28,1	1.970	192	144	0,86
3 x 70 + 1 x 35	32,6	2.722	246	178	0,603
3 x 95 + 1 x 50	37	3.597	298	211	0,457
3 x 120 + 1 x 70	41,5	4.609	346	240	0,357
3 x 150 + 1 x 70	44,9	5.579	399	271	0,286
3 x 185 + 1 x 95	51,5	6.926	456	304	0,235

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
3 x 240 + 1 x 120	58,8	9.030	538	351	0,178
4 G 1,5	9,7	136	23	22	29,5
4 G 2,5	10,8	184	32	29	17,7
4 G 4	12	252	42	37	11
4 G 6	13,2	334	54	46	7,32
4 G 10	15,4	513	75	61	4,23
4 x 16	18,7	783	100	79	2,68
4 x 25	23,1	1.204	127	101	1,73
4 x 35	25,5	1.616	158	122	1,23
4 x 50	30,3	2.242	192	144	0,86
4 x 70	35,3	3.119	246	178	0,603
4 x 95	39,4	4.035	298	211	0,457
4 x 120	43,6	5.104	346	240	0,357
4 x 150	49,8	6.569	399	271	0,286
4 x 185	56,5	8.063	456	304	0,235
4 x 240	63,1	10.421	538	351	0,178
5 G 1,5	10,3	159	23	22	29,5
5 G 2,5	11,6	217	32	29	17,7
5 G 4	13	302	42	37	11
5 G 6	14,4	404	54	46	7,32
5 G 10	16,9	627	75	61	4,23
5 G 16	20,4	956	100	79	2,68
5 G 25	25,1	1.469	127	101	1,73
5 G 35	28,1	1.968	158	122	1,23
5 G 50	33,7	2.779	192	144	0,86
5 G 70	39,3	4.046	246	178	0,603
5 G 95	45	5.271	298	211	0,457
7 G 1,5	11,3	200	26	26	33,9
7 G 2,5	12,8	280	36	34	20,4
8 G 1,5	12,4	225	26	26	33,9
8 G 2,5	13,9	315	36	34	20,4
10 G 1,5	13,4	265	26	26	33,9
10 G 2,5	14,9	375	36	34	20,4
12 G 1,5	14,1	305	26	26	33,9
12 G 2,5	17,2	460	36	34	20,4
14 G 1,5	15,8	360	26	26	33,9
14 G 2,5	17,8	505	36	34	20,4
16 G 1,5	16,3	400	26	26	33,9
16 G 2,5	18,5	570	36	34	20,4
19 G 1,5	17	450	26	26	33,9
19 G 2,5	19,5	650	36	34	20,4
24 G 1,5	19,2	550	26	26	33,9
24 G 2,5	24,7	850	36	34	20,4
27 G 1,5	20,4	600	26	26	33,9
27 G 2,5	24,2	890	36	34	20,4

Z1Z1-K (AS) Cable

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

Top Cable

TOXFREE ZH YMz1K & XG

Halogen free (LSZH) power cable for public places.

HD 604 / DEKRA K 42D-1-5-C

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1

DESIGN

Conductor

Electrolytic copper, class 1, based on IEC 60228.

Insulation

Cross-linked flame non propagation polyethylene (XLPE)

The standard identification of insulated conductors is the following:

1 x	Black
2 x	Blue + Brown
3 G	Blue + Brown + Green/yellow
4 G	Brown + Black + Grey + Green/yellow
5 G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Grey colour, non-toxic and fire retardant.

APPLICATIONS

Toxfree ZH YMz1K & XG is a LSZH safety cable for fixed installations. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

HD 604 / DEKRA K 42D-1-5-C

Approvals

CE

$B2_{ca}$-s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$ -s1a,d1,a1 according to 50575.

Mechanical performance

Minimum bending radius: x8 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD5 Jets.

Other

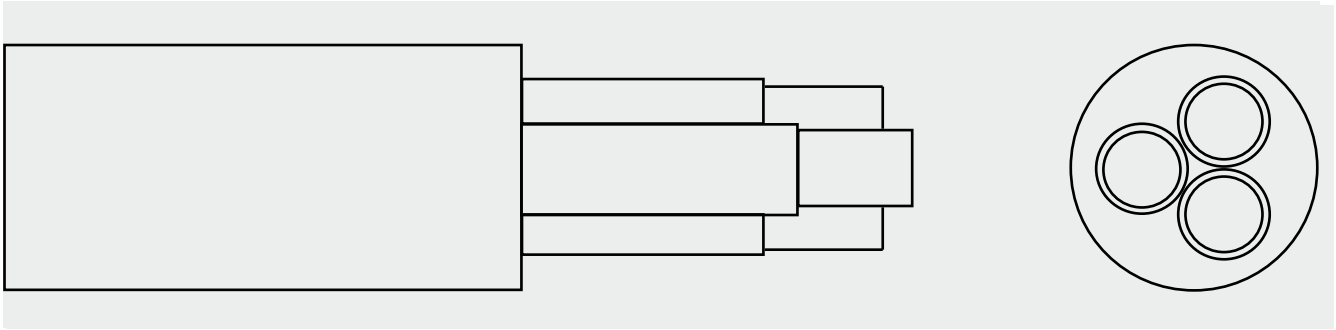
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
2 x 1,5	11,0	175	26	25	34,0
2 x 2,5	11,0	185	36	33	20,4
2 x 4	11,8	235	49	43	12,7
2 x 6	12,7	295	63	53	8,5
3 G 1,5	11,8	210	26	25	34,0
3 G 2,5	12,3	245	36	33	20,4
3 G 4	12,7	290	49	43	12,7
3 G 6	13,7	370	63	53	8,45
4 G 1,5	12,5	240	23	21	29,5
4 G 2,5	13,1	285	32	28	17,7
4 G 4	13,7	345	42	36	11,0
4 G 6	14,8	445	54	44	7,3
5 G 1,5	13,9	295	23	21	29,5
5 G 2,5	14,3	340	32	28	17,7
5 G 4	14,7	405	42	36	11,0
5 G 6	15,9	525	54	44	7,3

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its corresponding Declaration of Performance.
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For more information: sales@topcable.com

Top Cable

TOXFREE ZH FR-N1 X1G1

Halogen free (LSZH) power cable for public places.

IEC 60502-1 / HD 604

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1

XLPE / LSZH SAFETY POWER CABLES

DESIGN

Conductor

Electrolytic copper, class 1 (FR-N1 X1G1-U) or class 2

(FR-N1 X1G1-R), based on EN 60228 and IEC 60228.

Insulation

Cross-linked flame non propagation polyethylene (XLPE)

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/yellow
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey + Blue (reduced cross section)
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow
6 G or more conductors:	Black numbered + Green/yellow

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Green colour (*), non-toxic and fire retardant.

(*) Other outer sheath colours available on request.

APPLICATIONS

Toxfree ZH FR-N1 X1G1 is a LSZH safety cable. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

UNE-EN 60332-1 / HD 604

Approvals

CE
LCIE (in progress)

$B2_{ca}$-s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3, IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$ -s1a,d1,a1 according to 50575.

Mechanical performance

Minimum bending radius: x8 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD5 Jets.

Other

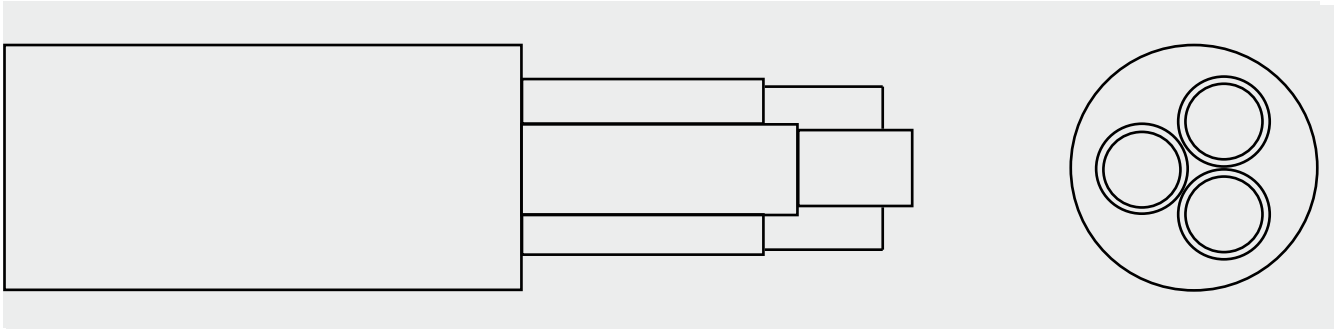
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
2 x 1,5	12,0	205	26	25	34,0
2 x 2,5	12,8	245	36	33	20,4
2 x 4	13,8	300	49	43	12,7
2 x 6 (*)	14,7	365	63	53	8,5
3 G 1,5	12,4	225	26	25	34,0
3 G 2,5	13,3	270	36	33	20,4
3 G 4	14,3	340	49	43	12,7
3 G 6 (*)	15,3	425	63	53	8,5
4 G 1,5	13,1	255	23	21	29,5
4 G 2,5	14,1	315	32	28	17,7
4 G 4	15,3	400	42	36	11,0
4 G 6 (*)	16,4	505	54	44	7,3
5 G 1,5	13,9	285	23	21	29,5
5 G 2,5	15,0	355	32	28	17,7
5 G 4	16,3	460	42	36	11,0
5 G 6 (*)	17,5	585	54	44	7,3

(*) FR-N1 X1G1-R cable

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its corresponding Declaration of Performance.
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For more information: sales@topcable.com

TOXFREE PLUS 331 ZH RZ1-K (AS+)

LSZH and fire resistant power cable, for emergency circuits.

IEC 60502-1 / UNE 211025

DESIGN

CPR COMPLIANT
Construction Products Regulation
EN 50575

C_{ca}-s1a, d1, a1

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Mica tape + XLPE

The standard identification of insulated conductors is the following:

1 x	Natural
2x	Blue + Brown
3 G	Blue + Brown + Green/yellow
4 G	Brown + Black + Grey + Green/yellow
5 G	Brown + Black + Grey + Green/yellow + Blue

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Orange colour, non-toxic, fire retardant and fire resistant.

APPLICATIONS

Toxfree Plus RZ1-K (AS+) is a fire resistant cable, specially designed to ensure the power supply to emergency circuits in the event of fire. During a fire you need critical circuits to work for life safety (signaling lights, fume extractors, acustic alarms, water pumps, etc) and a secure plant shutdown. For this reason, its use is highly recommended in public places such as: hospitals, tunnels, offices, production plants, laboratories, hotels, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / UNE 211025

Approvals

CE
RoHS

C_{ca}-s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD5 Jets.

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3 and EN 50399.
Fire resistant:(PH120) minimum 120 minutes at 840°C:
Based on EN 50200 and IEC 60331-2 for Ø cable < 20 mm.
Based on EN 50362 and IEC 60331-1 for Ø cable > 20 mm.
180' at 950°C (cat C) category C,W & Z based on BS6387.
Fire resistant 180' at 950°C (cat C) category C,W & Z based on BS6387 (300/500V).
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%.
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: C_{ca}-s1a,d1,a1, according to EN 50575.

Other

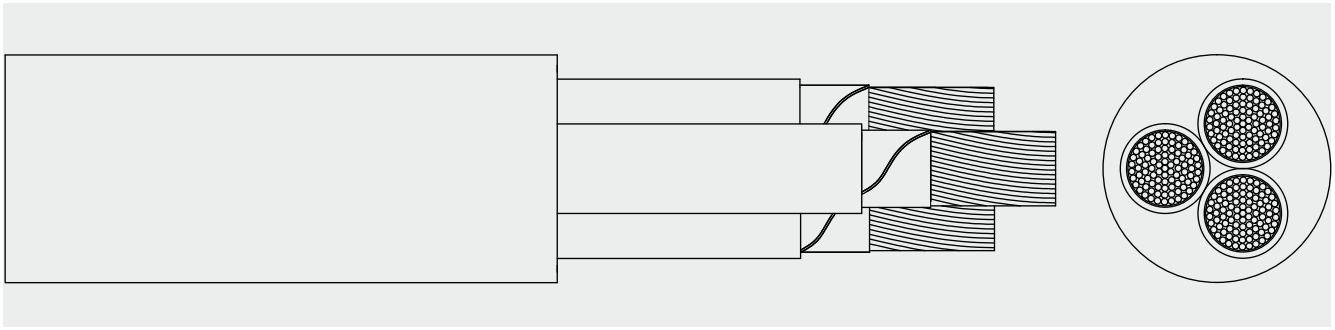
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Emergency circuits
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 2,5	7,1	61	29	29	17,7
1 x 4	7,7	78	40	37	11
1 x 6	8,1	100	53	46	7,32
1 x 10	9,1	144	74	61	4,23
1 x 16	10,1	200	101	79	2,68
1 x 25	12	298	135	101	1,73
1 x 35	13,1	391	169	122	1,23
1 x 50	14,8	533	207	144	0,86
1 x 70	16,9	732	268	178	0,603
1 x 95	18,6	942	328	211	0,457
1 x 120	20,4	1.188	383	240	0,357
1 x 150	22,5	1.479	607	351	0,178
1 x 185	25,1	1.788	703	396	0,142
1 x 240	27,9	2.312	823	464	0,108
1 x 300	30,6	2.884	946	525	0,085
1 x 400	34,8	3.773	1.088	596	0,064
1 x 500	39	4.890	26	26	34
1 x 630	44,1	6.363	36	34	20,4
2 x 1,5	10,3	101	49	44	12,7
2 x 2,5	11,2	134	63	56	8,45
2 x 4	12,2	178	86	73	4,89
2 x 6	13,1	230	115	95	3,1
2 x 10	15	339	444	271	0,286
2 x 16	17,8	507	510	304	0,235
3 G 1,5	11,1	122	49	44	12,7
3 G 2,5	11,9	162	63	56	8,45
3 G 4	13,1	221	86	73	4,89
3 G 6	14	289	100	79	2,68
3 G 10	16,2	436	127	101	1,73
3 x 16	19	649	158	122	1,23
3 x 25	22,7	982	192	144	0,86
3 x 35	25,5	1.310	246	178	0,603
3 x 50	28,9	1.792	23	22	29,5
3 x 70	33,6	2.484	32	29	17,7
4 G 1,5	12,1	144	42	37	11
4 G 2,5	13,2	198	54	46	7,32
4 G 4	14,4	272	75	61	4,23
4 G 6	15,6	360	100	79	2,68
4 G 10	17,8	545	127	101	1,73
4 x 16	21,1	817	158	122	1,23
4 x 25	25,5	1.242	26	26	34
4 x 35	27,9	1.661	36	34	20,4
4 x 50	32,7	2.295	192	144	0,86
4 x 70	37,7	3.183	246	178	0,603
4 x 95	41,8	4.109	298	211	0,457
4 x 120	46	5.187	346	240	0,357
4 x 150	52,2	6.661	399	271	0,286
4 x 185	58,9	8.166	456	304	0,235
4 x 240	65,5	10.538	538	351	0,178
5 G 1,5	13	169	23	22	29,5
5 G 2,5	14,3	235	32	29	17,7
5 G 4	15,7	327	42	37	11
5 G 6	17,1	437	54	46	7,32
5 G 10	19,6	667	75	61	4,23
5 G 16	23,1	998	100	79	2,68
5 G 25	27,8	1.517	127	101	1,73
5 G 35	30,8	2.024	158	122	1,23
5 G 50	36,4	2.846	192	144	0,86

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

TOXFREE ZH RZ1FZ1-K (AS)

Halogen free (LSZH) armoured cable with steel or aluminium tape armour.

IEC 60502-1 / UNE 21123-4

DESIGN

CPR COMPLIANT
Construction Products Regulation
EN 50575

C_{ca}-s1a, d1, a1

XLPE / LSZH SAFETY POWER CABLES

Conductor

Electrolytic copper, class 5 (flexible),

based on EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE).

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/yellow
3 x	Brown+ Black+ Grey
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow

Armour bedding

Low smoke zero halogen (LSZH) polyolefin inner sheath.

Armour

Double steel or aluminium tape armour. Aluminium armour is used in single-core cables to avoid parasite currents that may overheat the cable. Steel tape is used in the multicore cables.

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Green colour, non-toxic and fire retardant.

APPLICATIONS

Toxfree RZ1FZ1-K is an armoured LSZH safety cable. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is highly recommended for public places, in installations with presence of rodents, and installations in general where the cable is subject to risk of mechanical aggresion.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / UNE 21123-4

Approvals

CE
RoHS

C_{ca} -s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: C_{ca}-s1a,d1,a1 or according to EN 50575.

Mechanical performance

Minimum bending radius: x10 cable diameter.
Impact resistance: AG4 High severity.
Rodent proof

Chemical performance

Chemical & Oil resistance: Acceptable.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD5 Jets.

Other

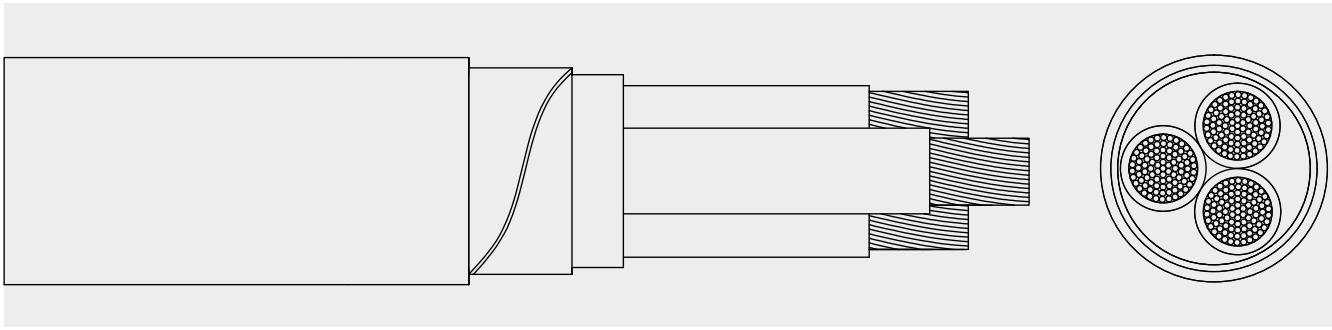
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 10	15,6	355	74	61	4,23
1 x 16	15,6	391	101	79	2,68
1 x 25	16,2	463	135	101	1,73
1 x 35	17,3	575	169	122	1,23
1 x 50	19,0	733	207	144	0,860
1 x 70	20,9	955	268	178	0,603
1 x 95	22,6	1.187	328	211	0,457
1 x 120	24,2	1.443	383	240	0,357
1 x 150	26,3	1.741	444	271	0,286
1 x 185	28,7	2.074	510	304	0,235
1 x 240	31,7	2.645	607	351	0,178
1 x 300	34,4	3.258	703	396	0,142
1 x 400	38,6	4190	823	464	0,108
1 x 500	42,5	5300	946	525	0,085
1 x 630	47,3	6825	1088	596	0,064
2 x 1,5	12,3	233	26	26	34,0
2 x 2,5	13,2	275	36	34	20,4
2 x 4	14,3	334	49	44	12,7
2 x 6	15,3	400	63	56	8,45
2 x 10	17,2	535	86	73	4,89
2 x 16	19,0	697	115	95	3,10
2 x 25	23,0	1.014	149	121	2,00
2 x 35	25,1	1.278	185	146	1,42
3 G 1,5	13,0	262	26	26	34,0
3 G 2,5	13,9	311	36	34	20,4
3 G 4	15,0	380	49	44	12,7
3 G 6	16,1	463	63	56	8,45
3 G 10	18,3	640	86	73	4,89
3 x 16	20,3	583	100	79	2,68
3 x 25	23,8	1.220	127	101	1,73
3 x 35	26,6	1.585	158	122	1,23
3 x 50	30,3	2.113	192	144	0,860

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
3 x 70	34,9	2.868	246	178	0,603
3 x 95	40,1	4.025	298	211	0,457
3 x 120	43,8	4.936	346	240	0,357
3 x 150	48,7	6.051	399	271	0,286
3 x 185	54,9	7.403	456	304	0,235
3 x 240	61,5	9.449	538	351	0,178
4 G 1,5	13,8	295	23	22	29,5
4 G 2,5	14,7	352	32	29	17,7
4 G 4	16,0	440	42	37	11,0
4 G 6	17,4	547	54	46	7,32
4 G 10	19,7	762	75	61	4,23
4 x 16	22,2	1.039	100	79	2,68
4 x 25	25,8	1.481	127	101	1,73
4 x 35	28,5	1.936	158	122	1,23
4 x 50	33,7	2.645	192	144	0,860
4 x 70	39,7	3.939	246	178	0,603
4 x 95	44,0	4.979	298	211	0,457
4 x 120	48,6	6.202	346	240	0,357
4 x 150	54,2	7.672	399	271	0,286
4 x 185	60,1	9.211	456	304	0,235
4 x 240	67,6	11.866	538	351	0,178
4 x 300	74,9	14.760	622	396	0,142
4 x 500	97,3	25.241	-	525	0,085
5 G 1,5	14,7	332	23	22	29,5
5 G 2,5	15,6	401	32	29	17,7
5 G 4	17,2	509	42	37	11,0
5 G 6	18,7	638	54	46	7,32
5 G 10	21,2	898	75	61	4,23
5 G 16	24,1	1.241	100	79	2,68
5 G 25	28,5	1.802	127	101	1,73
5 G 35	31,5	2.355	158	122	1,23

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
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For more information please contact sales@topcable.com

TOXFREE ZH RZ1MZ1-K (AS)

Halogen free (LSZH) armoured cable with galvanized steel wire armour (ATEX).

IEC 60502–1 / UNE 21123-4

CPR COMPLIANT
Construction Products Regulation
EN 50575

C_{ca}-s1a, d1, a1

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE).

The standard identification of insulated conductors is the following:

1 x	natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/yellow
3 x	Brown+ Black+ Grey
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow

Armour bedding

Low smoke zero halogen (LSZH) polyolefin inner sheath.

Armour

Galvanized steel wire armour. Aluminium armour is used in single-core cables to avoid parasite currents that may overheat the cable.

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Green colour, non-toxic and fire retardant.

APPLICATIONS

Toxfree RZ1MZ1-K is a LSZH is a safety cable. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is highly recommended for public places, in hazardous areas with explosive gas atmospheres (ATEX), and installations in general where the cable is subject to risk of mechanical aggresion.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / UNE 21123-4

Approvals

CE
RoHS

C_{ca} -s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: C_{ca}-s1a,d1,a1 or according to EN 50575.

Mechanical performance

Minimum bending radius: x10 cable diameter.
Impact resistance: AG4 High severity.
Rodent proof

Chemical performance

Chemical & Oil resistance: Acceptable.
UV Resistant: UNE 211605.
Potentially explosion hazard locations. (ATEX)

Water performance

Water resistance: AD5 Jets.

Other

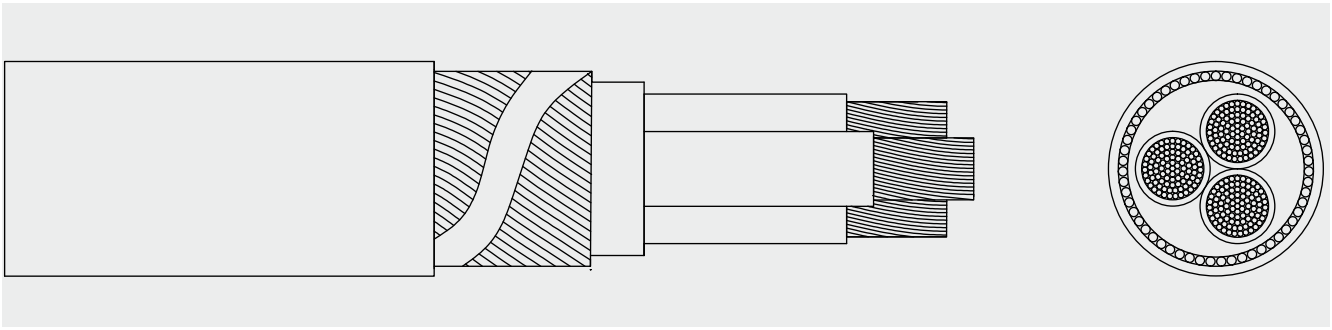
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Potentially explosion hazard locations. (ATEX)



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 10	14,6	341	74	61	4,23
1 x 16	15,3	405	101	79	2,68
1 x 25	17,6	550	135	101	1,73
1 x 35	18,7	665	169	122	1,23
1 x 50	20,3	835	207	144	0,86
1 x 70	22	1055	268	178	0,603
1 x 95	23,8	1.300	328	211	0,457
1 x 120	25,5	1.565	383	240	0,357
1 x 150	27,6	1.875	444	271	0,286
1 x 185	29,7	2.210	510	304	0,235
1 x 240	32,5	2.790	607	351	0,178
1 x 300	37,7	3.665	703	396	0,142
1 x 400	42,1	4.665	823	464	0,108
1 x 500	45,8	5.795	946	525	0,085
1 x 630	51,6	7.500	1.088	596	0,064
1 x 800	61,1	9.760	1.412	619	0,047
2 x 1,5	11,9	280	26	26	34
2 x 2,5	12,8	330	36	34	20,4
2 x 4	13,9	395	49	44	12,7
2 x 6	14,9	470	63	56	8,45
2 x 10	17	620	86	73	4,89
2 x 16	19,3	820	115	95	3,1
2 x 25	25,5	1.580	149	121	2
2 x 35	27,6	1.900	185	146	1,42
3 G 1,5	12,6	315	26	26	34
3 G 2,5	13,5	370	36	34	20,4
3 G 4	14,6	445	49	44	12,7
3 G 6	15,9	545	63	56	8,45
3 G 10	18,1	735	86	73	4,89
3 x 16	22,7	1.345	100	79	2,68
3 x 25	26,3	1.800	127	101	1,73
3 x 35	29,3	2.245	158	122	1,23
3 x 50	32,7	2.875	192	144	0,86
4 G 1,5	13,4	355	23	22	29,5
4 G 2,5	14,3	415	32	29	17,7
4 G 4	15,8	515	42	37	11
4 G 6	17,2	635	54	46	7,32
4 G 10	19,7	875	75	61	4,23
4 x 16	24,5	1.565	100	79	2,68
4 x 25	29	2.160	127	101	1,73
4 x 35	31,2	2.655	158	122	1,23
4 x 50	36,2	3.490	192	144	0,86
4 x 70	42,3	5.145	246	178	0,603
4 x 95	46,3	6.315	298	211	0,457
4 x 120	51,5	7.720	346	240	0,357
4 x 150	57,1	9.350	399	271	0,286
4 x 185	62,6	11.060	456	304	0,235
4 x 240	69,6	13.880	538	351	0,178
5 G 1,5	14,1	390	23	22	29,5
5 G 2,5	15,3	470	32	29	17,7
5 G 4	17	595	42	37	11
5 G 6	18,5	735	54	46	7,32
5 G 10	23,5	1.395	75	61	4,23
5 G 16	26,6	1.825	100	79	2,68
5 G 25	31,2	2.520	127	101	1,73
5 G 35	34,2	3.135	158	122	1,23
5 G 50	39,3	4.135	192	144	0,86
5 G 70	45,5	6.055	246	178	0,603
12 G 1,5	17,4	565	26	26	33,9
24 G 1,5	24,4	1.190	26	26	33,9

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information please contact sales@topcable.com

Top Cable

TOXFREE ZH RZ1 (AS) AL

Aluminium halogen free (LSZH) cable for power transmission

IEC 60502–1 / UNE 21123-4

DESIGN

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$ -s1a, d1, a1

XLPE / LSZH SAFETY POWER CABLES

Conductor

Aluminium, class 2, based on UNE-EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE).

The standard identification of insulated conductors is the following:

1 x	Natural
4 x	Brown + Black + Grey + Blue

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Green colour, non-toxic and fire retardant.

APPLICATIONS

Toxfree RZ1 AL is an aluminium LSZH cable for fixed installations. These cables are specially recommended for installation in public places and in instalations where safety is a priority.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / UNE 21123-4

Approvals

CE
RoHS

$B2_{ca}$-s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$-s1a,d1,a1, according to EN 50575.

Mechanical performance

Minimum bending radius: x 5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD5 Jets.

Other

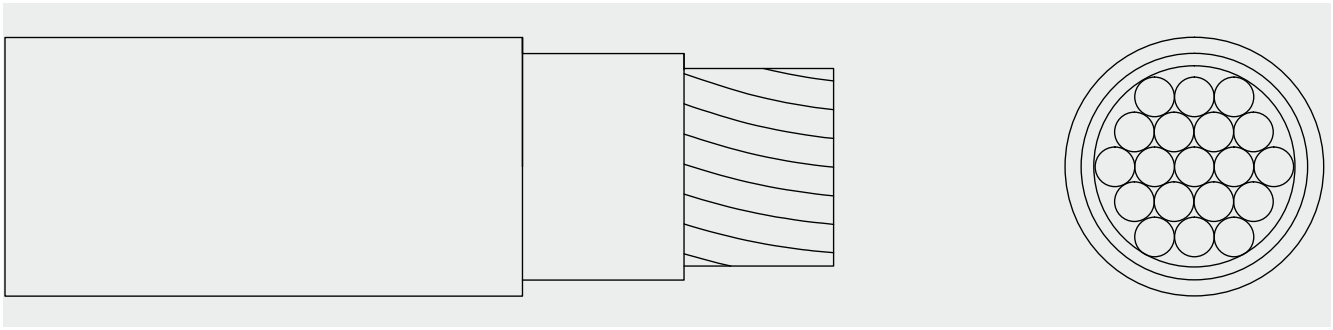
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Distribution network.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 40°C (A)	Buried 25°C (A)	Voltage drop (V/A · km)
1 x 25	10,5	145	103	82	2,66
1 x 35	11,6	180	129	98	1,92
1 x 50	13,3	245	159	117	1,42
1 x 70	15,4	325	206	144	0,982
1 x 95	16,7	415	253	172	0,709
1 x 120	18,1	485	296	197	0,561
1 x 150	20,3	625	343	220	0,457
1 x 185	22,4	725	395	250	0,364
1 x 240	25,2	970	471	290	0,277
1 x 300	28,2	1.170	547	326	0,222
1 x 400	31,2	1.455	663	380	0,172

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 40°C (A)	Buried 25°C (A)	Voltage drop (V/A · km)
4 x 150	46,8	2.985	304	220	0,457
4 x 185	52,5	3.840	347	250	0,364
4 x 240	58,2	4.890	409	290	0,277
4 x 300	66,3	6.045	471	326	0,22

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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TOXFREE ZH Z1Z1-U

Halogen free cable for fixed installations.

HD 604.5D VDE 0250-215

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1

DESIGN

Conductor

Electrolytic copper, class 1, based on EN 60228 and IEC 60228.

Insulation

Extra sliding low smoke zero halogen (LSZH) polyolefin insulation.

The standard identification of insulated conductors is the following:

3 G	Brown + Blue + Green/yellow
5 G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolifen. Light-grey colour, non-toxic and fire retardant.

APPLICATIONS

Toxfree ZH Z1Z1-U is a LSZH safety cable. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500 V

Standard

EN 60332-1 / EN 60332-3 / EN 60754 /
EN 61034 / EN 50399
IEC 60332-1 / IEC 60332-3 / IEC 60754 / IEC 61034

Approvals

CE

$B2_{ca}$ -s1a, d1, a1

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit
temperature: 160°C (max. 5 s).
Minimum service temperature: -30°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$-s1a,d1,a1 according to EN 50575.

Mechanical performance

Minimum bending radius: x8 cable diameter.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD5 Jets.

Other

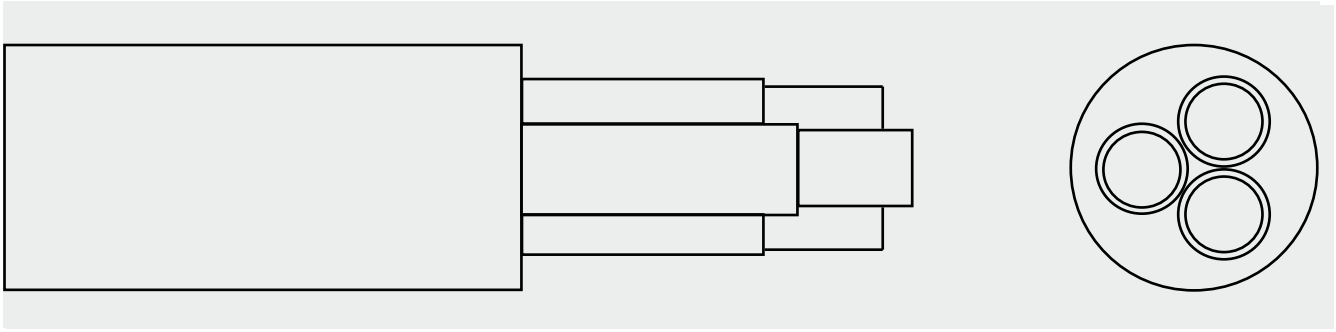
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
3 G 1,5	7,9	110	18,5	-	27,6
3 G 2,5	8,7	145	25,0	-	16,5
5 G 1,5	9,2	155	18,5	-	27,6
5 G 2,5	10,2	210	25,0	-	16,5
3 G 4	13,0	275	40,0	-	11,9
3 G 6	14,3	352	51,0	-	7,92

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information: sales@topcable.com

TOXFREE ZH H05Z1Z1-F

Flexible and halogen free cable for fixed installations.

EN-50525-3-11

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1

XLPE / LSZH SAFETY POWER CABLES

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

Extra sliding low smoke zero halogen (LSZH) polyolefin insulation.

The standard identification of insulated conductors is the following:

2 x	Brown + Blue
3 G	Blue + Brown + Yellow/green
3 X	Brown + Black + Grey
3 X + 1 X	Brown + Black + Grey + Blue (reduced cross section)
4 G	Brown + Black + Grey + Green/yellow
5 G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolifen. White colour (*), non-toxic and fire retardant.

(*) Other outer sheath colours available on request.

APPLICATIONS

Toxfree ZH H05Z1Z1-F is a LSZH safety cable. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500 V

Standard

EN 60332-1 / EN 60332-3 / EN 60754 /
EN 61034 / EN 50399
IEC 60332-1 / IEC 60332-3 / IEC 60754 / IEC 61034

Approvals

CE

$B2_{ca}$ -s1a, d1, a1

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit
temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3, IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$-s1a,d1,a1 according to EN 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD 5 Jets.

Other

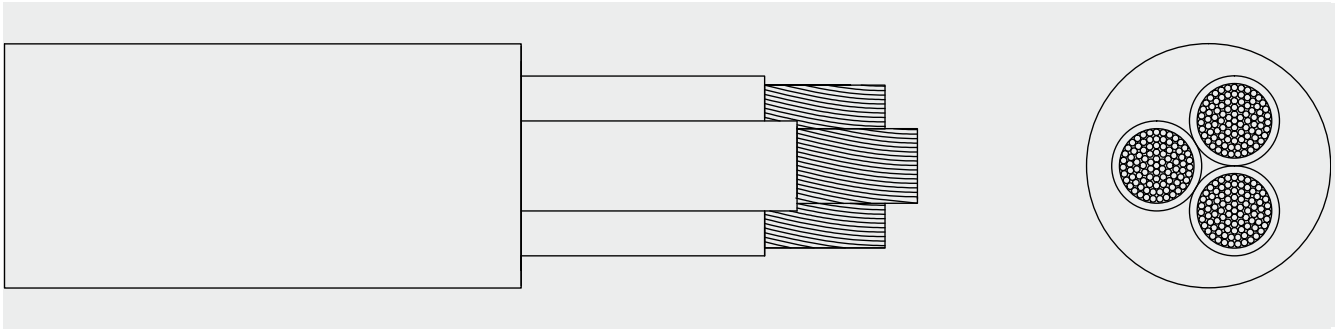
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
2 x 1,5	7,1	85	17,5	-	31,8
2 x 2,5	8,8	130	24,0	-	19,1
3 G 1,5	8,0	105	17,5	-	31,8
3 G 2,5	9,8	165	24,0	-	19,1
4 G 1,5	8,9	135	15,5	-	27,6
4 G 2,5	10,8	200	21,0	-	16,5
5 G 1,5	10,0	165	15,5	-	27,6
5 G 2,5	12,0	245	21,0	-	16,5

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its corresponding Declaration of Performance.
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For more information: sales@topcable.com

Top Cable

TOPFLEX VV-F H05VV-F

Flexible cable for connecting small electrical appliances.

EN 50525-2-11 / IEC 60227-5

CPR COMPLIANT Construction Products Regulation EN 50575

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

E_{ca}

Insulation

Flexible PVC.

The standard identification of insulated conductors is the following:

2x	Brown + Blue
3G	Brown + Blue + Green/yellow
4G	Brown + Black + Grey + Green/yellow
5G	Brown + Black + Grey + Blue + Green/yellow

Outer sheath

Flexible PVC. Standard colours are grey, white and black. Other colours available on request.

APPLICATIONS

Topflex VV-F H05VV-F cable has been specially designed for connecting small home appliances such as vacuum cleaners, washing machines, refrigerators, etc. It is recommended for household installations and can also be used for light mobile services. These cables are also suitable for fixed applications in furniture, wall partitions, and in hollow spaces of prefabricated building parts.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500 V

Standard

EN 50525-2-11 / IEC 60227-5

Approvals

CE
SEC
HAR
AENOR
SASO
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 60°C.
Maximum short-circuit temperature: 150°C (max. 5 s).
Minimum service temperature: 5°C.

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: 3 x cable Ø (Ø cable <12 mm2). 4 x cable Ø (Ø cable >12 mm2).
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.

Water performance

Water resistance: AD5 Jets.

Other

Meter by meter marking.

Installation conditions

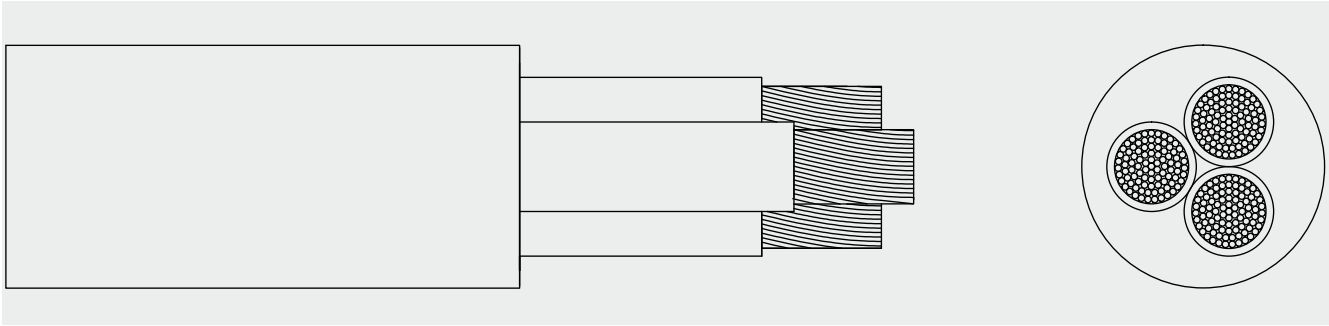
Open Air.
In conduit.

Applications

Mobile use.
Domestic use.
Domestic appliances.
Temporary site installations.

Packaging

Available in rolls (lengths of 50 and 100 m) and drums.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
2 x 0,75	6,2	52	6	-	60,3
2 x 1	6,3	57	10	-	45,2
2 x 1,5	7,1	77	16	-	30,9
2 x 2,5	9,1	123	25	-	18,5
2 x 4	10,6	174	32	-	11,5
3 G 0,75	6,6	62	6	-	60,3
3 G 1	6,8	71	10	-	45,2
3 G 1,5	8	99	16	-	30,9
3 G 2,5	9,8	153	25	-	18,5
3 G 4	11,2	214	32	-	11,5
4 G 0,75	7	74	6	-	52,2
4 G 1	7,7	90	10	-	39,2
4 G 1,5	8,9	125	16	-	26,7
4 G 2,5	10,8	188	20	-	16
4 G 4	12,3	263	25	-	9,95
5 G 0,75	8	97	6	-	52,2
5 G 1	8,3	108	10	-	39,2
5 G 1,5	10	156	16	-	26,7
5 G 2,5	11,9	239	20	-	16
5 G 4	13,9	331	25	-	9,95

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

Top Cable

FLEXTEL 110 ES05VV-F

Flexible multi-conductor control cable for mobile use.

UNE 21031-5 1C

DESIGN

CPR COMPLIANT Construction Products Regulation EN 50575

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

E_{ca}

Insulation

Flexible PVC.

The standard identification of insulated conductors is the following:

6 or more conductors	Black numbered + Green/yellow

Outer sheath

Flexible PVC, grey or black colour.

APPLICATIONS

Flextel ES05VV-F is a flexible cable for mobile service. Suitable for the connection of machinery parts used in manufacturing, including machine tools. Suitable for indoor use. Its installation is recommended in fixed ducts. Not suitable for buried installations.




CHARACTERISTICS

Electrical performance
LOW VOLTAGE 300/500 V

Standard
UNE 21031-5 1C

Approvals
CE
SASO
RoHS

E_{ca}

Thermal performance
Maximum service temperature: 60°C.
Maximum short-circuit temperature: 150°C (max. 5 s).
Minimum service temperature: 5°C.

Fire performance
Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance
Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

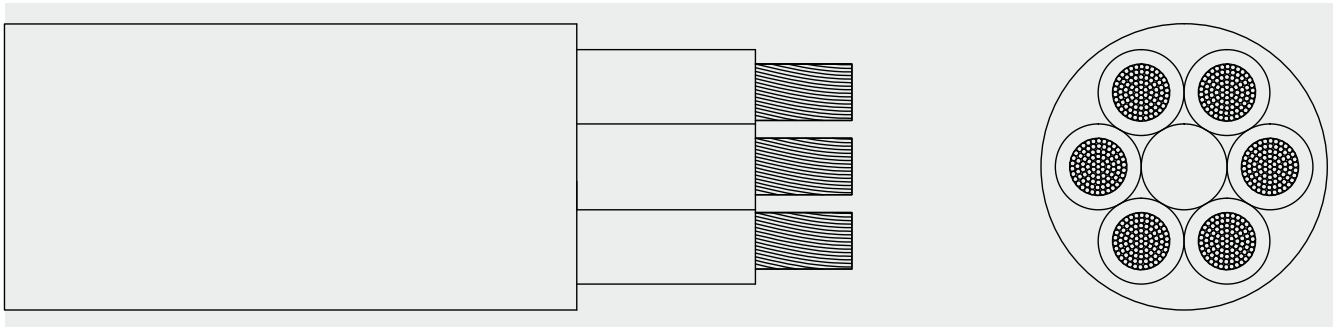
Chemical performance
Chemical & Oil resistance: Good.

Water performance
Water resistance: AD5 Jets.

Other
Meter by meter marking.

Installation conditions
Open Air.
In conduit.

Applications
Mobile use.
Domestic use.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
6 x 1	7,9	110	10	-	45,2
7 x 1	7,9	115	10	-	45,2
8 x 1	8,6	135	10	-	45,2
10 x 1	9,7	165	10	-	45,2
12 x 1	10,3	190	10	-	45,2
14 x 1	10,7	215	10	-	45,2
16 x 1	11,4	245	10	-	45,2
19 x 1	12,1	280	10	-	45,2
24 x 1	13,7	345	10	-	45,2
27 x 1	14,4	380	10	-	45,2
30 x 1	14,7	410	10	-	45,2
33 x 1	15,7	460	10	-	45,2
37 x 1	17,2	535	10	-	45,2
44 x 1	18,9	635	10	-	45,2
52 x 1	20,1	740	10	-	45,2
61 x 1	21,7	870	10	-	45,2

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

Top Cable

FLEXTEL 140
H05VV5-F

Flexible oil resistant control cable, for mobile use.

EN 50525-2-51

CPR COMPLIANT
Construction Products Regulation
EN 50575
E_{ca}

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

Flexible PVC.

The standard identification of insulated conductors is the following:

2 x	Black numbered
3 or more conductors	Black numbered + Green/yellow

Outer sheath

Flexible PVC oil resistant outer sheath, grey colour.

APPLICATIONS

Flextel H05VV5-F is a cable for signalling and control systems. It is especially suitable for connecting industrial equipment and machine tools. Due to its properties, it is recommended for robotics and light mobile services. Its special vinilic outer sheath compound is particularly resistant to mineral oils and other chemical agents. It can be installed in either dry or humid environments.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500 V

Standard

EN 50525-2-51

Approvals

CE
HAR
AENOR
SASO
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 60°C.
Maximum short-circuit temperature: 150°C (max. 5 s).
Minimum service temperature: 5°C. (Mobile use)

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: 3 x cable Ø (up to 12 mm2).
4 x cable Ø (12 mm2 onwards).
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Excellent.
Grease & mineral oils resistance: Good.

Water performance

Water resistance: AD5 Jets.

Other

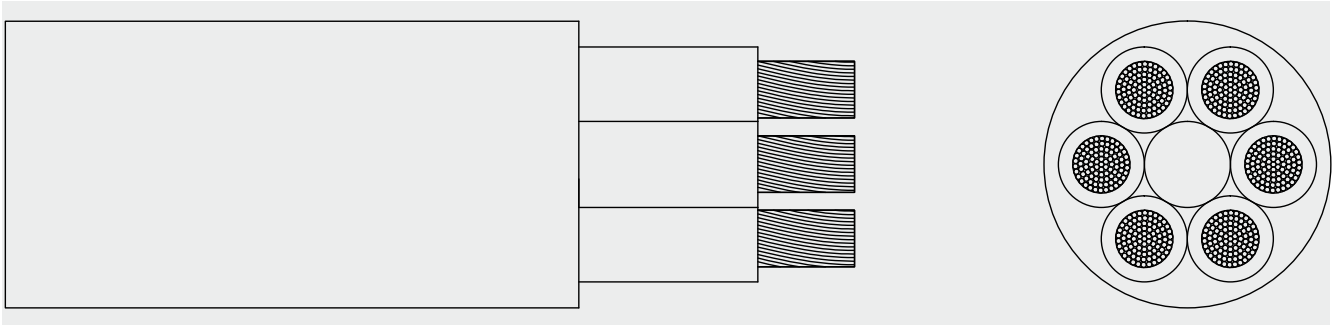
Meter by meter marking.

Installation conditions

Open Air.
In conduit.

Applications

Industrial use.
Mobile use.
Robotics.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
2 x 0,75	6,2	50	6	- -	60,3
3 G 0,75	6,5	60	6	- -	60,3
4 G 0,75	7,0	72	6	- -	60,3
5 G 0,75	8,0	91	6	- -	60,3
7 G 0,75	9,6	124	6	- -	60,3
8 G 0,75	9,6	132	6	- -	60,3
12 G 0,75	11,3	187	6	- -	60,3
18 G 0,75	13,8	277	6	- -	60,3
27 G 0,75	16,5	391	6	- -	60,3
36 G 0,75	19,3	508	6	- -	60,3
2 x 1	6,3	55	10	- -	45,2
3 G 1	6,8	69	10	- -	45,2
4 G 1	7,6	87	10	- -	45,2
5 G 1	8,3	104	10	- -	45,2
6 G 1	9,0	125	10	- -	45,2
7 G 1	10,1	144	10	- -	45,2
8 G 1	10,1	156	10	- -	45,2
10 G 1	11,2	194	10	- -	45,2
12 G 1	12,1	225	10	- -	45,2
14 G 1	12,6	262	10	- -	45,2
16 G 1	14,0	301	10	- -	45,2
18 G 1	14,8	332	10	- -	45,2
24 G 1	16,2	420	10	- -	45,2
27 G 1	17,6	470	10	- -	45,2
30 G 1	17,9	506	10	- -	45,2
33 G 1	18,8	561	10	- -	45,2
36 G 1	19,9	601	10	- -	45,2
44 G 1	22,6	737	10	- -	45,2
52 G 1	23,6	868	10	- -	45,2
60 G 1	25,5	994	10	- -	45,2
2 x 1,5	7,1	74	16	- -	30,9
3 G 1,5	8,0	97	16	- -	30,9
4 G 1,5	8,9	122	16	- -	30,9
5 G 1,5	10,0	151	16	- -	30,9
6 G 1,5	10,7	176	16	- -	30,9

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
7 G 1,5	11,9	205	16	- -	30,9
8 G 1,5	11,9	222	16	- -	30,9
10 G 1,5	13,1	271	16	- -	30,9
12 G 1,5	13,8	313	16	- -	30,9
14 G 1,5	15,1	365	16	- -	30,9
16 G 1,5	16,3	421	16	- -	30,9
18 G 1,5	17,0	463	16	- -	30,9
24 G 1,5	19,6	606	16	- -	30,9
27 G 1,5	20,8	667	16	- -	30,9
30 G 1,5	21,7	729	16	- -	30,9
33 G 1,5	22,7	797	16	- -	30,9
36 G 1,5	23,3	872	16	- -	30,9
44 G 1,5	26,0	1.057	16	- -	30,9
52 G 1,5	28,1	1.239	16	- -	30,9
60 G 1,5	29,7	1.420	16	- -	30,9
2 x 2,5	9,1	119	25	- -	18,5
3 G 2,5	9,6	145	25	- -	18,5
4 G 2,5	10,8	184	25	- -	18,5
5 G 2,5	12,0	228	25	- -	18,5
6 G 2,5	12,8	263	25	- -	18,5
7 G 2,5	13,9	304	25	- -	18,5
8 G 2,5	14,3	342	25	- -	18,5
10 G 2,5	15,7	413	25	- -	18,5
12 G 2,5	16,8	480	25	- -	18,5
14 G 2,5	18,5	560	25	- -	18,5
16 G 2,5	19,7	646	25	- -	18,5
18 G 2,5	20,9	717	25	- -	18,5
24 G 2,5	23,5	921	25	- -	18,5
27 G 2,5	25,0	1.022	25	- -	18,5
30 G 2,5	26,3	1.119	25	- -	18,5
33 G 2,5	27,4	1.235	25	- -	18,5
36 G 2,5	28,7	1.340	25	- -	18,5
44 G 2,5	33,2	1.626	25	- -	18,5
52 G 2,5	34,6	1.900	25	- -	18,5
60 G 2,5	37,1	2.215	25	- -	18,5

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

Top Cable

FLEXTEL 200 VV-K

Flexible 0,6/1kV control cable.

IEC 60502-1 / UNE 21123-1

CPR COMPLIANT
Construction Products Regulation
EN 50575

E_{ca}

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Flexible PVC.

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Brown + Blue
3 G	Brown + Blue + Green/yellow
3 x	Brown + Black +Blue
3 x + 1	Brown + Black + Black + Blue (reduced cross section)
4 G	Brown + Black + Blue + Green/yellow
4 x	Brown + Black + Black + Blue
5 G	Brown + Black + Black + Blue + Green/yellow
6 or more conductors	Black numbered+ Green/yellow

Other identifications are possible on request.

Outer sheath

Flexible PVC outer sheath, black colour. Other colours available on request.

APPLICATIONS

Flextel VV-K cable is suitable for fixed installations with complex layouts where flexible cables are required. It is also ideal for connecting motors or frequency converters. The characteristics of the outer sheath material make this cable extremely versatile as it provides a high level of protection in all types of environments.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1 / UNE 21123-1

Approvals

CE
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 60°C.
Maximum short-circuit temperature: 150°C (max. 5 s).
Minimum service temperature: 5°C. (Mobile use)

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: 3 x cable Ø (up to 12 mm2).
4 x cable Ø (12 mm2 onwards).
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD5 Jets.

Other

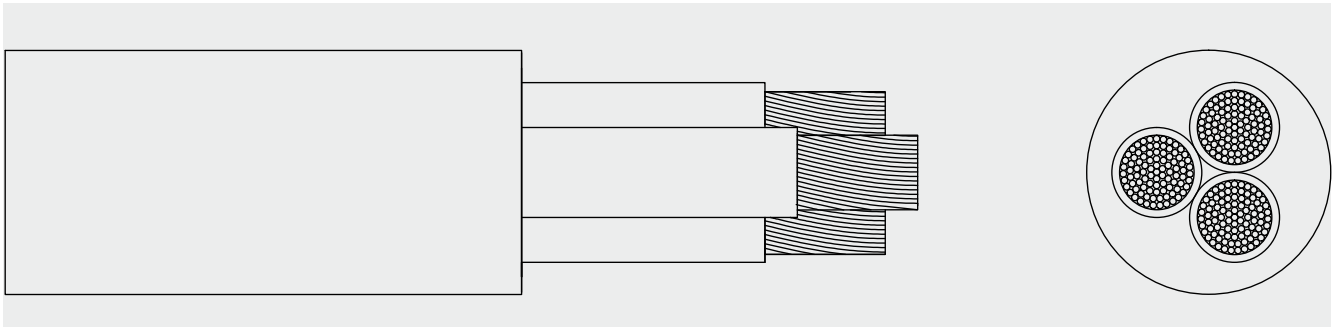
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 10	8,8	155	60	52	3,97
1 x 16	9,8	215	82	67	2,51
1 x 25	11,6	315	110	86	1,62
1 x 35	12,7	415	137	103	1,15
1 x 50	14,6	570	167	122	0,802
1 x 70	16	755	216	151	0,565
1 x 95	18,2	990	264	179	0,428
1 x 120	20,1	1.245	308	203	0,335
1 x 150	22,4	1.545	356	230	0,268
1 x 185	24,7	1.870	409	258	0,22
1 x 240	27,5	2.425	485	297	0,166
2 x 1,5	8,4	100	22	22	31,9
2 x 2,5	9,7	140	30	29	19,2
2 x 4	11,6	210	40	38	11,9
2 x 6	12,7	265	51	47	7,92
2 x 10	14,6	380	70	63	4,58
2 x 16	16,5	530	94	81	2,9
3 x 1,5	8,9	120	22	22	31,9
3 x 2,5	10,3	170	30	29	19,2
3 x 4	12,4	255	40	38	11,9
3 x 6	13,6	325	51	47	7,92
3 x 10	15,8	485	70	63	4,58
3 x 16	18	680	80	67	2,51
3 x 25	21,5	1.050	101	86	1,62
3 x 35	24,7	1.415	126	103	1,15
4 x 1,5	9,7	145	18,5	18	27,6
4 x 2,5	11,3	210	25	24	16,6
4 x 4	13,5	310	34	31	10,3
4 x 6	14,9	405	43	39	6,86
4 x 10	17,4	605	60	52	3,97
4 x 16	20,2	895	80	67	2,51
5 x 1,5	10,5	175	18,5	18	27,6
5 x 2,5	12,3	250	25	24	16,6
5 x 4	14,9	370	34	31	10,3
5 x 6	16,5	490	43	39	6,86
5 x 10	19,3	745	60	52	3,97
5 x 16	22,3	1.080	80	67	2,51
6 x 1,5	9,5	155	22	22	31,9
6 x 2,5	11,4	235	30	29	19,2
7 x 1,5	9,5	170	22	22	31,9
7 x 2,5	11,4	260	30	29	19,2
7 x 4	14,9	430	40	38	11,9
7 x 6	16,6	585	51	47	7,92
7 x 10	20,7	960	68	55	4,88
8 x 1,5	10,3	195	22	22	31,9
8 x 2,5	12,5	300	30	29	19,2
10 x 1,5	11,5	235	22	22	31,9
10 x 2,5	14,1	365	30	29	19,2
12 x 1,5	11,9	270	22	22	31,9
12 x 2,5	14,3	415	30	29	19,2
14 x 1,5	13	315	22	22	31,9
14 x 2,5	16	490	30	30	19,2
16 x 1,5	13,8	355	22	22	31,9
16 x 2,5	17,2	555	30	29	19,2
19 x 1,5	14,5	405	22	22	31,9
19 x 2,5	17,9	635	30	29	19,2
24 x 1,5	16,7	505	22	22	31,9
24 x 2,5	20,6	790	30	29	19,2
27 x 1,5	17,4	550	22	22	31,9
30 x 1,5	18,2	605	22	22	31,9
37 x 1,5	19,8	740	22	22	31,9
44 x 1,5	21,9	870	22	22	31,9
52 x 1,5	23,4	1.020	22	22	31,9
61 x 1,5	25,4	1.210	22	22	31,9

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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Top Cable

TOXFREE ZH Z1Z1-K (AS)

Flexible and halogen free (LSZH) power cable for public places.

IEC 60502-1 / UNE 21123-4

DESIGN

CPR COMPLIANT
Construction Products Regulation
EN 50575

$B2_{ca}$-s1a, d1, a1

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Special low smoke and halogen free polyolefine insulation.

The standard identification of insulated conductors is the following:

6 G or more conductors:	Black numbered + Green/yellow

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Green colour (*), non-toxic and fire retardant.

(*) Other outer sheath colours available on request.

APPLICATIONS

Toxfree ZH Z1Z1-K (AS) is a LSZH safety cable. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1

Approvals

CE
AENOR
SASO
SEC
RoHS

KEMA/KEUR

$B2_{ca}$-s1a, d1, a1

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD5 Jets.

Fire performance

Flame non propagation based on EN 60332-1 and IEC 60332-1.
No fire propagation based on EN 60332-3, IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on EN 60754 and IEC 60754.
Low smoke emission based on EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: $B2_{ca}$-s1a,d1,a1, according to EN 50575.

Other

Meter by meter marking.

Installation conditions

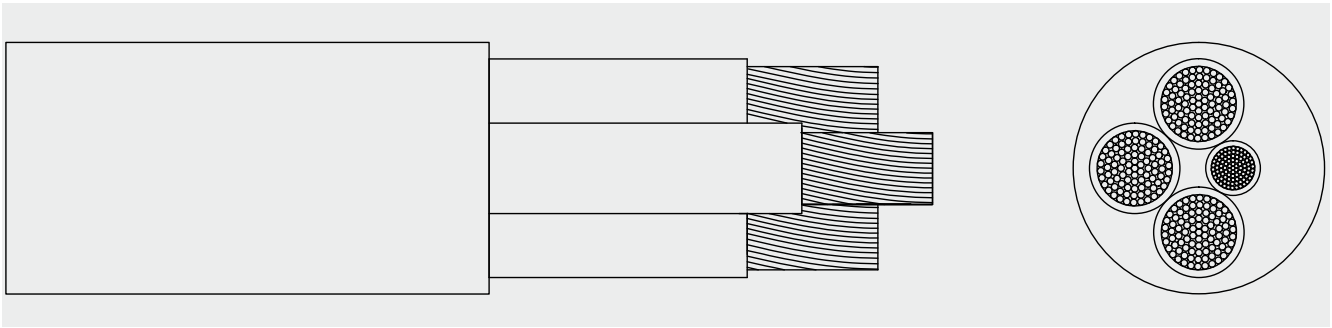
Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.

Packaging

Available in coils (lengths of 50 and 100 m) and drums.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
7 G 1,5	11,3	200	26	26	33,9
7 G 2,5	12,8	280	36	34	20,4
8 G 1,5	12,4	225	26	26	33,9
8 G 2,5	13,9	315	36	34	20,4
10 G 1,5	13,4	265	26	26	33,9
10 G 2,5	14,9	375	36	34	20,4
12 G 1,5	14,1	305	26	26	33,9
12 G 2,5	17,2	460	36	34	20,4
14 G 1,5	15,8	360	26	26	33,9
14 G 2,5	17,8	505	36	34	20,4
16 G 1,5	16,3	400	26	26	33,9
16 G 2,5	18,5	570	36	34	20,4
19 G 1,5	17	450	26	26	33,9
19 G 2,5	19,5	650	36	34	20,4
24 G 1,5	19,2	550	26	26	33,9
24 G 2,5	24,7	850	36	34	20,4
27 G 1,5	20,4	600	26	26	33,9
27 G 2,5	24,2	890	36	34	20,4

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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Top Cable

SCREENFLEX 110 & 200
LiYCY VC4V-K

Flexible screened PVC cable, for safe signal transmission.

EN 50525

DESIGN

CPR COMPLIANT
Construction Products Regulation
EN 50575

C_{ca}-s2, d1, a3
E_{ca}

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

Flexible PVC.

The standard identification of insulated conductors is the following:

1 x	natural
2 x	Blue + Brown
3 x	Blue + Black + Brown
3 G	Blue + Brown + Green/yellow
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Green/yellow + Blue
6 G	Black numbered + Green/yellow.

Other identifications (JZ, OZ, J, Z) are available on request.

Screen

Aluminium-polyester tape screen with overlapping tinned copper braid, ensuring full screening coverage.

Outer sheath

Flexible PVC, black or grey colour (grey for fire non-propagation). The ripcord allows you to gently tear the outer-sheath allowing you to gently peel it away without damaging the screen.

APPLICATIONS

Screenflex LiYCY VC4V-K is a screened control cable. It is used in all types of signal transmission connections where the voltage induced by an exterior electromagnetic field may affect the signal transmitted. Its most common applications are: control circuits, electronic equipment connections, computer systems, etc.




CHARACTERISTICS

Electrical performance

Screenflex 110 LiYCY VC4V-K LOW VOLTAGE 300/500 V
Screenflex 200 VC4V-K LOW VOLTAGE 0,6/ 1kV

Standard

Screenflex 110 LiYCY VC4V-K: EN 50525
Screenflex 200 VC4V-K LOW: IEC 60502-1 / UNE 21123-1

Approvals

CE
RoHS

C_{ca}-s2,d1,a3 (grey outer sheath)

E_{ca} (black outer sheath)

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3 (only grey outer sheath).
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: C_{ca}-s2,d1,a3 or E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD5 Jets.

Other

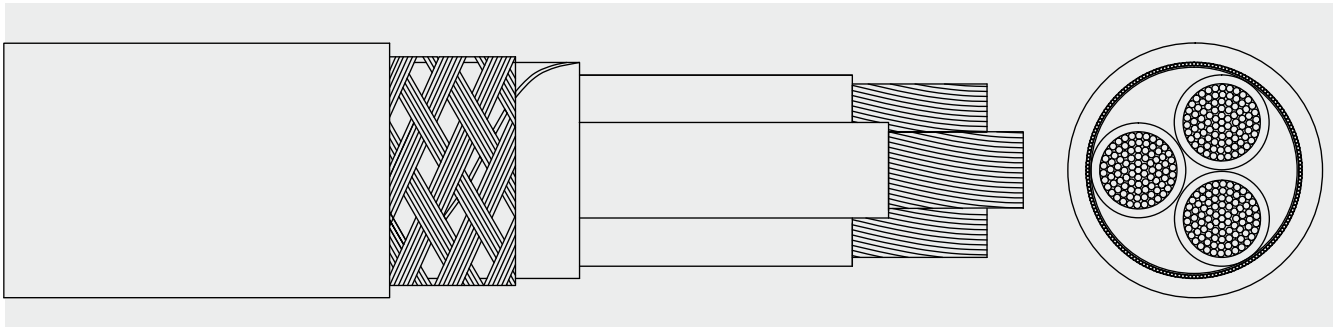
Meter by meter marking.
Ripcord.
Electric fields resistant.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.



DIMENSIONS
SCREENFLEX 110 LiYCY VC4V-K 300 / 500 V

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
2 x 0,75	6,2	55	6	- -	62,4
2 x 1	6,3	60	10	- -	46,8
2 x 1,5	7,3	75	16	- -	31,9
3 G 0,75	6,5	65	6	- -	62,4
3 G 1	6,6	70	10	- -	46,8
3 G 1,5	7,7	95	16	- -	31,9
4 G 0,75	6,9	75	6	- -	62,4
4 G 1	7	85	10	- -	46,8
4 G 1,5	8,4	120	16	- -	31,9
5 G 0,75	7,4	90	6	- -	62,4
5 G 1	7,8	105	10	- -	46,8
5 G 1,5	9,5	150	16	- -	31,9
6 G 0,75	7,9	105	6	- -	62,4
6 G 1	8,3	125	10	- -	46,8
6 G 1,5	10,2	175	16	- -	31,9
7 G 0,75	8	110	6	- -	62,4
7 G 1	8,3	130	10	- -	46,8
7 G 1,5	10,2	190	16	- -	31,9
8 G 0,75	8,7	125	6	- -	62,4
8 G 1	9,3	155	10	- -	46,8
8 G 1,5	11	215	16	- -	31,9
10 G 0,75	9,7	150	6	- -	62,4
10 G 1	10,3	185	10	- -	46,8

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
10 G 1,5	12,5	265	16	- -	31,9
12 G 0,75	10,3	170	6	- -	62,4
12 G 1	10,8	210	10	- -	46,8
12 G 1,5	12,9	300	16	- -	31,9
14 G 0,75	10,7	195	6	- -	62,4
14 G 1	11,1	235	10	- -	46,8
14 G 1,5	13,7	340	16	- -	31,9
16 G 0,75	11,4	220	6	- -	62,4
16 G 1	12	270	10	- -	46,8
16 G 1,5	14,5	370	16	- -	31,9
19 G 0,75	12	245	6	- -	62,4
19 G 1	12,8	310	10	- -	46,8
19 G 1,5	15,4	450	16	- -	31,9
24 G 0,75	13,4	305	6	- -	62,4
24 G 1	14,2	380	10	- -	46,8
24 G 1,5	17,5	555	16	- -	31,9
30 G 0,75	14,4	380	6	- -	62,4
30 G 1	15,5	465	10	- -	46,8
30 G 1,5	19	680	16	- -	31,9
37 G 1	16,9	560	10	- -	46,8
37 G 1,5	20,5	815	16	- -	31,9
52 G 1	19,4	730	10	- -	46,8
61 G 1	20,5	835	10	- -	46,8

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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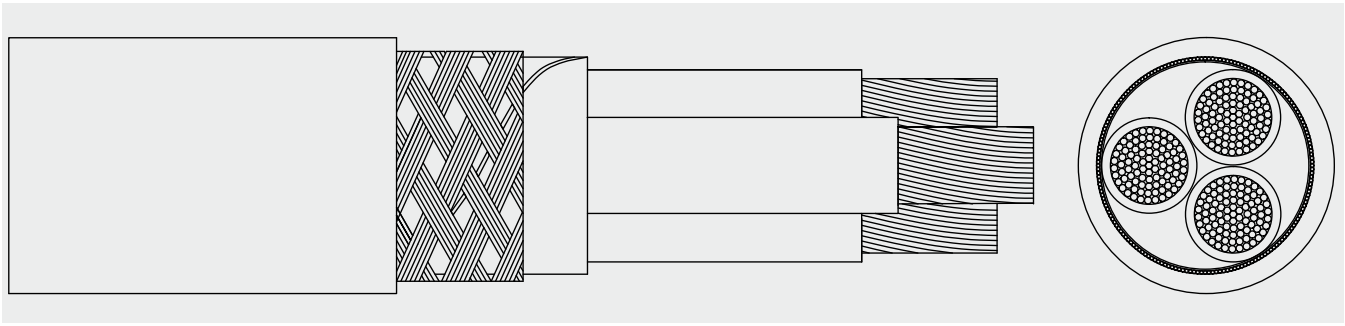


DIMENSIONS
SCREENFLEX 200 VC4V-K 0,6/1kV

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 10	11,7	225	60	52	3,97
1 x 16	12,6	290	82	67	2,51
1 x 25	14,5	405	110	86	1,62
1 x 35	15,6	510	137	103	1,15
1 x 50	17,5	675	167	122	0,802
1 x 70	19,6	900	216	151	0,565
1 x 95	21,7	1.140	264	179	0,428
1 x 120	23,3	1.395	308	203	0,335
1 x 150	25,6	1.715	356	230	0,268
1 x 185	27,4	2.010	409	258	0,22
1 x 240	31,4	2.650	485	297	0,166
1 x 300	34,3	3.255	561	336	0,133
2 x 2,5	8,6	110	30	29	19,2
2 x 4	11,4	180	40	38	11,9
2 x 6	12,5	225	51	47	7,92
2 x 10	15,2	350	70	63	4,58
2 x 16	17,5	485	94	81	2,9
2 x 25	21,4	670	119	104	1,87
2 x 35	24,2	895	148	125	1,33
3 G 2,5	9,4	145	30	29	19,2
3 G 4	11,7	225	40	38	11,9
3 G 6	12,9	285	51	47	7,92
3 G 10	16,1	450	70	63	4,58
3 x 16	18,7	630	80	67	2,51
3 x 25	23,1	965	101	86	1,62
3 x 35	25,2	1.255	126	103	1,15
3 x 50	29,6	1.745	153	122	0,802
3 x 70	33,6	2.360	196	151	0,565

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
4 x 2,5	10,2	180	25	24	16,6
4 x 4	12,6	275	34	31	10,3
4 x 6	14,4	360	43	39	6,86
4 x 10	17,5	570	60	52	3,97
4 x 16	20,1	815	80	67	2,51
4 x 25	24,5	1.225	101	86	1,62
4 x 35	28,2	1.655	126	103	1,15
4 x 50	32,3	2.270	153	122	0,802
4 x 70	37,5	3.105	196	151	0,565
4 x 95	42,6	4.020	238	179	0,428
5 G 2,5	11,2	220	25	24	16,6
5 G 4	14,3	340	34	31	10,3
5 G 6	16	450	43	39	6,86
5 G 10	19,6	725	60	52	3,97
5 G 16	22,3	1.030	80	67	2,51
5 G 25	28,1	1.565	101	86	1,62
5 G 35	31,3	2.100	126	103	1,15
6 G 2,5	12,4	255	30	29	19,2
7 G 2,5	12,5	275	30	29	19,2
10 G 2,5	14,9	375	30	29	19,2
12 G 2,5	15,6	445	30	29	19,2
14 G 2,5	16,9	505	30	29	19,2
16 G 2,5	17,8	575	30	29	19,2
19 G 2,5	18,9	665	30	29	19,2
24 G 2,5	21,4	825	30	29	19,2
27 G 2,5	22,4	925	30	29	19,2
30 G 2,5	23,3	1.015	30	29	19,2
37 G 2,5	25,5	1,28	30	29	19,2

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information please contact sales@topcable.com

TOXFREE ZH Z1C4Z1-K (AS)

1 kV Halogen free (LSZH) screened power cable.

IEC 60502-1 / UNE 21123-4

CPR COMPLIANT Construction Products Regulation EN 50575

C_{ca}-s1a, d1, a1

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE)

The standard identification of insulated conductors is the following:

1 x	Natural
2 x	Blue + Brown
3 G	Blue + Brown + Yellow/green
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey + Blue (reduced cross section)
4 G	Brown + Black + Grey + Green/yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/yellow
6 G or more conductors:	Black numbered + Green/yellow

Screen

Coverage of 100% composed by aluminium-polyester tape and tinned copper braid.

Outer sheath

Low Smoke Zero Halogen (LSZH) polyolefin. Green colour(*), non-toxic and fire retardant. The ripcord allows you to gently tear the outer-sheath allowing you to gently peel it away without damaging the screen.

(*) Other outer sheath colours available on request.

APPLICATIONS

Toxfree Z1C4Z1-K is a screened LSZH safety cable. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is highly recommended for public places and for all installations where it is necessary avoid to electric interference of nearby circuits .




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Standard

IEC 60502-1

Approvals

CE

C_{ca}-s1a, d1, a1

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit temperature: 160°C (max. 5 s)
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3, IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754 and IEC 60754.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: C_{ca} -s1a,d1,a1 according to 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.
UV Resistant: UNE 211605.

Water performance

Water resistance: AD5 Jets.

Other

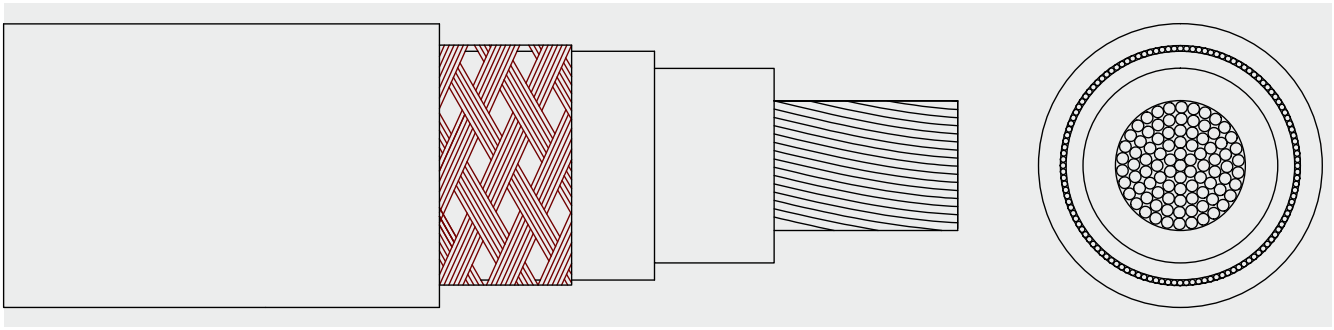
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
1 x 10	11,2	215	74	61	4,23
1 x 16	12,2	280	101	79	2,68
1 x 25	13,9	390	135	101	1,73
1 x 35	14,8	490	169	122	1,23
1 x 50	16,6	640	207	144	0,86
1 x 70	18,8	865	268	178	0,603
1 x 95	20,4	1.080	328	211	0,457
1 x 120	22,5	1.350	383	240	0,357
1 x 150	24,7	1.650	444	271	0,286
1 x 185	26,8	1.970	510	304	0,235
1 x 240	29,5	2.520	607	351	0,178
1 x 300	32,5	3.120	703	396	0,142
1 x 400	37,2	4.085	823	464	0,108
2 x 1,5	9	100	26	26	34,0
2 x 2,5	9,9	125	36	34	20,4
2 x 4	10,7	160	49	44	12,7
2 x 6	11,8	205	63	56	8,45
2 x 10	13,8	300	86	73	4,89
2 x 16	16,3	440	115	95	3,10
2 x 35	22,5	880	185	146	1,42
3 G 1,5	9,6	120	26	26	34,0
3 G 2,5	11,2	175	36	34	20,4
3 G 4	12	220	49	44	12,7
3 G 6	13,4	290	63	56	8,45
3 G 10	15,7	425	86	73	4,89
3 x 16	17,6	595	100	79	2,68
3 x 25	21,2	875	127	101	1,73
3 x 35	24,4	1.195	158	122	1,23
3 x 50	28,6	1.670	192	144	0,86
3 x 70	33,3	2.305	246	178	0,603

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
4 G 1,5	10,3	145	23	22	29,5
4 G 2,5	11,2	185	32	29	17,7
4 G 4	13,1	275	42	37	11,0
4 G 6	14,8	355	54	46	7,32
4 G 10	17,1	530	75	61	4,23
4 G 16	19,5	755	100	79	2,68
4 G 25	22,5	1.080	127	101	1,73
4 G 35	25,7	1.510	158	122	1,23
4 G 50	30,1	2.040	192	144	0,86
4 G 70	35	2.805	246	178	0,603
4 G 95	40,2	3.745	298	211	0,457
5 G 1,5	11,2	170	23	22	29,5
5 G 2,5	12,7	235	32	29	17,7
5 G 4	14	310	42	37	11,0
5 G 6	16	435	54	46	7,32
5 G 10	18,1	620	75	61	4,23
5 G 16	21,5	930	100	79	2,68
5 G 25	25,7	1.390	127	101	1,73
5 G 35	29,8	1.905	158	122	1,23
7 G 1,5	11,9	210	26	26	33,9
7 G 2,5	13,5	285	36	34	20,4
12 G 1,5	14,6	315	26	26	33,9
12 G 2,5	17,5	455	36	34	20,4
14 G 1,5	16,4	370	26	26	33,9
14 G 2,5	18,4	510	36	34	20,4
19 G 1,5	18,1	465	26	26	33,9
19 G 2,5	20,6	665	36	34	20,4
24 G 1,5	19,8	575	26	26	33,9
24 G 2,5	22,3	815	36	34	20,4

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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Top Cable

TOXFREE ZH ROZ1-K (AS) VFD EMC 0,6/1 kV

Flexible EMC LSZH screened cable for Variable Frequency Drivers cables (VFD cables).

IEC 60502-1 / IEC 60092-353

DESIGN

CPR COMPLIANT Construction Products Regulation EN 50575

C_{ca}-s1a, d1, a1

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Grounding Conductor

The grounding conductor is divided into three conductors; the equivalent cross section is approximately 50% of the section of the phase conductor.

Insulation

Cross-linked polyethylene (XLPE)

The standard identification of insulated conductors is the following:

4G	grey + brown + black + Green/yellow (up to 4 mm²)
3x + 3G	grey + brown + black + Green/yellow (3 x) (from 6 mm² onwards)

Screen

"Aluminium-polyester tape screen, helically placed over the insulated conductors. Over the tape there is a tinned copper braid screen. The tape and the braid act as a double screen to cut out all of the the electromagnetic interference.

The screen has a cover of 100% and its total section is approximately 10% of one of the conductors.

Outer sheath

Polyolefin LSZH outer sheath, black colour. The ripcord allows you to gently tear the outer-sheath allowing you to gently peel it away without damaging the screen.

APPLICATIONS

ROZ1-K EMC VFD cable has been specially designed for Variable Frequency Drive Motors and installations where it is necessary to limit the effects of electromagnetic interference (EMI).




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0.6/1 KV

Standard

IEC 60502-1 / IEC 60092-353

Approvals

CE
DNV-GL
ABS (in progress)
RoHS

C_{ca}-s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%.
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: C_{ca}-s1a, d1, a1, according to EN 50575.

Mechanical performance

Minimum bending radius: x10 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.

Water performance

Water resistance: AD5 Jets.

Other

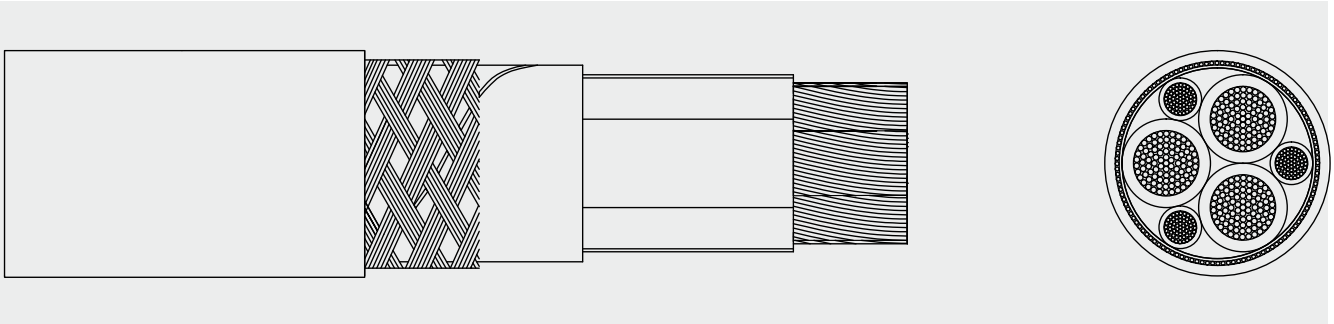
Meter by meter marking.
Ripcord.
Electric fields resistant.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Variable Frequency Drive (VFD)



DIMENSIONS

Cross section (mm2)	Diameter (mm)	Outer Diameter (mm)	Aprox Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Conductor resistance (Ohm/Km)	Voltage Drop (V/A · km)
3 x 4 + 3G4	9,7	13	379	42	37	4,95	10,9
3 x 16 + 3G2,5	14,8	18,3	708	100	79	1,21	2,67
3 x 25 + 3G4	17,7	22,3	1.078	127	101	0,78	1,72
3 x 35 + 3G6	20,5	25,3	1.448	158	122	0,554	1,22
3 x 35 + 3G16	21,3	26,3	1.831	158	122	0,554	1,22
3 x 50 + 3G10	25,3	30,5	2.175	192	144	0,386	0,852
3 x 70 + 3G10	25,7	30,5	2.571	246	178	0,272	0,601
3 x 70 + 3G35	28,1	33,4	3.467	246	178	0,272	0,601
3 x 95 + 3G16	31	36,6	3.535	298	211	0,206	0,455
3 x 120 + 3G16	36,9	42,9	4.450	346	240	0,161	0,356
3 x 150 + 3G25	39,3	45,2	5.344	399	271	0,129	0,285
3 x 185 + 3G35	44,5	51	6.686	456	304	0,106	0,234
3 x 240 + 3G50	49,8	56,8	8.973	538	351	0,0801	0,177
3 x 300 + 3G70	55,9	63,2	10.602	621	396	0,0641	0,142
4G1,5	7	10,4	149	23	22	13,3	29,4
4G2,5	7,9	11,2	192	32	29	7,98	17,6
4G4	9,2	12,6	259	42	37	4,95	10,9
4G6	10,6	14	341	54	46	3,3	7,29
4G10	12,9	17	544	75	61	1,91	4,22

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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Top Cable

TOXFREE ZH ROZ1-K (AS) VFD EMC 1,8/3 kV

3kV flexible EMC LSZH screened cable for Variable Frequency Drivers cables (VFD cables).

IEC 60502-1 / IEC 60092-353

CPR COMPLIANT Construction Products Regulation EN 50575

C_{ca}-s1a, d1, a1

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Grounding Conductor

The grounding conductor is divided into three conductors; the equivalent cross section is approximately 50% of the section of the phase conductor.

Insulation

Cross-linked polyethylene (XLPE)

The standard identification of insulated conductors is the following:

3x + 3G grey + brown + black + Green/yellow (3 x)

Screen

Aluminium-polyester tape screen, helically placed over the insulated conductors. Over the tape there is a tinned copper braid screen. The tape and the braid act as a double screen to cut out all of the the electromagnetic interference.

The screen has a cover of 100% and its total section is approximately 10% of one of the conductors.

Outer sheath

Polyolefin LSZH outer sheath, black colour.

APPLICATIONS

ROZ1-K EMC VFD 1,8/3kV cable has been specially designed for Variable Frequency Drive Motors and installations where it is necessary to limit the effects of electromagnetic interference (EMI).




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 1,8/3 kV

Standard

IEC 60502-1 / IEC 60092-353

Approvals

CE
DNV-GL
ABS (in progress)
RoHS

C_{ca}-s1a, d1, a1

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on UNE-EN 60332-3 and IEC 60332-3 and EN 50399.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034.: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: C_{ca}-s1a, d1, a1, according to EN 50575.

Mechanical performance

Minimum bending radius: x10 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.

Water performance

Water resistance: AD5 Jets.

Other

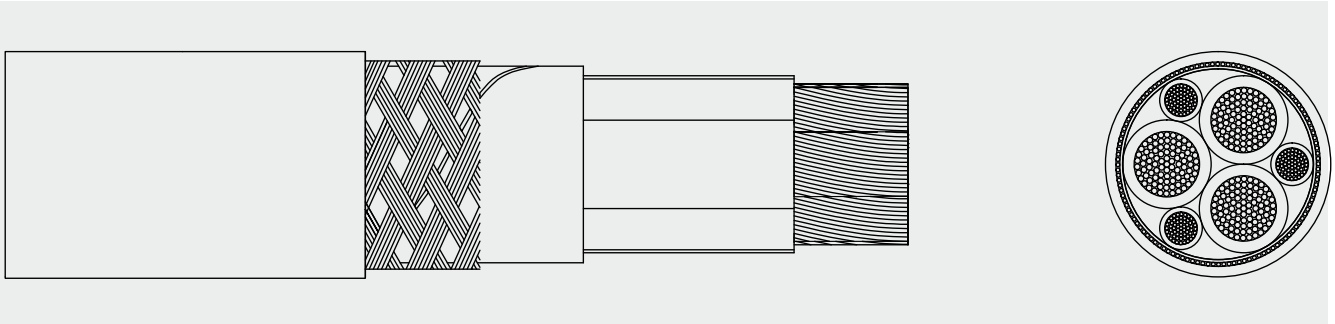
Meter by meter marking.
Electric fields resistant.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Variable Frequency Drive (VFD).



DIMENSIONS

Cross section (mm2)	Diameter (mm)	Outer Diameter (mm)	Aprox Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Conductor resistance (Ohm/Km)	Voltage Drop (V/A · km)
3 x 50 + 3 G 10	27	32,4	2.240	192	144	0,386	0,852
3 x 70 + 3 G 10	30,1	35,5	2.840	246	178	0,272	0,601
3 x 95 + 3 G 16	34	40,2	3.795	298	211	0,206	0,455
3 x 120 + 3 G 16	36,7	43,1	4.560	346	240	0,161	0,356
3 x 150 + 3 G 25	41,6	48,2	5.670	399	271	0,129	0,285
3 x 185 + 3 G 35	45,3	52,2	6.895	456	304	0,106	0,234
3 x 240 + 3 G 50	50,7	58	8.955	538	351	0,0801	0,177
3 x 300 + 3 G 50	55,8	63,6	10.820	621	396	0,0641	0,142

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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For more information please contact sales@topcable.com

Top Cable

TOPDATA VHOV-K (PAR-POS) & VOV-K (POS) 300/500 V

Flexible instrumentation screened cable.

DESIGN

CPR COMPLIANT Construction Products Regulation EN 50575

E_{ca}

Conductor

Electrolytic copper, class 5 (flexible), based on

EN 60228 and IEC 60228.

Insulation

Flexible PVC.
The standard identification of insulated conductors is the following:
2 conductors each unit numbered (black + blue).
Other colours available on request.

Cabling

Stranded Conductors in pairs.

Individual screen

Individual polyester (per pair) composed by on aluminium / polyester tape with 100% coverage + tinned copper drain wire.

Assembly of cores

Cabled in concentric layers.

Overall Screen

Aluminium / polyester tape with 100% coverage + tinned copper drain wire.

Outer sheath

Flexible PVC sheath, black color. The ripcord allows you to gently tear the outer-sheath allowing you to gently peel it away without damaging the screen.

APPLICATIONS

TopData VHOV-K (PAR-POS) & VOV-K (POS) is a flexible screened cable for signalling and control on industrial machinery facilities. The overall screen (VOV-K) and individual (per pair) and overall screen (VHOV-K) make them especially suitable for areas where electrical noise protection is required.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500 V

Approvals

CE
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.
Reaction to fire CPR: E_{ca} according to 50575.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.

Water performance

Water resistance: AD5 Jets.

Other

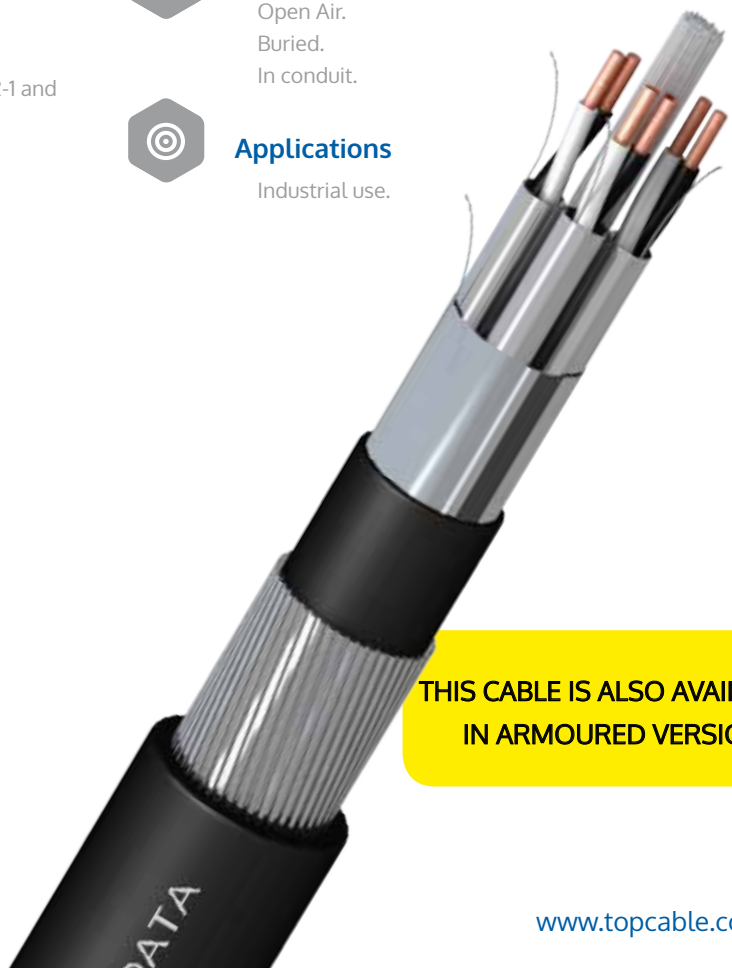
Meter by meter marking.
Ripcord.
Electric fields resistant.

Installation conditions

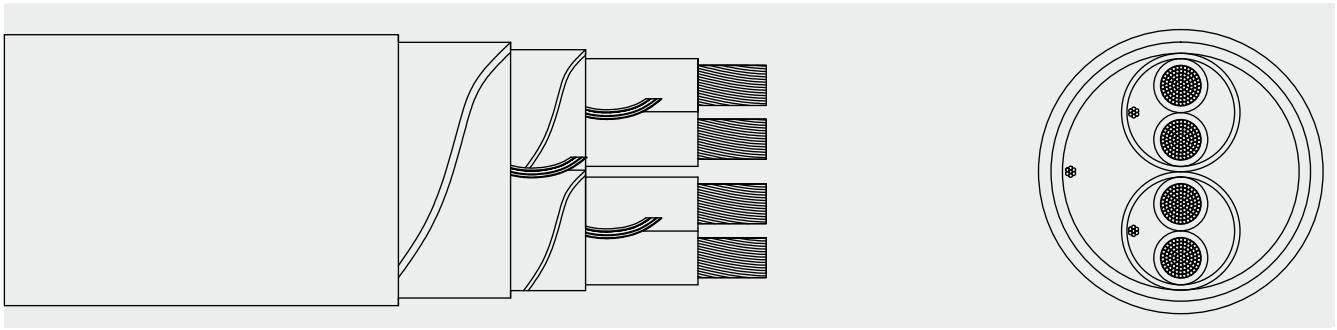
Open Air.
Buried.
In conduit.

Applications

Industrial use.



THIS CABLE IS ALSO AVAILABLE IN ARMOURED VERSION



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Resistance (Ohm/km)	Capacity from cond. (µF/km)
2 x 2 x 0,75	9,0	50	26,0	0,601
3 x 2 x 0,75	9,5	65	26,0	0,601
4 x 2 x 0,75	10,0	85	26,0	0,601
10x 2 x 0,75	16,0	200	26,,0	0,601
2 x 2 x 1	9,6	105	19,5	0,641
3 x 2 x 1	10,5	130	19,5	0,641
4 x 2 x 1	11,6	175	19,5	0,641
10 x 2 x 1	18,5	400	19,5	0,641
2 x 2 x 1,5	12,0	150	13,3	0,661
3 x 2 x 1,5	12,8	190	13,3	0,661
4 x 2 x 1,5	14,2	255	13,3	0,661
10 x 2 x 1,5	22,5	575	13,3	0,661

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
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Top Cable

TOPSOLAR PV ZZ-F / H1Z2Z2-K

TÜV & EN solar PV string cable.

EN 50618/ TÜV 2Pfg 1169-08 / UTE C 32-502

DESIGN

CPR COMPLIANT
Construction Products Regulation
EN 50575

Conductor

Class 5 (flexible) tinned copper, based on EN 60228 and IEC 60228.

E_{ca}

Insulation

Low smoke zero halogen (LSZH) rubber.

Outer sheath

Low smoke zero halogen (LSZH) rubber, red or black colour.

APPLICATIONS

String cable TopSolar ZZ-F / H1Z2Z2-K is a solar PV cable, TÜV & EN certified, specially designed for the connection of photovoltaic panels. This versatile single-conductor cable is designed to meet the varying needs of the solar industry. Higly flexible cable, compatible with all major connectors. Suitable for wet, damp and humid locations.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 1,5/1,5 1kV · (1,8) kV DC.

Standard

EN 50618/ TÜV 2Pfg 1169-08 / UTE C 32-502.

Approvals

CE
TÜV
EN
RoHS

E_{ca}

Thermal performance

Maximum service temperature: 120°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C.

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Reaction to fire CPR: E_{ca}, according to EN 50575.

Mechanical performance

Minimum bending radius: x3 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Excellent.
Grease & mineral oils resistance: Excellent.

UV Resistant

UV Resistant based on EN 50618 and TÜV 2Pfg 1169-08.

Water performance

Water presence: AD8 submerged.

Estimated Lifetime

Estimated lifetime 30 years based on UNE-EN 60216-2.

Other

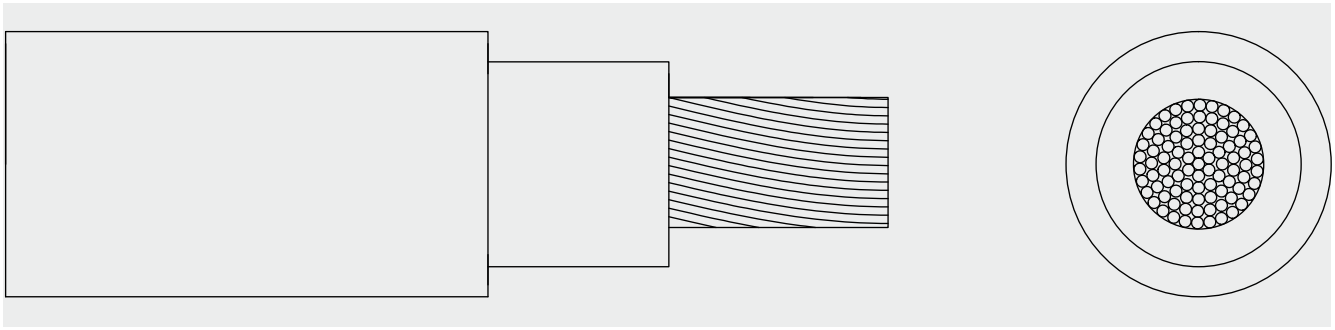
Meter by meter marking.

Installation conditions

Open Air.
Buried.

Applications

Solar PV installations - string cable.



DIMENSIONS

Cross section (mm2)	Diameter (mm2)	Weight (Kg/km)	Open Air (A)	Inst. on surface (A)	Inst. adjoining to surface (A)	Voltage drop (V/A · km)
1 x 2,5	4,8	42	41	39	33	23,0
1 x 4	5,3	57	55	52	44	14,3
1 x 6	5,9	76	70	67	57	9,49
1 x 10	7,0	120	98	93	79	5,46
1 x 16	8,2	179	132	125	107	3,47
1 x 25	10,8	294	176	167	142	2,23
1 x 35	11,9	390	218	207	176	1,58

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information please contact sales@topcable.com

Top Cable

TOPSOLAR PV DUAL ZZ-F/H1Z2Z2-K/PV WIRE

TÜV, UL and EN solar PV string cable.

UL PV WIRE / UL USE-2 / EN 50618 / TÜV 2Pfg 1169-08 / UTE C 32-502

DESIGN

Conductor

Class 5 (flexible) tinned copper, based on EN 60228 and IEC 60228.

Insulation

Low smoke zero halogen (LSZH) rubber
(XLEVA type according to UL / E16 according to TÜV).

Outer sheath

Low smoke zero halogen (LSZH) rubber,
(XLEVA type according to UL / E16 according to TÜV).

Black colour.

APPLICATIONS

String cable Topsolar PV ZZ-F H1Z2Z2-K Dual is TÜV, UL and EN certified, as requested by the leading global manufacturers of photovoltaic panels and junction boxes. This cable is specially designed for the connection of photovoltaic panels, meeting the varying needs of the solar industry. Higly flexible cable, compatible with all major connectors. Suitable for wet, damp and humid locations.




CHARACTERISTICS

Electrical performance

EN DC 1,5/1,5 1kV · (1,8) kV .
2000 V UL.

Standard

UL PV WIRE / UL USE-2 / EN 50618 / TÜV 2Pfg 1169-08 / UTE C 32-502.

Approvals

CE
UL LISTED
TÜV
EN
RoHS

Thermal performance

Maximum service temperature: 120°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C.

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034: Light transmittance > 60%.
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.
Flame resistance UL VW-1.

Mechanical performance

Minimum bending radius: x3 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Excellent.
Grease & mineral oils resistance: Excellent.

UV Resistant

UV Resistant based on EN 50618, TÜV 2Pfg 1169-08 and UL 2556.

Water performance

Water resistance: AD8 submerged.

Estimated Lifetime

Estimated lifetime 30 years based on UNE-EN 60216-2.

Other

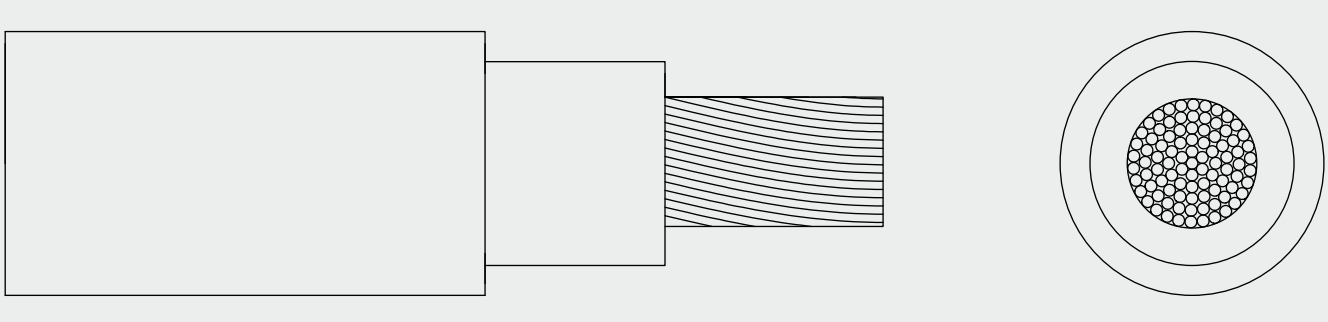
Meter by meter marking.

Installation conditions

Open Air.
Buried.

Applications

Solar PV installations - string cable.



DIMENSIONS

Cross section (mm2)	Diame-ter (mm)	Weight (Kg/km)	Open Air (A)	Inst. on surface (A)	Inst. adjoining to surface (A)	Voltage drop (V/A · km)
1 x 4 (12 AWG)	7,1	83	55	52	44	14,3
1 x 6 (10 AWG)	7,7	104	70	67	57	9,49
1 x 10 (8 AWG)	9,1	159	98	93	79	5,46
1 x 16 (6 AWG)	10,1	218	132	125	107	3,47
1 x 25 (4 AWG)	11,5	309	176	167	142	2,23
1 x 35 (2 AWG)	12,6	404	218	207	176	1,58

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification and on its Declaration of Performance (DoP)
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For more information please contact sales@topcable.com

TOPSOLAR PV
AL 1500 V

Aluminium PV cable.

DESIGN

1. Conductor

Aluminium, class 2 based on EN 60228 and IEC 60228.

2. Insulation

Cross-linked polyethylene (XLPE)

3. Outer sheath

Special flexible UV resistant PVC, Black colour.

APPLICATIONS

DC Feeder Aluminium 1500 PV cable is suitable for all types of underground and open air solar installations. This cable is recommended for connections between string boxes and photovoltaic inverters in large scale rooftops or ground farms.

LSZH, HEAVY IMPACT & ARMOURED VERSIONS ALSO AVAILABLE




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 1,5/1,5 kV · (1,8) kV DC.

Standard

Designed according to 1500 DC cables standards.

Approvals

CE
AENOR
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.

Mechanical performance

Minimum bending radius: x 5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.

UV Resistant

UV Resistant: UNE 211605 and NF-C 32-323.

Water performance

Water resistance: AD8 Submerged.

Other

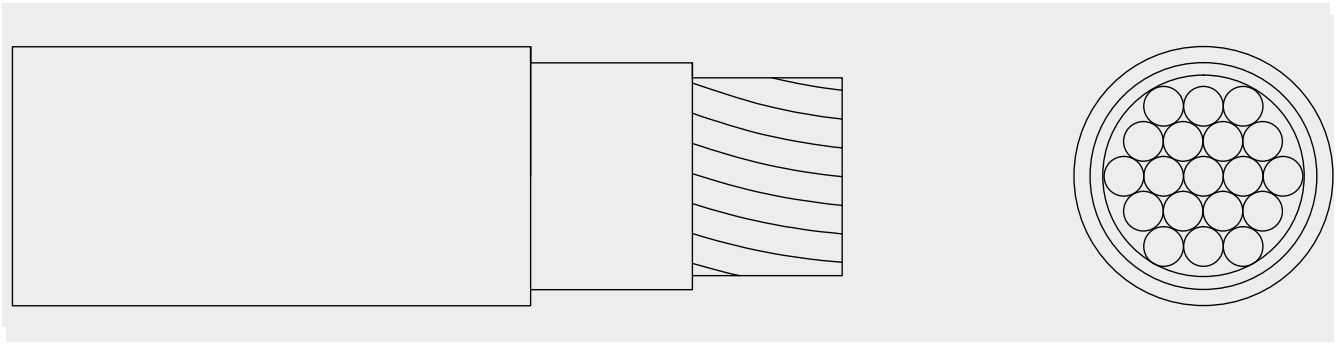
Meter by meter marking.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Solar installations.



DIMENSIONS

Cross section (mm2)	Diameter (mm²)	Weight (Kg/km)	Open Air 40°C (A)	Buried 25°C (A)	Voltage drop (V/A · km)
1 x 95	16,5	395	289	204	0,709
1 x 120	18,1	485	337	233	0,561
1 x 150	20,2	595	389	261	0,457
1 x 185	22,6	740	447	296	0,364
1 x 240	24,8	930	530	343	0,277
1 x 300	27,8	1125	613	386	0,222
1 x 400	31,2	1460	740	455	0,172

Maximum current capacity according to UNE 211435.
For other installation conditions, please refer to correction factors in the appendix to this catalog.
See more technical data on the particular cable specification.
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information: sales@topcable.com

Top Cable

TOPFLAT H05VVH6-F & H07VVH6-F

Flat cables for lifts, cranes, hoists and conveyor systems.

HD 359 – EN 50214

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

Flexible PVC.

The standard identification of insulated conductors is the following:

4 G	Brown + Black + Grey + Green/yellow
6 or more conductors	Black numbered+ Green/yellow

Outer sheath

Flexible PVC outer sheath, black colour. The ripcord allows you to gently tear the outer-sheath allowing you to gently peel it away without damaging the screen.

APPLICATIONS

The Topflat H05VVH6-F & H07VVH6-F is a flat cable specially designed for cranes, lifts, hoists, drum reeling and conveyor systems. The hanging length of the cable can reach up to 35m and its pull out speed can reach up to 1.6 m/s (overlaying cables is not recommended when installing).




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 300/500 V 450/750 V

Standard

HD 359 – EN 50214

Approvals

CE
HAR
AENOR
SASO
RoHS

Thermal performance

Maximum service temperature: 70°C.
Maximum short-circuit temperature: 160°C (max. 5 s).
Minimum service temperature: 0°C. (mobile use)

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Reduced emission of halogens. Chlorine <15%.

Mechanical performance

Minimum bending radius: x25 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD5 Jets.

Other

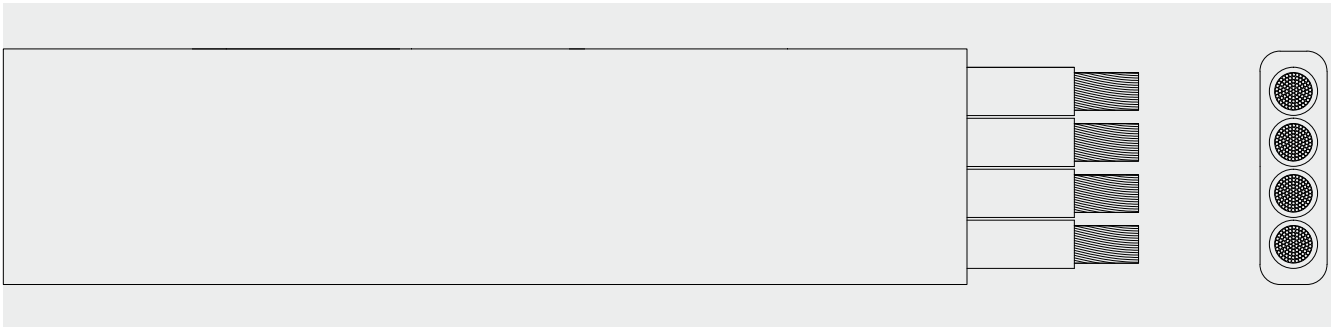
Meter by meter marking.

Installation conditions

Open Air.

Applications

Industrial use.
Mobile use.
Hoists.
Cranes.
Elevators, lifts.
Conveyors.



DIMENSIONS

Cross section (mm^2)	Diameter (mm^2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
6 G 0,75	17 x 3,9	115	14	-	62,4
8 G 0,75	22 x 3,9	175	14	-	62,4
10 G 0,75	26 x 3,9	195	14	-	62,4
12 G 0,75	31 x 3,9	230	14	-	62,4
16 G 0,75	40 x 3,9	305	14	-	62,4
18 G 0,75	45 x 3,9	345	14	-	62,4
20 G 0,75	50 x 3,9	380	14	-	62,4
24 G 0,75	60 x 3,9	450	14	-	62,4
4 G 1	12 x 4,1	100	14	-	40,5
6 G 1	18 x 4,1	140	17	-	46,8
8 G 1	23 x 4,1	185	17	-	46,8
12 G 1	33 x 4,1	270	17	-	46,8
16 G 1	44 x 4,1	355	17	-	46,8
20 G 1	55 x 4,1	440	17	-	46,8
24 G 1	65 x 4,1	525	17	-	46,8

Cross section (mm^2)	Diameter (mm^2)	Weight (Kg/km)	Open Air 30°C (A)	Buried 20°C (A)	Voltage drop (V/A · km)
4 G 1,5	17 x 4,9	150	18,5	-	27,6
6 G 1,5	22 x 4,9	215	22	-	31,9
8 G 1,5	27 x 4,9	270	22	-	31,9
10 G 1,5	34 x 4,9	335	22	-	31,9
12 G 1,5	39 x 4,9	395	22	-	31,9
*16 G 1,5	53 x 5,2	530	22	-	31,9
4 G 2,5	21 x 5,9	220	25	-	16,6
6 G 2,5	27 x 5,9	310	30	-	19,2
8 G 2,5	34 x 5,9	395	30	-	19,2
12 G 2,5	50 x 5,9	590	30	-	19,2
4 G 4	23 x 7,0	305	34	-	10,3
4 G 6	25 x 7,2	390	43	-	6,86
4 G 10	30 x 9,3	640	60	-	3,97
4 G 16	35 x 10,5	930	80	-	2,51
4 G 25	44 x 13,1	1.435	101	-	1,62
*4 G 35	48 x 14,4	1.880	126	-	1,15
*4 G 50	57 x 16,2	2.580	153	-	0,802
*4 G 70	61 x 17,5	3.375	196	-	0,565
*4 G 95	69 x 19,5	4.375	238	-	0,427

(*) These cables are not considered by the reference standard, therefore they shall not have the harmonized H.

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
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For more information please contact sales@topcable.com

X-DRINK 0,6/1 kV

Cables for submersed pumps and drinking water

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene (XLPE).

The standard identification of insulated conductors is the following:

3 x	Brown+ Black+ Grey
4 G	Brown + Black + Grey + Green/yellow
4x	Brown + Black + Grey + Blue

Lay-up

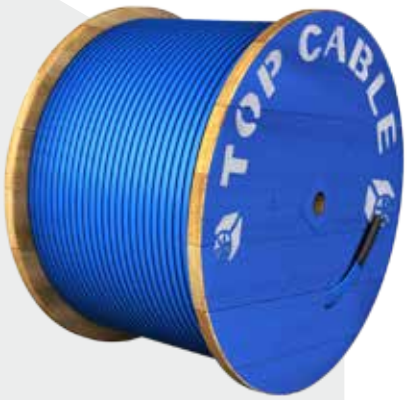
Insulated conductors are placed side by side in parallel arrangement. On request, Xdrink is also available in a round version.

Outer sheath

Flexible polyolefin, blue colour.

APPLICATIONS

XDrink 0,6/1 kV is a flexible cable suitable for being permanently submerged, such as: submerged pumps for drinking water, wells and aquariums. It is also suitable for lighting systems, filtering and swimming pool's cleaning. Finally, its use is recommended in electrical installations for the production, processing and preservation of food and beverage systems. Submersible (up to 600 meters deep) .






CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0,6/1kV

Approvals

CE
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Excellent.

Water performance

Water resistance: AD8 submerged..
For deep wells.
Sumersible Pump Cable for Drinking water: according to AS/NZS 4020
Submersible up to 600 metres depth.

Other

Meter by meter marking.

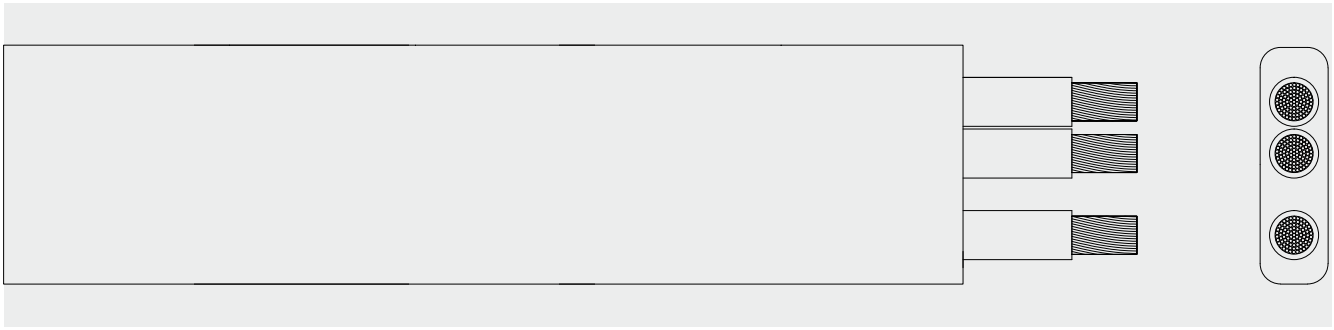
Installation conditions

Submerged.

Applications

Industrial use.
Deep wells.
Aquarium and fishponds.
Swimming pools.

THIS CABLE IS ALSO AVAILABLE IN ROUND VERSION



DIMENSIONS

Cross section (mm2)	Diameter (mm x mm)	Weight (Kg/km)	Open Air (A)	Voltage drop (V/A · km)
3 x 1,5	11,6 x 4,9	85	26	34
3 x 2,5	13,5 x 5,3	120	36	20,4
3 x 4	15,2 x 6,3	170	49	12,7
3 x 6	16,8 x 6,8	230	63	8,45
3 x 10	19,8 x 8,2	365	86	4,89
3 x 16	23,2 x 9,4	540	100	2,68
3 x 25	30,8 x 11,4	855	127	1,73
3 x 35	34,3 x 12,7	1.160	158	1,23
3 x 50	39,6 x 14,6	1.605	192	0,86
3 x 70	44,6 x 16,4	2.190	246	0,603
3 x 95	49,6 x 18,2	2.825	298	0,457
3 x 120	55,5 x 20,3	3.600	346	0,357
4 G 4	20,5 x 6,3	230	42	11
4 G 6	22,7 x 6,8	310	54	7,32
4 G 10	26,7 x 8,2	490	75	4,23
4 G 16	31,1 x 9,4	725	100	2,68
4 G 25	38,8 x 11,4	1.120	127	1,73
4 G 35	43,6 x 12,7	1.520	158	1,23
4 G 50	50,6 x 14,6	2.100	192	0,86
4 G 70	58,4 x 16,7	2.900	246	0,603
4 G 95	65,0 x 18,5	3.745	298	0,457

Maximum current capacity according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
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For more information please contact sales@topcable.com

Top Cable

X-VOLT RHZ1

Medium Voltage aluminium cable, XLPE insulation.
Configuration options: Cu or AL (OL/2OL)
Halogen free, flame non-propagator, fire non-propagator.

HD 620-10E (type 10E-1) / IEC 60502-2.

CPR COMPLIANT
Construction Products Regulation
EN 50575

DESIGN

Conductor

Aluminium or copper conductor, class 2, based on EN 60228 and IEC 60228.
Optionally, with longitudinal sealing (cable type -2OL).

E_{ca}
C_{ca}-s1b, d2, a1

Internal semiconductor

Screen over the conductor, made of thermosetting semiconductor material.

Insulation

Cross-linked polyethylene (XLPE), in dry atmosphere catenary tube, through a triple layer extrusion process.

External semiconductor

Screen over the insulation, made of thermosetting and strippable semiconductor material.

Metallic screen

Screen of copper wires and copper tape, with a minimum cross-section of 16m2.

Longitudinal sealing

Hygroscopic tape completely covering the screen (cable type –OL and -2OL).

(Filling)

(Possible, depending on the configurations.)

External sheath

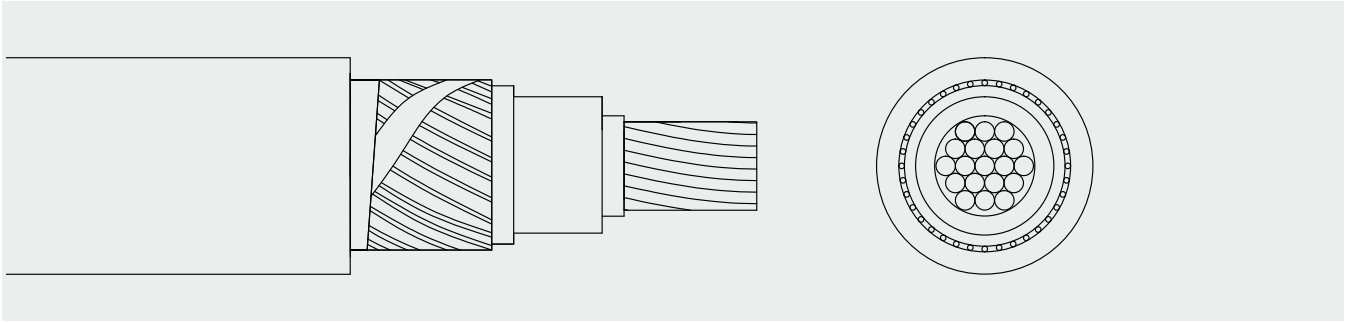
X-VOLT RHZ1 (standard configuration): halogen-free polyolefin, red colour.

X-VOLT RHZ1 (S) configuration is fire-retardant and halogen-free polyolefin, red colour with two grey bands.

X-VOLT RHZ1 (AS) configuration is fire-retardant and halogen-free polyolefin, red colour with two green bands.

APPLICATIONS

X-VOLT RHZ1 is a Medium Voltage aluminium or copper cable for the transmission and distribution of electricity. X-VOLT RHZ1 (S) configuration is halogen free with low smoke emission and no flame propagation properties. X-VOLT RHZ1 (AS) configuration is halogen-free with low smoke emission and no fire propagation properties.



CHARACTERISTICS

Electrical performance

MEDIUM VOLTAGE
6/10 kV, 8,7/15 kV, 12/20 kV and 18/30 kV.

Standard

HD 620-10E / IEC 60502-2.

E_{ca} or C_{ca}-s1b, d2, a1 (see configuration)

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -15°C

Fire performance (standard configuration)

Halogen free: based on UNE-EN 50267.

(S) Configuration fire performance

Flame non-propagation based on UNE-EN 60332-1.
Halogen free: based on UNE-EN 50267.
Low smoke emission based on UNE-EN 61034.
Reaction to fire CPR: E_{ca}, according to EN 50575.

(AS) Configuration fire performance

Flame non-propagation based on UNE-EN 60332-1.
Fire non propagation: based on UNE-EN 60332-3 (cat.C).
Halogen free: based on UNE-EN 50267.
Low smoke emission based on UNE-EN 61034.
Reaction to fire CPR: C_{ca} -s1b,d2,a1, according to EN 50575.

Mechanical performance

Minimum bending radius: x15 cable diameter.
Abrasion resistant.
Tear resistant.

Chemical performance

UV Resistant: UNE 211605.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Distribution networks.

Other

Meter by meter marking

Maximum current capacity according to UNE 211 435.
For other installation conditions, please refer to correction factors in UNE 211 435 Norm.
See more technical data on the particular cable specification. Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information: sales@topcable.com

THIS CABLE IS AVAILABLE in Cu or AL version.

STEEL TAPE and STEEL WIRE ARMOUR configuration is also available.

DIMENSIONS

6 / 10 kV

Cross section (mm2)	DIMENSIONS				ELECTRICAL DATA		MAXIMUM CURRENT CAPACITIES	
	Ø Cond. (mm)	Ø Ins. (mm)	Ø Ext. (mm)	Weight (Kg/Km)	X (Ω/km at 50 Hz)	C (µzF/km)	Open Air (40°C) (A)	Buried (25°C) (A)
1x35	7,4	15,6	23,7	842	0,133	0,227	185	155
1x50	8,0	16,2	24,3	962	0,129	0,240	220	180
1x70	9,9	18,1	26,2	1194	0,120	0,277	275	225
1x95	11,3	19,5	27,6	1468	0,115	0,304	335	265
1x120	13,0	21,2	29,3	1728	0,110	0,337	385	300
1x150	14,2	22,4	30,5	2001	0,107	0,360	435	340
1x185	15,8	24,0	33,1	2445	0,106	0,391	500	380
1x240	18,5	26,7	35,8	3011	0,101	0,443	590	440
1x300	20,3	28,5	37,6	3587	0,098	0,478	680	490
1x400	25,5	33,7	42,8	4543	0,092	0,579	790	560
1x500	26,2	34,4	43,5	5485	0,091	0,592	930	630
1x630	30,7	38,9	48,0	6949	0,087	0,679	1110	720

8,7 / 15 kV

1x35	7,4	17,8	25,9	919	0,138	0,184	185	155
1x50	8,0	18,4	26,5	1041	0,134	0,194	220	180
1x70	9,9	20,3	28,4	1279	0,125	0,223	275	225
1x95	11,3	21,7	29,8	1557	0,120	0,243	335	265
1x120	13,0	23,4	31,9	1845	0,116	0,269	385	300
1x150	14,2	24,6	33,1	2123	0,112	0,286	435	340
1x185	15,8	26,2	35,3	2553	0,110	0,310	500	380
1x240	18,5	28,9	38,0	3127	0,104	0,349	590	440
1x300	20,3	30,7	39,8	3709	0,101	0,376	680	490
1x400	25,5	35,9	45,0	4681	0,095	0,452	790	560
1x500	26,2	36,6	45,7	5625	0,094	0,462	930	630
1x630	30,7	41,1	50,2	7104	0,090	0,528	1110	720

12 / 20 kV

1x35	7,4	19,8	27,9	995	0,143	0,160	185	155
1x50	8,0	20,4	28,5	1119	0,139	0,168	220	180
1x70	9,9	22,3	30,8	1383	0,130	0,192	275	225
1x95	11,3	23,7	32,2	1667	0,125	0,209	335	265
1x120	13,0	25,4	34,5	1974	0,120	0,230	385	300
1x150	14,2	26,6	35,7	2257	0,117	0,244	435	340
1x185	15,8	28,2	37,3	2657	0,113	0,264	500	380
1x240	18,5	30,9	40,0	3239	0,108	0,296	590	440
1x300	20,3	32,7	41,8	3825	0,105	0,318	680	490
1x400	25,5	37,9	47,0	4813	0,098	0,380	790	560
1x500	26,2	38,6	47,7	5759	0,097	0,389	930	630
1x630	30,7	43,1	52,2	7251	0,093	0,443	1110	720

18 / 30 kV

1x35	7,4	24,8	33,3	1233	0,154	0,125	185	155
1x50	8,0	25,4	33,9	1362	0,150	0,131	220	180
1x70	9,9	27,3	36,4	1658	0,141	0,148	275	225
1x95	11,3	28,7	37,8	1954	0,135	0,160	335	265
1x120	13,0	30,4	39,5	2239	0,129	0,175	385	300
1x150	14,2	31,6	40,7	2531	0,125	0,185	435	340
1x185	15,8	33,2	42,3	2941	0,121	0,198	500	380
1x240	18,5	35,9	45,0	3543	0,115	0,221	590	440
1x300	20,3	37,7	46,8	4143	0,112	0,236	680	490
1x400	25,5	42,9	52,0	5168	0,104	0,279	790	560
1x500	26,2	43,6	52,7	6119	0,103	0,285	930	630
1x630	30,7	48,1	57,2	7643	0,098	0,322	1110	720

X-VOLT RHZ1 6,35/11kV AL triplex

Medium Voltage aluminium cable, XLPE insulation, halogen free, in triplex formation.

BS 7870-4.10 / IEC 60502-2.

DESIGN

Conductor

Aluminium conductor, class 2, based on EN 60228 and IEC 60228.

Internal semiconductor

Screen over the conductor, made of thermosetting semiconductor material.

Insulation

Cross-linked polyethylene (XLPE), in dry atmosphere catenary tube, through a triple layer extrusion process.

External semiconductor

Screen over the insulation, made of thermosetting non-strippable semiconductor material.

Metallic screen

Screen of copper wires and copper tape, applied over the outer semiconductirng layer, with a minimum cross-section of 32mm2.

Longitudinal sealing

Hygroscopic tape applied over the metallic screen.

External sheath

External sheath of halogen-free polyolefin, red colour.

Assembly of single-core cables

Three stranded single-core cables in triplex formation.

APPLICATIONS

Medium Voltage aluminium cables for transmission and distribution of electricity. Halogen free.




CHARACTERISTICS

Electrical performance

MEDIUM VOLTAGE
6,35/11 kV.

Standard

BS 7870-4.10 / IEC 60502-2.

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -15°C

Fire performance

Halogen free: based on UNE-EN 50267.

Mechanical performance

Minimum bending radius: x15 cable diameter.

Installation conditions

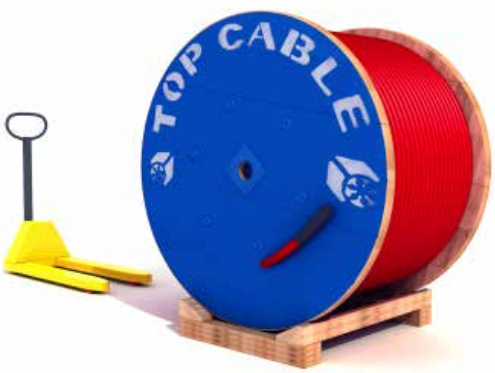
Open Air.
Buried.
In conduit.

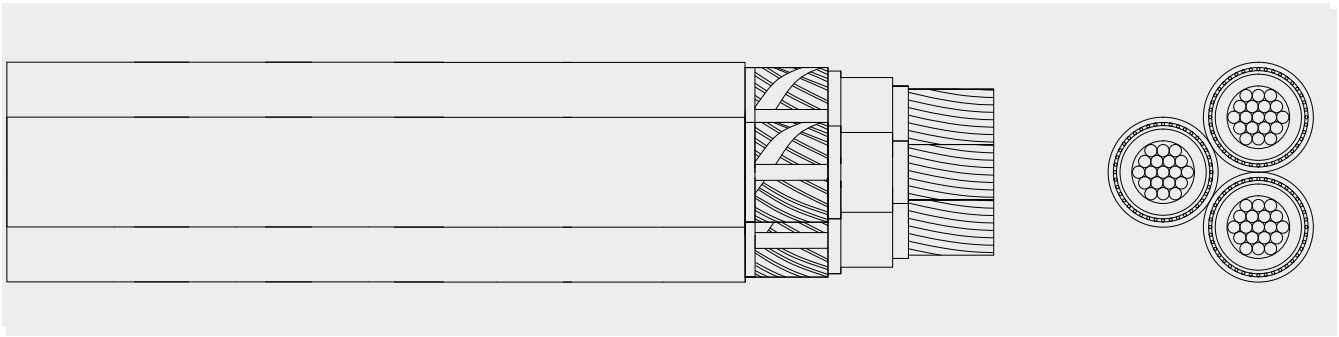
Applications

Distribution networks.

Other

Meter by meter marking.





DIMENSIONS

Cross section (mm2)	DIMENSIONES					Current rating in air (A)	Current rating buried direct (A)	ELECTRICAL DATA		
	Ø Cond. (mm2)	Ø Ins. (mm2)	Outer sheath (mm2)	Ø Ext. (mm2)	weight (Kg/Km)			R (Ω/km)	X (Ω/km)	C (Ω/km)
RHZ1-OL 6,35/11 kV 3x1x95 Al+H35	11,3	19,5	26,1	56,2	2.810	280	221	0,32	0,112	0,301
RHZ1-OL 6,35/11 kV 3x1x185 Al+H35	16	24,2	31,1	66,8	3.850	424	317	0,164	0,101	0,395
RHZ1-OL 6,35/11 kV 3x1x240 Al+H35	18	26,2	33,3	71,5	4.480	502	367	0,125	0,098	0,434
RHZ1-OL 6,35/11 kV 3x1x300 Al+H35	21	29,2	36,5	78,4	5.125	577	414	0,1	0,094	0,492

Maximum admissible intensities according to UNE 211 435.
For other installation conditions, please refer to correction factors in UNE 211 435 Norm.
See more technical data on the particular cable specification. Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information: sales@topcable.com

X-VOLT HEPRZ1 AL

Medium Voltage aluminium cable, HEPR insulation.
Halogen free, flame non-propagator, fire non-propagator.

HD 620-10E (type 10E-1) / IEC 60502-2.

CPR COMPLIANT
Construction Products Regulation
EN 50575

E_{ca}
C_{ca}-s1b, d2, a1

DESIGN

Conductor

Aluminium or copper conductor, class 2,

based on EN 60228 and IEC 60228.

Internal semiconductor

Screen over the conductor, made of thermosetting semiconductor material.

Insulation

High module ethylene propylene rubber (HEPR), in dry atmosphere catenary tube, through a triple layer extrusion process. Lead-Free version available on request.

External semiconductor

Screen over the insulation, made of thermosetting and strippable semiconductor material.

Metallic screen

Screen of copper wires and copper tape, with a minimum cross-section of 16mm^2.

Separator

Polyester tape completely covering the screen to facilitate the stripping of the outer sheath. Optionally, substituted by hygroscopic tape (cables with longitudinal sealing, type -OL and -2OL)

(Filling)

(Possible, depending on the configurations).

External sheath

External sheath of halogen-free polyolefin, red colour.

X-VOLT HEPRZ1 AL (standard configuration): is halogen-free polyolefin, red colour.

X-VOLT HEPRZ1 AL (S) configuration is fire-retardant and halogen-free polyolefin, red colour with two grey bands.

X-VOLT HEPRZ1 AL (AS) configuration is fire-retardant and halogen-free polyolefin, red colour with two green bands.

APPLICATIONS

X-VOLT HEPRZ1 AL is a Medium Voltage aluminium cable for the transmission and distribution of electricity. X-VOLT HEPRZ1 AL (S) configuration is halogen free with low smoke emission and no flame propagation properties. X-VOLT HEPRZ1 AL (AS) configuration is halogen-free with low smoke emission and no fire propagation properties.




CHARACTERISTICS

Electrical performance

MEDIUM VOLTAGE
12/20 kV and 18/30 kV.

Standard

HD 620-9E (type 9E-1). / IEC 60502-2

E_{ca} or C_{ca}-s1b, d2, a1 (see configuration)

Thermal performance

Maximum service temperature: 105°C.
Maximum short-circuit temperature: 250°C (max. 5s).
Minimum service temperature: -15°C

Fire performance (standard configuration)

Halogen free: based on UNE-EN 50267.

(S) Configuration fire performance

Flame non-propagation based on UNE-EN 60332-1.
Halogen free: based on UNE-EN 50267.
Low smoke emission based on UNE-EN 61034.
Reaction to fire CPR: E_{ca}, according to EN 50575.

(AS) Configuration fire performance

Flame non-propagation based on UNE-EN 60332-1.
Fire non propagation: based on UNE-EN 60332-3 (cat.C).
Halogen free: based on UNE-EN 50267.
Low smoke emission based on UNE-EN 61034.
Reaction to fire CPR: C_{ca} -s1b,d2,a1, according to EN 50575.

Mechanical performance

Minimum bending radius: x15 cable diameter.
Abrasion resistant.
Tear resistant.

Chemical performance

UV Resistant: UNE 211605.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

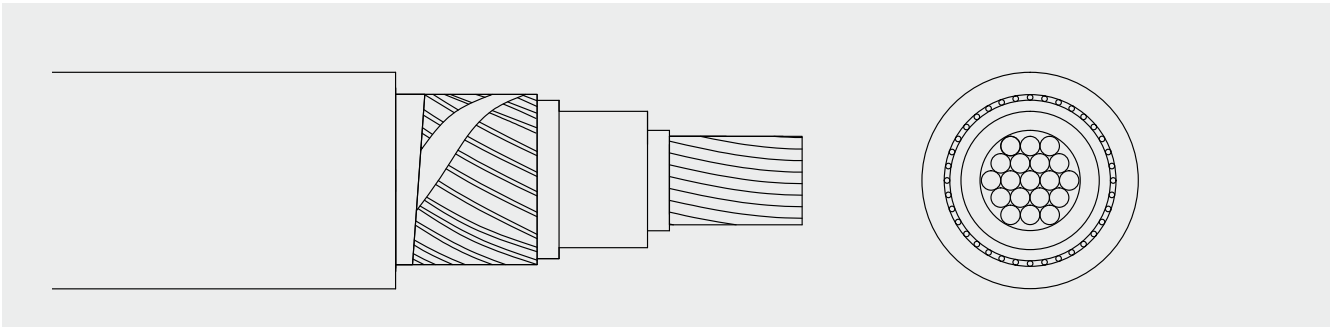
Distribution networks.

Other

Meter by meter marking.

THIS CABLE IS AVAILABLE in Cu or AL version.

STEEL TAPE and STEEL WIRE ARMOUR configuration is also available.



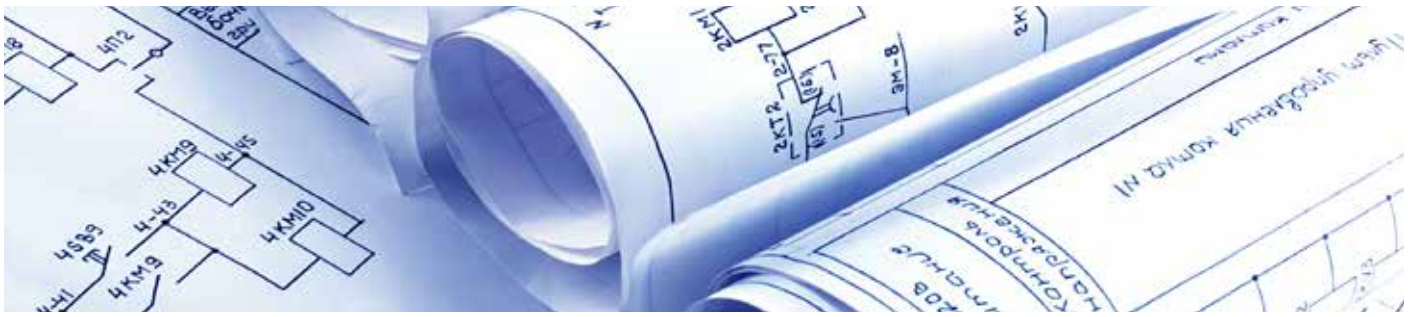
DIMENSIONS

12 / 20 kV

Cross-section (mm2)	DIMENSIONS				ELECTRICAL DATA		MAXIMUM CURRENT CAPACITIES	
	Ø Cond. (mm)	Ø Ins. (mm)	Ø Ext. (mm)	Weight (Kg/Km)	X (Ω/km at 50 Hz)	C (µzF/km)	Open Air (40°C) (A)	Buried (25°C) (A)
1x50	8,3	18,3	26,4	763	0,132	0,232	180	145
1x70	9,8	19,8	28,3	876	0,126	0,258	225	180
1x95	11,3	21,3	29,8	981	0,120	0,284	275	215
1x120	12,6	22,6	31,7	1121	0,117	0,307	320	245
1x150	14,0	24,0	33,1	1221	0,113	0,331	360	275
1x185	15,6	25,6	34,7	1376	0,109	0,359	415	315
1x240	18,0	28,0	37,1	1587	0,105	0,401	495	365
1x300	20,3	30,3	39,4	1821	0,101	0,441	565	410
1x400	23,4	33,4	42,5	2133	0,097	0,494	660	470
1x500	27,0	37,0	46,1	2514	0,093	0,556	780	540
1x630	32,0	42,0	51,1	3098	0,089	0,642	920	620
1x800	34,0	44,0	53,1	3559	0,087	0,676	1065	710
1x1000	39,0	49,0	58,1	4335	0,084	0,762	1230	805

18 / 30 kV

1x50	8,3	23,1	31,6	1017	0,143	0,169	180	145
1x70	9,8	24,6	33,7	1158	0,137	0,187	225	180
1x95	11,3	26,1	35,2	1365	0,131	0,204	275	215
1x120	12,6	27,4	36,5	1490	0,126	0,219	320	245
1x150	14,0	28,8	37,9	1604	0,122	0,235	360	275
1x185	15,6	30,4	39,5	1773	0,118	0,253	415	315
1x240	18,0	32,8	41,9	2006	0,112	0,280	495	365
1x300	20,3	35,1	44,2	2261	0,108	0,306	565	410
1x400	23,4	38,2	47,3	2602	0,103	0,340	660	470
1x500	27,0	41,8	50,9	3016	0,099	0,380	780	540
1x630	32,0	46,8	55,9	3646	0,094	0,436	920	620
1x800	34,0	48,8	57,9	4125	0,093	0,458	1065	710
1x1000	39,0	53,8	62,9	4947	0,089	0,513	1230	805



Maximum current capacity according to UNE 211 435.
For other installation conditions, please refer to correction factors in UNE 211 435 Norm.
See more technical data on the particular cable specification. Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information: sales@topcable.com

X-VOLT
RHVhMVh 3x Cu+H1

Medium Voltage copper cable, XLPE insulation, halogen free, hydrocarbon resistant.

IEC 60502-2

DESIGN

Conductor

Copper conductor, class 2, based on EN 60228 and IEC 60228.

Internal semiconductor

Screen over the conductor, made of thermosetting semiconductor material.

Insulation

Cross-linked polyethylene (XLPE), in dry atmosphere catenary tube, through a triple layer extrusion process.

External semiconductor

Screen over the insulation, made of thermosetting and strippable semiconductor material.

Cable conductor identification

The conductors are identified with a tape placed along the cable between the outer semiconductor and the screen. Colours are; brown, green and yellow.

Metallic screen

Screen of copper wires and cross-wound of copper tape placed helicoidally. (H1 screen).

Cabling

The three conductors are wound helicoidally with their screens in contact. A bedding is used to fill the spaces between the conductors to achieve a better cylindrical finish .

Bedding

The special PVC compound bedding gives a high level of resistance to hydrocarbons and mineral oils.

Armour

Galvanized steel wire wrapped helicoidally around the cable and fixed with a counter-wound metal tape.

External sheath

The special PVC outer sheath compound gives a high level of resistance to hydrocarbons and mineral oils. Red colours.

APPLICATIONS

Medium Voltage copper cable for the transmission and distribution of electricity. This cable is recommended for installations where this is a risk of oils and/or hydrocarbon type chemical agents coming into contact with the cable.




CHARACTERISTICS

Electrical performance

MEDIUM VOLTAGE
3,6/6 kV, 6/10 kV, 8,7/15 kV, 12/20 kV and 18/30 kV.

Standard

IEC 60502-2

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -15°C

Fire performance

Flame non-propagation based on UNE-EN 60332-1.
Low corrosive gases emission: cables up to 6/10 kV: < 15%.

Mechanical performance

Minimum bending radius: x15 cable diameter.
Abrasion resistant.
Tear resistant.

Chemical performance

Oil resistant: based on UIC 895 OR.
Hydrocarbon resistant: based on UIC 895 OR.

Installation conditions

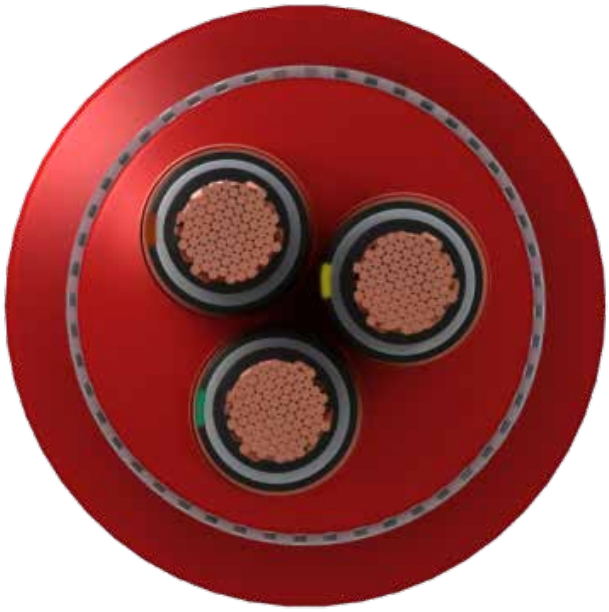
Open Air.
Buried.
In conduit.

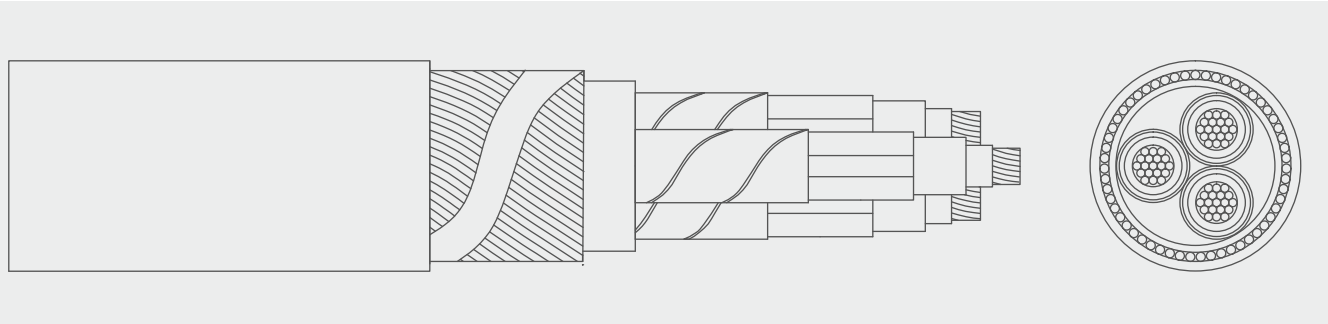
Applications

Distribution networks.

Other

Meter by meter marking.





DIMENSIONS

3,6 / 6 kV

Cross-section (mm2)	ELECTRICAL DATA			DIMENSIONS			
	R (Ω/km)	X (Ω/km)	C (Ω/km)	Ø Cond. (mm)	Ø Ins. (mm)	Ø Ext. (mm)	weight (Kg/Km)
3 x 50	0,387	0,102	0,306	8,5	14,7	46,8	4.950
3 x 70	0,268	0,096	0,356	10,0	16,2	51,3	6.057
3 x 95	0,193	0,092	0,393	12,0	18,2	55,2	7.204
3 x 120	0,153	0,089	0,438	13,7	19,9	59,4	8.442
3 x 150	0,124	0,087	0,470	15,0	21,2	62,4	9.577
3 x 185	0,0991	0,083	0,532	16,5	22,7	67,3	11.128

6 / 10 kV

3 x 50	0,387	0,109	0,250	8,5	16,1	52,5	5.590
3 x 70	0,268	0,102	0,280	10,0	17,6	55,9	7.085
3 x 95	0,193	0,084	0,330	12,0	19,6	60,6	8.080
3 x 120	0,153	0,082	0,365	13,7	21,3	64,9	9.320
3 x 150	0,124	0,080	0,392	15,0	22,6	68,1	10.555
3 x 185	0,0991	0,078	0,429	16,5	24,4	72,2	12.140

8,7 / 15 kV

3 x 50	0,387	0,116	0,194	8,5	18,1	56,4	6.290
3 x 70	0,268	0,109	0,223	10,0	19,6	60,7	7.446
3 x 95	0,193	0,104	0,244	12,0	21,6	64,1	8.675
3 x 120	0,153	0,100	0,269	13,7	23,3	68,3	9.991

12 / 20 kV

3 x 50	0,387	0,122	0,168	8,5	20,4	60,9	6.962
3 x 70	0,268	0,114	0,192	10,0	22,3	65,6	8.212
3 x 95	0,193	0,095	0,228	12,0	23,4	70,3	9.600
3 x 120	0,153	0,092	0,250	13,7	25,1	73,7	10.850
3 x 150	0,124	0,090	0,267	15,0	26,4	77,1	12.135
3 x 185	0,0991	0,087	0,290	16,5	28,2	81,3	13.825
3 x 240	0,0754	0,084	0,329	19,5	31,2	88,4	16.545

18 / 30 kV

3 x 50	0,387	0,135	0,131	8,0	24,0	73,0	8.731
3 x 70	0,268	0,126	0,148	10,0	26,0	77,5	9.855

Maximum current capacity according to UNE 211 435.
For other installation conditions, please refer to correction factors in UNE 211 435 Norm.
See more technical data on the particular cable specification. Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information: sales@topcable.com

MEDIUM VOLTAGE CABLES

TOXFREE MARINE XZ1-K (AS)

The marine power cable.

IEC 60502-1 / IEC 60092-353

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228 and IEC 60228.

Insulation

LSZH XLPE 90°C.

The standard identification is the following:

1 x	Black
2 x	Blue + Brown
3 x	Brown + Black + Grey
4 x	Blue + Brown + Black + Grey
5 or more conductors	White with black numbers

Outer sheath

LSZH polyolefin outer sheath SHF1 type. Black colour, fire retardant.

APPLICATIONS

The Toxfree Marine XZ1-K (AS) cable with zero halogen is a safety cable. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is recommended in marine applications.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0.6/1 KV

Standards

IEC 60502-1 / IEC 60092-353

Approvals

DNV-GL
ABS
Bureau Veritas
Lloyd's Register
CE
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on EN 60332-3-22 and IEC 60332-3-22.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034.: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG2 Medium severity.

Chemical performance

Chemical & Oil resistance: Good.

Water performance

Water resistance: AD6 waves.

Other

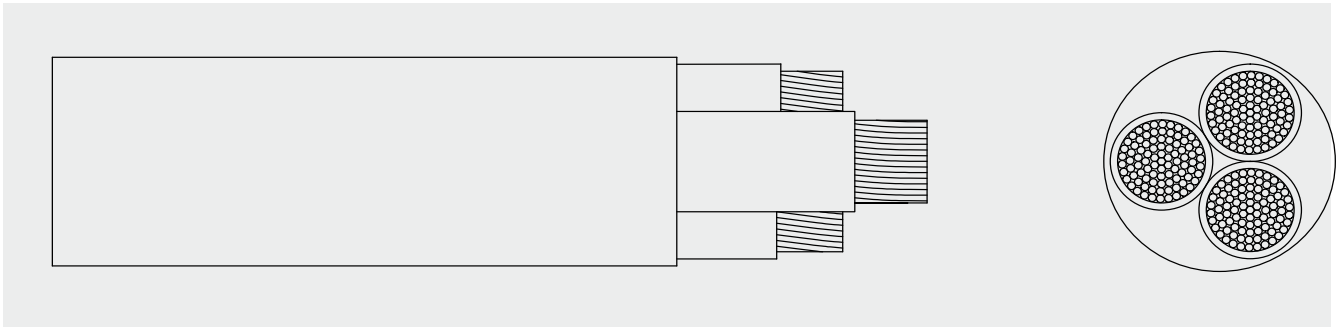
Metre by metre marking.
Ripcord.
Electric fields resistant.

Installation conditions

Open Air.
Buried.
In conduit.

Applications

Industrial use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm)	Weight (Kg/km)	Open Air 45°C (A)	Voltage drop (V/A·km)	Conductor resistance at 20°C (Ohm/Km)
1 x 2,5	5,4	45	25	17,7	7,98
1 x 4	5,9	61	35	11	4,95
1 x 6	6,5	81	46	7,32	3,3
1 x 10	7,4	122	64	4,23	1,91
1 x 16	8,6	181	88	2,68	1,21
1 x 25	10,4	271	117	1,73	0,78
1 x 35	11,7	370	147	1,23	0,55
1 x 50	13,4	510	180	0,86	0,39
1 x 70	15,3	704	233	0,6	0,27
1 x 95	17,4	923	285	0,46	0,21
1 x 120	19	1.157	333	0,36	0,16
1 x 150	21,3	1.438	386	0,29	0,13
1 x 185	23,9	1.750	444	0,24	0,11
1 x 240	26,9	2.283	528	0,18	0,08
1 x 300	29,6	2.864	612	0,14	0,06
2 x 1,5	8	97	23	34	13,3
2 x 2,5	9,1	131	31	20,4	7,98
2 x 4	10,2	176	43	12,7	4,95
2 x 6	11,4	234	55	8,45	3,3
2 x 10	13,3	348	75	4,89	1,91
2 x 16	15,1	493	100	3,1	1,21
3 x 1,5	8,9	118	23	34	13,3
3 x 2,5	9,8	156	31	20,4	7,98
3 x 4	10,9	211	43	12,7	4,95
3 x 6	12,2	285	55	8,45	3,3
3 x 10	14,6	442	75	4,89	1,91
3 x 16	16,8	642	87	2,68	1,21
3 x 25	21	1.008	110	1,73	0,78
3 x 35	24	1.363	137	1,23	0,55
3 x 50	27,9	1.894	167	0,86	0,39
3 x 70	30,5	2.532	214	0,6	0,27
3 x 95	36,6	3.397	259	0,46	0,21
3 x 120	40,2	4.252	301	0,36	0,16
3 x 150	45,1	5.299	347	0,29	0,13

Cross section (mm2)	Diameter (mm)	Weight (Kg/km)	Open Air 45°C (A)	Voltage drop (V/A·km)	Conductor resistance at 20°C (Ohm/Km)
3 x 185	50,7	6.495	397	0,24	0,11
3 x 240	57,3	8.461	468	0,18	0,08
4 x 1,5	9,7	140	20	29,5	13,3
4 x 2,5	10,6	185	28	17,7	7,98
4 x 4	12,1	262	37	11	4,95
4 x 6	13,5	351	47	7,32	3,3
4 x 10	16	544	65	4,23	1,91
4 x 16	18,7	802	87	2,68	1,21
4 x 25	23,7	1.271	110	1,73	0,78
4 x 35	25,9	1.690	137	1,23	0,55
4 x 50	31,3	2.396	167	0,86	0,39
4 x 70	35,8	3.284	214	0,6	0,27
4 x 95	40,6	4.282	259	0,46	0,21
4 x 120	44,8	5.391	301	0,36	0,16
4 x 150	50,2	6.748	347	0,29	0,13
4 x 185	56,5	8.262	397	0,24	0,11
4 x 240	63,7	10.763	468	0,18	0,08
5 x 1,5	10,4	165	20	29,5	13,3
5 x 2,5	11,8	229	28	17,7	7,98
5 x 4	13,3	315	37	11	4,95
5 x 6	15	431	47	7,32	3,3
5 x 10	17,7	670	65	4,23	1,91
5 x 16	20,8	991	87	2,68	1,21
7 x 1,5	11,4	204	11	29,5	13,3
7 x 2,5	13	284	15	17,7	7,98
10 x 1,5	13,4	277	10	29,5	13,3
12 x 1,5	14,3	326	9	29,5	13,3
12 x 2,5	17,2	477	12	17,7	7,98
14 x 1,5	15,4	333	9	29,5	13,3
16 x 1,5	16,6	384	8	29,5	13,3
19 x 1,5	17,3	435	8	29,5	13,3
19 x 2,5	20,3	632	11	17,7	7,98
24 x 1,5	19,5	542	7	29,5	13,3
27 x 1,5	20,7	601	7	29,5	13,3
27 x 2,5	24,3	876	9	17,7	7,98

For further technical data please request this cable's technical datasheet.
Top Cable reserves the right to carry out any modification whatsoever without giving previous notice.

For more information: sales@topcable.com

Top Cable

MARINE CABLES

TOXFREE MARINE PLUS

XZ1-K (AS+)

The Marine fire resistant power cable.

IEC 60092-353

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228.

Insulation

Mica Tape + LSZH XLPE 90°C.

The standard identification is the following:

1 x Black

2 x Blue + Brown

3 x Brown+ Black+ Grey

4 x Blue + Brown + Black + Grey

5 x or more conductors White with black numbers

Outer sheath

LSZH polyolefin outer sheath SHF1 type. Orange colour, non-toxic, fire retardant and fire resistant.

APPLICATIONS

The Toxfree Marine Plus XZ1-K (AS+) is specially designed to transmit electric power in the presence of fire, assuring electric supply to emergency circuits, like signalling lights, smoke extractors, acoustic alarms, water pumps, etc. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is recommended in public places and marine applications.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0.6/1 KV

Standards

IEC 60092-353

Approvals

DNV-GL
ABS
Bureau Veritas
Lloyd's Register
CE
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed installations).

Fire performance

Flame non-propagation based on EN 60332-1 and IEC 60332-1.
Fire non-propagation based on EN 60332-3-22 and IEC 60332-3-22.
Fire resistant based on EN 60331-21 and IEC 60331-21.
LSZH (Low Smoke Zero Halogen) based on EN 60754-1 and IEC 60754-1.
Low smoke emission based on EN 61034 and IEC 61034.: Light transmittance > 60%
Low corrosive gases emission based on EN 60754-2 and IEC 60754-2.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG3 High severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD6 waves.

Other

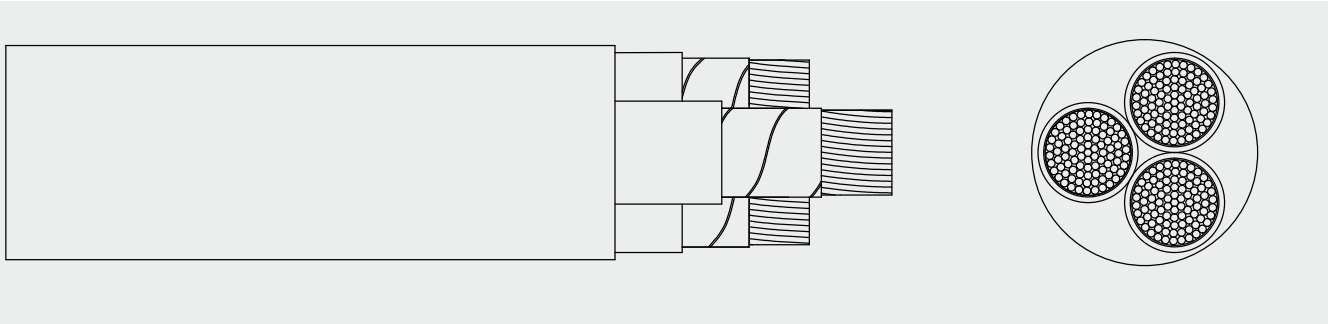
Metre by metre marking.

Installation conditions

Open Air.
In conduit.
Wall attached.
On tray.

Applications

Marine use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm)	Aprox Weight (Kg/km)	Open Air 30°C (A)	Voltage Drop (V/A · km)	Conductor resistance (Ohm/Km)
1 x 2,5	5,90	51	25	17,70	7,98
1 x 4	6,40	68	35	11,00	4,95
1 x 6	7,00	89	46	7,32	3,30
1 x 10	7,90	133	64	4,23	1,91
1 x 16	9,10	195	88	2,68	1,21
1 x 25	10,90	290	117	1,73	0,78
1 x 35	12,20	393	147	1,23	0,55
1 x 50	13,90	540	180	0,86	0,39
1 x 70	15,80	741	233	0,60	0,27
1 x 95	17,90	969	285	0,46	0,21
1 x 120	19,50	1.212	333	0,36	0,16
1 x 150	21,80	1.504	386	0,29	0,13
1 x 185	24,40	1.828	444	0,24	0,11
1 x 240	27,40	2.379	528	0,18	0,08
1 x 300	30,10	2.981	612	0,14	0,06
2 x 1,5	9,20	121	23	34,00	13,30
2 x 2,5	10,10	154	31	20,40	7,98
2 x 4	11,40	209	43	12,70	4,95
2 x 6	12,40	266	55	8,45	3,30
2 x 10	14,50	395	75	4,89	1,91
2 x 16	16,10	542	100	3,10	1,21
3 x 1,5	10,00	140	23	34,00	13,30
3 x 2,5	11,00	186	31	20,40	7,98
3 x 4	12,20	247	43	12,70	4,95
3 x 6	13,30	321	55	8,45	3,30
3 x 10	15,70	489	75	4,89	1,91
3 x 16	17,90	701	87	2,68	1,21
3 x 25	22,30	1.097	110	1,73	0,78
3 x 35	25,30	1.470	137	1,23	0,55
3 x 50	28,90	2.013	167	0,86	0,39
3 x 70	31,60	2.677	214	0,60	0,27
3 x 95	37,70	3.575	259	0,46	0,21
3 x 120	41,50	4.480	301	0,36	0,16
3 x 150	46,40	5.566	347	0,29	0,13
3 x 185	52,00	6.806	397	0,24	0,11

Cross section (mm2)	Diameter (mm)	Aprox Weight (Kg/km)	Open Air 30°C (A)	Voltage Drop (V/A · km)	Conductor resistance (Ohm/Km)
3 x 240	58,40	8.813	468	0,18	0,08
4 x 1,5	11,10	170	20	29,50	13,30
4 x 2,5	12,00	221	28	17,70	7,98
4 x 4	13,30	298	37	11,00	4,95
4 x 6	14,90	400	47	7,32	3,30
4 x 10	17,40	609	65	4,23	1,91
4 x 16	20,10	883	87	2,68	1,21
4 x 25	25,10	1.379	110	1,73	0,78
4 x 35	27,30	1.820	137	1,23	0,55
4 x 50	32,70	2.558	167	0,86	0,39
4 x 70	37,00	3.467	214	0,60	0,27
4 x 95	42,00	4.524	259	0,46	0,21
4 x 120	46,20	5.675	301	0,36	0,16
4 x 150	51,60	7.083	347	0,29	0,13
4 x 185	57,90	8.654	397	0,24	0,11
4 x 240	65,10	11.243	468	0,18	0,08
5 x 1,5	12,00	199	20	29,50	13,30
5 x 2,5	13,20	264	28	17,70	7,98
5 x 4	14,90	364	37	11,00	4,95
5 x 6	16,60	490	47	7,32	3,30
5 x 10	19,30	747	65	4,23	1,91
5 x 16	22,40	1.088	87	2,68	1,21
7 x 1,5	12,90	240	11	29,50	13,30
7 x 2,5	14,70	334	15	17,70	7,98
10 x 1,5	15,60	337	10	29,50	13,30
12 x 1,5	16,60	395	9	29,50	13,30
12 x 2,5	19,50	561	12	17,70	7,98
14 x 1,5	17,80	394	9	29,50	13,30
16 x 1,5	19,20	454	8	29,50	13,30
19 x 1,5	20,00	514	8	29,50	13,30
19 x 2,5	23,00	730	11	17,70	7,98
24 x 1,5	22,70	640	7	29,50	13,30
27 x 1,5	24,00	709	7	29,50	13,30
27 x 2,5	27,80	1.023	9	17,70	7,98

For further technical data please request this cable's technical datasheet.
Top Cable reserves the right to carry out any modification whatsoever without giving previous notice.

For more information: sales@topcable.com

TOXFREE MARINE XTCuZ1-K (AS)

The Marine armoured power cable.

IEC 60092-353

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228.

Insulation

LSZH XLPE 90°C.

The standard identification is the following:

1 x Black
2 x Blue + Brown
3 x Brown + Black + Grey
4 x Blue + Brown + Black + Grey

5 or more conductors White with black numbers.

Armour

Coverage of 100% composed by an aluminium-polyester tape and a tinned copper braid.

Outer sheath

LSZH polyolefin outer sheath SHF1 type. Black colour, non-toxic and fire retardant.

APPLICATIONS

The Toxfree Marine XTCuZ1-K (AS) cable with zero halogen is a safety cable. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is recommended in marine applications.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0.6/1 KV

Standards

IEC 60092-353 / IEC60502-1

Approvals

DNV-GL
ABS
Bureau Veritas
Lloyd's Register
CE
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance

Flame non-propagation based on UNE-EN 60332-1 and IEC 60332-1.
Fire non-propagation based on EN 60332-3-22 and IEC 60332-3-22.
LSZH (Low Smoke Zero Halogen) based on UNE-EN 60754-1 and IEC 60754-1.
Low smoke emission based on UNE-EN 61034 and IEC 61034.: Light transmittance > 60%
Low corrosive gases emission based on UNE-EN 60754-2 and IEC 60754-2.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG3 High severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD6 waves.

Other

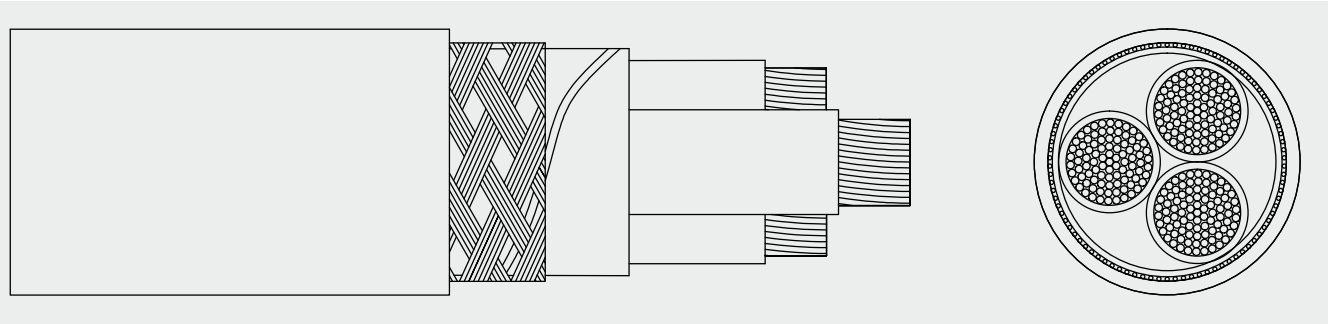
Metre by metre marking.

Installation conditions

Open Air.
Wall Attached.
On Tray.
In Conduit.

Applications

Marine use.
Public Places.



DIMENSIONS

Cross section (mm2)	Diameter (mm)	Weight (Kg/km)	Open Air 45°C (A)	Voltage drop (V/A·km)	Conductor resistance at 20°C (Ohm/Km)
1 x 2,5	8,20	108	25	17,70	7,98
1 x 4	8,90	133	35	11,00	4,95
1 x 6	9,50	158	46	7,32	3,30
1 x 10	10,40	209	64	4,23	1,91
1 x 16	11,60	280	88	2,68	1,21
1 x 25	14,00	424	117	1,73	0,78
1 x 35	15,10	532	147	1,23	0,55
1 x 50	17,00	702	180	0,86	0,39
1 x 70	18,70	912	233	0,60	0,27
1 x 95	20,80	1.156	285	0,46	0,21
1 x 120	22,60	1.422	333	0,36	0,16
1 x 150	24,90	1.733	386	0,29	0,13
1 x 185	27,50	2.079	444	0,24	0,11
1 x 240	30,50	2.650	528	0,18	0,08
1 x 300	33,60	3.300	612	0,14	0,06
2 x 1,5	8,70	102	23	34,00	13,30
2 x 2,5	9,50	128	31	20,40	7,98
2 x 4	10,70	166	43	12,70	4,95
2 x 6	11,90	216	55	8,45	3,30
2 x 10	14,40	347	75	4,89	1,91
2 x 16	16,00	470	100	3,10	1,21
3 x 1,5	9,40	125	23	34,00	13,30
3 x 2,5	10,20	160	31	20,40	7,98
3 x 4	11,50	216	43	12,70	4,95
3 x 6	12,70	279	55	8,45	3,30
3 x 10	15,50	455	75	4,89	1,91
3 x 16	17,70	642	87	2,68	1,21
3 x 25	21,40	948	110	1,73	0,78
3 x 35	24,40	1.265	137	1,23	0,55
3 x 50	28,20	1.739	167	0,86	0,39
3 x 70	30,90	2.330	214	0,60	0,27
3 x 95	37,30	3.145	259	0,46	0,21
3 x 120	41,20	3.931	301	0,36	0,16
3 x 150	45,90	4.826	347	0,29	0,13

Cross section (mm2)	Diameter (mm)	Weight (Kg/km)	Open Air 45°C (A)	Voltage drop (V/A·km)	Conductor resistance at 20°C (Ohm/Km)
3 x 185	51,70	5.870	397	0,24	0,11
3 x 240	58,10	7.573	468	0,18	0,08
4 x 1,5	10,20	150	20	29,50	13,30
4 x 2,5	11,20	198	28	17,70	7,98
4 x 4	12,60	266	37	11,00	4,95
4 x 6	14,60	386	47	7,32	3,30
4 x 10	17,10	575	65	4,23	1,91
4 x 16	19,80	822	87	2,68	1,21
4 x 25	24,00	1.219	110	1,73	0,78
4 x 35	26,30	1.616	137	1,23	0,55
4 x 50	31,70	2.252	167	0,86	0,39
4 x 70	36,60	3.152	214	0,60	0,27
4 x 95	41,50	4.086	259	0,46	0,21
4 x 120	45,60	5.093	301	0,36	0,16
4 x 150	51,00	6.326	347	0,29	0,13
4 x 185	57,40	7.696	397	0,24	0,11
4 x 240	64,50	9.945	468	0,18	0,08
5 x 1,5	10,90	177	20	29,50	13,30
5 x 2,5	12,30	239	28	17,70	7,98
5 x 4	14,40	358	37	11,00	4,95
5 x 6	15,90	467	47	7,32	3,30
5 x 10	18,60	700	65	4,23	1,91
5 x 16	21,70	1.010	87	2,68	1,21
7 x 1,5	11,90	219	11	29,50	13,30
7 x 2,5	14,00	332	15	17,70	7,98
10 x 1,5	14,50	326	10	29,50	13,30
12 x 1,5	15,20	369	9	29,50	13,30
12 x 2,5	18,10	518	12	17,70	7,98
14 x 1,5	16,20	416	9	29,50	13,30
16 x 1,5	17,50	474	8	29,50	13,30
19 x 1,5	18,20	529	8	29,50	13,30
19 x 2,5	21,10	743	11	17,70	7,98
24 x 1,5	20,40	648	7	29,50	13,30
27 x 1,5	21,60	716	7	29,50	13,30
27 x 2,5	25,40	1.023	9	17,70	7,98

For further technical data please request this cable's technical datasheet.
Top Cable reserves the right to carry out any modification whatsoever without giving previous notice.

For more information: sales@topcable.com

TOXFREE MARINE PLUS

XTCuZ1-K (AS+)

The Marine armoured and fire resistant power cable.

IEC 60092-353

DESIGN

Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228.

Insulation

Mica Tape + LSZH XLPE 90°C

The standard identification is the following:

1x Black

2 x Blue + Brown

3 x Brown+ Black+ Grey

4 x Blue + Brown + Black + Grey

5 or more conductors White with black numbers

Armour

Coverage of 100% composed by an aluminium-polyester tape and a tinned copper braid.

Outer sheath

LSZH polyolefin outer sheath SHF1 type. Orange colour, non-toxic, fire retardant and fire resistant.

APPLICATIONS

The Toxfree Marine Plus XTCuZ1-K (AS+) is specially designed to transmit electric power in the presence of fire, assuring electric supply to emergency circuits, like signalling lights, smoke extractors, acoustic alarms, water pumps, etc. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is recommended in public places and marine applications.




CHARACTERISTICS

Electrical performance

LOW VOLTAGE 0.6/1 KV

Standards

IEC 60092-353

Approvals

DNV-GL
ABS
Bureau Veritas
Lloyd's Register
CE
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C
(fixed installations).

Fire performance

Flame non-propagation based on EN 60332-1 and IEC 60332-1.
Fire non-propagation based on EN 60332-3-22 and IEC 60332-3-22.
Fire resistant based on EN 60331-21 and IEC 60331-21.
LSZH (Low Smoke Zero Halogen) based on EN 60754-1 and IEC 60754-1.
Low smoke emission based on EN 61034 and IEC 61034.: Light transmittance > 60%
Low corrosive gases emission based on EN 60754-2 and IEC 60754-2.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG3 High severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD6 waves.

Other

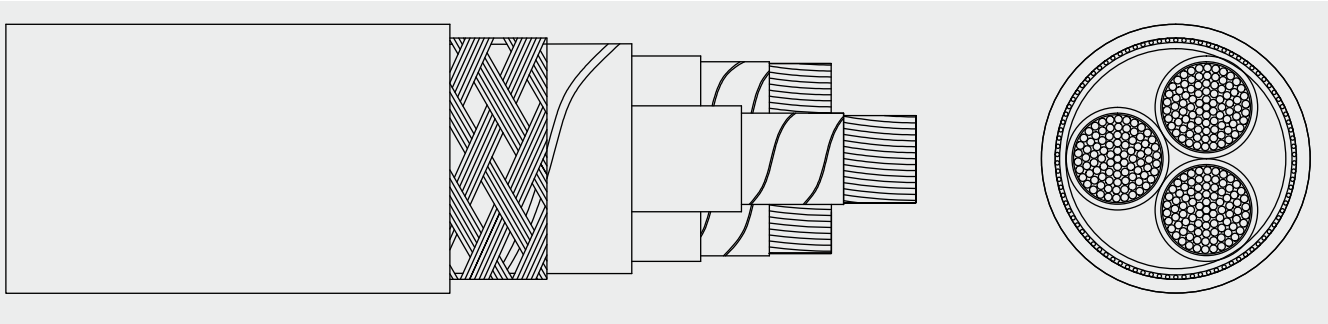
Metre by metre marking.

Installation conditions

Open Air.
In conduit.
Wall attached.
On tray.

Applications

Marine use.
Public places.



DIMENSIONS

Cross section (mm2)	Diameter (mm)	Aprox Weight (Kg/km)	Open Air 30°C (A)	Voltage Drop (V/A · km)	Conductor resistance (Ohm/Km)
1 x 2,5	8,90	123	25	17,70	7,98
1 x 4	9,40	145	35	11,00	4,95
1 x 6	10,00	171	46	7,32	3,30
1 x 10	11,10	231	64	4,23	1,91
1 x 16	12,10	299	88	2,68	1,21
1 x 25	14,50	450	117	1,73	0,78
1 x 35	15,60	562	147	1,23	0,55
1 x 50	17,50	739	180	0,86	0,39
1 x 70	19,40	965	233	0,60	0,27
1 x 95	21,30	1.209	285	0,46	0,21
1 x 120	23,10	1.484	333	0,36	0,16
1 x 150	25,40	1.805	386	0,29	0,13
1 x 185	28,00	2.163	444	0,24	0,11
1 x 240	31,00	2.753	528	0,18	0,08
1 x 300	34,10	3.424	612	0,14	0,06
2 x 1,5	9,70	117	23	34,00	13,30
2 x 2,5	10,50	145	31	20,40	7,98
2 x 4	11,90	191	43	12,70	4,95
2 x 6	12,90	239	55	8,45	3,30
2 x 10	15,40	379	75	4,89	1,91
2 x 16	17,20	515	100	3,10	1,21
3 x 1,5	10,40	144	23	34,00	13,30
3 x 2,5	11,50	187	31	20,40	7,98
3 x 4	12,60	242	43	12,70	4,95
3 x 6	14,30	345	55	8,45	3,30
3 x 10	16,70	504	75	4,89	1,91
3 x 16	18,70	693	87	2,68	1,21
3 x 25	22,70	1.023	110	1,73	0,78
3 x 35	25,60	1.355	137	1,23	0,55
3 x 50	29,30	1.837	167	0,86	0,39
3 x 70	31,90	2.451	214	0,60	0,27
3 x 95	38,60	3.315	259	0,46	0,21
3 x 120	42,30	4.111	301	0,36	0,16
3 x 150	47,20	5.059	347	0,29	0,13
3 x 185	52,70	6.116	397	0,24	0,11

Cross section (mm2)	Diameter (mm)	Aprox Weight (Kg/km)	Open Air 30°C (A)	Voltage Drop (V/A · km)	Conductor resistance (Ohm/Km)
3 x 240	59,10	7.878	468	0,18	0,08
4 x 1,5	11,60	178	20	29,50	13,30
4 x 2,5	12,40	225	28	17,70	7,98
4 x 4	14,40	334	37	11,00	4,95
4 x 6	15,80	426	47	7,32	3,30
4 x 10	18,30	627	65	4,23	1,91
4 x 16	21,00	887	87	2,68	1,21
4 x 25	25,40	1.315	110	1,73	0,78
4 x 35	27,70	1.730	137	1,23	0,55
4 x 50	33,10	2.395	167	0,86	0,39
4 x 70	37,80	3.314	214	0,60	0,27
4 x 95	42,70	4.284	259	0,46	0,21
4 x 120	47,00	5.349	301	0,36	0,16
4 x 150	52,40	6.629	347	0,29	0,13
4 x 185	58,60	8.023	397	0,24	0,11
4 x 240	65,90	10.380	468	0,18	0,08
5 x 1,5	12,40	210	20	29,50	13,30
5 x 2,5	14,20	308	28	17,70	7,98
5 x 4	15,70	400	37	11,00	4,95
5 x 6	17,40	523	47	7,32	3,30
5 x 10	20,10	773	65	4,23	1,91
5 x 16	23,20	1.100	87	2,68	1,21
7 x 1,5	14,00	289	11	29,50	13,30
7 x 2,5	15,50	377	15	17,70	7,98
10 x 1,5	16,70	387	10	29,50	13,30
12 x 1,5	17,50	436	9	29,50	13,30
12 x 2,5	20,30	598	12	17,70	7,98
14 x 1,5	18,60	491	9	29,50	13,30
16 x 1,5	20,00	558	8	29,50	13,30
19 x 1,5	20,90	623	8	29,50	13,30
19 x 2,5	23,80	857	11	17,70	7,98
24 x 1,5	23,60	765	7	29,50	13,30
27 x 1,5	25,10	854	7	29,50	13,30
27 x 2,5	28,40	1.164	9	17,70	7,98

Maximum admissible intensities according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.
For more information: sales@topcable.com

Top Cable

TOXFREE MARINE XOxTCuZ1-K (AS) (x:1...3)

The Marine armoured instrumentation cable

IEC 60092-376, IEC 60092-350

DESIGN

1. Conductor

Electrolytic copper, class 5 (flexible), based on EN 60228.

2. Insulation

LSZH XLPE 90°C.

The standard identification is the following per pair:

1x Blue

1xWhite

Each pair is numbered

3. Screen

Individual and/or collective aluminium / polyester tape with tinned copper drain wire

O1.....Individual screen (per pair)

O2.....Overall screen (per cable)

O3.....Individual and overall screen

4. Armour Bedding

Polyester tape.

5. Armour

Tinned copper braid screen.

6. Outer sheath

LSZH polyolefin outer sheath SHF1 type. Grey colour, fire retardant.

APPLICATIONS

The Toxfree Marine XOxTCuZ1-K (AS) cable with zero halogens is a safety armoured instrumentation cable. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is recommended in marine applications.




CHARACTERISTICS

Electrical performance

INSTRUMENTATION 250V

Standards

IEC 60092-376, IEC 60092-350

Approvals

DNV-GL
ABS (in progress)
Bureau Veritas (in progress)
CE
RoHS

Thermal performance

Maximum service temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed installations).

Fire performance

Flame non-propagation based on EN 60332-1 and IEC 60332-1.
Fire non-propagation based on EN 60332-3-22 and IEC 60332-3-22.
LSZH (Low Smoke Zero Halogen) based on EN 60754-1 and IEC 60754-1.
Low smoke emission based on EN 61034 and IEC 61034.: Light transmittance > 60%
Low corrosive gases emission based on EN 60754-2 and IEC 60754-2.

Mechanical performance

Minimum bending radius: x5 cable diameter.
Impact resistance: AG3 High severity.

Chemical performance

Chemical & Oil resistance: Acceptable.

Water performance

Water resistance: AD6 waves.

Other

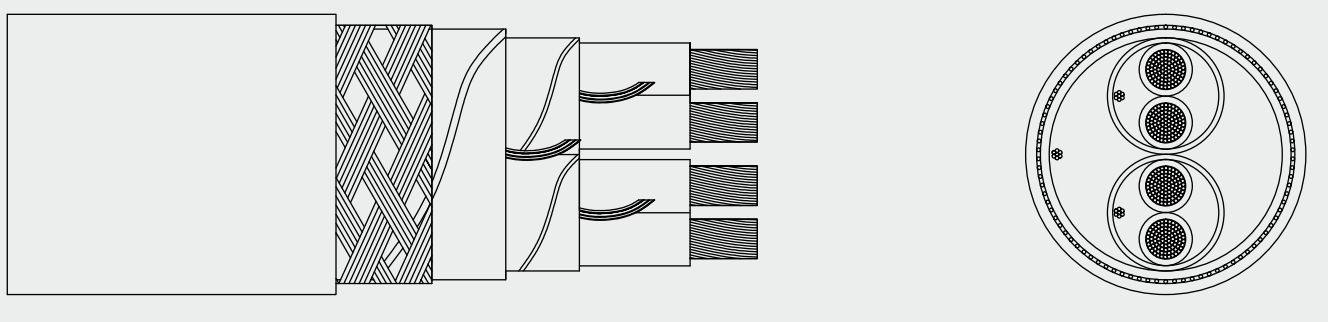
Metre by metre marking.

Installation conditions

Open Air.
In conduit.
Wall attached.
On tray.

Applications

Marine use.
Public places.



DIMENSIONS XO2TCuZ1-K

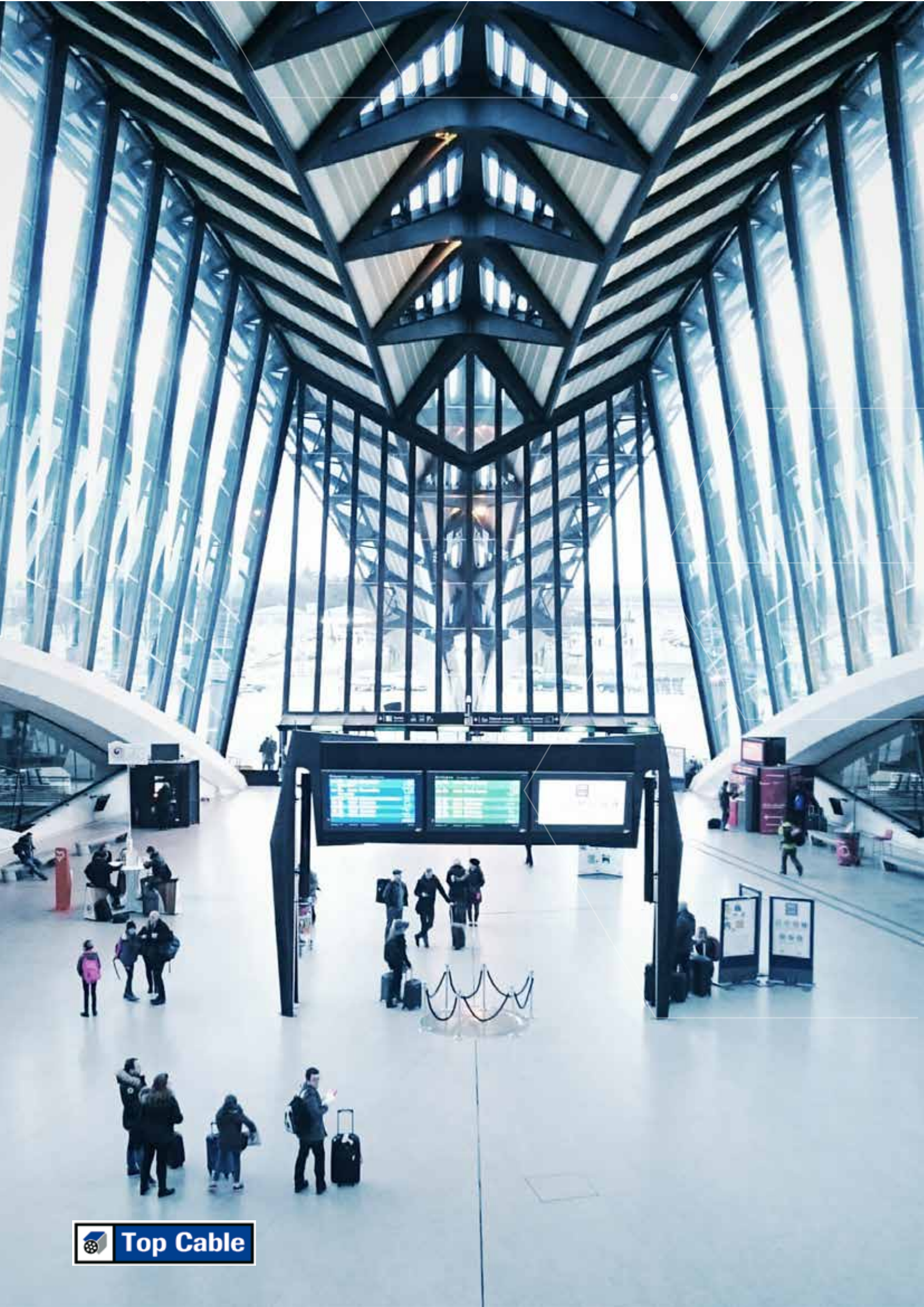
Cross section (mm²)	Diameter (mm)	Weight (Kg/Km)	Open Air 45°C (A)	Max. Conductor Resistance at 20°C (Ohm/Km)
1 x 2 x 0,75	7,2	90	17,1	27,6
2 x 2 x 0,75	11,3	150	13,7	27,6
4 x 2 x 0,75	13,1	215	11,2	27,6
7 x 2 x 0,75	15,9	340	9,2	27,6
10 x 2 x 0,75	20,2	470	8,6	27,6
14 x 2 x 0,75	21,9	605	7,4	27,6
19 x 2 x 0,75	24,4	795	6,5	27,6
24 x 2 x 0,75	28,8	960	6,5	27,6

DIMENSIONS XO3TCuZ1-K

Cross section (mm²)	Diameter (mm)	Weight (Kg/Km)	Open Air 45°C (A)	Max. Conductor Resistance at 20°C (Ohm/Km)
1 x 2 x 0,75	7,1	135	17,1	27,6
2 x 2 x 0,75	11,4	185	13,7	27,6
4 x 2 x 0,75	13,2	265	11,2	27,6
7 x 2 x 0,75	16,0	390	9,2	27,6
10 x 2 x 0,75	20,3	510	8,6	27,6
14 x 2 x 0,75	22,1	655	7,4	27,6
19 x 2 x 0,75	24,6	865	6,5	27,6
24 x 2 x 0,75	29,1	1.045	6,5	27,6

Maximum admissible intensities according to IEC 60364-5-52.
For other installation conditions, please refer to correction factors in the appendix to this catalogue.
See more technical data on the particular cable specification.
Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice.

For more information: sales@topcable.com



Top Cable

Appendix

DRUM dimension Chart

Drum Dimension Chart

A	B	C	D	DRUMS
400 mm	160 mm	250 mm	266 mm	BF 000400
500 mm	160 mm	300 mm	316 mm	BF 000500
630 mm	315 mm	370 mm	450 mm	BM 00600
800 mm	400 mm	520 mm	600 mm	BM 00800
1.000 mm	500 mm	610 mm	710 mm	BM 001000
1.250 mm	630 mm	710 mm	810 mm	BM 001250
1.400 mm	710 mm	810 mm	930 mm	BM 001400
1.600 mm	900 mm	980 mm	1.100 mm	BM 001600
1.800 mm	1.120 mm	960 mm	1.100 mm	BM 001800
2.000 mm	1.250 mm	960 mm	1.100 mm	BM 002000
2.240 mm	1.400 mm	1.190 mm	1.350 mm	BM 002200
2.500 mm	1.500 mm	1.190 mm	1.350 mm	BM 002500

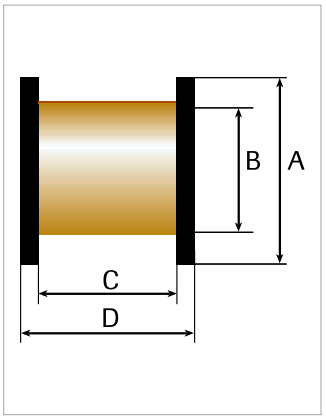


Table of CAPACITIES

TABLE OF CAPACITIES (m)

	External drum diameter (mm)							
ø Cables (mm)	630	800	1.000	1.250	1.400	1.600	1.800	2.000
3	8.650	-	-	-	-	-	-	-
4	4.866	-	-	-	-	-	-	-
5	3.114	7.057	-	-	-	-	-	-
6	2.163	4.901	-	-	-	-	-	-
7	1.589	3.601	6.600	-	-	-	-	-
8	1.216	2.757	5.053	-	-	-	-	-
9	961	2.178	3.992	-	-	-	-	-
10	779	1.764	3.234	5.850	-	-	-	-
11	643	1.458	2.673	4.835	-	-	-	-
12	541	1.225	2.246	4.062	5.789	-	-	-
13	461	1.044	1.914	3.461	4.932	-	-	-
14	397	900	1.650	2.985	4.253	-	-	-
15	346	784	1.437	2.600	3.705	5.388	-	-
16	304	689	1.263	2.285	3.256	4.735	5.263	-
17	269	610	1.119	2.024	2.884	4.195	6.662	-
18	240	545	998	1.805	2.573	3.742	4.159	5.105
19	216	489	896	1.620	2.309	3.358	3.732	4.582
20	195	441	808	1.462	2.084	3.031	3.368	4.135
21	177	400	733	1.326	1.890	2.749	3.055	3.751
22	161	365	668	1.209	1.722	2.505	2.784	3.417
23	147	334	611	1.106	1.576	2.292	2.547	3.127
24	135	306	561	1.016	1.447	2.105	2.339	2.872
25	125	282	517	936	1.334	1.940	2.156	2.646
26	115	261	478	865	1.233	1.793	1.993	2.447
27	-	242	444	802	1.143	1.663	1.848	2.269
28	-	225	412	746	1.063	1.546	1.719	2.110
29	-	210	385	696	991	1.441	1.602	1.967
30	-	196	359	650	926	1.347	1.497	1.838

TABLE OF CAPACITIES (m)

	External drum diameter (mm)							
Ø Cables (mm)	630	800	1.000	1.250	1.400	1.600	1.800	2.000
31	-	184	v337	609	867	1.261	1.402	1.721
32	-	172	316	571	814	1.184	1.316	1.615
33	-	162	297	537	765	1.113	1.237	1.519
34	-	-	280	506	721	1.049	1.166	1.431
35	-	-	264	478	680	990	1.100	1.350
36	-	-	250	451	643	935	1.040	1.276
37	-	-	236	427	609	886	984	1.208
38	-	-	224	405	577	840	933	1.145
39	-	-	213	385	548	797	886	1.087
40	-	-	202	366	521	758	842	1.034
41	-	-	192	348	496	721	802	984
42	-	-	-	332	473	687	764	938
43	-	-	-	316	451	565	729	895
44	-	-	-	302	431	526	696	854
45	-	-	-	289	412	599	665	817
46	-	-	-	276	394	573	637	782
47	-	-	-	265	377	549	610	749
48	-	-	-	254	362	526	585	718
49	-	-	-	244	347	505	561	589
50	-	-	-	234	333	485	539	662
51	-	-	-	225	320	466	518	636
52	-	-	-	216	308	448	498	612
53	-	-	-	-	297	432	480	589
54	-	-	-	-	286	416	462	567
55	-	-	-	-	276	401	445	547
56	-	-	-	-	266	387	430	527
57	-	-	-	-	257	373	415	509
58	-	-	-	-	248	360	401	492
59	-	-	-	-	239	348	387	475
60	-	-	-	-	232	337	374	459

ANGLO-AMERICAN conversion chart

CONVERSION CHART

	Conduct electricity diameter			Cross-section		Copper Weight
AWG Nr.	mils	mm	Circular mils	sq. in.	mm²	Kg./Km
4 / 0	460,0	11,684	211.600	0,1662	107,15	953
3 / 0	409,6	10,404	167.800	0,1318	84,95	756
2 / 0	364,8	9,266	133.100	0,1045	67,49	599
1 / 0	324,9	8,252	105.600	0,08291	53,46	475
1	289,3	7,348	83.690	0,06573	42,43	377
2	257,6	6,544	66.360	0,05212	33,59	299
3	229,4	5,827	52.620	0,04133	26,69	237
4	204,3	5,189	41.740	0,03278	21,16	188
5	181,9	4,621	33.090	0,02599	16,76	149
6	162,0	4,115	26.240	0,02061	13,33	118
7	144,3	3,665	20.820	0,01635	10,52	93,7
8	128,5	3,264	16.510	0,01297	8,347	74,4
9	144,4	2,906	13.090	0,01028	6,651	58,9
10	101,9	2,588	10.380	0,008155	5,269	46,8
11	90,7	2,305	8.230	0,00646	4,155	37,1
12	80,8	2,053	6.530	0,00513	3,301	29,4
13	72,0	1,828	5.180	0,00407	2,630	23,3
14	64,1	1,628	4.110	0,00323	2,087	18,5
15	57,1	1,450	3.260	0,00256	1,651	14,7
16	50,8	1,291	2.580	0,00203	1,307	11,6
17	45,3	1,150	2.050	0,00161	1,039	9,23
18	40,3	1,024	1.620	0,00128	0,8012	7,32
19	35,9	0,912	1.290	0,00101	0,6532	5,80
20	32,0	0,812	1.020	0,000804	0,5166	4,60
21	28,5	0,723	812	0,000638	0,4106	3,65
22	25,4	0,644	645	0,000503	0,3257	2,89
23	22,6	0,573	511	0,000401	0,2579	2,30
24	20,1	0,511	404	0,000317	0,2051	1,82
25	17,9	0,455	320	0,000252	0,1626	1,44
26	15,9	0,405	253	0,000199	0,1288	1,14
27	14,2	0,361	202	0,000158	0,1024	0,912
28	12,6	0,321	159	0,000125	0,08093	0,717
29	11,3	0,286	128	0,000100	0,06240	0,577
30	10,0	0,255	100	0,0000785	0,05107	0,451
31	8,9	0,227	79,2	0,0000622	0,04047	0,357
32	8,0	0,202	64,0	0,0000503	0,03205	0,289
33	7,1	0,180	50,4	0,0000396	0,02545	0,227
34	6,3	0,160	39,7	0,0000312	0,02012	0,179
35	5,6	0,143	31,4	0,0000246	0,01608	0,142
36	5,0	0,127	25,0	0,0000196	0,01267	0,113
37	4,5	0,113	20,2	0,0000159	0,01003	0,0912
38	4,0	0,101	16,0	0,0000126	0,008012	0,0722
39	3,5	0,0897	12,2	0,00000962	0,006182	0,0550
40	3,1	0,0799	9,61	0,00000755	0,004869	0,0433
41	2,8	0,0711	7,84	0,00000618	0,003972	0,0353
42	2,5	0,0635	6,25	0,00000491	0,003167	0,0282
43	2,2	0,0559	4,84	0,00000380	0,002452	0,0218
44	2,0	0,0508	4,00	0,00000314	0,002027	0,0180
45	1,8	0,0457	3,24	0,00000254	0,001642	0,0146
46	1,6	0,0406	2,56	0,00000201	0,001297	0,01155
47	1,4	0,0358	1,96	0,00000154	0,0009931	0,00884
48	1,2	0,0305	1,44	0,00000113	0,0007296	0,00649
49	1,1	0,0279	1,21	0,000000950	0,0006131	0,00545
50	1,0	0,0254	1,00	0,000000785	0,0005067	0,00451

SPECIFICATION CHART

Caliber	Area	Number & Diameter		External diameter	Aproximate weight Kg./Km		Resistance CC 20ºC ohm/km	
AWG or MCM	mm²	stands	mm	mm	Copper	Aluminium	Copper	Aluminium
22	0.324	7	0.244	0.737	2.941	-	54.0	-
20	0.519	7	0.307	0.914	4.705	-	33.9	-
19	0.653	7	0.345	1.04	5.922	-	27.2	-
18	0.823	7	0.386	1.17	7.462	-	21.40	-
17	1.04	7	0.437	1.32	9.429	-	17.10	-
16	1.31	7	0.488	1.47	11.86	-	13.40	-
15	1.65	7	0.549	1.65	14.98	-	10.75	-
14	2.08	7	0.615	1.85	18.88	-	8.45	-
13	2.63	7	0.691	2.08	23.82	-	6.69	-
12	3.31	7	0.775	2.34	30.00	9.12	5.32	8.71
11	4.17	7	0.871	2.62	37.80	11.5	4.22	6.92
10	5.26	7	0.978	2.95	47.71	14.5	3.342	5.479
9	6.63	7	1.10	3.30	60.14	18.3	2.652	4.347
8	8.37	7	1.23	3.70	75.9	23.1	2.102	3.446
7	10.55	7	1.39	4.16	95.7	29.1	1.667	2.732
6	13.30	7	1.56	4.67	121	36.7	1.322	2.168
5	16.77	7	1.75	5.24	152	45.2	1.049	1.720
4	21.15	7	1.96	5.88	192	58.3	0.8315	1.363
3	26.87	7	2.20	6.61	242	73.5	0.6595	1.081
2	33.62	7	2.47	7.42	305	92.7	0.5230	0.8574
1	42.41	19	1.69	8.43	385	117	0.4147	0.6798
1/0	53.49	19	1.89	9.46	485	147	0.3288	0.5390
2/0	67.43	19	2.13	10.6	611	186	0.2608	0.4275
3/0	85.01	19	2.39	11.9	771	234	0.2069	0.3391
4/0	107	19	2.68	13.4	972	296	0.1640	0.2689
250	127	37	2.09	14.6	1150	349	0.1388	0.2276
300	152	37	2.28	16.0	1380	419	0.1157	0.1897
350	177	37	2.47	17.3	1610	469	0.09916	0.1626
400	203	37	2.64	18.5	1840	559	0.08677	0.1422
450	228	37	2.80	19.6	2070	629	0.07713	0.1264
500	252	37	2.95	20.7	2300	699	0.6941	0.1138
550	279	61	2.41	21.7	2530	768	0.06310	0.1034
600	304	61	2.52	22.7	2760	838	0.05784	0.09483
650	329	61	2.62	23.6	2990	908	0.05340	0.08753
700	355	61	2.72	24.5	3220	978	0.04958	0.08128
750	380	61	2.82	25.3	3450	1050	0.04628	0.07585
800	405	61	2.91	26.2	3680	1120	0.04338	0.07112
900	456	61	3.09	27.8	4140	1260	0.03856	0.06322
1000	507	61	3.25	29.3	4590	1400	0.03471	0.05690
1100	557	91	2.79	30.7	5050	1540	0.03155	0.05172
1200	608	91	2.92	32.1	5510	1680	0.02892	0.04741
1250	633	91	2.98	32.7	5740	1750	0.02777	0.04552
1300	659	91	3.04	33.4	5970	1820	0.02670	0.04377
1400	709	91	3.15	34.7	6430	1960	0.02479	0.04064
1500	760	91	3.26	35.9	6890	2100	0.02314	0.03793
1600	811	127	2.85	37.1	7350	2240	0.02169	0.03556
1700	861	127	2.94	38.2	7810	2370	0.02042	0.03347
1750	887	127	2.98	38.8	8040	2440	0.01983	0.03251
1800	912	127	3.02	39.3	8270	2510	0.01928	0.03161
1900	963	127	3.11	40.4	8730	2650	0.01827	0.02995
2000	1010	127	3.19	41.5	9190	2790	0.01735	0.02840

CERTIFICATIONS & APPROVALS

Certified company

Certificate of the Quality Management system in accord with standard UNE-EN ISO 9001:2000 for all companies integrated in Top Cable group.

Alcabe S.A: Rubí (Barcelona) / Bellpuig (Lleida) / Sallent (Barcelona)

Certified products

Top Cable products are guaranteed by the following international certifications:

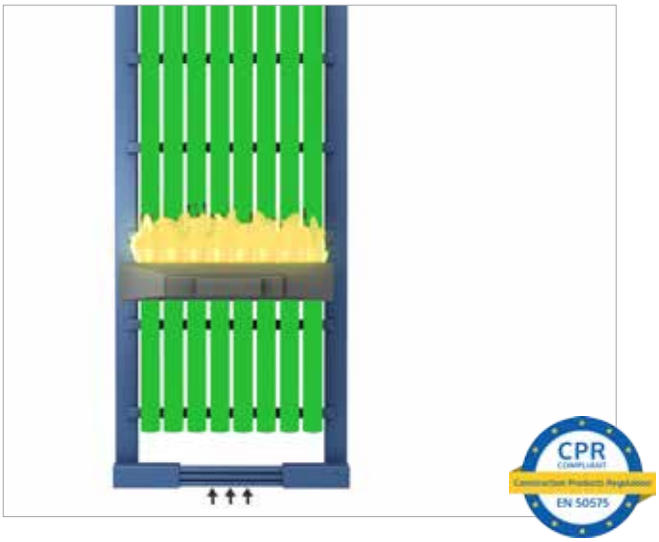
If you wish to receive a copy of those certificates, please contact your Top Cable sales manager or send an email to sales@topcable.com

CABLE FIRE TESTS

Fire, smoke emissions and toxic gases may create a potential and real threat to people and equipment. For this reason, Toxfree halogen free cables are designed, manufactured and tested according to the most demanding fire requirements, to be installed in places where fire safety is essential.

These are the tests to which Top Cable halogen-free cables are subjected, in order to guarantee the safety of the installations and people. The standards applicable are based on EN and IEC.

EN: European Norm
IEC: International Electrotechnical Commision
CPR: Construction Product Regulation



CPR FIRE NON PROPAGATION

Fire reaction in the event of a fire

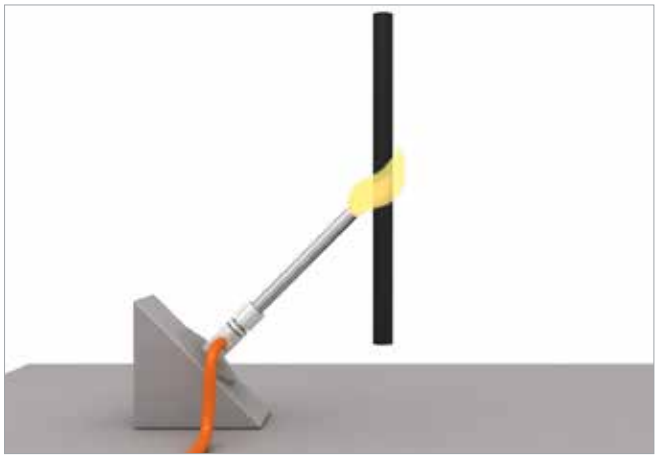
Standard EN 50399.

The test recreates a cable management mounted in vertical position and with forced ventilation. A high power flame is applied directly on the cable mounted in bundles. Throughout the ignition process, the generated heat, the fumes that are produced and the possible fall of inflamed particles are analyzed. Once the fire source has been eliminated, the cable is classified according to the parameters of fire propagation limitation, cable heat emission, smoke production and persistence time of the fallen particles (droplets).

FIRE NON PROPAGATION

Standard EN 60332-3. IEC 60332-3.

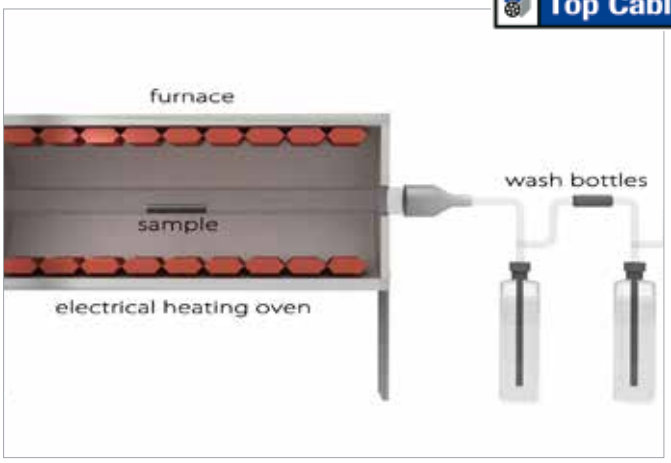
The test consists of placing a number of 3,5m cables together in the vertical positioning a large cabinet. At the base of the bunch of cables a flame is applied by means of a propane burner for duration of 20 minutes. Once the heat source is turned off, the remaining flame on the cables must self-extinguish leaving the upper part of the cable intact. Thereby proving that the cable does not propagate the spread of the flame. Utilizing cables that meet this test prevent a localized fire from extending to other areas through the cable network. Not all cables meet this safety prerequisite; manufacturers must use high quality fireproof materials and special cable construction to be able to offer non-fire propagating cables.



FLAME NON PROPAGATION

Standard: EN 60332-1. IEC 60332-1

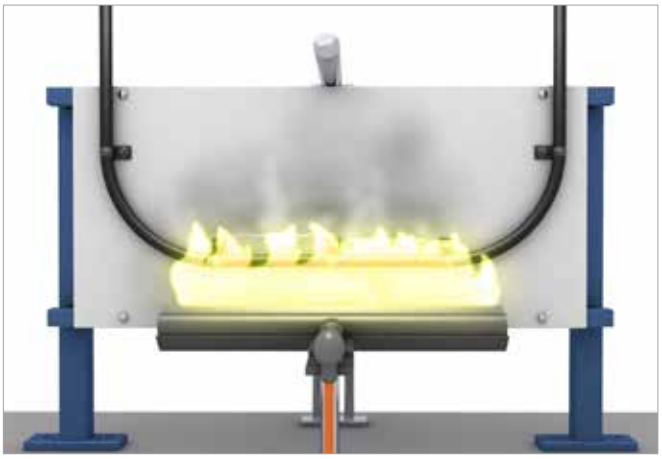
The test consists of placing a 60 cm piece of cable in a vertical position in a cabinet, to avoid air currents, and applying a flame of 1 KW caloric power for 30 seconds. Once the heat source has been cut off, the flame must self extinguish while keeping the upper part intact. Thereby proving that the flame does not propagate. Most cables meet this minimum safety requirement, so that a short-circuit of brief duration does not cause a fire.



HALOGEN FREE

Standard: EN 60754, IEC 60754

The test consists of placing 1,0g of the insulating material of the cable in a laboratory oven and burning it. The gases released are chemically analyzed and the content of hydrochloric acid, pH and conductivity are measured. The halogens present must be less than 0.5%. By utilizing halogen-free insulating materials the toxicity of the gases released during a fire are reduced, thereby reducing the risk of poisoning by inhalation.



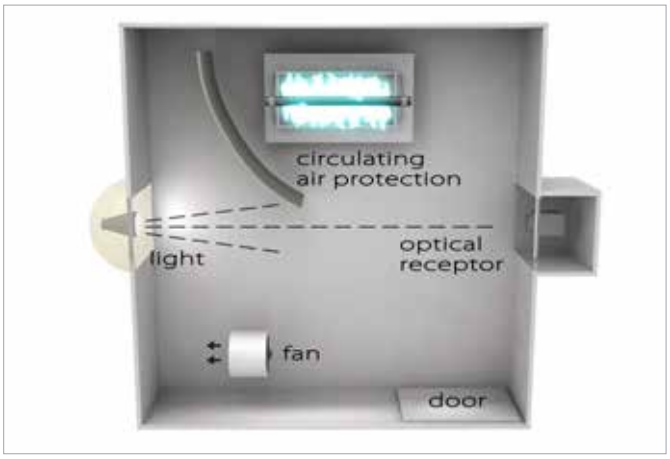
FIRE RESISTANCE

Standard:

for cable diameter < 20 mm: EN 50200 / IEC 60331-2

for cable diamete > 20 mm: EN 50632 / IEC 60331-1

The test consists of applying a high temperature flame of 800 ° C. The cable must withstand the full intensity of the flame without failure. The cable must be able to continue supplying power in the event of a fire, assuring electricity to emergency circuits like signaling lights, fume extractors, acoustic alarms, water pumps etc.

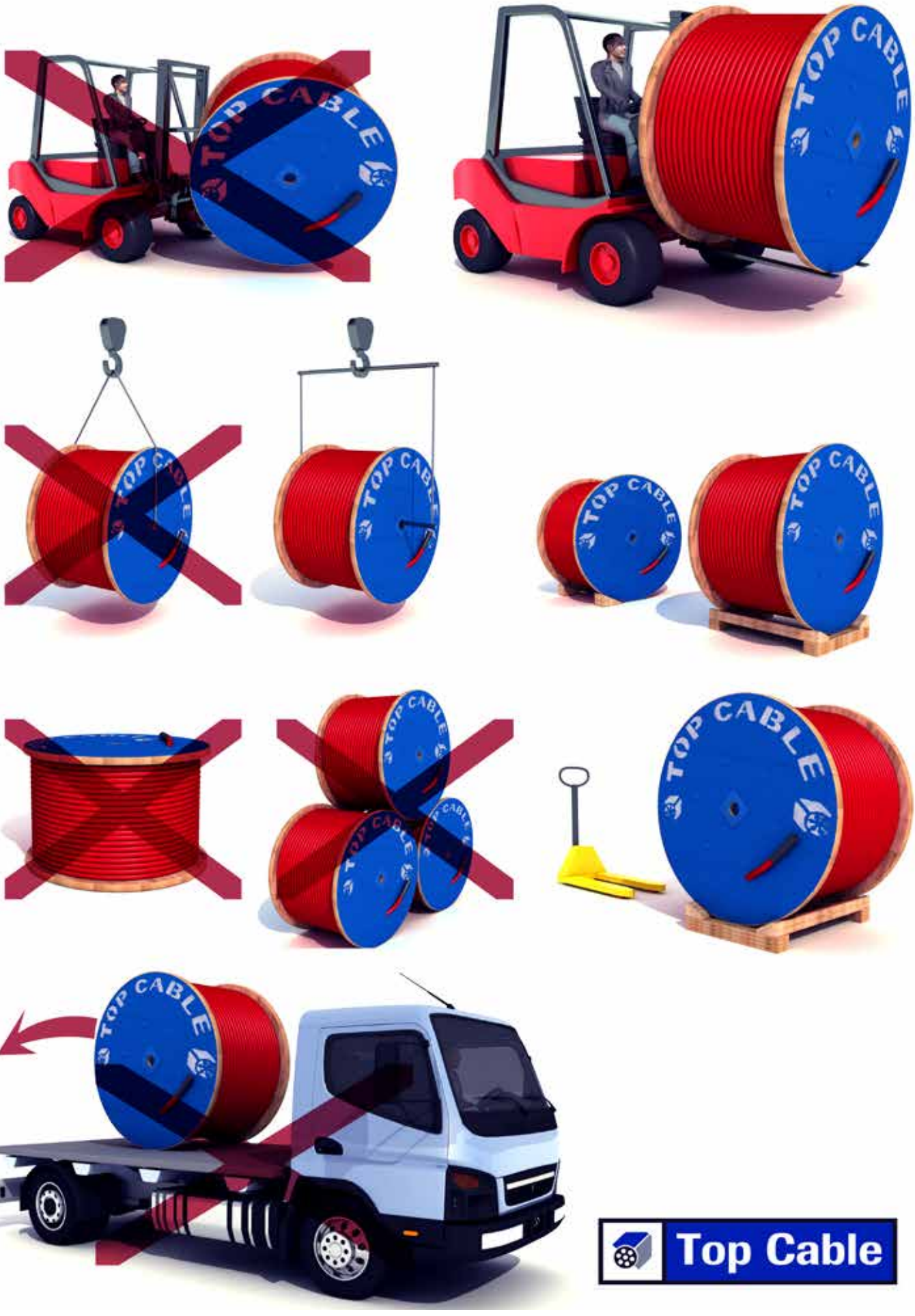


SMOKE OPACITY MEASUREMENT

Standard: EN 61034, IEC 61034

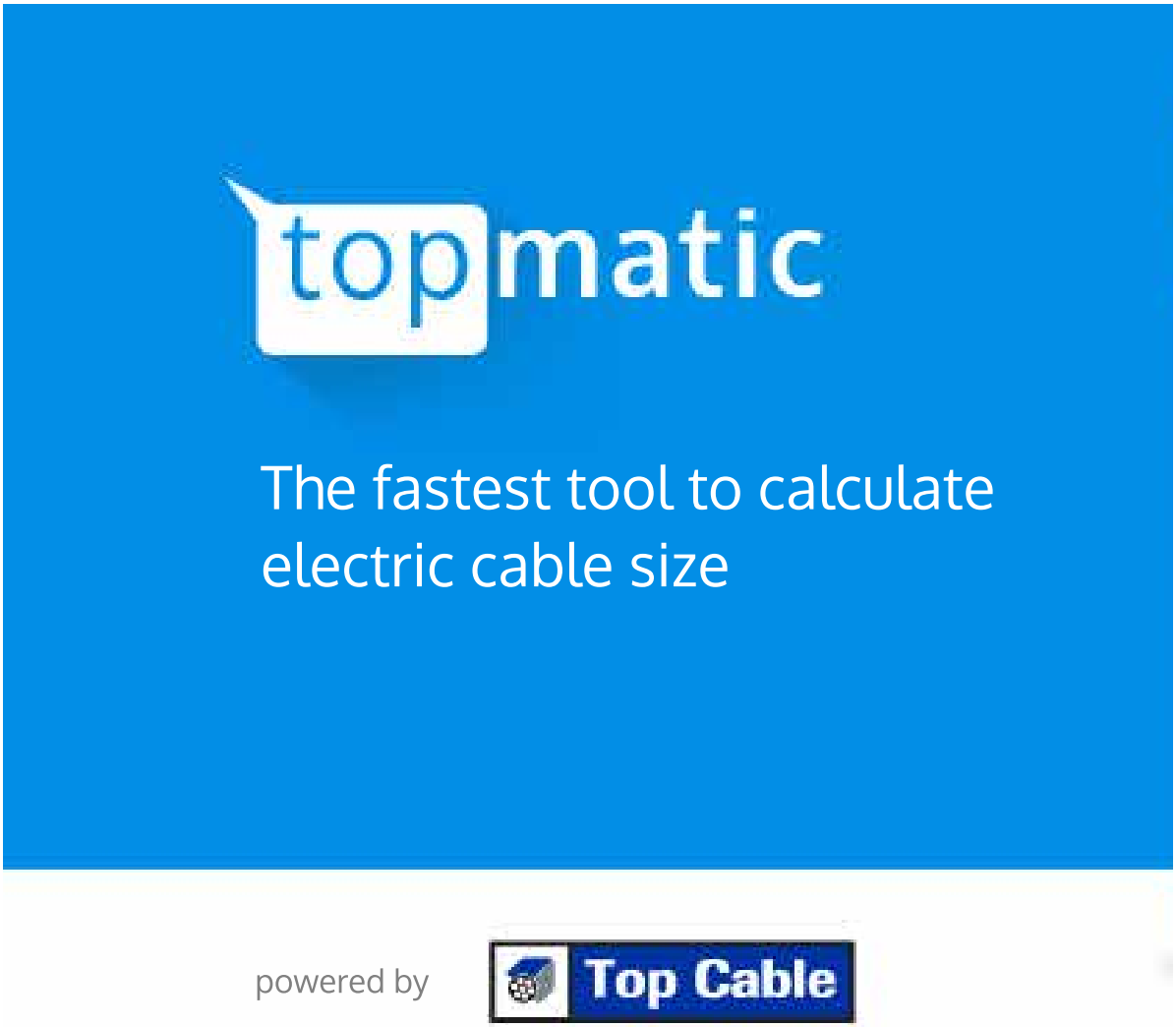
The test consists of burning a number of 1m lengths of cable in a cabinet with a volume of 27 m3. Smoke opacity is measured with a lamp with a constant brightness and a photometer. Luminous transmittance must be greater than 60%. By reducing smoke opacity in the event of a fire, the rapid location of emergency exits and the evacuation of the building are facilitated.


Top Cable

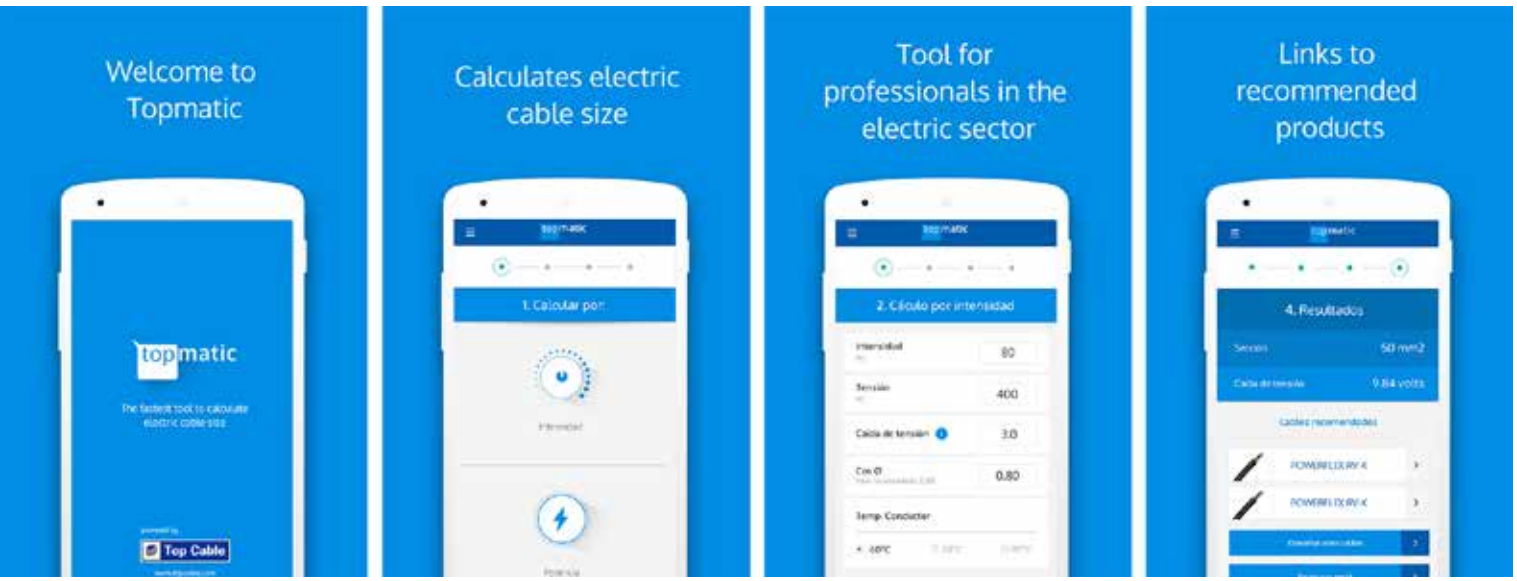

TOP CABLE
Top Cable

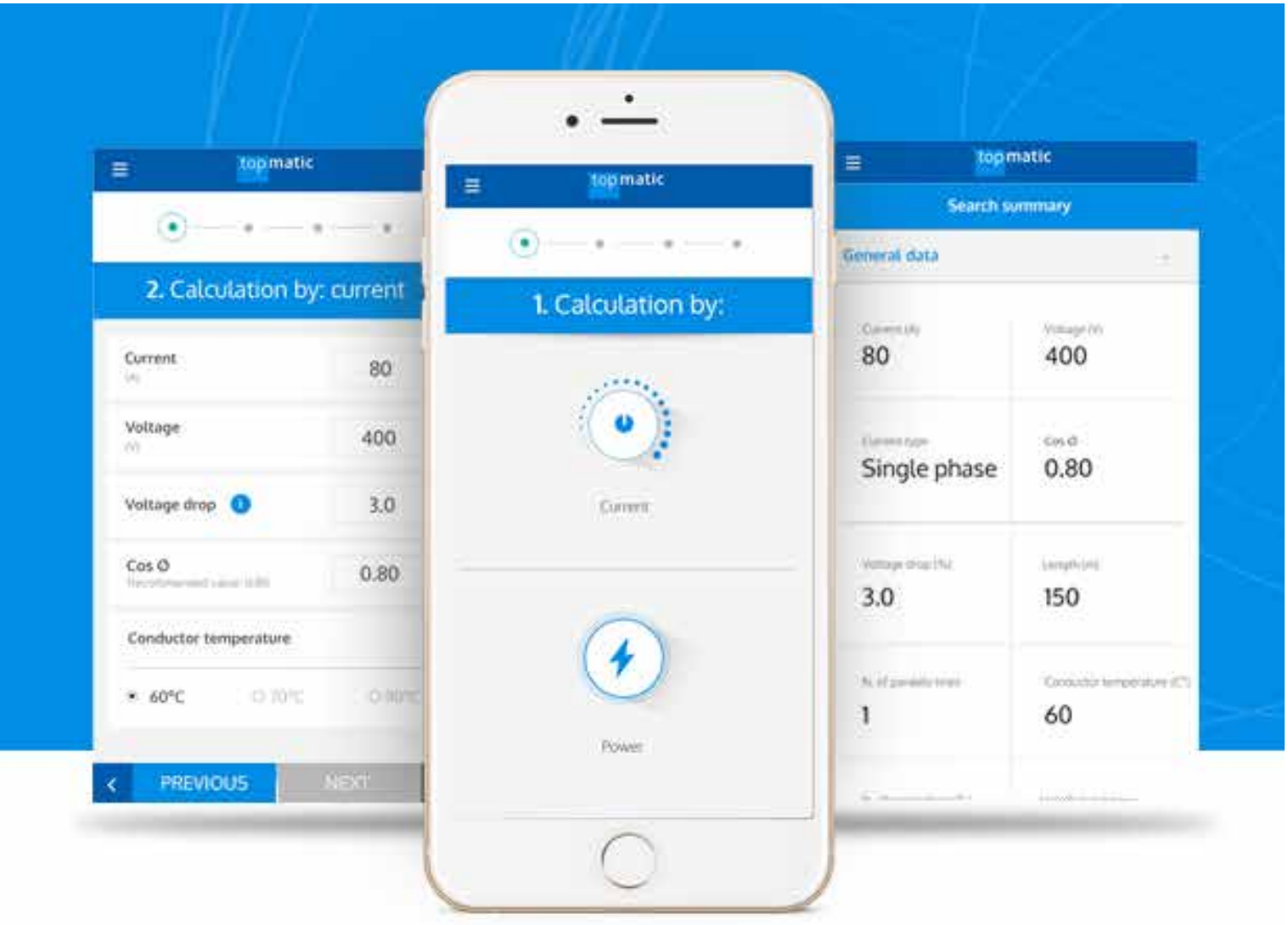
Topmatic is an application to calculate the most suitable cross-section of electric cable. It is a useful tool for engineers, installers, suppliers, students, etc..

On the following pages you will find the complete list of the installation methods following UNE 20460-5-523 standard.



http://www.topcable.com/topmatic/





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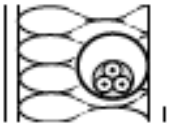
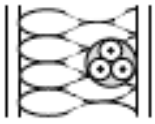
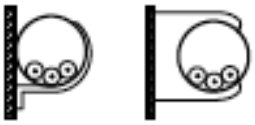
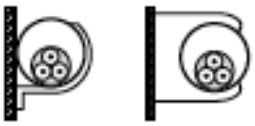
INSTALLATION METHODS

Table A.52.3 – Examples of methods of installation providing instructions for obtaining current-carrying capacity

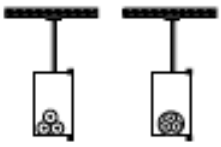
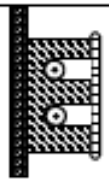
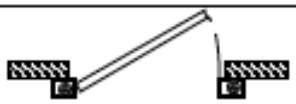
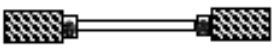
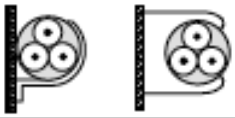
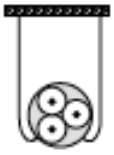
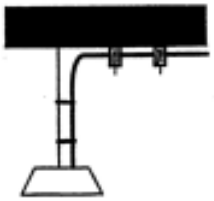
Item No.	Methods of installation	Description	Reference method of installation to be used to obtain current-carrying capacity (see Annex B)
1		Insulated conductors or single-core cables in conduit in a thermally insulated wall[a, c]	A1
2		Multi-core cables in conduit in a thermally insulated wall[a, c]	A2
3		Multi-core cable direct in a thermally insulated wall[a, c]	A1
4		Insulated conductors or single-core cables in conduit on a wooden or masonry wall or spaced less than 0,3 × conduit diameter from it[c]	B1
5		Multi-core cable in conduit on a wooden or masonry wall or spaced less than 0,3 × conduit diameter from it [c]	B2
6 7		Insulated conductors or single-core cables in cable trunking (includes multi-compartment trunking) on a wooden or masonry wall – run horizontally[b] – run vertically[b, c]	B1
8 9		Multi-core cable in cable trunking (includes multi-compartment trunking) on a wooden or masonry wall – run horizontally[b] – run vertically[b, c]	Under consideration[d] Method B2 may be used

NOTE 1 The illustrations are not intended to depict actual product or installation practices but are indicative of the method described.

NOTE 2 All footnotes can be found on the last page of Table A.52.3.

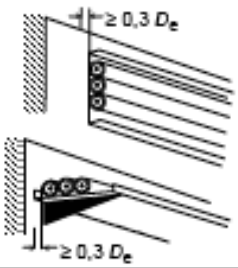
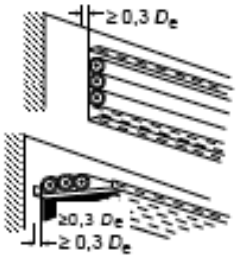
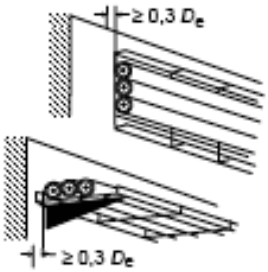
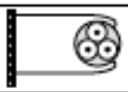
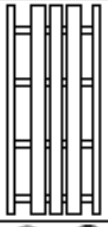
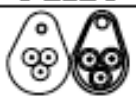
INSTALLATION METHODS

Table A.52.3 (*continued*)

Item No	Methods of installation	Description	Reference method of installation to be used to obtain current-carrying capacity (see Annex B)
10	 10 11	Insulated conductors or single-core cable in suspended cable trunking[b]	B1
11		Multi-core cable in suspended cable trunking[b]	B2
12		Insulated conductors or single-core cable run in mouldings[c, e]	A1
15		Insulated conductors in conduit or single-core or multi-core cable in architrave[c, f]	A1
16		Insulated conductors in conduit or single-core or multi-core cable in window frames[c, f]	A1
20		Single-core or multi-core cables: – fixed on, or spaced less than 0,3 × cable diameter from a wooden or masonry wall[c]	C
21		Single-core or multi-core cables: – fixed directly under a wooden or masonry ceiling	C, with item 3 of Table B.52.17
22		Single-core or multi-core cables: – spaced from a ceiling	Under consideration Method E may be used
23		Fixed installation of suspended current-using equipment	C, with item 3 of Table B.52.17

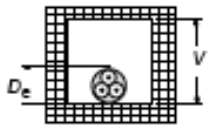
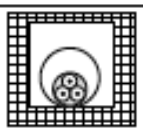
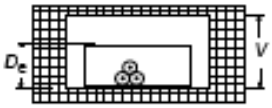
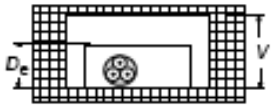
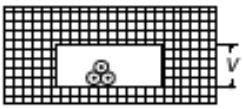
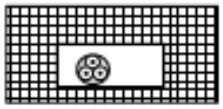
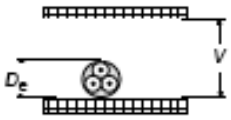
INSTALLATION METHODS

Table A.52.3 (*continued*)

Item No.	Methods of Installation	Description	Reference method of installation to be used to obtain current-carrying capacity (see Annex B)
30		Single-core or multi-core cables: On unperforated tray run horizontally or vertically[c, h]	C with item 2 of Table B.52.17
31		Single-core or multi-core cables: On perforated tray run horizontally or vertically[c, h] NOTE Refer to B.52.6.2 for description	E or F
32		Single-core or multi-core cables: On brackets or on a wire mesh tray run horizontally or vertically[c, h]	E or F
33		Single-core or multi-core cables: Spaced more than 0,3 times cable diameter from a wall	E or F or method G[g]
34		Single-core or multi-core cables: On ladder [c]	E or F
35		Single-core or multi-core cable suspended from or incorporating a support wire or harness	E or F
36		Bare or insulated conductors on insulators	G

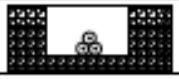
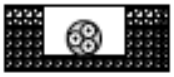
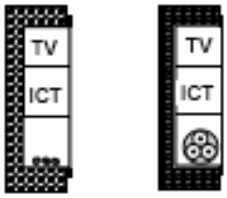
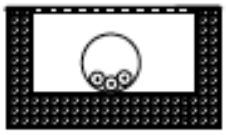
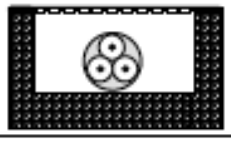
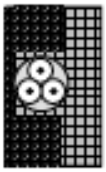
INSTALLATION METHODS

Table A.52.3 (*continued*)

Item No.	Methods of installation	Description	Reference method of installation to be used to obtain current-carrying capacity (see Annex B)
40		Single-core or multi-core cable in a building void[c, h, l]	1,5 $D_e \leq V < 5\ D_e$ B2 5 $D_e \leq V < 20\ D_e$ B1
41		Insulated conductor in conduit in a building void[c, i, j, k]	1,5 $D_e \leq V < 20\ D_e$ B2 $V \geq 20\ D_e$ B1
42		Single-core or multi-core cable in conduit in a building void[c, k]	Under consideration The following may be used: 1,5 $D_e \leq V < 20\ D_e$ B2 $V \geq 20\ D_e$ B1
43		Insulated conductors in cable ducting in a building void[c, i, j, k]	1,5 $D_e \leq V < 20\ D_e$ B2 $V \geq 20\ D_e$ B1
44		Single-core or multi-core cable in cable ducting in a building void[c, k]	Under consideration The following may be used: 1,5 $D_e \leq V < 20\ D_e$ B2 $V \geq 20\ D_e$ B1
45		Insulated conductors in cable ducting in masonry having a thermal resistivity not greater than 2 K · m/W[c, h, l]	1,5 $D_e \leq V < 5\ D_e$ B2 5 $D_e \leq V < 50\ D_e$ B1
46		Single-core or multi-core cable in cable ducting in masonry having a thermal resistivity not greater than 2 K · m/W[c]	Under consideration The following may be used 1,5 $D_e \leq V < 20\ D_e$ B2 $V \geq 20\ D_e$ B1
47		Single-core or multi-core cable: – in a ceiling void – in a raised floor[h, i]	1,5 $D_e \leq V < 5\ D_e$ B2 5 $D_e \leq V < 50\ D_e$ B1

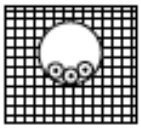
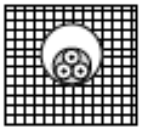
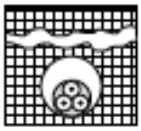
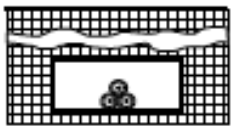
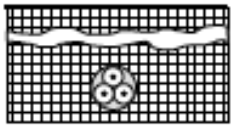
INSTALLATION METHODS

Table A.52.3 (*continued*)

Item No.	Methods of installation	Description	Reference method of installation to be used to obtain current-carrying capacity (see Annex B)
50		Insulated conductors or single-core cable in flush cable trunking in the floor	B1
51		Multi-core cable in flush cable trunking in the floor	B2
52		Insulated conductors or single-core cables in flush cable trunking[e]	B1
53		Multi-core cable in flush trunking[e]	B2
54		Insulated conductors or single-core cables in conduit in an unventilated cable channel run horizontally or vertically[c, i, l, n]	$1{,}5\ D_e \leq V < 20\ D_e$ B2 $V \geq 20\ D_e$ B1
55		Insulated conductors in conduit in an open or ventilated cable channel in the floor[m, n]	B1
56		Sheathed single-core or multi-core cable in an open or ventilated cable channel run horizontally or vertically[n]	B1
57		Single-core or multi-core cable direct in masonry having a thermal resistivity not greater than 2 K · m/W Without added mechanical protection[o, p]	C

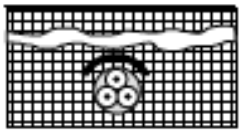
INSTALLATION METHODS

Table A.52.3 (*continued*)

Item No.	Methods of installation	Description	Reference method of installation to be used to obtain current-carrying capacity (see Annex B)
58		Single-core or multi-core cable direct in masonry having a thermal resistivity not greater than 2 K·m/W With added mechanical protection[o, p]	C
59		Insulated conductors or single-core cables in conduit in masonry[p]	B1
60		Multi-core cables in conduit in masonry[p]	B2
70		Multi-core cable in conduit or in cable ducting in the ground	D1
71		Single-core cable in conduit or in cable ducting in the ground	D1
72		Sheathed single-core or multi-core cables direct in the ground – without added mechanical protection[q]	D2

INSTALLATION METHODS

Table A.52.3 (*continued*)

Item No.	Methods of installation	Description	Reference method of installation to be used to obtain current-carrying capacity (see Annex B)
73		Sheathed single-core or multi-core cables direct in the ground – with added mechanical protection[q]	D2

[a] The inner skin of the wall has a thermal conductance of not less than 10 $W/m^2 \cdot K$.

[b] Values given for installation methods B1 and B2 in Annex B are for a single circuit. Where there is more than one circuit in the trunking the group reduction factor given in Table B.52-17 is applicable, irrespective of the presence of an internal barrier or partition.

[c] Care shall be taken where the cable runs vertically and ventilation is restricted. The ambient temperature at the top of the vertical section can be increased considerably. The matter is under consideration.

[d] Values for reference method B2 may be used.

[e] The thermal resistivity of the enclosure is assumed to be poor because of the material of construction and possible air spaces. Where the construction is thermally equivalent to methods of installation 6 or 7, reference method B1 may be used.

[f] The thermal resistivity of the enclosure is assumed to be poor because of the material of construction and possible air spaces. Where the construction is thermally equivalent to methods of installation 6, 7, 8, or 9, reference methods B1 or B2 may be used.

[g] The factors in Table B.52.17 may also be used.

[h] D_e is the external diameter of a multi-core cable:
- 2,2 × the cable diameter when three single core cables are bound in trefoil, or
- 3 × the cable diameter when three single core cables are laid in flat formation.

[i] V is the smaller dimension or diameter of a masonry duct or void, or the vertical depth of a rectangular duct, floor or ceiling void or channel. The depth of the channel is more important than the width.

[j] D_e is the external diameter of conduit or vertical depth of cable ducting.

[l] D_e is the external diameter of the conduit.

[m] For multi-core cable installed in method 55, use current-carrying capacity for reference method B2.

[n] It is recommended that these methods of installation are used only in areas where access is restricted to authorized persons so that the reduction in current-carrying capacity and the fire hazard due to the accumulation of debris can be prevented.

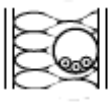
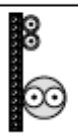
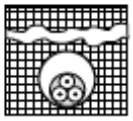
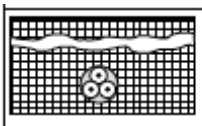
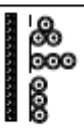
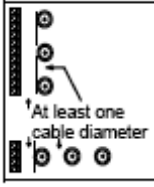
[o] For cables having conductors not greater than 16 mm^2, the current-carrying capacity may be higher.

[p] Thermal resistivity of masonry is not greater than 2 $K \cdot m/W$, the term "masonry" is taken to include brickwork, concrete, plaster and the like (other than thermally insulating materials).

[q] The inclusion of directly buried cables in this item is satisfactory when the soil thermal resistivity is of the order of 2,5 $K \cdot m/W$. For lower soil resistivities, the current-carrying capacity for directly buried cables is appreciably higher than for cables in ducts.

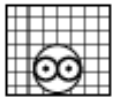
CURRENT-CARRYING CAPACITIES

Table B.52.1 – Installation reference methods forming basis of tabulated current-carrying capacities

Reference method of installation		Table and column						
		Current-carrying capacities for single circuits					Ambient temperature factor	Group reduction factor
		Thermoplastic insulated		Thermosetting insulated		Mineral insulated		
		Number of cores						
		2	3	2	3	2 and 3		
1	2	3	4	5	6	7	8	9
 Room	Insulated conductors (single-core cables) in conduit in a thermally insulated wall	A1	B.52.2 Col. 2	B.52.4 Col. 2	B.52.3 Col. 2	B.52.5 Col. 2	–	B.52.14	B.52.17
 Room	Multi-core cable in conduit in a thermally insulated wall	A2	B.52.2 Col. 3	B.52.4 Col. 3	B.52.3 Col. 3	B.52.5 Col. 3	–	B.52.14	B.52.17 except D (Table B.52.19 applies)
	Insulated conductors (single-core cables) in conduit on a wooden wall	B1	B.52.2 Col. 4	B.52.4 Col. 4	B.52.3 Col. 4	B.52.5 Col. 4	–	B.52.14	B.52.17
	Multi-core cable in conduit on a wooden wall	B2	B.52.2 Col. 5	B.52.4 Col. 5	B.52.3 Col. 5	B.52.5 Col. 5	–	B.52.14	B.52.17
	Single-core or multi-core cable on a wooden wall	C	B.52.2 Col. 6	B.52.4 Col. 6	B.52.3 Col. 6	B.52.5 Col. 6	70 °C Sheath B.52.6 105 °C Sheath B.52.7	B.52.14	B.52.17
	Multi-core cable in ducts in the ground	D	B.52.2 Col. 7	B.52.4 Col. 7	B.52.3 Col. 7	B.52.5 Col. 7	–	B.52.15	B.52.19
	Sheathed single-core or multi-core cables direct in the ground.	D2	Col 8		Col 8		Col 8	Col 8	Col 8
 Clearance to wall not less than 0,3 times cable diameter	Multi-core cable in free air	E	Copper B.52.10 Aluminium B.52.11		Copper B.52.12 Aluminium B.52.13		70 °C Sheath B.52.8 105 °C Sheath B.52.9	B.52.14	B.52.20
 Clearance to wall not less than one cable diameter	Single-core cables, touching in free air	F	Copper B.52.10 Aluminium B.52.11		Copper B.52.12 Aluminium B.52.13		70 °C Sheath B.52.8 105 °C Sheath B.52.9	B.52.14	B.52.21
 At least one cable diameter	Single-core cables, spaced in free air	G	Copper B.52.10 Aluminium B.52.11		Copper B.52.12 Aluminium B.52.13		70 °C Sheath B.52.8 105 °C Sheath B.52.9	B.52.14	–

CURRENT-CARRYING CAPACITIES

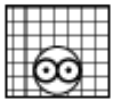
Table B.52.2 – Current-carrying capacities in amperes for methods of installation in Table B.52.1 – PVC insulation/two loaded conductors, copper or aluminium – Conductor temperature: 70 °C, ambient temperature: 30 °C in air, 20 °C in ground

Nominal cross-sectional area of conductor mm²	Installation methods of Table B.52.1						
	A1	A2	B1	B2	C	D1	D2
							
1	2	3	4	5	6	7	8
Copper							
1,5	14,5	14	17,5	16,5	19,5	22	22
2,5	19,5	18,5	24	23	27	29	28
4	26	25	32	30	36	37	38
6	34	32	41	38	46	46	48
10	46	43	57	52	63	60	64
16	61	57	76	69	85	78	83
25	80	75	101	90	112	99	110
35	99	92	125	111	138	119	132
50	119	110	151	133	168	140	156
70	151	139	192	168	213	173	192
95	182	167	232	201	258	204	230
120	210	192	269	232	299	231	261
150	240	219	300	258	344	261	293
185	273	248	341	294	392	292	331
240	321	291	400	344	461	336	382
300	367	334	458	394	530	379	427
Aluminium							
2,5	15	14,5	18,5	17,5	21	22	
4	20	19,5	25	24	28	29	
6	26	25	32	30	36	36	
10	36	33	44	41	49	47	
16	48	44	60	54	66	61	63
25	63	58	79	71	83	77	82
35	77	71	97	86	103	93	98
50	93	86	118	104	125	109	117
70	118	108	150	131	160	135	145
95	142	130	181	157	195	159	173
120	164	150	210	181	226	180	200
150	189	172	234	201	261	204	224
185	215	195	266	230	298	228	255
240	252	229	312	269	352	262	298
300	289	263	358	308	406	296	336

NOTE In columns 3, 5, 6, 7 and 8, circular conductors are assumed for sizes up to and including 16 mm². Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

CURRENT-CARRYING CAPACITIES

Table B.52.3 – Current-carrying capacities in amperes for methods of installation in Table B.52.1 – XLPE or EPR insulation, two loaded conductors/copper or aluminium – Conductor temperature: 90 °C, ambient temperature: 30 °C in air, 20 °C in ground

Nominal cross-sectional area of conductor mm²	Installation methods of Table B.52.1						
	A1	A2	B1	B2	C	D1	D2
							
1	2	3	4	5	6	7	8
Copper							
1,5	19	18,5	23	22	24	25	27
2,5	26	25	31	30	33	33	35
4	35	33	42	40	45	43	46
6	45	42	54	51	58	53	58
10	61	57	75	69	80	71	77
16	81	76	100	91	107	91	100
25	106	99	133	119	138	116	129
35	131	121	164	146	171	139	155
50	158	145	198	175	209	164	183
70	200	183	253	221	269	203	225
95	241	220	306	265	328	239	270
120	278	253	354	305	382	271	306
150	318	290	393	334	441	306	343
185	362	329	449	384	506	343	387
240	424	386	528	459	599	395	448
300	486	442	603	532	693	446	502
Aluminium							
2,5	20	19,5	25	23	26	26	
4	27	26	33	31	35	33	
6	35	33	43	40	45	42	
.10	48	45	59	54	62	55	
16	64	60	79	72	84	71	76
25	84	78	105	94	101	90	98
35	103	96	130	115	126	108	117
50	125	115	157	138	154	128	139
70	158	145	200	175	198	158	170
95	191	175	242	210	241	186	204
120	220	201	281	242	280	211	233
150	253	230	307	261	324	238	261
185	288	262	351	300	371	267	296
240	338	307	412	358	439	307	343
300	387	352	471	415	508	346	386

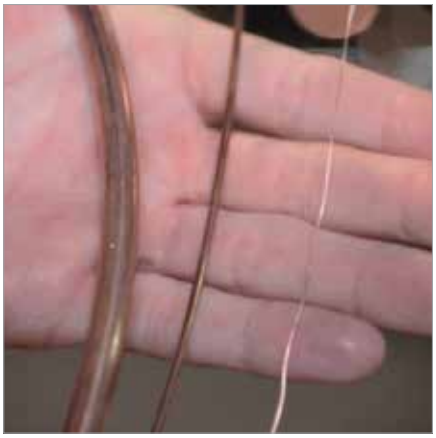
NOTE In columns 3, 5, 6, 7 and 8, circular conductors are assumed for sizes up to and including 16 mm². Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

Top Cable

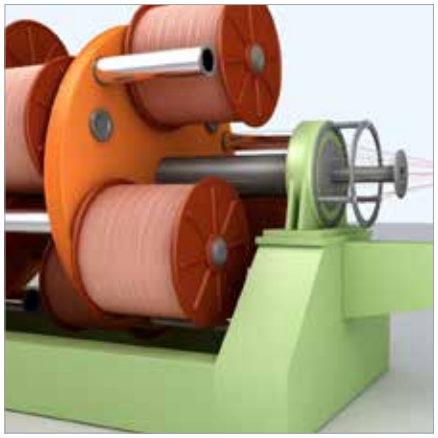
How is an ELECTRICAL CABLE made?

The technology needed to ensure an electrical cable stays in good working condition for several years without problems involves complicated manufacturing processes which require highly qualified staff.

1. CONDUCTOR



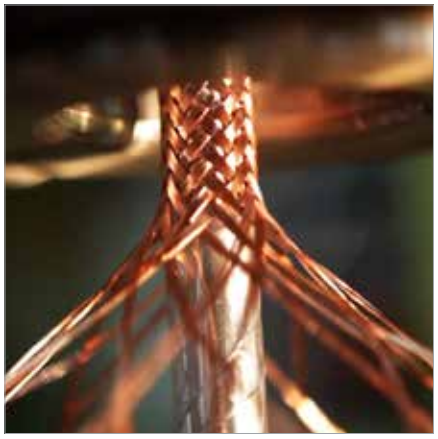
1.1. WIRE DRAWING



1.2. WIRING

2. INSULATION

3. PHASE WIRING



4. ADDITIONAL COVERINGS

5. OUTER SHEATH

6. QUALITY CONTROL

> WATCH THE VIDEO

https://youtu.be/uwFvGZcjQME

Cables DESCRIPTIONS

Each cable has its own description in correspondence to its norm.

The cable description is made up of letters and numbers, each with its own meaning. This encoding identifies the unique features of each cable, for example the material from which it is made or its nominal voltage

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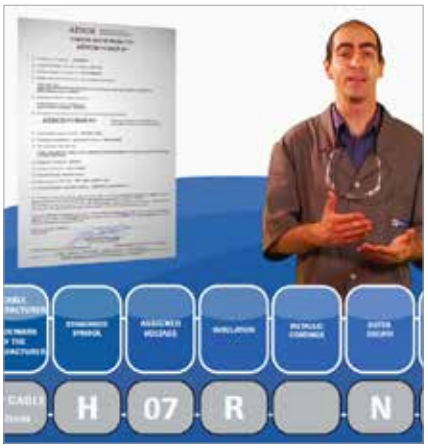
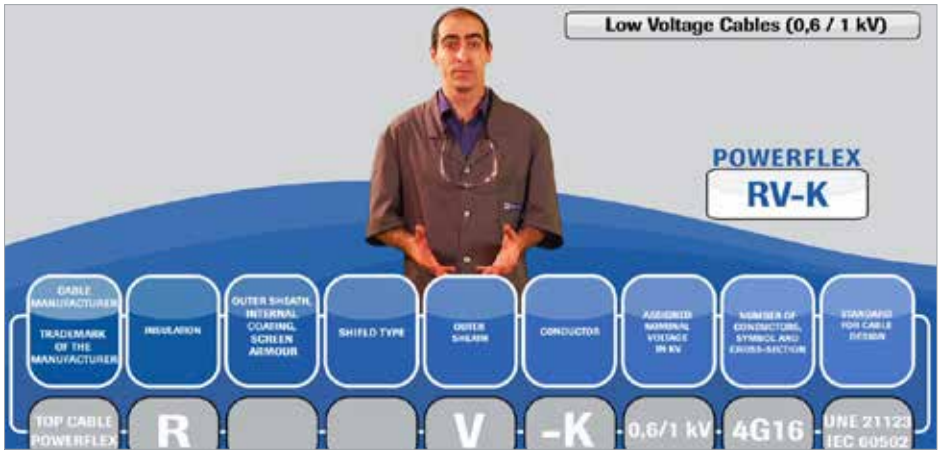


1. LOW VOLTAGE CABLES (up to 750 V)



2. LOW VOLTAGE CABLES (0,6/1 kV)

3. MEDIUM VOLTAGE CABLES

RIPCORD

Ripcord in screened cables allows you to strip the outer-sheath without damaging the inner screen.

The ripcord allows you to gently tear the outer-sheath allowing you to gently peel it away without damaging the screen.

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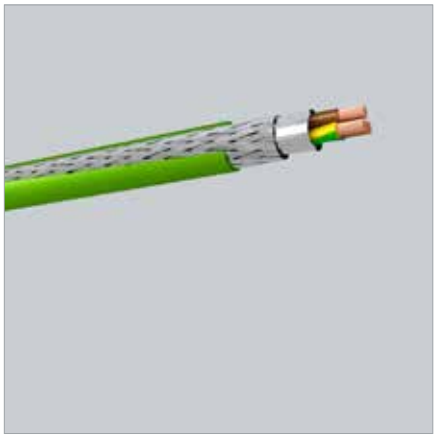

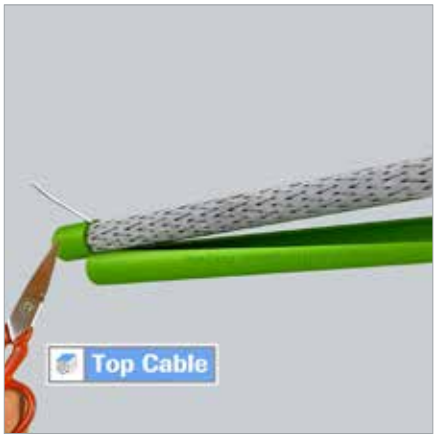


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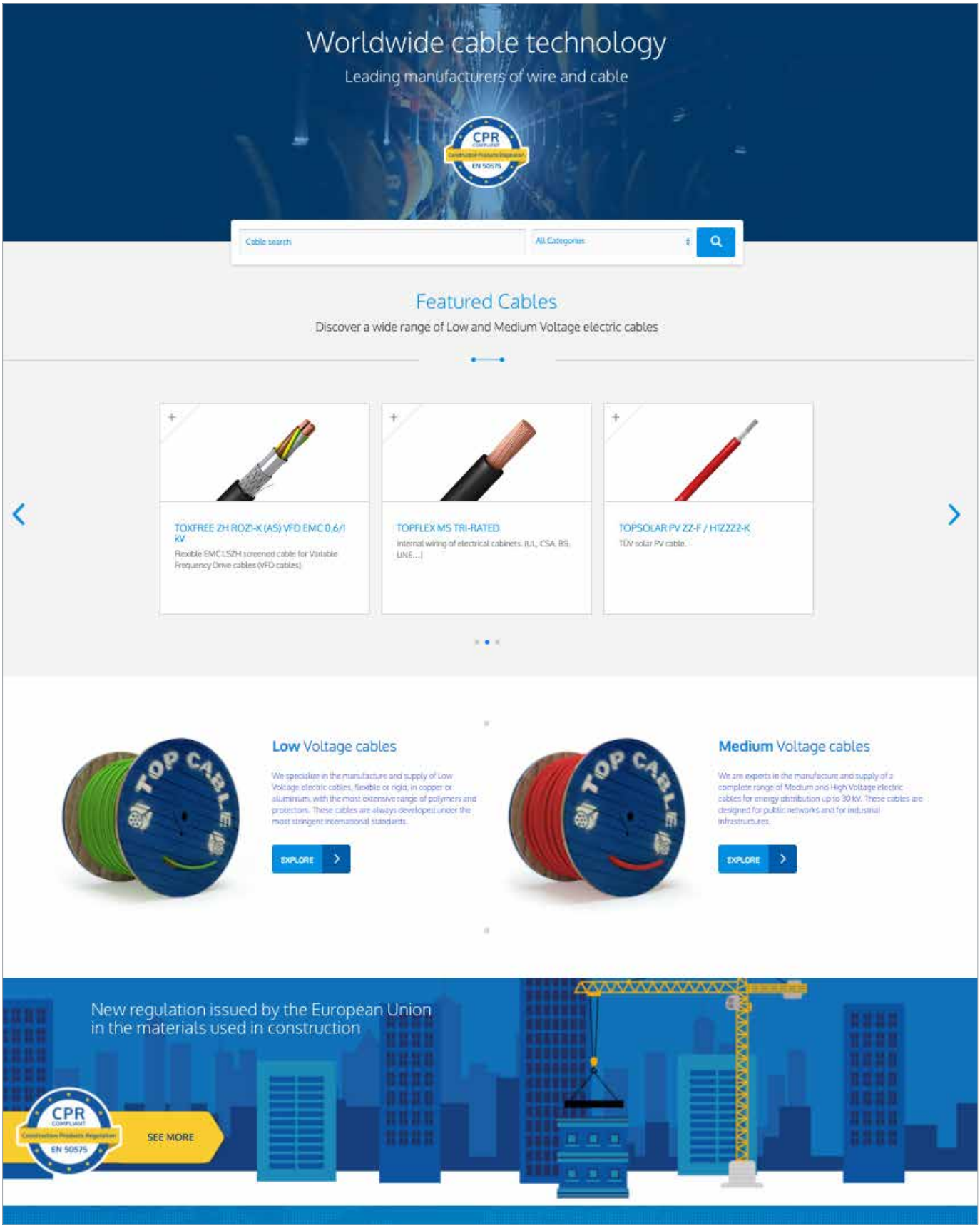
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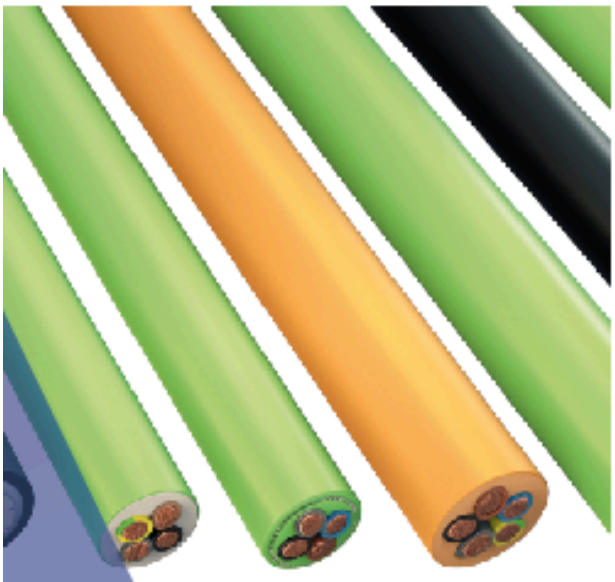

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