

LOW VOLTAGE CABLES

LOW FIRE HAZARD / CONVENTIONAL /
XLPE / PVC & SPECIAL CABLES

ATEKA LTD.



general
cable

general cable

ATEKA LTD.

General Cable Celcat Energia e Telecomunicações, S.A.

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Impresso em Portugal.

WELCOME TO THE MOST COMPLETE PORTFOLIO OF PRODUCTS AND SERVICES ON THE MARKET

THE COMPANY

Prysmian, the world leader in the telecommunications and energy cable industry, with over 140 years of experience, is firmly positioned in high-tech markets and offers the broadest range of products, services, consultancy, and market expertise.

Our extensive portfolio of clients, operating in all market segments, enables us to provide energy and telecommunications products and services across a wide range of applications, such as medium and low-voltage cables for the construction and infrastructure sectors, specialized cables for the most demanding industries, and underground and submarine systems. Always with the highest quality standards.

Since 2018, Prysmian has been strengthening its presence in Portugal. Through its merger with General Cable CelCat, the company has enhanced its position to lead the market, thanks to its extensive experience, know-how, and readiness to serve.

We enhance the value of the products and technologies we develop. The result is a comprehensive portfolio of truly unique products and services, which, combined with our service-oriented approach and proximity, make us a solid and indispensable ally for clients striving daily to compete and grow.

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PROPERTIES OF LOW FIRE HAZARD CABLES

EXZHELLENT® LOW FIRE HAZARD CABLES

In recent years there has been a process of change underway in the performance requirements for low and medium voltage cables in building works and installations where, due to their properties, a greater degree of safety in the event of fire.

This process has its origins in the conclusions to the investigations following disasters resulting in high numbers of casualties due to fire or accident, demonstrating the potential risk associated with certain commonly used products is required.

The range of Low Fire Hazard cables known as EXZHELLENT® is specially intended for installations offering high levels of safety in the event of fire and its destructive effects. Its use is essential in dwellings (mains power supply, individual branches, wiring for distributions boards and centralised meters), in all circuitry for premises open to the public as well as in installations which pose a fire risk with potential personal loss or injury or material damage.

EXZHELLENT® are fire retardant cables which are halogen-free (see chart 1), consequently they have very low acidity and corrosiveness and any smoke emitted is practically translucent and non-toxic (see chart 3).

Moreover, it is important to appreciate that they offer a substantial reduction in carbon monoxide (CO), compared with other cables (see chart 2).

BASIC PROPERTIES

Feature and name of test	Condition	Standards
Flame retardant	Does not take part in flame propagation. Self extinguishes.	EN/IEC 60332-1-2
Fire retardant	Subjected to simulated fire conditions, does not generate new secondary fire sources.	EN/IEC 60332-3-24
Halogen-free	Degree of acidity and conductivity of gases released during combustion. Content of halogens.	IEC 60754-1/-2
Low smoke	Measurement of light transmittance by smoke evolved during combustion.	EN/IEC 61034-2
Low toxic emission	Permissible toxicity index for gases of combustion not to be exceeded.	EN/IEC 60754-2
Low heat release Fire retardant Low smoke emission	Low propagation of flames along grouping cables, low heat release rate, for the fire to affect areas adjacent to the compartment of origin and low quantity of smoke emission.	EN 50399

CHART 2. CO EVOLUTION

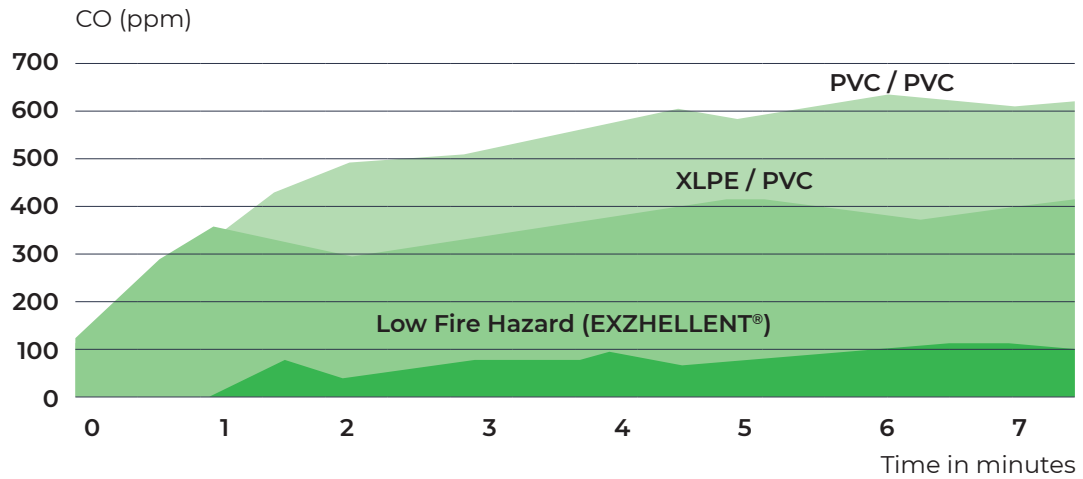
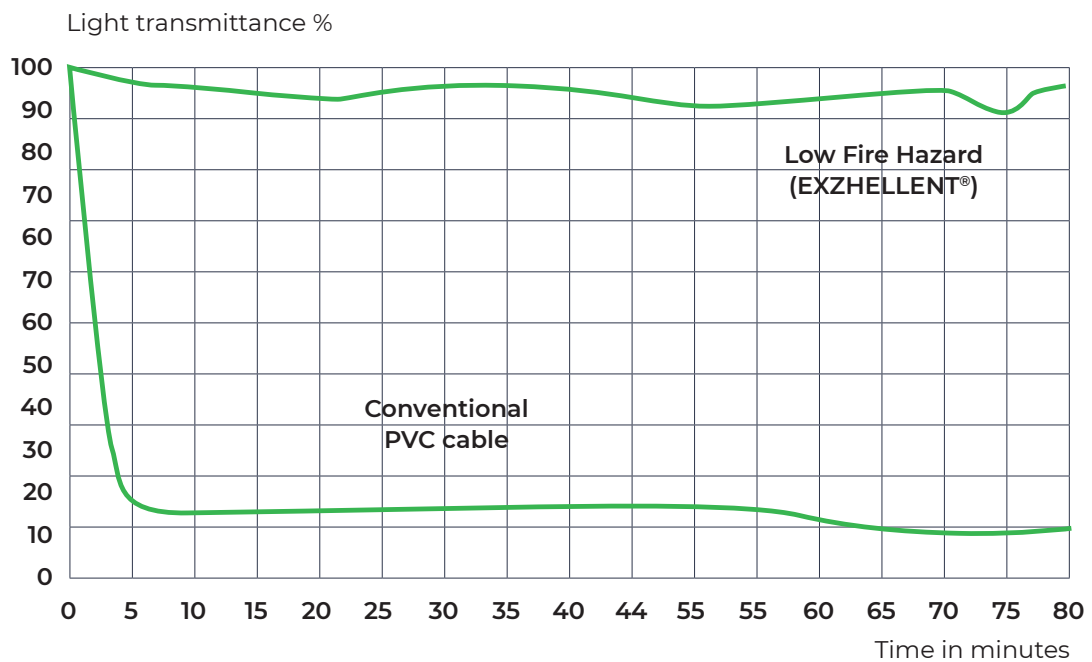


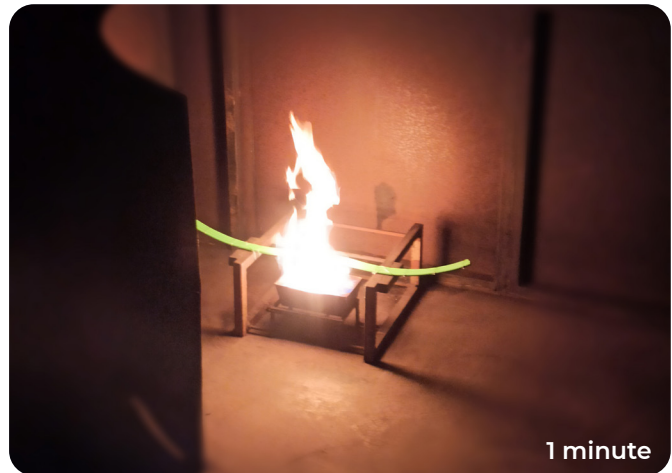
CHART 3. LIGHT TRANSMITTANCE OVER TIME



LIGHT TRANSMITTANCE TEST IN 27 m² CHAMBER
(STANDARD EN / IEC 61034)

Conventional PVC cable

EXZHELLENT[®] cable



CABLE BEHAVIOUR IN CASE OF FIRE

A series of standards have been developed in order to establish the performance of the cables in a fire situation; these standards specify certain fire conditions and measure the results of the cable in each situation. It should be borne in mind that the purpose of these tests is to evaluate the behaviour of the cables in certain established and reproducible conditions, which are not necessarily those of the installation on board.

CURRENT STANDARDS COVER THE FOLLOWING INSTANCES

>> Flame retardant (EN / IEC 60332-1-2)

A flame in contact with the cable at over a set time must not spread to a certain limits. This avoids a situation in which the cable is the cause of a fire due to a minor incident or an external heat source coming into contact with the cable accidentally.



>> Fire retardant (EN / IEC 60332-3 Standard)

A fire which does not involve the cable may affect a duct (becoming more serious if it is running vertically thus enabling air circulation to create what is known as the chimney effect). If the breakdown temperature of the organic materials is attained, exothermic combustion of the cables will take place (with energy input) and the consequent propagation of the fire. The insulation and jacket compounds can be formulated in such a way that they impede the aforementioned exothermic reaction (by adding inhibitors). In order to simulate a situation such as this, the test consists in applying a high-power (20 kW) gas burner to a bundle of cables arranged such that they simulate a vertical duct with forced air. Under these conditions the fire started in the cables must not spread more than 2,5 meters and self-extinguish within the time specified in the standard. The standard lays down four categories depending on the volume of combustible material per linear metre of the bundle exposed to the action of the fire, and the exposure time from A to D, A being the most demanding, C the least and D left to small size cable (outer diameter less than 12 mm).

>> Fire resistance (EN 50200 / IEC 60331)

For safety circuits and units that are required to provide continued service even in the presence of fire, test conditions are specified to be undergone by cables required to continue in service even though their organic parts have been destroyed by the fire.

In the test the cable is exposed to the action of a burner at more than 830 °C for a period of 120 minutes, during which it is knocked at 5 minute intervals. The cable is to remain operational throughout the duration of the test.



HALOGEN-FREE AND REDUCED SMOKE EMISSION CABLES

In the event of cables being in the midst of a fire situation and depending on the materials they are made of, gases may be released which are toxic to human health or corrosive of the proper operation and condition of electronic and IT components located in the surrounding area. Likewise, smoke may evolve, impeding visibility of escape routes from the affected premises due to its opacity.

In order to minimise these effects, General Cable has developed the EXZHELLENT® halogen-free series of cables, which eliminate noxious halogenated gas emissions (EN 50267 / IEC 60754-1), while substantially reducing opaque smoke (EN / IEC 61034-2), facilitating the finding of escape routes and therefore the likelihood of survival.



ATEKA LTD.

LOW FIRE HAZARD CABLES

EXZHELLENT® ES05Z1-K TYPE 2 (AS) 500V

LSZH
300/500 V

exzhellent

DESIGN STANDARD

UNE 211002

FIRE REACTION

IEC 60332-1-2
IEC 60332-3-24
IEC 60754-1
IEC 60754-2
IEC 61034-2
EN 50399

CONSTRUCTION

1. CONDUCTOR

Class 5 (-K) flexible copper conductor to IEC 60228.

2. INSULATION

Halogen-free thermoplastic polyolefin (Z1), TYPE T17 according to EN 50363-7.

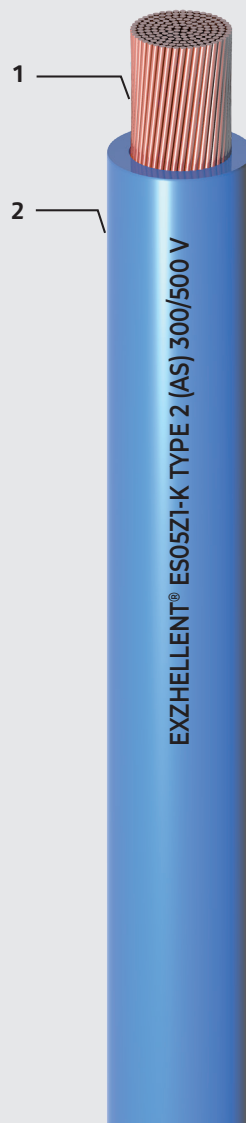
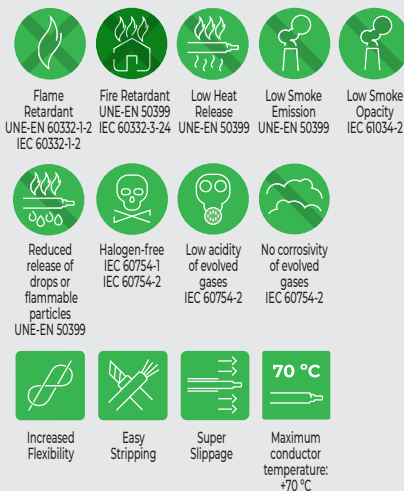
APPLICATIONS

Flexible single-core 300/500 V cables in for switchboard and control circuits. The Exzhellent® series is the most sliding product in the market, equalling or even exceeding the features offered by the Genlis® cable series. This was achieved through the innovative Speedy-Skin insulation process to make it a super slide product. Cables that shall be installed in public premises

TEMPERATURE RANGE

Max. temp. rating of the conductor: +70 °C
Min. working temperature: -25 °C

CERTIFICATIONS



EXZHELLENT® ES05Z1-K TYPE 2 (AS) 500V

LSZH
300/500 V



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air * (A)
1x0,5	2,1	10	15	7,5
1x0,75	2,3	15	15	10
1x1	2,5	15	15	12

* Current ratings according to IEC 60364-5-52 table B.52.2, method of installation B1 (two loaded conductors).

AFUMEX® PANELES FLEX H05Z-K 500V | H07Z-K 750V

LSZH

300/500 V - 450/750 V

DESIGN STANDARD

EN 50525-3-41

FIRE REACTION

IEC 60332-1-2

IEC 60332-3-24

IEC 60754-1

IEC 60754-2

NFC 20453

DEF STAN 02-713

NFC 20454 ; IT<1,5

DEF STAN 02-713

IEC 61034-2

VOLTAGE RATING

300/500 V (H05Z-K) up to 1mm².

450/750 V (H07Z-K) 1,5 mm² onwards

CONSTRUCTION

1. CONDUCTOR

Annealed class 5 (-K) flexible copper conductor according to IEC 60228.

2. INSULATION

Special thermostable mixture (Z), halogen free class EI5 according to EN 50525.

APPLICATIONS

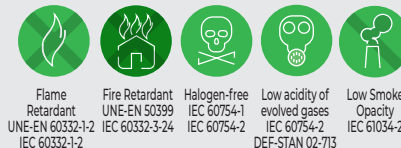
Cables Cable specially designed for wiring protection, command and/or control panels of machines.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C

Min. working temperature: -40 °C

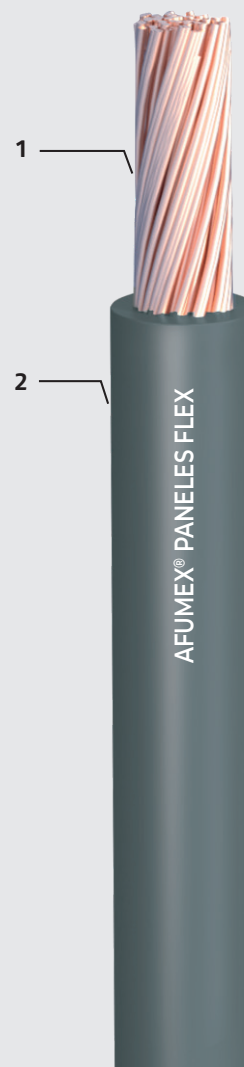
APPROVALS



No corrosivity of evolved gases
IEC 60754-2



Maximum conductor temperature:
+90 °C



AFUMEX® PANELES FLEX H05Z-K 500V | H07Z-K 750V

LSZH

300/500 V - 450/750 V

PHYSICAL AND ELECTRICAL CHARACTERISTICS

Number of conductors x Cross section	Insulation thickness	Approx. overall diameter	Approx. weight	Maximum conductor resistance at 20 °C	Maximum current rating	Voltage drop (2) (V/A.km)	
						cos Ø = 1	cos Ø = 0,8
(mm²)	(mm)	(mm) (1)	(kg/km)	(Ω/km)	(I) (A)		
1x0,5	0,7	2,3	10	39	10,5	85,79	68,76
1x0,75	0,7	2,5	12	26	13,5	59,39	46,83
1x1	0,7	2,7	15	19,5	16	43,13	34,62
1x1,5	0,7	3,0	20	13,3	20	30,98	24,46
1x2,5	0,8	3,6	31	7,98	28	18,66	15,06
1x4	0,8	4,1	45	4,95	38	11,68	9,46
1x6	0,8	4,6	64	3,30	49	7,90	6,43
1x10	1,0	6,1	108	1,91	68	4,67	3,84
1x16	1,0	7,2	160	1,21	91	2,94	2,45

⁽¹⁾ Single-phase installation under pipe or conduit recessed in masonry wall (brick, concrete, plaster, ...) or under pipe or conduit in surface mounting.

⁽²⁾ Single-phase installation (for three-phase divide by 1,15).

EXZHELLENT® H07Z1-K TYPE 2 (AS) 750V

LSZH
450/750 V

exZhellent

DESIGN STANDARD

EN 50525-3-31
UNE 211002

FIRE REACTION

IEC 60332-1-2
IEC 60332-3-24
IEC 60754-1
IEC 60754-2
IEC 61034-2
EN 50399

CONSTRUCTION

1. CONDUCTOR

Class 5 (-K) flexible copper
conductor to IEC 60228..

2. INSULATION

Halogen-free thermoplastic polyolefin (Z1),
TYPE TI7 according to EN 50363-7.

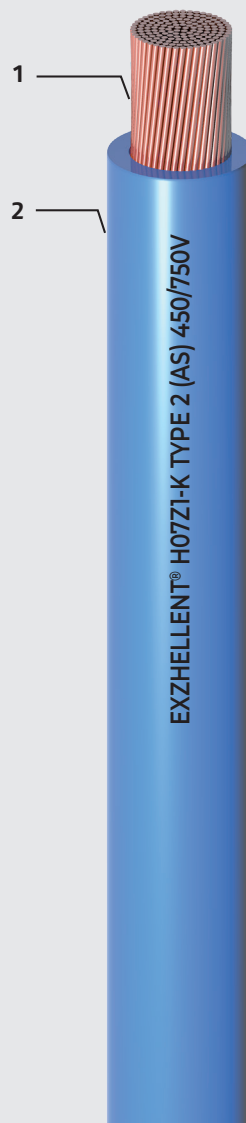
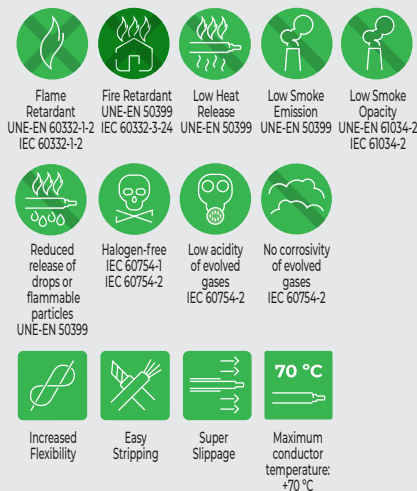
APPLICATIONS

Cables for industrial wiring where smoke
and toxic emission would pose a major
hazard in the event of fire. These cables
are intended for drawing into trucking
and conduit. They may also be used in
protected installations such as lighting
fittings, appliances, switchgear and
controlgear. Cables that shall be installed
in public premises.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +70 °C
Min. working temperature: -25 °C

APPROVALS



EXZHELLENT® H07ZI-K TYPE 2 (AS) 750V

LSZH
450/750 V



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Number of conductors x Cross section (mm ²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air * (mm)
1x1,5	2,9	20	18	17,5
1x2,5	3,5	31	22	24
1x4	4,1	45	25	32
1x6	4,6	64	28	41
1x10	6,0	110	36	57
1x16	7,0	160	42	76
1x25	8,6	245	52	101
1x35	9,7	335	59	125
1x50	11,6	480	70	151
1x70	13,4	665	81	192
1x95	15,4	875	93	232
1x120	17,4	1.105	105	269
1x150	19,2	1.375	115	300
1x185	20,9	1.675	130	341
1x240	24,2	2.215	145	400

* Current ratings according to IEC 60364-5-52 table B.52.2, method of installation B1 (two loaded conductors).

EXZHELLENT® H07ZI-R (AS) 750V

LSZH
450/750 V

exZhellent

DESIGN STANDARD

EN 50525-3-31
UNE 211002

FIRE REACTION

IEC 60332-1-2
IEC 60332-3-24
IEC 60754-1
IEC 60754-2
IEC 61034-2
EN 50399

CONSTRUCTION

1. CONDUCTOR

Class 2 (-R) stranded copper
conductor to IEC 60228.

2. INSULATION

Halogen-free thermoplastic polyolefin (Z1),
TYPE T17 according to EN 50363-7.
Colour: Yellow/Green.

APPLICATIONS

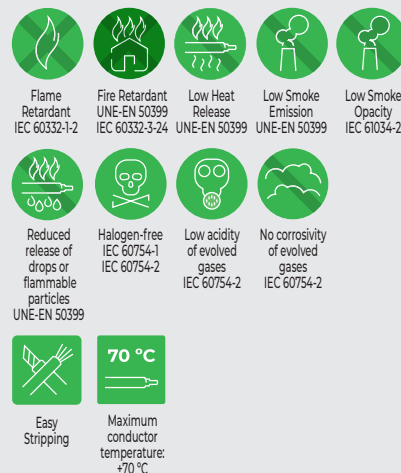
Suitable for use in conduits,
protected installation.
For installation where fire, smoke emission
and toxic fumes create a potential threat.
Cables that shall be installed
in public premises.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +70 °C
Min. working temperature: -25 °C

APPROVALS

◁Certif▷ ▷HAR▷



EXZHELLENT® H07ZI-R (AS) 750V

LSZH
450/750 V



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air * (A)
20402441 (a)	1x10	5,9	115	40	57
20400306 (a)	1x16	6,7	170	45	76
20400307 (a)	1x25	8,5	270	55	101
20400376	1x35	9,4	355	60	125
20400308	1x50	11,0	485	70	151
20400377	1x70	12,6	680	80	192
20400378	1x95	14,8	925	90	232
20401033	1x120	16,0	1.160	100	269
20400309	1x150	18,1	1.425	110	300
20400896	1x185	20,0	1.810	120	341
20401034	1x240	23,0	2.355	140	400

(a) - 100m coils.

* Current ratings according to IEC 60364-5-52 table B.52.2, method of installation B1 (two loaded conductors).

EXZHELLENT® N2XH FR3 | RZ1 (UNF) 1kV

XLPE / LSZH
0,6/1 kV

exzhellent

DESIGN STANDARD

IEC 60502-1
SI 1516-1

FIRE REACTION

IEC 60332-1-2
IEC 60332-3-24 Cat. C
IEC 60754-1
IEC 60754-2
IEC 61034-2
EN 50399

APPLICATIONS

Power circuits in public premises and other installation when there is a high fire hazard.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -25 °C

CONSTRUCTION

1. CONDUCTOR

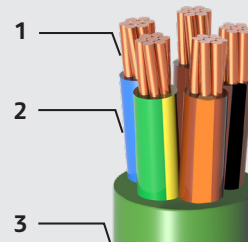
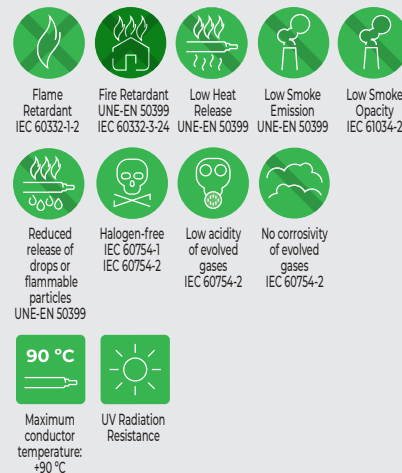
Class 1 solid (up to 6 mm²) and class 2 stranded (from 10 mm² and up) copper conductors to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R), type XLPE to IEC 60502-1. Identification by colour*.

3. SHEATH

Halogen-free thermoplastic polyolefin (Z1), type ST8 to IEC 60502-1.
Colour: Green RAL 6018.



EXZHELLENT® N2XH FR3 - RZ1 (UNF) 1kV

(*) Core colours

Nbr cores	Earthing	Neutral	Phases
1	Brown		
2	-	Blue	Brown
3	Green/Yellow	Blue	Brown
4	Green/Yellow	Blue	Brown
5	Green/Yellow	Blue	Brown
Three-phase cables have one brown core with black stripe and another with orange stripe.			

EXZHELLENT® N2XH FR3 | RZ1 (UNF) 1kV

XLPE / LSZH
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A·km)
20407241	1x10	8,5	150	35	75	65	3,134
20407231	1x16	9,5	210	40	102	84	1,969
20407232	1x25	11,0	315	45	135	107	1,245
20407244	1x35	12,0	410	50	169	129	0,897
20407243	1x50	13,5	535	55	207	153	0,663
20407242	1x70	15,0	745	60	268	188	0,459
20407234	1x95	17,0	990	70	328	226	0,330
20407233	1x120	18,5	1.230	75	383	257	0,262
20407236	1x150	20,7	1.515	85	444	287	0,212
20407235	1x185	22,6	1.895	95	510	324	0,170
20407237	1x240	25,0	2.460	130	607	375	0,129
20407246	1x300	28,4	3.045	145	703	419	0,103
20407238	2x1,5	9,0	115	40	26	27	20,720
20407239	2x2,5	10,0	145	40	36	35	12,689
20407240	2x4	10,5	190	45	49	46	7,894
20407245	2x6	11,5	250	50	63	58	5,274
20407251	2x10	14,0	370	55	86	77	3,134
20407248	2x16	15,5	515	65	115	100	1,969
20407247	2x25	19,5	805	80	149	129	1,245
20407249	2x35	30,0	1.030	85	185	155	0,897

EXZHELLENT® N2XH FR3 | RZ1 (UNF) 1kV

XLPE / LSZH
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A-km)
20407250	3x1,5G	9,5	130	40	26	27	20,720
20407261	3x2,5G	10,5	170	45	36	35	12,689
20407254	3x4G	11,5	230	45	49	46	7,894
20407253	3x6G	12,5	605	50	63	58	5,274
20407252	3x10G	14,5	460	60	86	77	3,134
20407255	3x16G	16,5	655	65	115	100	1,969
20407256	3x25+16	21,5	1.200	85	127	107	1,245
20407262	3x35+16	23,5	1.490	95	158	129	0,897
20407263	3x50+25	27,0	2.01	135	127	107	1,245
20407264	3x70+35	31,5	2.850	160	158	129	0,897
20407257	3x95+50	35,5	3.780	180	192	153	0,663
20407265	3x120+70	39,0	4.815	195	246	188	0,459
20407258	3x150+70	44,0	5.780	220	298	226	0,330
20407272	3x185+95	49,0	7.330	245	346	257	0,262
20407260	3x240+120	57,5	9.940	345	399	287	0,212
20407271	4x1,5G	10,0	155	40	23	23	20,720
20407259	4x2,5G	11,0	205	45	32	30	12,689
20407274	4x4G	12,0	280	50	42	39	7,894
20407273	4x6G	13,5	375	55	54	49	5,274
20407267	4x10G	16,0	575	65	75	65	3,134
20407266	4x16G	18,0	830	75	100	84	1,969
20416738	4x4	12,0	280	50	42	39	7,894
20416802	4x6	13,5	375	55	54	49	5,274
20416739	4x10	16,0	575	65	75	65	3,134
20416801	4x16	18,0	830	75	100	84	1,969
20407275	4x25	22,0	1.300	90	127	107	1,245
20407281	4x35	25,0	1.715	100	158	129	0,897
20407278	4x50	28,5	2.280	145	192	153	0,663
20407268	4x70	33,0	3.210	165	246	188	0,459
20407270	4x95	37,5	4.260	190	298	226	0,330
20407276	4x120	41,5	5.350	210	346	257	0,262
20407269	4x150	46,5	6.580	235	399	287	0,212
20407277	4x185	51,5	8.315	310	456	324	0,170
20407295	4x240	60,5	11.095	365	538	375	0,129

EXZHELLENT® N2XH FR3 | RZ1 (UNF) 1kVXLPE / LSZH
0,6/1 kV**PHYSICAL AND ELECTRICAL CHARACTERISTICS**

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A-km)
20407279	5x1,5G	11,0	180	45	23	23	20,720
20407282	5x2,5G	12,0	240	50	32	30	12,689
20407283	5x4G	13,5	330	55	42	39	7,894
20407280	5x6G	14,5	450	60	54	49	5,274
20407284	5x10G	17,5	690	70	75	65	3,134
20407289	5x16G	20,0	1.015	80	100	84	1,969
20407288	5x25G	25,0	1.600	100	127	107	1,245
20407290	5x35G	27,5	2.070	140	158	129	0,897

The letter "G" corresponds to a Yellow-Green earth conductor.

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (two and three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

EXZHELLENT® NA2XH FR3 | RZ1 AI (UNF) 1kV

XLPE / LSZH
0,6/1 kV

exzhellent

DESIGN STANDARD

IEC 60502-1
SI1516-1

FIRE REACTION

IEC 60332-1-2
IEC 60332-3-24 Cat. C
IEC 60754-1
IEC 60754-2
IEC 61034-2
EN 50399

CONSTRUCTION

1. CONDUCTOR

Class 2 stranded aluminium
conductor to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R),
type XLPE to IEC 60502-1, brown colour.

3. SHEATH

Halogen-free thermoplastic polyolefin (Z1),
type ST8 to IEC 60502-1.
Colour: Green RAL 6018.

APPLICATIONS

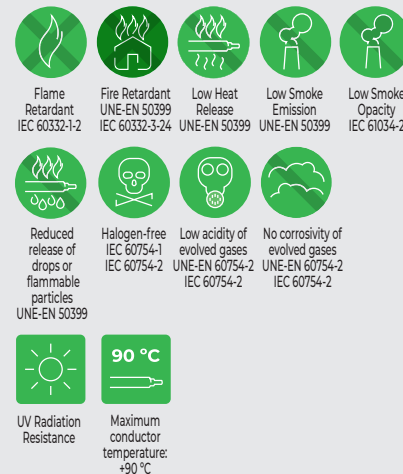
Power circuits in public premises
and other installations when there
is a high fire hazard.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD 605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -25 °C.



EXZHELLENT® NA2XH FR3 | RZ1 AI (UNF) 1kV

XLPE / LSZH
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section	Approx. overall diameter	Approx. weight	Minimum bending radius	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8
(mm²)	(mm²)	(mm)	(kg/km)	(mm)	(A)	(A)	(V/A-km)
20407292	1x50	13,0	240	55	159	117	1,103
20407285	1x70	15,0	315	60	206	144	0,762
20407293	1x95	17,0	410	70	253	172	0,551
20407287	1x120	18,5	500	75	296	197	0,435
20407291	1x150	20,5	615	85	343	220	0,354
20407286	1x185	22,5	745	90	395	250	0,282
20407303	1x240	25,5	945	130	471	290	0,215
20407301	1x300	28,0	1.150	140	547	326	0,172
20407294	1x400	31,5	1.500	160	663	383	0,134
20407302	1x500	35,5	1.850	180	770	434	0,104

* Current ratings according to IEC 60364-5-52 table B.52.13, method of installation F (three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.5, method of installation D2 (three loaded conductors).

SEGURFOC®-331 RZ1-K-M (AS+) 1kV

RZ1-K-M (AS+) - Fire resistant
0,6/1 kV



class
SEGURFOC-331

DESIGN STANDARD

IEC 60502-1
UNE 211025

FIRE REACTION

IEC 60332-1-2
EN 50399
IEC 61034-2
IEC 60754-2
IEC 60754-1
IEC 60332-3-24

APPLICATIONS

Basic safety circuits associated with fire fighting equipment, emergency lighting and, in general, for non-autonomous safety services or with centralised autonomous sources.

Maximum conductor temperature:
+90 °C.
Minimum working temperature:
-25 °C.

FIRE RESISTANCE

EN 50200 PH120 (842 °C, 120 min).
IEC 60331-1.

CPR CLASSIFICATION

DOP 000145
Class **C_{ca} -s1b,d1,a1**

CONSTRUCTION

1. CONDUCTOR

Copper, class 5 according to EN 60228, with UNE-EN 60228.

2. INSULATION (first layer)

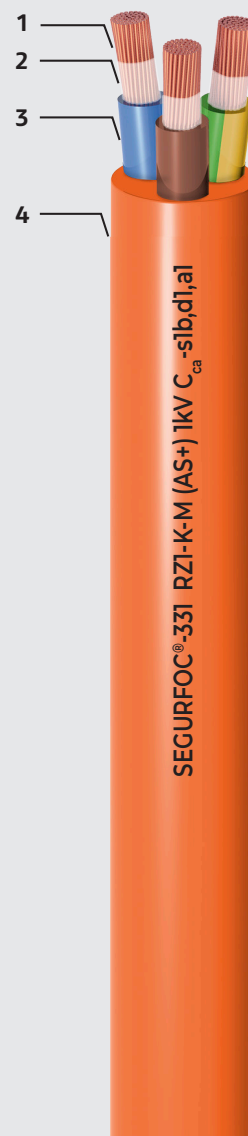
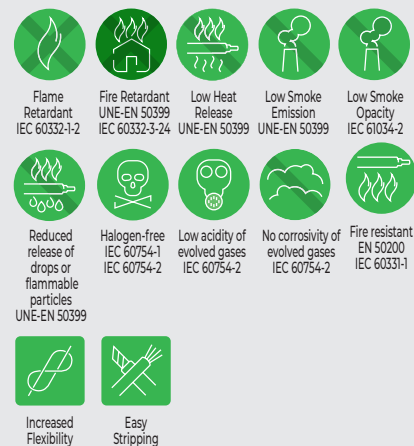
Fire resistant ceramic tape (Mica).

3. INSULATION (second layer)

Cross-linked polyethylene (XLPE) according to IEC 60502-1.
Identification by colour.

4. OUTER SHEATHING

Thermoplastic polyolefin halogen-free (ST8). according to IEC 60502-1.
Colour: Orange.



SEGURFOC®-331 RZ1-K-M (AS+) 1kV

RZ1-K-M (AS+) - Fire resistant
0,6/1 kV



class
SEGURFOC-331

PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating in air (1) (A)	Maximum current rating buried (2) (A)	Voltage drop cos Ø = 0,8 (V/A.km)
20363996	1x2,5	8,1	95	35	30	27	12,88
20363995	1x4	8,7	115	35	40	35	8,1
20357894	1x6	9,2	135	40	52	44	5,51
20350500	1x10	9,7	170	40	72	58	3,31
20344064	1x16	11,0	220	45	97	75	2,12
20344065	1x25	12,5	320	50	122	96	1,37
20332130	1x35	13,5	415	55	153	117	1,01
20302971	1x50	14,0	530	85	188	138	0,77
20302972	1x70	16,5	720	100	243	170	0,56
20302973	1x95	18,0	925	110	298	202	0,43
20302974	1x120	20,0	1.170	120	350	230	0,36
20302975	1x150	22,0	1.450	135	401	260	0,31
20302976	1x185	24,0	1.740	145	460	291	0,26
20302977	1x240	27,0	2.280	165	545	336	0,22
20368250	1x300	30,5	2.820	185	630	380	0,19
20363918	3G25	24,5	1.130	150	115	96	1,38
20434709	3G35	27,0	1.450	165	143	117	1,01
20434403	3G50	29,5	1.950	180	174	138	0,77
20343214	4x35	30,0	1.840	180	143	117	1,01
20341017	4x50	33,0	2.460	200	174	138	0,77
20363594	4x95	42,0	4.320	255	271	202	0,42
20363947	4x150	52,0	6.760	315	359	260	0,30
20363948	4x185	57,0	8.180	345	409	291	0,26
20341544	5G35	33,0	2.220	200	143	117	1,01
20393992	5G50	36,0	2.980	220	174	138	0,77
20434761	5G70	42,0	4.110	255	223	170	0,56

(1) Installation in a tray (40 °C).
→XLPE3 with standard installation F (1x three-phase).
→XLPE2 with standard installation E (2x, 3G single-phase).
→XLPE3 with standard installation E (3x, 4G, 4x, 5G three-phase).

(2) Installation directly underground (25 °C) or in conduit with a soil thermal resistivity of 2,5 K·m/W.
→XLPE3 standard installation method D1/D2 (Cu): 1x, 3x, 4G, 4x, 5G three phase.
→XLPE2 standard installation method D1/D2 (Cu): 2x, 3G single-phase.

According to IEC 60364-5-52.

SEGURFOC® ALARMAS SOZI-K (AS+) 1kV

SOZI-K (AS+) - Fire resistant
300/500 V



DESIGN STANDARD

UNE 211025
IEC 50288-7

FIRE REACTION

EN 60332-1-2; IEC 60332-1-2
EN 50399
IEC 61034-2
IEC 60754-2
IEC 60754-1
IEC 60332-3-24

FIRE RESISTANCE

EN 50200 PH120 (842 °C, 120 min).
IEC 60331-1.

CPR CLASSIFICATION

DoP 000775
Class **C_{ca} -s1b,d1,a1**

CONSTRUCTION

1. CONDUCTOR

Copper, class 5 according to EN 60228.

2. INSULATION

Silicone.
Colours: Red and Black.

3. SHIELDING

Screen made of aluminium/polyester tape
+ tinned copper drain wire of 0,22 mm².
Overlap of 25% (100% cover).

4. OUTER SHEATHING

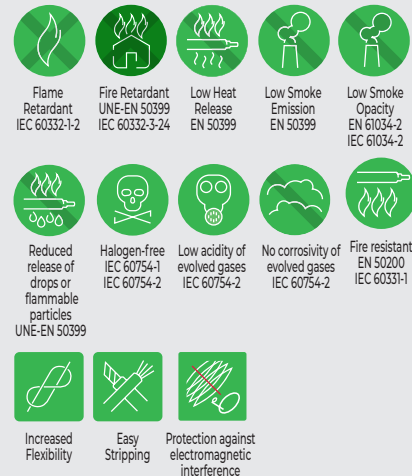
Thermoplastic polyolefin halogen-free.
Colour: Orange.

APPLICATIONS

Use in safety electrical circuits
associated with fire-fighting
equipment, emergency lighting
and electrical safety for
equipment for detection
and alarm systems.

For safety public address system.

Minimum working temperature: -15 °C.



SEGURFOC® ALARMAS SOZI-K (AS+) 1kV

SOZI-K (AS+) - Fire resistant
300/500 V



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section	Approximate external diameter	Minimum bending radius	Approximate cable weight	Conductor resistance at 20 °C	Maximum current rating in perforated or wire mesh tray (1)	Maximum current rating in conduit (2)	Voltage drop V/(A·km)	
								cos Ø = 1 or direct current	cos Ø = 0,8
20350661	2x1,5	8,3	66	90	13,3	24	20	30,98	24,92

(1) Single-phase or direct current. Values obtained from IEC 60364-5-52 with ambient temperature 40 °C. Table B.52.12. Method E.

(2) Single-phase or direct current. Installation in conduit in surface mounting or recessed in masonry wall (ambient temperature of 40 °C).

Values obtained from IEC 60364-5-52. Table B.52.3. Method B2

CONVENTIONAL PVC CABLES

GENLIS® H07V-K 750V

PVC Standard
450/750 V

genlis

DESIGN STANDARD

EN 50525-3-31
UNE 211002

FIRE REACTION

IEC 60332-1-2

CONSTRUCTION

1. CONDUCTOR

Class 5 (-K) flexible copper
conductor to IEC 60228.

2. INSULATION

Polyvinyl chloride (PVC), type T11
to EN 50363-3 and type PVC/C to IEC 60227-1.

APPLICATIONS

Suitable in installations in surface
mounted or embedded tubes,
or similar closed systems.
Suitable for protected installation
in or on lighting fittings and inside
appliances, switchgear and controlgear.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +70 °C
Min. working temperature: -15 °C

APPROVALS



Flame
Retardant
IEC 60332-1-2



Increased
Flexibility



Maximum
conductor
temperature:
+70 °C



Super
Slippage



GENLIS® H07V-K 750V

PVC Standard
450/750 V



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air * (A)
1x1,5	2,9	20	20	17,5
1x2,5	3,5	35	25	24
1x4	4,1	45	25	32
1x6	4,6	65	30	41
1x10	6,1	110	40	57
1x16	7,1	165	45	76
1x25	8,7	250	55	101
1x35	9,8	340	60	125
1x50	11,7	485	70	151
1x70	13,6	675	80	192
1x95	15,5	890	95	232
1x120	17,5	1.120	105	269
1x150	19,2	1.395	115	300
1x185	21,1	1.700	125	341
1x240	24,2	2.240	145	400

* Current ratings according to IEC 60364-5-52 table B.52.1, method of installation B1 (two loaded conductors).

GENLIS® H07V-R 750V

PVC Standard
450/750 V

genlis

DESIGN STANDARD

EN 50525-3-31
UNE 211002

FIRE REACTION

IEC 60332-1-2

CONSTRUCTION

1. CONDUCTOR

Class 2 (-R) rigid copper conductor
to IEC 60228.

2. INSULATION

Polyvinyl chloride (PVC), type T11
to EN 50363-3 and type PVC/C to IEC 60227-1.

APPLICATIONS

Suitable in installations in surface
mounted or embedded tubes,
or similar closed systems.
Suitable for protected installation
in or on lighting fittings and inside
appliances, switchgear and controlgear.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +70 °C
Min. working temperature: -15 °C

APPROVALS



Flame
Retardant
IEC 60332-1-2



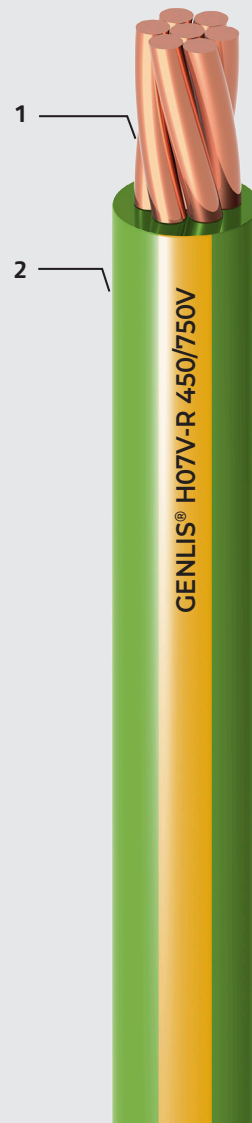
Increased
Flexibility



Maximum
conductor
temperature:
+70 °C



Super
Slippage



GENLIS® H07V-R 750V

PVC Standard
450/750 V



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air * (A)
1x10	5,8	110	35	46
1x16	6,6	165	40	61
1x25	8,2	260	50	80
1x35	9,2	355	55	99
1x50	10,8	480	65	119
1x70	12,4	675	75	151
1x95	14,4	920	90	182
1x120	15,9	1.150	95	210
1x150	17,7	1.410	105	240
1x185	19,7	1.770	120	273
1x240	22,8	2.335	140	321

* Maximum permissible intensities according to IEC 60364-5-52 table B.52.2, installation method A1.

Note: For conditions other than installation, appropriate correction factors should be considered.

ENERGY® N2XY | RV 1kV

XLPE / PVC
0,6/1 kV



DESIGN STANDARD

SI1516-1
IEC 60502-1

FIRE REACTION

;IEC 60332-1-2

CONSTRUCTION

1. CONDUCTOR

Class 1 solid (up to 6 mm²) and class 2 stranded (from 10 mm² and up) copper conductors to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R), type XLPE to IEC 60502-1. Identification by colour*.

3. SHEATH

Polyvinyl chloride PVC (V), type ST2 to IEC 60502-1. Colour: Green RAL 6016.

APPLICATIONS

Power distribution systems in utilities and industrial installations, indoor & outdoor, in air, in conduit or directly buried.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD 605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -15 °C

CERTIFICATIONS



Flame Retardant
IEC 60332-1-2



Maximum conductor temperature: +90 °C



UV Radiation Resistance



Easy Stripping



(*) Core colours.

NBR	Earthing	Neutral	Phases
1	Brown		
2	-	Blue	Brown
3	Green/Yellow	Blue	Brown
4	-	Blue	Brown
5	Green/Yellow	Blue	Brown
Three-phase cables have one brown core with black stripe and another with orange stripe.			

ENERGY® N2XY | RV 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A·km)
20315468	1x10	8,0	140	35	75	65	3,134
20315469	1x16	9,0	200	40	102	84	1,969
20315462	1x25	10,5	300	45	135	107	1,245
20315463	1x35	11,5	390	50	169	129	0,897
20315464	1x50	13,0	515	55	207	153	0,663
20315465	1x70	15,0	720	60	268	188	0,459
20315466	1x95	16,5	960	70	328	226	0,330
20315467	1x120	18,0	1.200	75	383	257	0,262
20305423	1x150	20,5	1.470	85	444	287	0,212
20305422	1x185	22,5	1.850	90	510	324	0,170
20305421	1x240	25,5	2.400	130	607	375	0,129
20305928	1x300	27,5	2.970	140	703	419	0,103

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A·km)
20461709 (a)	2x1,5	9,5	120	40	26	27	20,720
20461756 (a)	2x2,5	10,0	150	40	36	35	12,689
20461710 (a)	2x4	11,0	200	45	49	46	7,894
20461757 (a)	2x6	12,0	260	50	63	58	5,274
20402922	2x10	14,0	320	60	86	77	3,134
20402923	2x16	17,0	565	70	115	100	1,969
20402924	2x25	20,5	855	85	149	129	1,245
20402925	2x35	22,0	1.090	90	185	155	0,897

(a) - 500 plywood reels

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (two and three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

ENERGY® N2XY | RV 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm ²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A·km)
20461771 (a)	3x1,5G	10,0	135	40	26	27	20,720
20461785 (b)	3x1,5G	10,0	135	40	26	27	20,720
20461758 (a)	3x2,5G	10,5	175	45	36	35	12,689
20461786 (b)	3x2,5G	10,5	175	45	36	35	12,689
20461772 (a)	3x4G	12,0	235	50	49	46	7,894
20461791 (b)	3x4G	12,0	235	50	49	46	7,894
20461759 (a)	3x6G	13,0	325	55	63	58	5,274
20461793 (b)	3x6G	13,0	325	55	63	58	5,274
20305931	3x10G	15,0	440	60	86	77	3,134
20315471	3x16G	18,0	705	75	115	100	1,969
20315472	3x25+16	22,5	1.250	90	127	107	1,245
20315473	3x35+16	24,5	1.540	100	158	129	0,897
20305443	3x50+25	27,5	2.080	140	192	153	0,663
20315474	3x70+35	32,5	2.920	165	246	188	0,459
20315475	3x95+50	36,5	3.870	185	298	226	0,330
20315476	3x120+70	40,0	4.910	200	346	257	0,262
20315477	3x150+70	45,5	5.950	230	399	287	0,212
20315478	3x185+95	50,0	7.550	250	456	324	0,170
20315479	3x240+120	57,0	9.950	345	538	375	0,129

(a) - PW500 plywood reels.

(b) - 100m coils.

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (two and three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

ENERGY® N2XY | RV 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A-km)
20461775 (a)	4x1,5G	10,5	160	45	23	23	20,720
20461789 (b)	4x1,5G	10,5	160	45	23	23	20,720
20461782 (a)	4x2,5G	11,5	210	50	32	30	12,689
20461706 (b)	4x2,5G	11,5	210	50	32	30	12,689
20461776 (a)	4x4G	12,5	285	50	42	39	7,894
20461755 (b)	4x4G	12,5	285	50	42	39	7,894
20461783	4x6G	14,5	395	60	54	49	5,274
20461755 (b)	4x6G	14,5	395	60	54	49	5,274
20327964	4x10G	16,0	530	65	75	65	3,134
20407003	4x16G	19,5	880	80	100	84	1,969
20461774 (a)	4x4	12,5	285	50	42	39	7,894
20461781	4x6	14,5	395	60	54	49	5,274
20305930	4x10	16,0	550	65	75	65	3,134
20305436	4x16	19,5	880	80	100	84	1,969
20305428	4x25	23,5	1.345	95	127	107	1,245
20305424	4x35	26,0	1.750	130	158	129	0,897
20305429	4x50	29,0	2.320	145	192	153	0,663
20305430	4x70	34,0	3.290	170	246	188	0,459
20305431	4x95	38,5	4.350	195	298	226	0,330
20305432	4x120	42,5	5.490	215	346	257	0,262
20305433	4x150	48,0	6.740	240	399	287	0,212
20305434	4x185	53,0	8.495	320	456	324	0,170
20305435	4x240	60,0	11.070	360	538	375	0,129

(a) - PW500 plywood reels.

(b) - 100m coils.

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (two and three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

ENERGY® N2XY | RV 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A.km)
20461784 (a)	5x1,5G	11,5	185	45	23	23	20,720
20461754 (b)	5x1,5G	11,5	185	45	23	23	20,720
20461777 (a)	5x2,5G	12,5	245	50	32	30	12,689
20440787 (b)	5x2,5G	12,5	245	50	32	30	12,689
20461778	5x4G	14,0	350	60	42	39	7,894
20461708 (b)	5x4G	14,0	350	60	42	39	7,894
20461779	5x6G	15,5	465	65	54	49	5,274
20441939 (b)	5x6G	15,5	465	65	54	49	5,274
20305425	5x10G	17,5	660	70	75	65	3,134
20327966	5x16G	21,0	1.060	85	100	84	1,969
20305439	5x25G	26,0	1.630	130	127	107	1,245
20338688	5x35G	28,5	2.120	145	158	129	0,897

(a) - PW500 plywood reels.

(b) - 100m coils.

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (two and three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

ENERGY® NA2XY | RV AI 1kV

XLPE / PVC
0,6/1 kV

energy

DESIGN STANDARD

SI1516-1
IEC 60502-1

FIRE REACTION

IEC 60332-1-2

CONSTRUCTION

1. CONDUCTOR

Class 2 stranded aluminium conductors to IEC 60228.

2. INSULATION

Cross-linked polyethylene XLPE (R), type XLPE to IEC 60502-1. Identification by colour*.

3. SHEATH

Polyvinyl chloride PVC (V), type ST2 to IEC 60502-1. Colour: Green RAL 6016.

APPLICATIONS

Power distribution systems in utilities and industrial installations, indoor & outdoor, in air, in conduit or directly buried.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD 605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -15 °C

APPROVALS



Flame Retardant
IEC 60332-1-2



Maximum conductor temperature: +90 °C



UV Radiation Resistance



Easy Stripping



(*) Core colours.

NBR	Earthing	Neutral	Phases
1		Brown	
4	-	Blue	Brown
Three-phase cables have one brown core with black stripe and another with orange stripe.			

ENERGY® NA2XY | RV AI 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A-km)
20405866	1x50	13,0	215	55	159	117	1,103
20405867	1x70	14,5	290	60	206	144	0,762
20405868	1x95	16,5	375	5	253	172	0,551
20382257	1x120	18,0	470	75	296	197	0,435
20382256	1x150	20,0	570	80	343	220	0,354
20332062	1x185	22,0	700	90	395	250	0,282
20449439	1x240	25,0	885	100	471	290	0,215
20449440	1x300	27,5	1.080	140	547	326	0,172
20343194	1x400	30,5	1.415	155	663	383	0,134
20364209	1x500	35,0	1.750	175	770	434	0,104

20405870	3x25+16	22,0	480	90	97	82	2,065
20405991	3x35+16	24,0	590	100	120	98	1,494
20405994	3x50+25	27,5	765	140	146	117	1,103
20405993	3x70+35	31,5	1.010	160	187	144	0,762
20405992	3x95+50	35,5	1.375	180	227	172	0,551
20405996	3x120+70	39,5	1.775	200	263	197	0,435
20405995	3x150+70	43,5	2.105	220	304	220	0,354
20405997	3x185+95	48,5	2.635	245	347	250	0,282
20405998	3x240+120	55,0	3.350	330	409	290	0,215
20327990	4x25	23,0	520	95	97	82	2,065
20327991	4x35	25,5	645	130	120	98	1,494
20327992	4x50	29,0	860	145	146	117	1,103
20327993	4x70	33,0	1.180	165	187	144	0,762
20327994	4x95	37,5	1.510	190	227	172	0,551
20327995	4x120	42,0	1.940	210	263	197	0,435
20327996	4x150	46,0	2.340	230	304	220	0,354
20327997	4x185	51,5	2.940	310	347	250	0,282
20327998	4x240	58,0	3.790	350	409	290	0,215

* Current ratings according to IEC 60364-5-52 table B.52.13, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.5, method of installation D2 (three loaded conductors).

ENERGY® N2XCY | RVOV 1kV

XLPE / PVC
0,6/1 kV

energy

DESIGN STANDARD

SI1516-1
IEC 60502-1

FIRE REACTION

IEC 60332-1-2

CONSTRUCTION

1. CONDUCTOR

Class 1 solid (up to 6 mm²) and class 2 stranded (from 10 mm² and up) copper conductors to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R), type XLPE to IEC 60502-1. Identification by colour*.

3. INNER SHEATH

Polyvinyl chloride PVC (V), type ST2 to IEC 60502-1.

4. SCREEN

Copper concentric wires + open copper tape.

5. SHEATH

Polyvinyl chloride PVC (V), type ST2 to IEC. 60502-1. Colour: Green RAL 6016.

APPLICATIONS

Power distribution systems in utilities and industrial installations, indoor & outdoor, in air, in conduit or directly buried.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD 605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -15 °C

APPROVALS



Flame Retardant
IEC 60332-1-2



Maximum conductor temperature: +90 °C



UV Radiation Resistance



Easy Stripping



(*) Core colours.

Nbr cores	Earthing	Neutral	Phases
2	-	Blue	Brown
3	Green/Yellow	Blue	Brown
4	-	Blue	Brown
5	Green/Yellow	Blue	Brown
Three-phase cables have one brown core with black stripe and another with orange stripe.			

ENERGY® N2XCy | RVOV 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A·km)
20449343	2x1,5/1,5	11,5	180	45	26	27	20,720
20421122	2x2,5/2,5	12,5	225	50	36	35	12,689
20449342	2x4/4	13,5	285	55	49	46	7,894
20421009	2x6/6	15,0	375	60	63	58	5,274
20449412	2x10/10	17,0	535	70	86	77	3,134
20449413	3x1,5/1,5	12,0	200	50	26	27	20,720
20421161	3x2,5/2,5	13,0	255	55	36	35	12,689
20449415	3x4/4	14,0	325	60	49	46	7,894
20449414	3x6/6	15,5	435	65	63	58	5,274
20449345	3x10/10	17,5	625	70	86	77	3,134
20449344	4x1,5/1,5	12,5	225	50	23	23	20,720
20421123	4x2,5/2,5	14,0	290	55	32	30	12,689
20421126	4x4/4	15,0	380	60	42	39	7,894
20421124	4x6/6	17,0	505	70	54	49	5,274
20421010	4x10/10	19,0	745	75	75	65	3,134
20429322	5x1,5G	13,5	255	55	23	23	20,720
20449347	5x2,5G	15,0	330	60	32	30	12,689
20449416	5x4G	16,0	435	65	42	39	7,894
20449346	5x6G	18,0	585	75	54	49	5,274
20449417	5x10G	20,5	865	85	75	65	3,134

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (two and three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

SPECIAL CABLES

FLEXTREME® MAX H07RN-F 1kV

H07RN-F / DN-F - Industrial rubber cables
0,6/1 kV



DESIGN STANDARD

EN 50525-2-21,
Based on UNE 21150.

FIRE REACTION

IEC 60332-1-2.

CPR RATING

DoP 1011943.
Class **E_{ca}**

CONSTRUCTION

1. CONDUCTOR

Copper, class 5 according to EN 60228.

2. INSULATION

Cross-linked elastomer.
Identification by colour.

3. SHEATH

Cross-linked elastomer.
Colour: Black RAL 9005.

APPLICATIONS

- Services involving temporary or permanent immersion in fresh or salt water (submerged pumps, jetties, flood zones, etc.).
- In industrial workshops with explosive atmospheres, buildings, for applications and power for appliances for demanding services where cables are subject to medium mechanical stress (for example: hot plates, portable lamps, power tools such as drills, circular saws and household power tools). In quarries and farms.
- Suitable for fixed installations and mobile service (mobile machines and equipment, robot cranes, etc.).
- Extension cords for indoor, outdoor and/or industrial use.
- Suitable for those installations where great

cable flexibility is required, being especially indicated in those industrial applications due to their characteristics of resistance to heat and cold, resistance to oils, grease and hydrocarbons, weather resistance and its very good performance in humid and damp conditions.

• Connections and internal wiring of machines (EN 50565-2).

• Power supply for portable outdoor and industrial equipment (EN 50565-2).

• Appliances in industrial and agricultural workshops (EN 50565-2).

• Very low temperature, damp, wet and outdoor premises.

• Temporary works (indoor and outdoor installations).

• Fairs and stands (fairs, exhibitions, displays, stands, festive street lighting, fairground stalls, booths, rides...).

• Agricultural and horticultural establishments.

• Caravans and caravan parks.

• Ports and marinas for pleasure boats

Maximum conductor temperature:
+90 °C (must be limited to lower values (60 °C) to avoid excessive temperatures in mobile installations accessible to people).
Minimum temperature: -25 °C (mobile);
-35 °C (fixed).

Minimum operating temperature: -40 °C.

Direct current systems
(ITC-BT 53**, UNE-HD 60364-7-712).

CERTIFICATION



Flame Retardant
UNE-EN 60332-1-2
IEC 60332-1-2



Increased Flexibility



Resistance to mineral oils



Maximum conductor temperature:
+90 °C



Watertight/
submersible



Resistance to very low temperatures
(-40 °C)



Resistance to UV rays
UNE 211605



Hard services



Mechanical Protection



FLEXTREME® MAX H07RN-F 1kV

H07RN-F / DN-F - Industrial rubber cables
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section	Approx. external diameter	Maximum external diameter	Minimum bending radius fixed	Minimum bending radius mobile	Approx. weight	Admissible current in fixed installation in air (1)	Admissible current mobile service (2)	Maximum current rating in conduit and buried (3)	Maximum current rating directly buried (4)	Maximum conductor resistance at 20 °C	Voltage drop (2) V/(A·km)	
		(mm)	(mm)	(mm)	(mm)	(kg/km)	(A)	(A)	(A)	(A)	(Ω/km)	cos φ = 1	cos φ = 0,8
20031861	1x50	16,9	17,9	72	107,4	660	214	148	135	153	0,386	0,85	0,77
20031862	1x70	18,7	19,7	79	118,2	870	268	185	167	188	0,272	0,59	0,56
20031863	1x95	21,1	22,6	90	136	1.120	328	222	197	226	0,206	0,42	0,43
20031864	1X120	23,3	24,8	99	149	1.410	383	260	223	257	0,161	0,34	0,36
20031865	1X150	25,7	27,2	109	163	1.710	444	300	251	287	0,129	0,27	0,31
20031866	1X185	28	29,5	118	177	2.080	510	341	281	324	0,106	0,22	0,26
20031867	1x240	30,6	32,6	130	196	2.640	607	407	324	375	0,0801	0,17	0,22
20031868	1x300	34,2	36,2	145	217	3.280	703	468	365	419	0,0641	0,14	0,19

■ Installation in air
 ■ Mobile service
 ■ Buried in conduit
 ■ Directly buried

⁽¹⁾ Installation in air in a perforated or wire mesh tray (ambient temperature 30 °C).

Values obtained from IEC 60364-5-52 table B.52.12 (method E multiple conductors and F single-core).

⁽²⁾ Mobile service in air or cables touching a surface (ambient temperature 30 °C).

Values obtained from EN 50565-1, tables C.2 and C.3.

⁽³⁾ In conduit and buried installation (ground temperature 20 °C and thermal resistivity of 2.5 K·m/W).

Values obtained from IEC 60364-5-52, tables B.52.3 (single-phase) and B.52.5 (three-phase). Method D1.

⁽⁴⁾ Directly buried installation, without pipe or conduit (ground temperature 20 °C and thermal resistivity of 2.5 K·m/W).

Values obtained from IEC 60364-5-52, tables B.52.3 (single-phase) and B.52.5 (three-phase). Method D2.

Cables 1x, 4G and 5G → three-phase (3 loaded conductors). Cables 2x and 3G → single-phase (2 loaded conductors).

Cables with more than 5 conductors all loaded apart from 1 (the protective conductor) (General Cable currents).

Voltage drops for cables with more than 5 conductors assumed between two active conductors of the same single-phase circuit.

ENERGY® N2XY FR3 | RV (UNF) 1kV
XLPE / PVC
0,6/1 kV



DESIGN STANDARD

SI1516-1
IEC 60502-1

FIRE REACTION

IEC 60332-1-2
IEC 60332-3-24

CONSTRUCTION

1. CONDUCTOR

Class 1 solid (up to 6 mm²) and class 2 stranded (from 10 mm² and up) copper conductors to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R), type XLPE to IEC 60502-1. Identification by colour*.

3. SHEATH

Polyvinyl chloride PVC (V), type ST2 to IEC 60502-1. Colour: Green RAL 6016.

APPLICATIONS

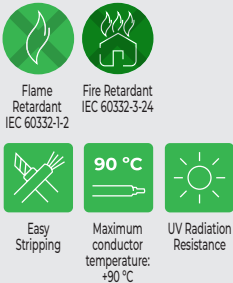
Power cable designed for fixed applications, indoor & outdoor, in air, in conduit or directly buried.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD 605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -15 °C



(*) Core colours.

Nbr cores	Earthing	Neutral	Phases
2	-	Blue	Brown
3	Green/Yellow	Blue	Brown
4	-	Blue	Brown
5	Green/Yellow	Blue	Brown
Three-phase cables have one brown core with black stripe and another with orange stripe.			



Avoid printing unless strictly necessary.
This way, you save water, energy, and forest resources.

ENERGY® N2XY FR3 | RV (UNF) 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A-km)
20449511 (a)	2x1,5	9,6	121	40	26	27	20,720
20449377 (a)	2x2,5	10,4	150	45	36	35	12,689
20449378 (a)	2x4	11,3	194	45	49	46	7,894
20411617 (a)	2x6	12,3	246	50	63	58	5,274

20439814 (a)	3x1,5	9,7	131	40	26	27	20,720
20456865 (b)	3x1,5	9,7	131	40	26	27	20,720
20411467 (a)	3x2,5	10,5	170	45	36	35	12,689
20456834	3x2,5	10,5	170	45	36	35	12,689
20411615 (a)	3x4	11,5	226	50	49	46	7,894
20449513 (a)	3x6	12,6	296	50	63	58	5,274

20411602	4x25	23,3	1.350	95	127	107	1,245
20411612	4x35	25,9	1.786	130	158	129	0,897
20411490	4x50	30,5	2.467	155	192	153	0,663
20411601	4x70	35,1	3.428	175	246	188	0,459
20411570	4x95	39,6	4.512	200	298	226	0,330
20411611	4x120	43,4	5.641	220	346	257	0,262
20411603	4x150	48,8	6.923	245	399	287	0,212
20411604	4x185	53,8	8.708	270	456	324	0,170
20411613	4x240	61,0	11.277	305	538	375	0,129

20449379 (a)	5x1,5G	11,2	180	45	23	23	20,720
20411568 (a)	5x2,5G	12,2	239	50	32	30	12,689
20456866	5x2,5G	12,2	243	50	32	30	12,689
20411488 (a)	5x4G	13,5	327	55	42	39	7,894
20456835	5x4G	13,5	337	55	42	39	7,894
20411569 (a)	5x6G	14,9	447	60	54	49	5,274
20456836	5x6G	14,9	447	60	54	49	5,274
20411487	5x10G	17,8	680	75	75	65	3,134
20411567	5x16G	20,8	1.066	85	100	84	1,969

(a) - PW500 plywood reels.

(b) - PW1000 plywood reels.

The letter "G" corresponds to a Yellow-Green earth conductor.

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

ENERGY® N2XY FR3 | RV-K (UNF) 1kV

XLPE / PVC
0,6/1 kV



DESIGN STANDARD

SI1516-1
IEC 60502-1

FIRE REACTION

IEC 60332-1-2
IEC 60332-3-24

CONSTRUCTION

1. CONDUCTOR

Class 5 (-K) flexible copper
conductors to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R),
type XLPE to IEC 60502-1.
Identification by colour*.

3. SHEATH

Polyvinyl chloride PVC (V),
type ST2 to IEC 60502-1.
Colour: Green RAL 6016.

APPLICATIONS

A flexible power cable designed
for fixed applications, indoor & outdoor,
in air, in conduit or directly buried.
Manufactured with flexible conductors
to facilitate installation.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD 605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -15 °C

APPROVALS



Flame
Retardant
IEC 60332-1-2



Fire Retardant
IEC 60332-3-24



Increased
Flexibility



Maximum
conductor
temperature:
+90 °C



UV Radiation
Resistance



(*) Core colours

Nbr cores	Earthing	Neutral	Phases
1	Brown		
3	Green/Yellow	Blue	Brown
4	-	Blue	Brown
5	Green/Yellow	Blue	Brown
Three-phase cables have one brown core with black stripe and another with orange stripe.			

ENERGY® N2XY FR3 | RV-K (UNF) 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A-km)
20416221	1x10	8,2	140	35	75	65	3,134
20416190	1x16	9,3	200	40	102	84	1,969
20416097	1x25	11,0	295	45	135	107	1,245
20416096	1x35	12,1	390	50	169	129	0,897
20416098	1x50	13,7	530	55	207	153	0,663
20416189	1x70	15,9	730	65	268	188	0,459
20416095	1x95	17,6	945	75	328	226	0,330
20305420	1x120	19,7	1.190	80	383	257	0,262
20326315	1x150	21,7	1.480	90	444	287	0,212
20326316	1x185	23,7	1.780	95	510	324	0,170
20305419	1x240	26,8	2.335	135	607	375	0,129
20326317	1x300	30,6	2.900	155	703	419	0,103
20304207	3x1,5G	10,3	150	45	26	27	20,720
20304209	3x2,5G	11,4	195	50	36	35	12,689
20416422	3x4G	12,5	255	50	49	46	7,894
20416414	3x6G	13,6	325	55	63	58	5,274
20416423	3x10G	15,6	470	65	86	77	3,134
20416425	3x16G	18,8	730	80	115	100	1,969
20416413	3x25G	22,3	1.070	90	149	129	1,245
20416424	3x35G	25,2	1.435	130	185	155	0,897

The letter "G" corresponds to a Yellow-Green earth conductor.

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

ENERGY® N2XY FR3 | RV-K (UNF) 1kVXLPE / PVC
0,6/1 kV**PHYSICAL AND ELECTRICAL CHARACTERISTICS**

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A·km)
20416557	4x1,5G	11,1	170	45	23	23	27,134
20416615	4x2,5G	12,3	220	50	32	30	16,280
20416616	4x4G	13,5	305	55	42	39	10,099
20416617	4x6G	14,7	390	60	54	49	6,733
20416619	4x10G	17,2	595	70	75	65	3,897
20416618	4x16G	20,4	905	85	100	84	2,469
20416558	4x4	13,5	305	55	42	39	10,099
20416559	4x6	14,7	390	60	54	49	6,733
20416673	4x10	17,2	595	70	75	65	3,897
20416672	4x16	20,4	905	85	100	84	2,469
20416560	4x25	24,5	1.325	100	127	107	1,591
20416671	4x35	27,6	1.790	140	158	129	1,130
20416620	4x50	32,9	2.570	165	192	153	0,788
20416682	4x70	38,3	3.540	195	246	188	0,555
20416681	4x95	42,3	4.510	215	298	226	0,420
20416674	4x120	47,7	5.710	240	346	257	0,328
20416675	4x150	52,4	7.030	315	399	287	0,263
20416683	4x185	57,5	8.500	345	456	324	0,216
20416677	4x240	65,1	11.110	395	538	375	0,163
20416676	4x300	74,2	13.870	450	621	419	0.131

20416684	5x1,5G	11,9	195	50	23	23	27,134
20416680	5x2,5G	13,3	260	55	32	30	16,280
20416685	5x4G	14,6	355	60	42	39	10,099
20416678	5x6G	16,0	465	65	54	49	6,733
20416679	5x10G	18,6	690	75	75	65	3,897
20416686	5x16G	22,3	1.080	90	100	84	2,469
20416691	5x25G	26,8	1.590	135	127	107	1,591
20416694	5x35G	30,2	2.150	155	158	129	1,130
20416687	5x50G	36,2	3.120	185	192	153	0,788
20416688	5x70G	42,2	4.290	215	246	188	0,555
20416692	5x95G	46,9	5.510	235	298	226	0,420
20416693	5x120G	52,7	6.940	320	346	257	0,328
20416695	5x150G	58,1	8.580	350	399	287	0,263

The letter "G" corresponds to a Yellow-Green earth conductor.

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (two loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

ARMIGRON® N2XBY | RVFV 1kV

XLPE / PVC
0,6/1 kV



DESIGN STANDARD

SI1516-1
IEC 60502-1

FIRE REACTION

IEC 60332-1-2

CONSTRUCTION

1. CONDUCTOR

Class 1 solid (up to 6 mm²) and class 2 stranded (from 10 mm² and up) copper conductors to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R), type XLPE to IEC 60502-1. Identification by colour*.

3. INNER SHEATH

Polyvinyl chloride PVC (V).

4. ARMOUR

2 Galv. steel tapes helically applied.

5. SHEATH

Polyvinyl chloride PVC (V), type ST2 to IEC 60502-1. Colour: Green RAL 6016.

APPLICATIONS

Power distribution systems in utilities and industrial installations, indoor & outdoor, in air, in conduit or directly buried.

ADDITIONAL CHARACTERISTICS

UV resistance in accordance with HD 605.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C
Min. working temperature: -15 °C

APPROVALS



Flame Retardant
IEC 60332-1-2



Maximum conductor temperature: +90 °C



Mechanical Protection



Rodent Protection



UV Radiation Resistance



(*) Core colours.

Nbr cores	Earthing	Neutral	Phases
3	Green/Yellow	Blue	Brown
4	-	Blue	Brown
Three-phase cables have one brown core with black stripe and another with orange stripe.			

ARMIGRON® N2XBY | RVFV 1kV

XLPE / PVC
0,6/1 kV



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Minimum bending radius (mm)	Maximum current rating 30 °C in air *	Maximum current rating 20 °C buried **	Voltage drop cos phi= 0,8 (V/A.km)
20365336	3x1,5G	12,5	235	50	26	27	20,720
20407213	3x2,5G	13,5	280	55	36	35	12,689
20365340	3x4G	14,5	350	60	49	46	7,894
20365421	3x6G	15,5	440	65	63	58	5,274
20365339	3x10G	17,5	615	70	86	77	3,134
20407305	3x16G	20,0	885	80	115	100	1,969
20407306	3x25+16	25,0	1.475	100	127	107	1,245
20365433	3x35+16	27,0	1.785	135	158	129	0,897
20407308	3x50+25	30,5	2.400	155	192	153	0,663
20365432	3x70+35	35,0	3.270	175	246	188	0,459
20365431	3x95+50	41,0	4.660	205	298	226	0,330
20365434	3x120+70	45,5	5.840	225	346	257	0,262
20365436	3x150+70	50,5	6.930	255	399	287	0,212
20365435	3x185+95	55,5	8.620	330	456	324	0,170
20365437	3x240+120	63,5	11.430	380	538	375	0,129
20407309	4x1,5	13,0	265	55	23	23	20,720
20407214	4x2,5	14,0	325	60	32	30	12,689
20365423	4x4	15,0	410	65	42	39	7,894
20407307	4x6	16,5	520	70	54	49	5,274
20365422	4x10	19,0	740	80	75	65	3,134
20407215	4x16	22,0	1.075	90	100	84	1,969
20407216	4x25	26,0	1.590	130	127	107	1,245
20365425	4x35	28,0	2.010	140	158	129	0,897
20407310	4x50	32,0	2.660	160	192	153	0,663
20365427	4x70	38,5	4.030	195	246	188	0,459
20365429	4x95	43,5	5.220	220	298	226	0,330
20407217	4x120	47,0	6.410	235	346	257	0,262
20365424	4x150	53,0	7.810	320	399	287	0,212
20365426	4x185	57,5	9.680	355	456	324	0,170
20365428	4x240	66,5	12.680	400	538	375	0,129

* Current ratings according to IEC 60364-5-52 table B.52.12, method of installation F (three loaded conductors) for single-core cables and method of installation E for multicore cables (two and three loaded conductors).

** Current ratings according to IEC 60364-5-52 table B.52.3, method of installation D2 (three loaded conductors) and table B.52.5, method of installation D2 (three loaded conductors).

PRYSMIAN PRYSOLAR® H1Z2Z2-K

H1Z2Z2-K – Halogen free

1,0/1,0 kV (1,2/1,2 kV AC max) (1,8/1,8 kV DC max)



DESIGN STANDARD

EN 50618
IEC 62930

FIRE REACTION

EN60332-1-2; IEC 60332-1-2
NFC 32070-C2; IEC 62821-1 Annex B;
EN 50525-1 Annex B EN 61034-2; IEC 61034-2

CPR RATING

DoP 1017844
Class: **E_{ca}**
EN 50575: 2014 + A1: 2016

CONSTRUCTION

1. CONDUCTOR

Annealed tinned copper.
Flexible, class 5, in accordance
with EN 60228.

2. INSULATION

Halogen free cross-linked compound
in accordance with table B.1,
annex B of EN 50618.

3. SHEATH

Halogen free cross-linked compound
in accordance with table B.1,
annex B of EN 50618.
Colour: Red or Black.

WET-I 1500

Prysmian Test to ensure
the Behaviour of the submerged
cable in water for prolonged
periods.

Simulates a situation like
to the one in which the
cable is exposed in a
PV installation.

Test Conditions:
• 1.800 V DC (Max voltage)



APPLICATIONS

Specially designed for installations
solar photovoltaic indoor, outdoor,
industrial, agricultural, fixed or mobile
(solar trackers). Can be installed
in trays, ducts, and equipment.

Especially resistant to water
(AD8 + special test for current
WET-I 1500), in installations
underground in pipe or conduit.

Suitable for direct current side
in solar self-consumption
installations photovoltaic.

Direct current systems
(ITC-BT 53, HD 60364-7-712).

Operating temperature: -40 °C, +90 °C
(Thermostable cable), +120 °C (20,000 h).

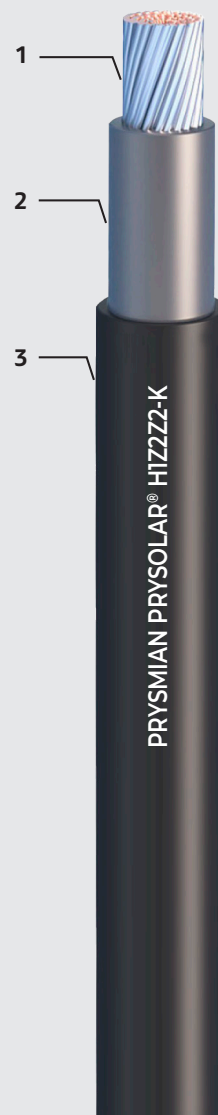
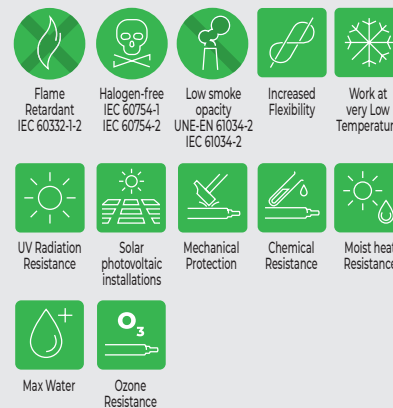
Voltage test for 5 min:
6 500 V AC / 15 000 V DC.

APPROVALS



Type Approved
Safety
Regular Production
Surveillance

www.tuv.com
ID 1111276298



PRYSMIAN PRYSOLAR® H1Z2Z2-K

H1Z2Z2-K – Halogen free

1,0/1,0 kV (1,2/1,2 kV AC max) (1,8/1,8 kV DC max)



ADDITIONAL TESTING & DATA

Estimated Lifetime	30 years*	
Water protection	AD8 (AC test) **	EN 50525-2-21
	Water protection AD8 WET-I 1500 (DC test)	Prysmian's improved PV-specific test: > 1500 cycles submerged in water at 70°C with the maximum continuous voltage (1800 V DC)
UVA Resistance	IEC 62930 Annex E; EN 50618 Annex E	
Certification	TÜV Rheinland	
Mobile Services	Yes	
Double insulation (class II)	Yes	
Maximum Conductor Temperature	90 °C (120 °C, 20000 h) 250 °C (short circuit)	
Suitable for anti-PID systems	Maximum effective voltage: 1200 V (> 906 V) Maximum peak voltage: 1697 V (> 1468 V)	
Maximum tensile stress	50 N/mm ² during Installation 15 N/mm ² in operation (installed)	
Ozone Resistance	IEC 62930 Table 3 according to IEC 60811-403; EN 50618 Table 2 according to EN 50396, method B	
Resistance to acids and bases	IEC 62930 and EN 50618, Annex B, 7 days, 23 °C (N-oxalic acid, N-sodium hydroxide)	
Shrinkage Test	IEC 62930 Table 3 according to IEC 60811-503 EN 50618 Table 2 according to EN 60811-503 (Maximum shrinkage 2 %)	
Damp Heat Teat	IEC 62930 Table 3 and EN 50618 Table 2: 1.000 h at 90 °C and 85 % humidity for IEC 60068-2-78, EN- 60068-2-78	
Long-term insulation resistance (DC)	IEC 62821-2; EN 50395-9 (240 h / 85 °C water / 1,8 kV DC)	
Respects the environment	European Union RoHS Directive 2014/35/EU	
Dynamic penetration testing	IEC 62930 Annex D EN 50618 Annex D	
Low temperature bending	IEC 62930 Annex B Table B.1 and EN 50618 Table 2: Bending and stretching at -40 °C according to IEC 60811-504 and -505	
Cold Impact Resistance	IEC 62930 Annex C and EN 50618 Annex C: Impact strength at -40 °C according to EN 60811-506	
Marking durability	IEC 62930; EN 50396	

* To estimate the life of the cable, the thermal resistance test according to IEC 60216 was used.

** The usual AD8 condition is a manufacturer's self-declaration with no reference standard. Declares the possibility of operation of the cable permanently submerged, but the usual test is designed for alternating current and up to 450/750 V rated voltage of the cable.

This situation is far removed from the reality of the installations Photovoltaic. Prysmian cables pass the special WET-I 1500 test at 1.800 V in direct current.

PRYSMIAN PRYSOLAR® H1Z2Z2-K

H1Z2Z2-K – Halogen free

1,0/1,0 kV (1,2/1,2 kV AC max) (1,8/1,8 kV DC max)



PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP Code		Number of conductors x Cross section	Max. conductor diameter	Maximum outer cable diameter	Minimum dynamic bending radius	Minimum static bending radius	Approx. total cable weight	Maximum Conductor resistance at 20 °C	Maximum current rating in air (2)	Maximum current rating in air Amb. temp. 60 °C Cond. Temp. 120 °C	Maximum current rating buried (4) (A)	Voltage drop (2)
Black	Red	(mm ²)	(l) (mm)	(mm)	(mm)	(mm)	(kg/km)	(Ω/km)	(A)	(3) (A)	(4) (A)	(V/A·km)
20412921	20412922	1x4	3,0	6,6	26	20	61	5,09	46	55	42	10,18
20412923	20412924	1x6	3,9	7,4	30	22	80	3,39	59	70	53	6,78
20412925	20412926	1x10	5,1	8,8	35	26	124	1,95	82	98	70	3,90
20412927	20412928	1x16	6,3	10,1	40	30	186	1,24	110	132	91	2,48
20413135	20413161	1x25	7,8	12,5	63	50	286	0,795	140	176	116	1,59

(1) Approximate values.

(2) Maximum permissible intensities according to IEC 60364-5-52, in the air at 40 °C on a perforated tray, installation F (two conductor loaded), Table B.52.12. With direct exposure to the sun, multiply the values by 0,85.

(3) Installation of separate conductors with effective air renewal throughout their sheathing (overhead cables). Value that the cable can withstand, 20,000 h over its estimated life (30 years).

(4) Installation in buried pipe with standard ground thermal resistivity of 2.5 Km/W and ground temperature 25 °C. Installation method D1 (Cu) (single-phase or continuous), Table B.52.3.

Ambient temperature 60 °C (in the shade) and maximum conductor temperature 120 °C. Value that the cable can withstand, 20 000 h over its estimated lifetime (30 years).

Note: For different installation conditions, appropriate correction factors should be considered.

AEROPREX® ABC | LXS 1kV

XLPE
0,6/1 kV



AEROPREX RZ

DESIGN STANDARD

NP-3528

CPR RATING

DOP 1006659

Class **F_{ca}**

EN 50575

CONSTRUCTION

1. CONDUCTOR

Class 1 aluminium to IEC 60228.

2. INSULATION

Cross-linked polyethylene (R),

XLPE type.

Colour: Black RAL 9005.

APPLICATIONS

Cable for low voltage power distribution.

Aerial installation on fixed lines

on facades or tensioned on poles.

Not suitable for directly buried installation.

ADDITIONAL CHARACTERISTICS

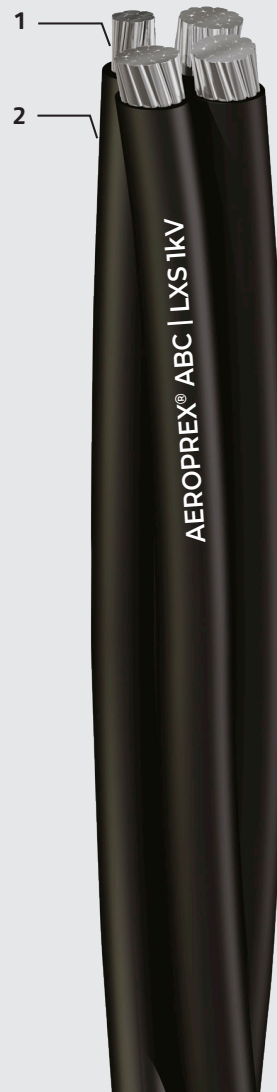
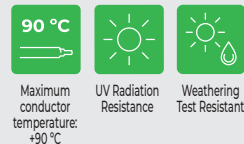
UV resistance in accordance

with HD626-2 section 2.5.1.

TEMPERATURE RANGE

Max. temp. rating of the conductor: +90 °C

Min. working temperature: -25 °C



AEROPREX® ABC | LXS 1kV

XLPE
0,6/1 kV



AEROPREX RZ

PHYSICAL AND ELECTRICAL CHARACTERISTICS

SAP code	Number of conductors x Cross section (mm²)	Approx. overall diameter (mm)	Approx. weight (kg/km)	Maximum current rating 30 °C in air * (A)	Voltage drop cos phi= 0,8 (V/A·km)
20303570	2x16	14,5	125	85	3,918
20303569	4x16	17,5	250	75	3,918
20303987	4x25	21,5	390	100	2,462
20303796	4x50	27,5	680	150	1,315
20464464	5x25	24	485	100	2,462
20303571	4x25+16	23	451	100	2,462
20303797	4x50+16	28,5	740	150	1,315
20333537	4x50+25	29,5	775	150	1,315
20303572	4x70+16	33	1.031	190	0,909
20303627	4x95+16	36,5	1.334	230	0,656
20303816	4x50+2x16	29,5	800	150	1,315
20316810	4x70+2x16	34	1.095	190	0,909
20316809	4x95+2x16	36,5	1.395	230	0,656

* Permissible current intensities in accordance with standard NP 3528 (Cables exposed to solar radiation).

Note: For different installation conditions, appropriate correction factors must be considered.

ANNEX

INSTALLATION METHODS

Table A.53.3 (IEC 60364-5-52)

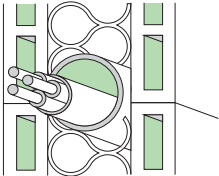
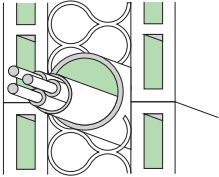
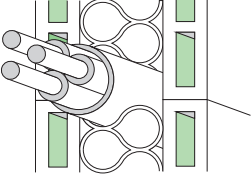
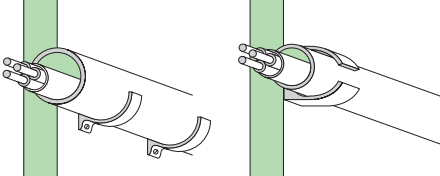
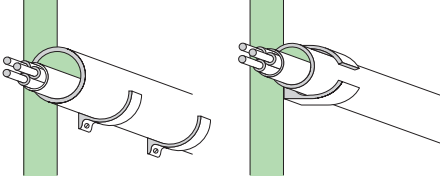
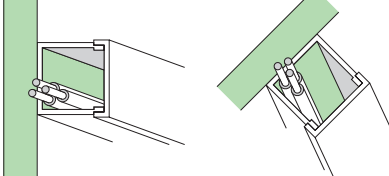
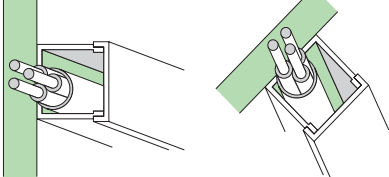
Item	Methods of installation	Description	Type
1		Insulated conductors or single-core cables in conduit in a thermally insulated wall.	A1
2		Multi-core cable in conduit in a thermally insulated wall.	A2
3		Multi-core cable directly in a wall thermally wall.	A1
4		Insulated conductors or single-core cables in conduit on a wooden or masonry wall (brick, concrete, plaster...), or spaced less than 0,3 times the diameter of the conduit.	B1
5		Multi-core cable in conduit on a wooden or masonry walls (brick, concrete, plaster...) or spaced less than 0,3 times the diameter of the conduit.	B2
6/7		Insulated conductors or single-core cables in cable trunking (includes multicompartment trunking) on a wooden or masonry wall: • run horizontally • run vertically	B1
8/9		Multi-core cable in cable trunking (includes multicompartment trunking) on a wooden or masonry wall: • run horizontally • run vertically	B2

Table A.53.3 (IEC 60364-5-52)

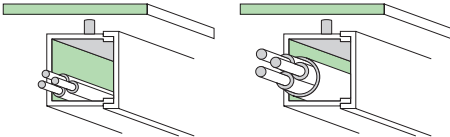
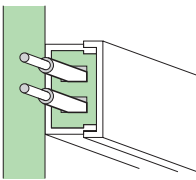
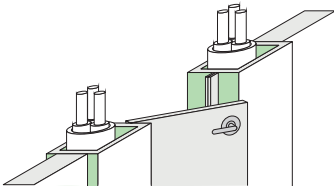
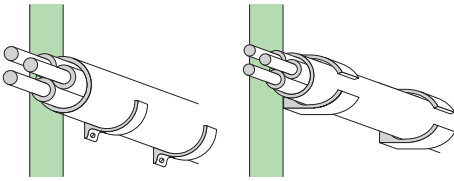
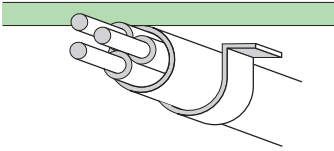
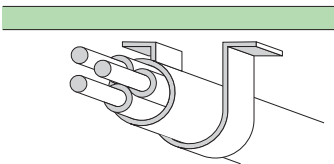
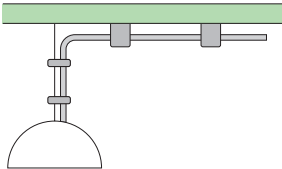
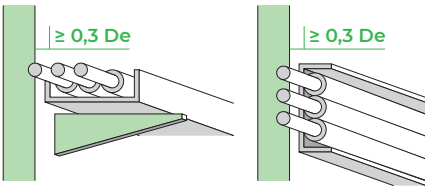
Item	Methods of installation	Description	Type
10/11		Insulated conductors or single-core cable in suspended cable trunking. ----- Multi-core cable in suspended cable trunking	B1/B2
12		Insulated conductors or single-core trunking.	A1
15		Insulated conductors in conduit or single-core or multi-core cable in architrave.	A1
20		Single-core or multi-core cables: fixed on, or spaced less than 0,3 times the cable diameter from a wooden or masonry wall.	C
21		Single-core or multi-core cables fixed directly under a wooden or masonry ceiling.	C
22		Single-core or multi-core cables spaced from a ceiling.	Under study. Recommendation (E)
23		Fixed installation of a suspended current-using equipment.	C
30		Single-core or multi-core cables on unperforated trays: • run horizontally • run vertically	C

Table A.53.3 (IEC 60364-5-52)

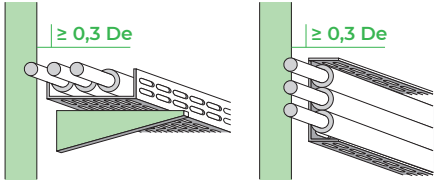
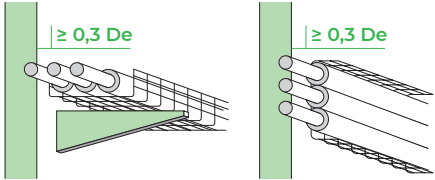
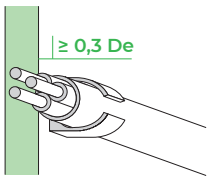
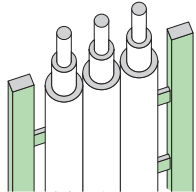
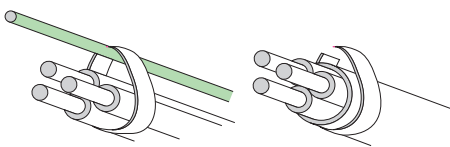
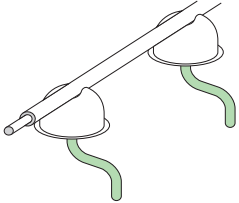
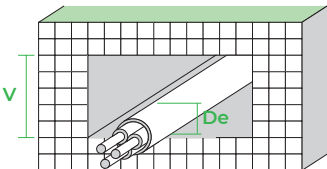
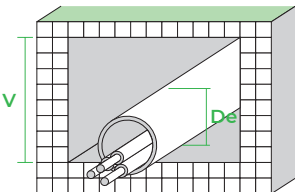
Item	Methods of installation	Description	Type
31		Single-core cables (F) or multi-core cables (E), on perforated trays: • run horizontally • run vertically	E or F
32		Single-core cables (F) or multi-core cables (E), on brackets or on a tray: • run horizontally • run vertically	E or F
33		Single-core cables (F) or multicore cables (E), spaced from the wall more than 0,3 times the diameter of the cable.	E or F
34		Single-core cables (F) or multi-core cables (E) on cable ladders.	E or F
35		Single-core cables (F) or multi-core cables (E) suspended from incorporating a support wire or harness.	E or F
36		Bare or insulated conductors on insulators.	G
40		Single-core or multi-core cable in a building void.	$1,5 De \leq V < 5 De$ B2 $5,0 De \leq V < 20 De$ B1
41		Insulated conductors in circular conduits in a building void.	$1,5 De \leq V < 20 De$ B2 $V \geq 20 De$ B1

Table A.53.3 (IEC 60364-5-52)

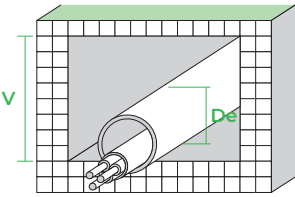
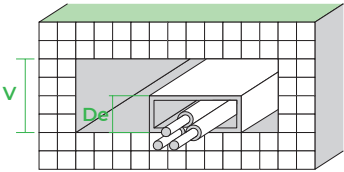
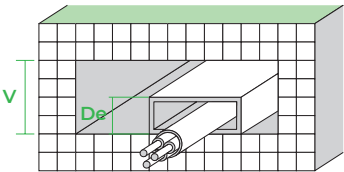
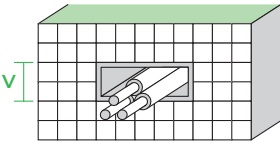
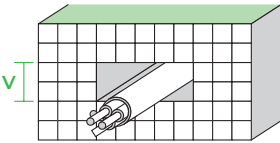
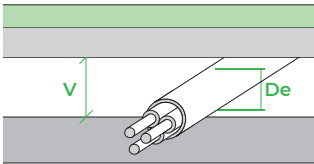
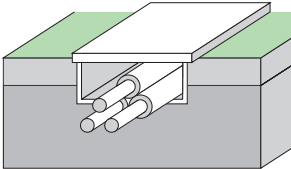
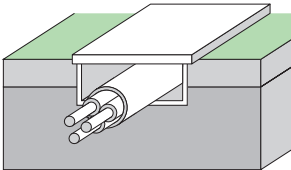
Item	Methods of installation	Description	Type
42		Single-core or multi-core cables in conduit in a building void.	Under study May be used: $1,5 De \leq V < 20 De$ B2 $V \geq 20 De$ B1
43		Insulated conductors in conduits non-circular in a building void.	$1,5 De \leq V < 20 De$ B2 $V \geq 20 De$ B1
44		Single-core or multi-core cable in cable ducting in a building void.	Under study May be used: $1,5 De \leq V < 20 De$ B2 $V \geq 20 De$ B1
45		Conductors insulated in noncircular section ducts embedded in masonry (brick, concrete, plaster, etc.) with thermal resistivity not exceeding 2 K·m/W.	$1,5 De \leq V < 5 De$ B2 $5 De \leq V < 50 De$ B1
46		Single-core or multi-core cable in non-circular section conduits embedded in masonry (brick, concrete, plaster, etc.) with a thermal resistivity not exceeding 2 K·m/W.	Under study May be used: $1,5 De \leq V < 20 De$ B2 $V \geq 20 De$ B1
47		Single-core or multi-core cable in a ceiling void or in a raised floor.	$1,5 De \leq V < 5 De$ B2 $5 De \leq V < 50 De$ B1
50		Insulated conductors or single-core cable in flush cable trunking embedded in the floor.	B1
51		Multi-core cable in flush cables trunking embedded in the floor.	B2

Table A.53.3 (IEC 60364-5-52)

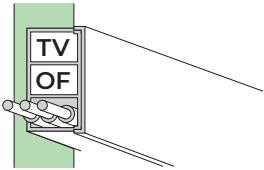
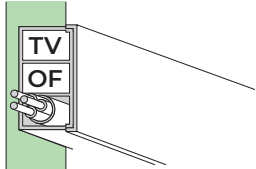
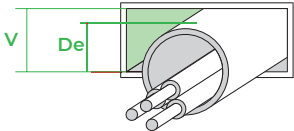
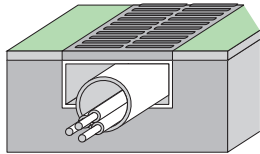
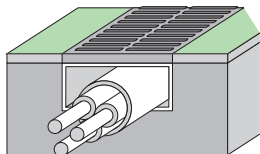
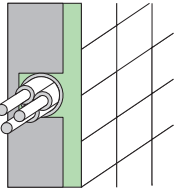
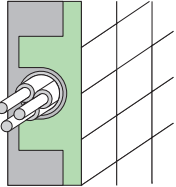
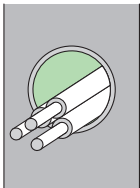
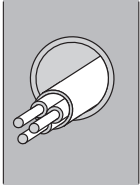
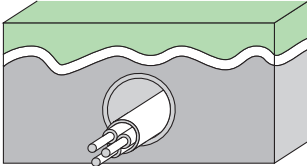
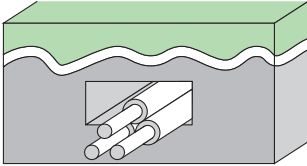
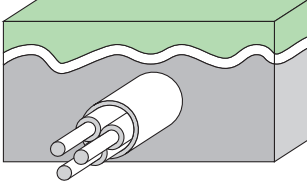
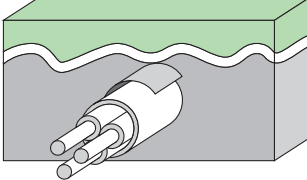
Item	Methods of installation	Description	Type
52		Insulated conductors or single-core cables in flush cable trunking.	B1
53		Multi-core cable in flush trunking.	B2
54		Insulated conductors or single-core cables in an unventilated cable channel run horizontally or vertically.	$1,5 De \leq V < 20 De$ B2 $V \geq 20 De$ B1
55		Insulated conductors in an open or ventilated cable channel in the floor.	B1
56		Sheathed single-core or multi-core cable in open or ventilated cable channel in horizontal or vertical routes.	B1
57		Single-core or multi-core cable having a thermal resistivity less than 2 K·m/W without mechanical complementary protection.	C
58		Single-core or multi-core cable direct in masonry walls having a thermal resistivity less than 2 K·m/W with added mechanical protection.	C
59		Insulated conductors or single-core cables in ducts embedded in masonry.	B1

Table A.53.3 (IEC 60364-5-52)

Item	Methods of installation	Description	Type
60		Multi-core cables in conduit in masonry.	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.	D2
73		Sheathed single-core or multi-core cables direct in the ground with added mechanical protection.	D2

CORRECTION FACTORS

Table B.52.14 (IEC 60364-5-52)

Correction factors for ambient temperature other than 30 °C
to be applied to the current-carrying capacities for cables in air.

Insulation type	Ambient temperature °C														
	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
PVC, ZI (thermoplastic)	1,22	1,17	1,12	1,06	1,00	0,94	0,87	0,79	0,71	0,61	0,50	-	-	-	-
XLPE, Z (thermostable)	1,15	1,12	1,08	1,04	1,00	0,96	0,91	0,87	0,82	0,76	0,71	0,65	0,58	0,50	0,41

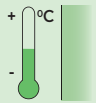


Table B.52.15 (IEC 60364-5-52)

Correction factors for ambient ground temperature other than 20 °C
to be applied to the current-carrying capacities for cables in ducts in the ground.

Insulation type	Sol temperature °C														
	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
PVC, ZI (thermoplastic)	1,10	1,05	1,00	0,95	0,89	0,84	0,77	0,71	0,63	0,55	0,45	-	-	-	-
XLPE, EPR, Z (thermostable)	1,07	1,04	1,00	0,96	0,93	0,89	0,85	0,80	0,76	0,71	0,65	0,61	0,53	0,46	0,38

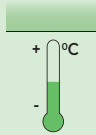


Table B.52.16 (IEC 60364-5-52)

Correction factors for soil thermal resistivities other than 2.5 K·m/W.

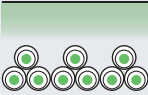
Thermal resistivity 2,5 K·m/W	0,5	0,7	1	1,5	2	2,5	3
Correction factor for cables in buried ducts	1,28	1,20	1,18	1,10	1,05	1,00	0,96
Correction factor for direct buried cables	1,88	1,62	1,50	1,28	1,12	1,00	0,90



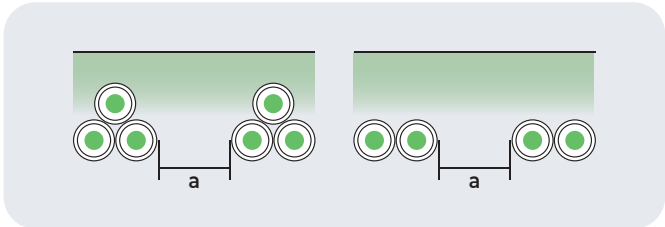
Table B.52.18

Reduction factors for more than one circuit, cables laid directly in the ground
(Installation methos D2).

Circuit numbers	Distance between cables (a)				
	Nil (cables in contact)	One cable diameter	0,125 m	0,25 m	0,5 m
2	0,75	0,80	0,85	0,90	0,90
3	0,65	0,70	0,75	0,80	0,85
4	0,60	0,60	0,70	0,75	0,80
5	0,55	0,55	0,65	0,70	0,80
6	0,50	0,55	0,60	0,70	0,80
7	0,45	0,51	0,59	0,67	0,76
8	0,43	0,48	0,57	0,65	0,75
9	0,41	0,46	0,55	0,63	0,74
12	0,36	0,42	0,51	0,59	0,71
16	0,32	0,38	0,47	0,56	0,68
20	0,29	0,35	0,44	0,53	0,66



Single-core cables



Multi-core cables

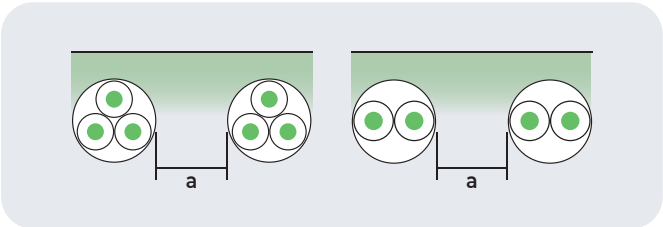
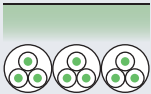


Table B.52.19

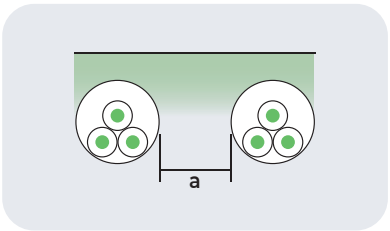
Reduction factors for more than one circuit,
cables laid in ducts in the ground (Installation method D1).

A – Multi-core cables in single-way ducts

Number of multi-conductor cables or groups of 2 or 3 single-core cables (one circuit per conduit)	Distance between cables (a)			
	Nil (conduits in contact)	0,25	0,50 m	1,0 m
2	0,85	0,90	0,95	0,95
3	0,75	0,85	0,90	0,95
4	0,70	0,80	0,85	0,90
5	0,65	0,80	0,85	0,90
6	0,60	0,80	0,80	0,90
7	0,57	0,76	0,80	0,88
8	0,54	0,74	0,78	0,88
9	0,52	0,73	0,77	0,87
10	0,49	0,72	0,76	0,86
11	0,47	0,70	0,75	0,86
12	0,45	0,69	0,74	0,85
13	0,44	0,68	0,73	0,85
14	0,42	0,68	0,72	0,84
15	0,41	0,67	0,72	0,84
16	0,39	0,66	0,71	0,83
17	0,38	0,65	0,70	0,83
18	0,37	0,65	0,70	0,83
19	0,35	0,64	0,69	0,82
20	0,34	0,63	0,68	0,82



Single-core cables



Multi-core cables

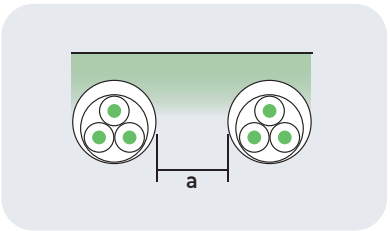
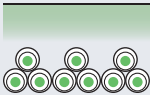


Table B.52.19

B - Single-core cables in non-magnetic single-way ducts

Number of circuits with two or three single-core cables	Distance between cables (a)			
	Nil (conduits in contact)	0,25	0,50 m	1,0 m
2	0,80	0,90	0,90	0,95
3	0,70	0,80	0,85	0,90
4	0,65	0,75	0,80	0,90
5	0,60	0,70	0,80	0,90
6	0,60	0,70	0,80	0,90
7	0,53	0,66	0,76	0,87
8	0,50	0,63	0,74	0,87
9	0,47	0,61	0,73	0,86
10	0,45	0,59	0,72	0,85
11	0,43	0,57	0,70	0,85
12	0,41	0,56	0,69	0,84
13	0,39	0,54	0,68	0,84
14	0,37	0,53	0,68	0,83
15	0,35	0,52	0,67	0,83
16	0,34	0,51	0,66	0,83
17	0,33	0,50	0,65	0,82
18	0,31	0,49	0,65	0,82
19	0,30	0,48	0,64	0,82
20	0,29	0,47	0,63	0,81



Single-core cables

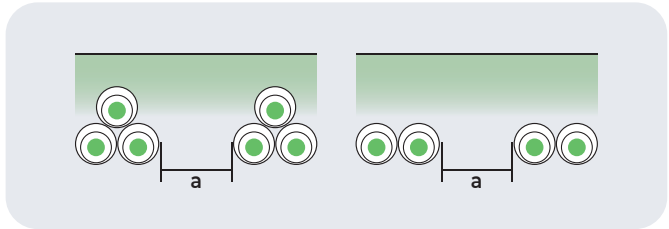
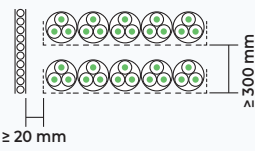
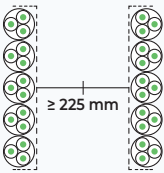
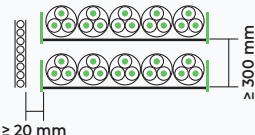
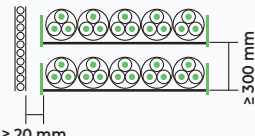


Table B.52.20

Reduction factors for groups of more than one multi-core cable to be applied to reference current carrying capacities for multi-core cables in free air (Installation method E).

Installation method in table A.52.3		Number of trays	Number of cables							
			1	2	3	4	6	9		
Perforated trays (note 3) (Installation reference 31)	Cables in contact		1	1,00	0,88	0,82	0,79	0,76	0,73	
			2	1,00	0,87	0,80	0,77	0,73	0,68	
			3	1,00	0,86	0,79	0,76	0,71	0,66	
			6	1,00	0,84	0,77	0,73	0,65	0,64	
	2	1,00	0,99	0,96	0,92	0,87	-			
	3	1,00	0,98	0,95	0,91	0,85	-			
	Vertical perforated trays (note 4) (Installation reference 31)	Cables in contact		1	1,00	0,80	0,82	0,78	0,73	0,72
2				1,00	0,88	0,81	0,76	0,71	0,70	
2		1,00	0,91	0,88	0,87	0,85	-			
Non-Perforated trays system (Installation reference 31)		Cables in contact		1	0,97	0,84	0,78	0,75	0,71	0,68
				2	0,97	0,83	0,76	0,72	0,68	0,63
				3	0,97	0,82	0,75	0,71	0,66	0,61
				6	0,97	0,81	0,73	0,69	0,63	0,58
Cable ladders, clamps, etc. (note 3) (Installation reference 32, 33 and 34)	Cables in contact		1	1,00	0,87	0,82	0,80	0,76	0,73	
			2	1,00	0,86	0,80	0,78	0,73	0,68	
			3	1,00	0,85	0,79	0,76	0,71	0,66	
			6	1,00	0,84	0,77	0,73	0,65	0,64	
	2	1,00	0,99	0,98	0,97	0,96	-			
	3	1,00	0,98	0,97	0,96	0,93	-			

Note 1: Factors apply to single layers of wires (or triangles) but they cannot be applied to cables arranged in several layers in contact. The values for such arrangements may be significantly lower and must be determined by an appropriate method (see section 2.14.1.).

Note 2: For circuits that include several wires in parallel per phase, it is desirable that each group of three conductors be considered as one circuit for the application of this table.

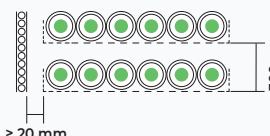
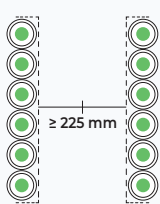
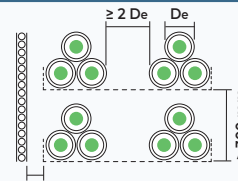
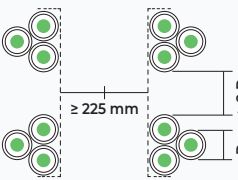
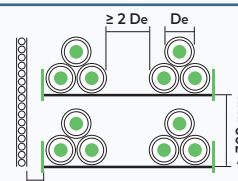
Note 3: The values are indicated for a vertical distance between trays of 300 mm. For smaller distances, it is advisable to reduce the factors.

Note 4: The values are indicated for a horizontal distance between trays of 225 mm, with the trays mounted back to back and at least 20 mm between the tray and the wall. For smaller distances, it is advisable to reduce the factors.

Note 5: For circuits that have more than one wire in parallel per phase, each set of three wires should be considered as a circuit within the meaning of this table.

Table B.52.21

Reduction factors for groups of more one or more circuits of single-core cables to be applied to reference current-carrying capacity for one circuit of single-core cables in free air (Installation method F).

Installation method in table A.52.3		Number of trays	Number of three-phase circuits (note 2)		
			1	2	3
Perforated trays (Note 3) (Installation reference 31)	Cables in contact 	1	0,98	0,91	0,87
		2	0,96	0,87	0,81
		3	0,95	0,85	0,78
Vertical perforated trays (note 4) (Installation reference 31)	Cables in contact 	1	0,96	0,86	-
		2	0,95	0,84	-
Cable ladders, clamps, etc. (note 3) (Installation reference 32, 33 and 34)	Cables in contact 	1	1,00	0,97	0,96
		2	0,98	0,93	0,89
		3	0,97	0,90	0,86
Perforated trays (Note 3) (Installation reference 31)		1	1,00	0,98	0,96
		2	0,97	0,93	0,89
		3	0,96	0,92	0,86
Vertical perforated trays (note 4) (Installation reference 31)	Separated cables 	1	1,00	0,91	0,89
		2	1,00	0,90	0,86
Cable ladders, clamps, etc. (note 3) (Installation reference 32, 33 and 34)		1	1,00	1,00	1,00
		2	0,97	0,95	0,93
		3	0,96	0,94	0,90

Note 1: Factors apply to single layers of wires (or triangles) but cannot be applied to wires arranged in multiple layers in contact. The values for such arrangements may be significantly lower and should be determined by an appropriate method (see section 2.14.1.).

Note 2: For circuits that include several wires in parallel per phase, each group of three conductors should be considered as a circuit for the application of this table.

Note 3: The values are indicated for a vertical distance between trays of 300 mm. For smaller distances, it is advisable to reduce the factors.

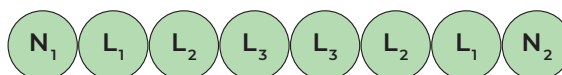
Note 4: The values are indicated for a horizontal distance between trays of 225 mm, with the trays mounted back to back and at least 20 mm between the tray and the wall. For smaller distances, it is advisable to reduce the factors.

Note 5: For circuits that have more than one wire in parallel per phase, each set of three wires should be considered as a circuit within the meaning of this table.

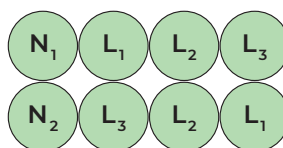
EXAMPLES OF SPECIAL CONFIGURATIONS OF PARALLEL CABLES

6 parallel single-core cables

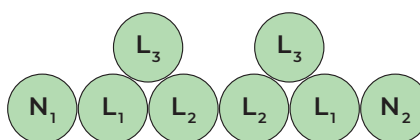
Cables in a flat plane



Cables above each other

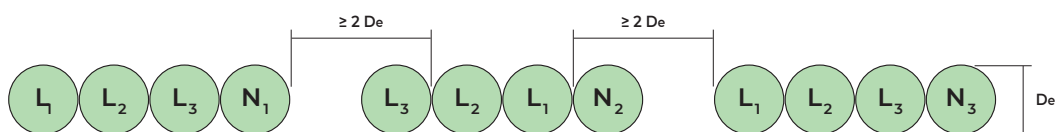


Cables in trefoil

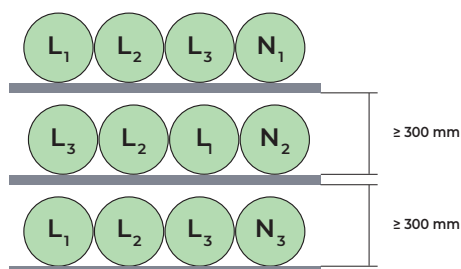


9 parallel single-core cables

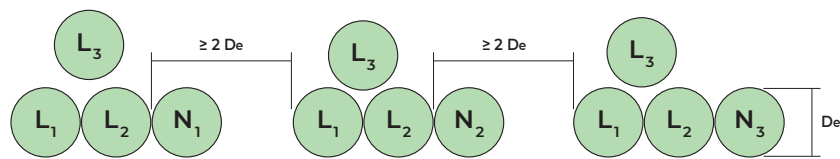
Cables in a flat plane



Cables above each other in a flat plane

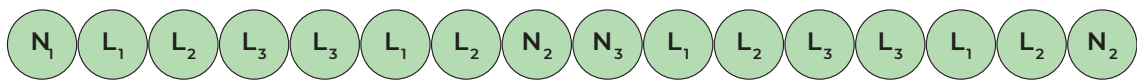


Cables in trefoil

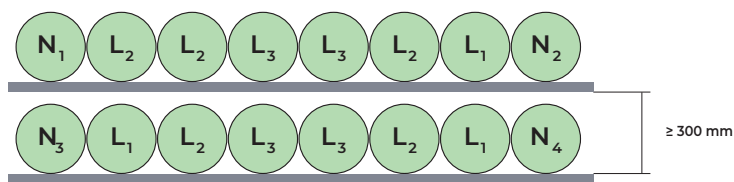


12 parallel single-core cables

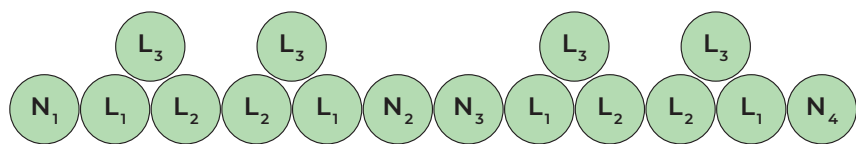
Cables in a flat plane



Cables above each other in a flat plane



Cables in trefoil



RECOMMENDATIONS FOR HANDLING, STORAGE AND LOADING OF DRUMS

1. Reel handling

1.1. Handling by forklift

Handling by forklift shall always be carried out loading the drum/reel with the flanges perpendicular to the forks. Never support the drums/reels with the forks placed between the two flanges directly on the cable.



Forks shall be long enough to support the full drum width.

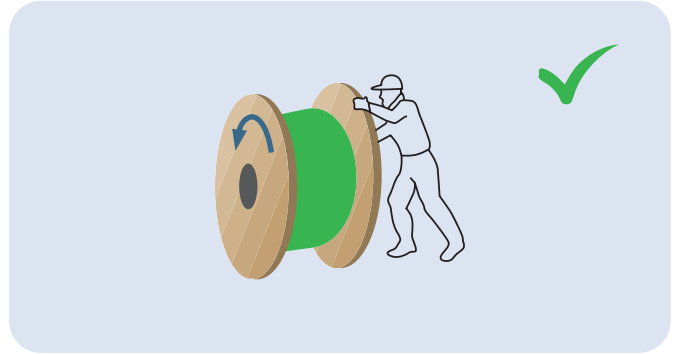
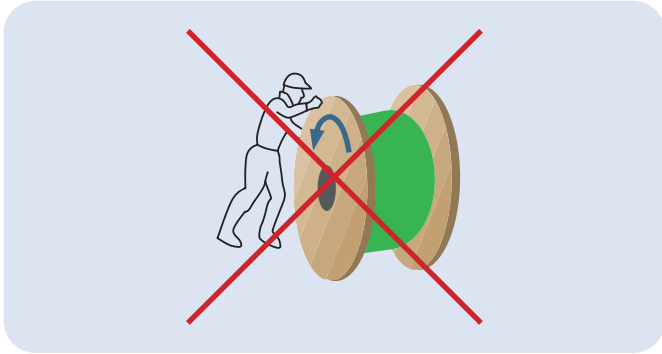


The distance between forks shall be enough to guarantee a stable position of the drum/reel.



1.2. Manual Handling

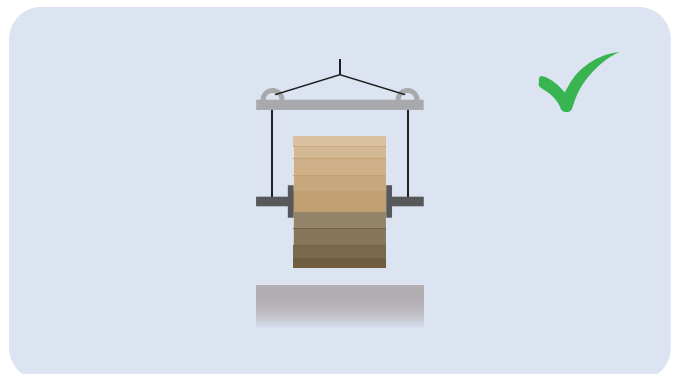
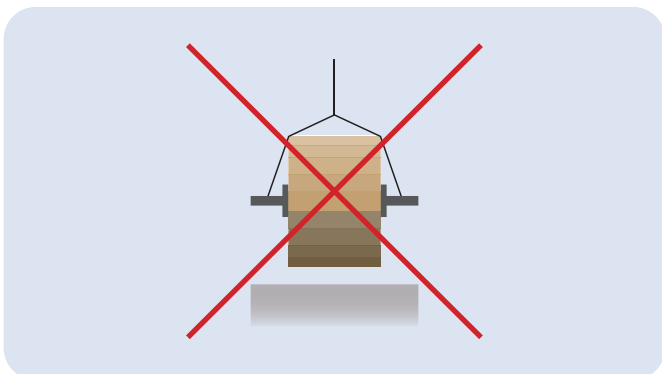
Reels must only be rolled for short distances on a flat, level floor, in the direction in which the arrow is pointing. Reels on which the rolling direction is not shown must be rolled in the opposite direction to which the cable is wound on.



1.3. Lifting

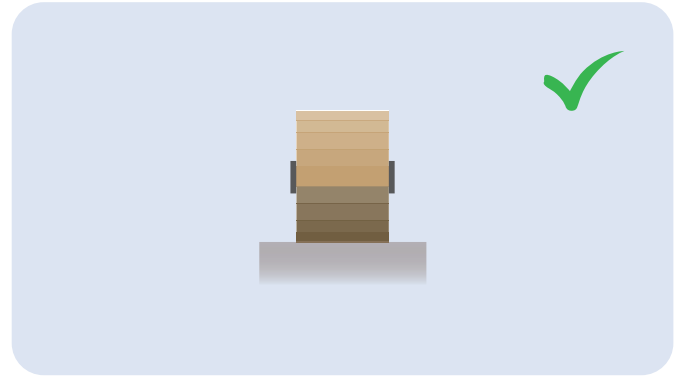
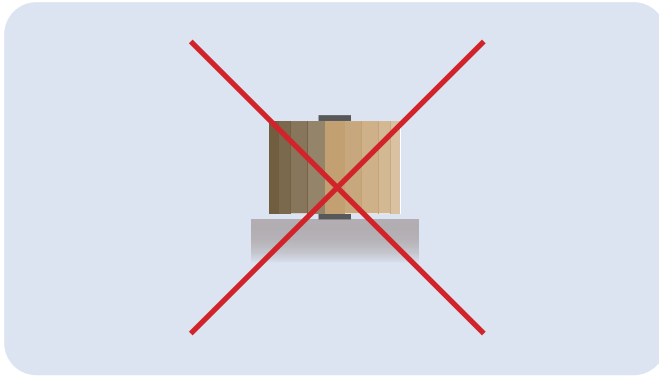
Drums shall be lifted only using equipment specifically designed for cable drums lifting; avoid using improvised equipment or arrangements. The lifting of heavy drums is allowed only by crane and using a spreader bar.

- Place the sling through the hole in the middle.
- A wide bar must be used for Type 9 reels or higher and for reels that weigh more than 3 tonnes to prevent damage to the reel's side panels.
- Reels must be lifted separately when they have a diameter equal to or greater than 120 cm. Use only spreader bars that have been designed and certified for lifting a specific drum size, weight and width.

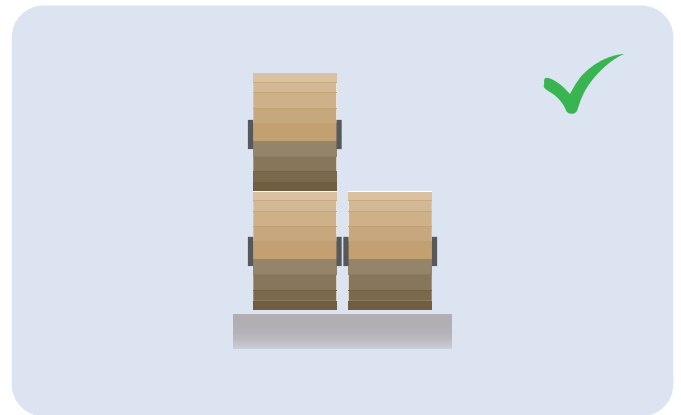


2. Drum storage

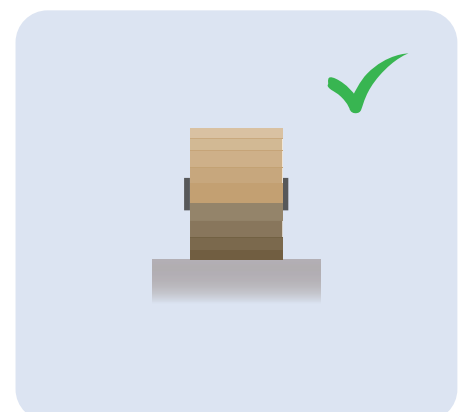
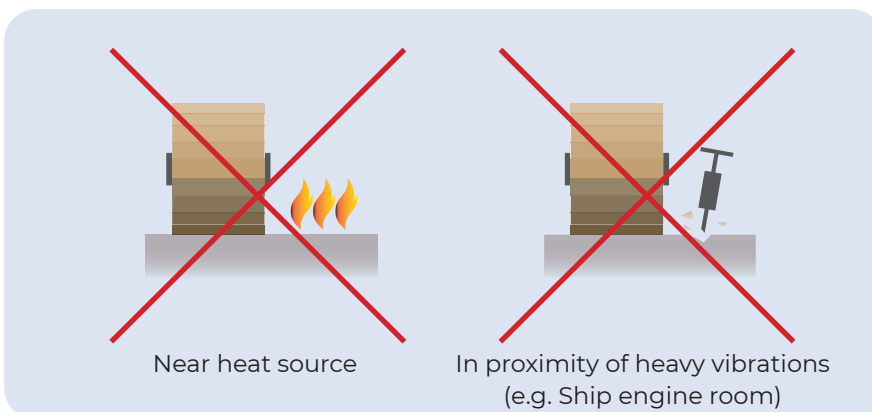
The reels must only be stored vertically.

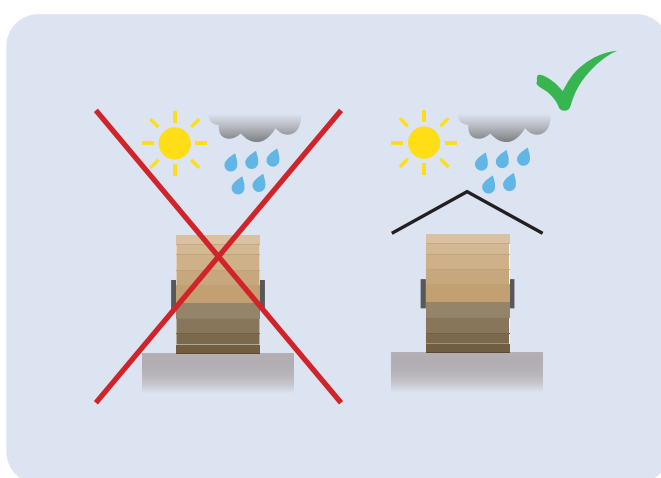
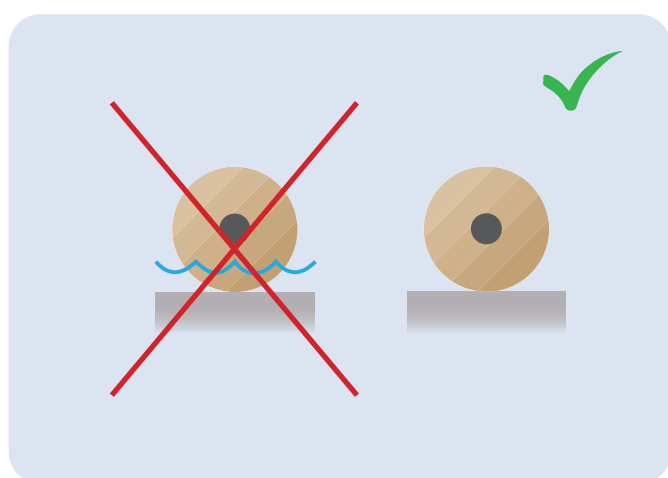
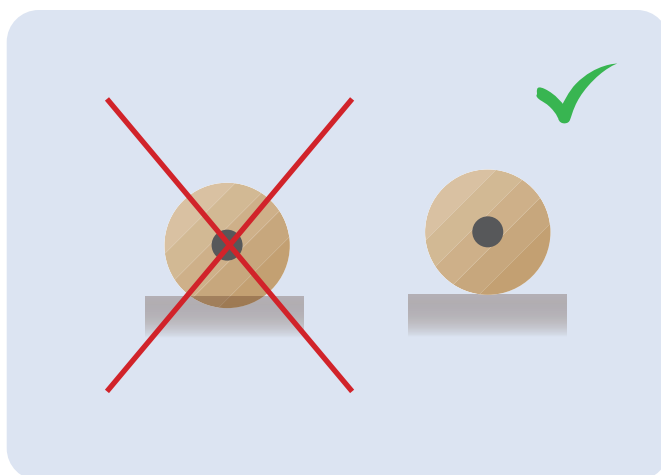
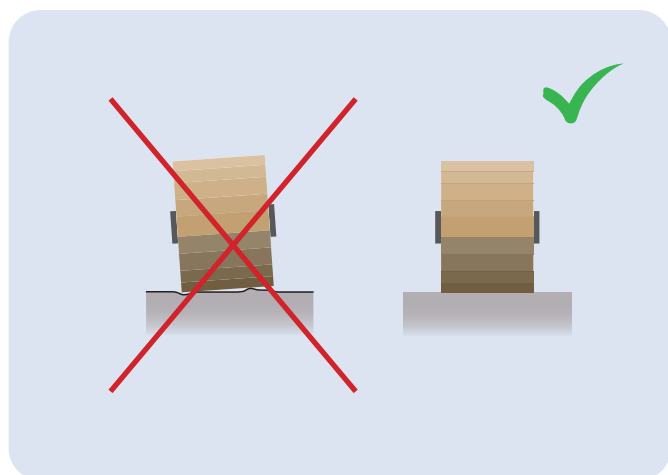


Storage of drums in multiple layers should be avoided particularly for heavy drums for High Voltage cables. Smaller drums could be stored in multiple layers provided that the drums structure is designed to withstand the extra load of the upper layer and that storage is made only with flange to flange contact. Never store drums putting the flanges in contact with the cable or the cable's protection battens. The reels on the bottom must be wedged.

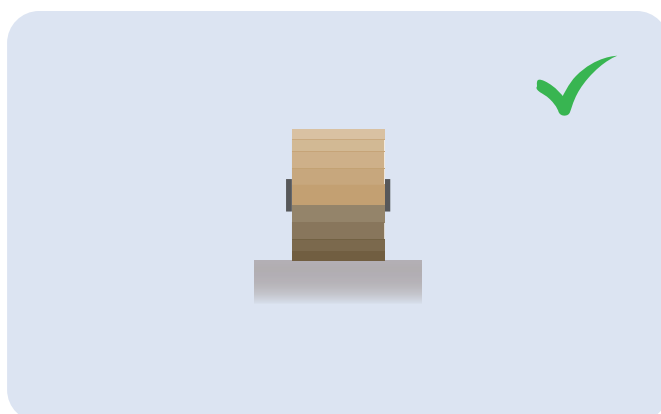


Special care must be taken in the following conditions:





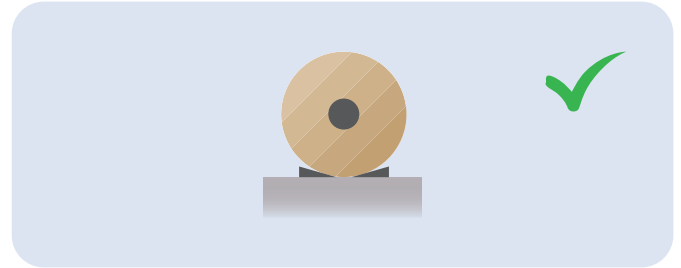
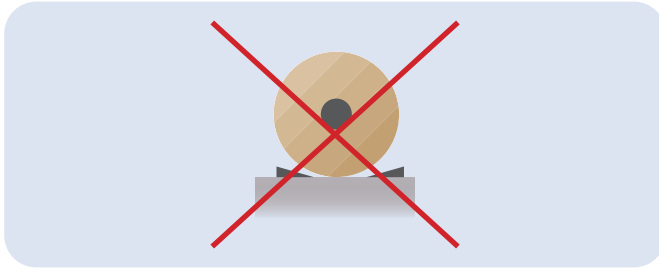
Broken or worn staves must be immediately replaced.



3. Loading lorries

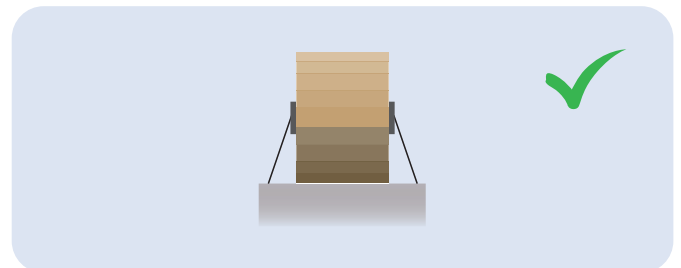
3.1. Wedging

Drums must be wedged on wooden chocks. Care must be taken to ensure that the reel's panels do not touch the floor whenever equipment is available so that it can be transported in that way.



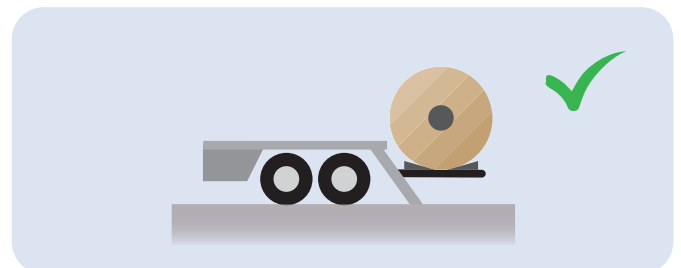
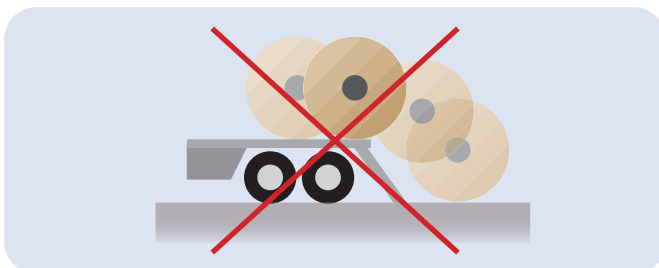
3.2. Fastening

When the drum has to be fastened, steel cables must go through the hole in the middle. If additional fastening is required, attachment cables can be run through the panels or appropriately reinforced upper staves.



4. Unloading

Use a forklift truck or crane. If they are not available, use an appropriate ramp. Never let the drum drop.



general cable

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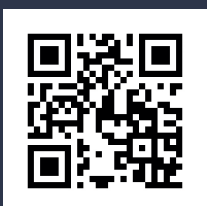
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