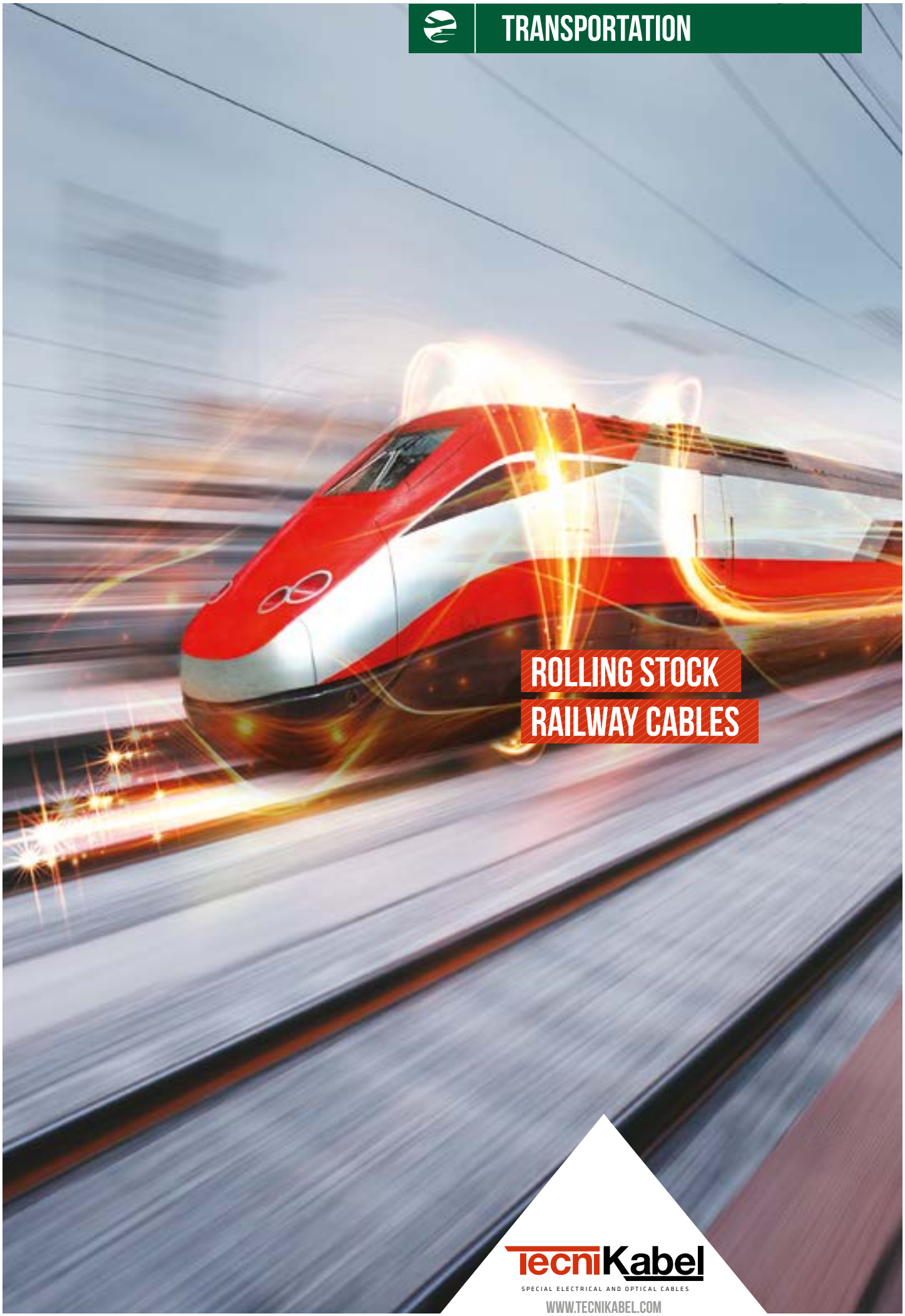

TRANSPORTATION
ROLLING STOCK
RAILWAY CABLES
tecniKabel
SPECIAL ELECTRICAL AND OPTICAL CABLES
WWW.TECNIKABEL.COM

SPECIAL ELECTRICAL AND OPTICAL CABLES


Tecni Kabel

INTRODUCTION

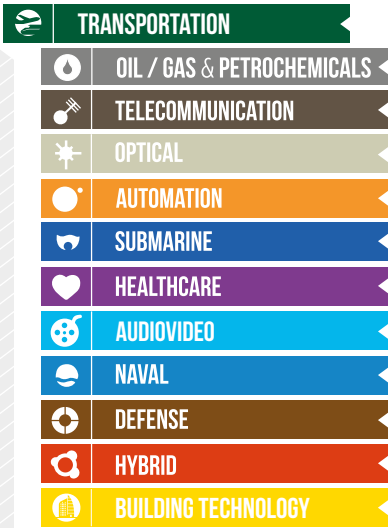
The railway sector – train and underground – represents worldwide a strategic element able to balance the transport system, promoting fast and safe travels for increasingly demanding passengers and goods.

The main goal of the constant technological change is to enhance the quality of railway transport. The improvement led to the project of High Speed/High Capability network, combined with European transport network.

To respond to the constant development, Tecnikabel offers a wide range of rolling stock products. This category of cables, is employed on last generation trains and metros, to ensure the operation of safety system, with its provided numerous devices communicating with ground's equipment.

In order to fulfill several passengers comfort requests, the reliability of transportation on which millions of people travel, submitted to extreme stresses, the company designs and manufactures innovative cables, according to national and international requirements (e.g. con EN 11170, DIN 5510, NFPA 130, EN 45545-2:2013 and NF C32-070:2001 standard) and special cables according to customer's needs.

PRODUCT LINES



TECNIKABEL

is focused on constant product innovation to get competitive advantages with endless commitment to research and development.

PRODUCTION

Updated production Systems, stringent process procedures and expert operators reached the goal to carry out our production efficient and flexible.

In 30 years of activity, we produced more than 26.000 different types of cables.

FINAL INSPECTIONS

At the end of every production process each cable is checked in its electrical and physical performances for a complete compliance to customer specifications.

LABORATORY TESTS

We submit our cables to the most severe tests, simulating critical applications. In addition to the tests required by current norms, we invest on new special equipment for additional mechanical and electrical testing, heading to a steady increase of standard performance of our cables.

MATERIALS RESEARCH AND DEVELOPMENT

Our thirty year experience took us to carry on research of new materials in order to improve performances, costs and fulfill the standards required by our customers.

QUALITY SYSTEM

Since 1978, constant commitment to Quality has awarded Tecnikabel approval from American and European Authorities, complying with the most demanding international manufacturing and quality standards.

ISO 9001:2008 9125 TEKA

USTED

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ENVIRONMENTAL PROPERTIES

FLAME RETARDANT SINGLE WIRE
(EN/IEC 60332-1-2, EN 50265-2-1)

FLAME RETARDANT BUNCHED WIRES
(IEC 60332-3, EN 50305 9.1.2, EN 50305 9-1,
EN 50266-2-5, EN 50266-2)

FIRE RESISTANCE
(IEC 60331, EN50200, EN 50362,
BS6387 CWZ)

REDUCED EMISSION OF FUMES AND
TOXIC GASES (IEC 60754-1; EN 50267-2-
1/2, EN 50305 9.2)

SMOKE DENSITY (EN/IEC 61034-1/2)
(EN 50268-2; EN 50268-1/2)

LOW ACIDITY AND CORROSIVITY OF
EVOLVED GASES (IEC 60754-2,
EN 50267-2-2)

WEATHERING TEST RESISTANCE
(OUTDOOR)

INDOOR

WATER RESISTANCE

RODENT RESISTANCE

HAZARDOUS AREA

FLEXIBLE INSTALLATION

FULLY DIELECTRIC

DIRECT BURIAL

ANTIBALLISTIC
PROTECTION

CHEMICAL PROPERTIES

MUD RESISTANCE

MINERAL OIL RESISTANCE

HYDROCARBONS RESISTANCE

MECHANICAL PROPERTIES

MECHANICAL RESISTANCE

REDUCED BENDING RADIUS

WORK AT LOW TEMPERATURE

FIRE PERFORMANCES

IEC 60332-1-2 / EN 50265:

Fire propagation on a vertical single cable.

The single cable is mounted vertically and flamed with a Bunsen burner.

The flame must extinguish itself, at least 50 mm below the upper fixing clamp.

Temperature of burner, duration and angle of flame application, are described in the reference standards.

IEC 60332-3 / EN 50266 / EN 50305 9.1 :

Fire propagation on a vertical cables bundle.

A certain number of cable samples are fixed on a 3.5m long ladder, and flamed with an appropriate burner.

The samples number, the duration of flame application, and the power/temperature of burner are described in the reference standards. After flame application, the visible area of fire damage must not exceed 2.5 m in height from the bottom of the burner.

The volume of tested material define a differentiation in categories:

A/FR Part 3-21 7 l/m

A Part 3-22 7 l/m

B Part 3-23 3.5 l/m

C Part 3-24 1.5 l/m

D Part 3-25 0.5 l/m

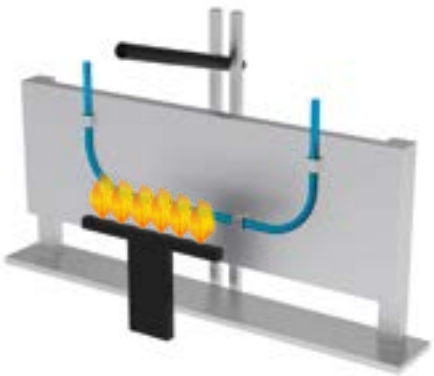
IEC 60331 / EN 50200 / EN 50362 : Fire test resistance.

A sample of cable is horizontally applied supported by metal rings, or in U shape fixed on a fireproof wall.

Through using a gas burner the cable It's maintained in flame contact for a certain time.

The test and the temperature of burner are described in the reference standards. In U shape test, the fireproof wall is hit every five minutes by a mechanical shock, to simulate a potential collapse during the fire.

The time of fire application, and the temperature of flame are described in the reference standards (typical 750°C or 830°C). During the test a current for continuity checking is passed through all conductors of the cable and the voltage must be maintained during the test duration.



IEC 61034-1/2 / EN 50268-1/2: Measurement of smoke density of cables burning under defined conditions.

A few samples of cable are burnt in a cubic (3x3x3m) chamber using a flammable liquid.

The light transmittance of the resulting smoke is measured using an optical light detector. The test duration is about 40 minutes, depending by the quantity and composition of the liquid fuel. At the end of the test the light transmittance of the smoke must be 60% minimum.

IEC 60754-1 / EN 50267-2-1/2: Test on gases evolved during combustion of materials from cables - Determination of the halogen acid gas content.

This standard covers the general aspects of potential hazard caused from corrosiveness of smoke and combustion gases.

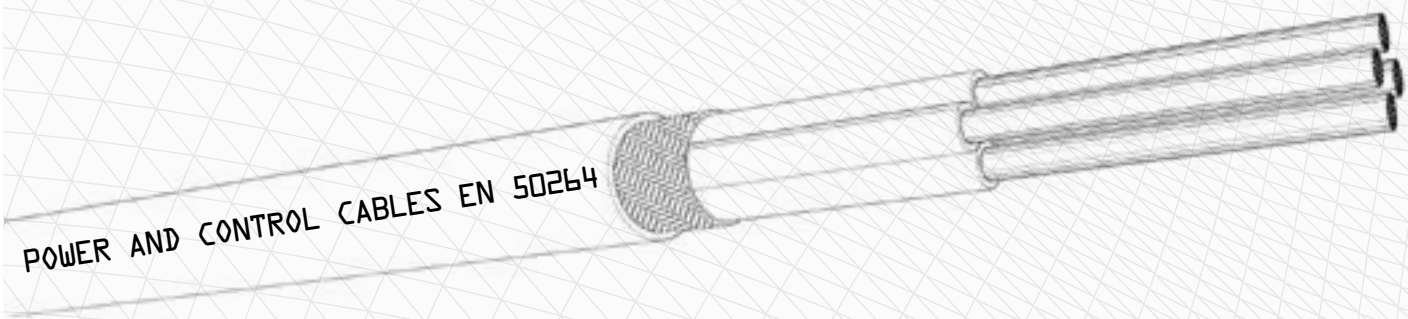
A small quantity of non-metallic material is heated in a tube, the resulting gases are tested for their halogen content. The flame temperature is 800 °C ± 10 °C, with a test duration of 40 ± 5 min in total.

The halogen content of non-metallic materials must be less than 0.5% or 5 mg/g.

IEC 60754-2 / EN 50267-2-2: Test on gases evolved during combustion of materials from cables - Determination of acidity (by pH measurement) and conductivity.

A small quantity of non-metallic material is burnt in a furnace, the pH and conductivity combustion gases dissolved in water are measured.

The minimum pH value of the washing water must 4.3, and the maximum conductivity must be 10 µS/mm.


POWER AND CONTROL CABLES EN 50264

POWER AND CONTROL CABLES

HAVING SPECIAL FIRE PERFORMANCE

Standard Reference

EN 50264; EN 50305; EN 50355; EN 50343; EN 45545-2 HL3; UNI CEI 11170-3 LR4; DIN 5510-2; BS 6853; NFPA 130

CODE DESIGNATIONS

Insulation System (EN 50264-2-1 and 2-2)

EI 101 Low Temperature Resistant, Oil Resistant ..... Code Designation C
EI 102 Extra Low Temperature Resistant, Oil Resistant ..... Code Designation F
EI 103 Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation J
EI 104 Extra Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation M
EI 105 Extra Low Temperature Resistant, Non Oil Resistant ..... Code Designation O

Insulation System (EN 50264-3-1 and 3-2)

EI 106 Low Temperature Resistant, Oil Resistant ..... Code Designation C
EI 107 Extra Low Temperature Resistant, Oil Resistant ..... Code Designation F
EI 108 Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation J
EI 109 Extra Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation M
EI 110 Extra Low Temperature Resistant, Non Oil Resistant ..... Code Designation O

Sheath Type (EN 50264-2-1, EN 50264-2-2, EN 50264-3-1 and EN 50264-3-2)

EM 101 Low Temperature Resistant, Oil Resistant ..... Code Designation C
EM 102 Extra Low Temperature Resistant, Oil Resistant ..... Code Designation F
EM 103 Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation J
EM 104 Extra Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation M

SINGLE CORE CABLES UNSHEATHED 0.6/1 kV - EN 50264-2-1

CABLE SPECIFICATIONS	**Conductor**	Stranded tinned copper class 5 according to EN 60228
	Separator	Eventual polyester colored tape
	Insulation	Type crosslinked LSZH see table 1
	Core identification	Black if not elsewhere specified
TECHNICAL DATA	**Operating voltage**	0.6/1 kV
	Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
	Minimum bending radius	5xØ
FIRE PERFORMANCE	**Fire propagation**	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
	Smoke density	EN 61034-1/2
	Halogen-free	EN 50267-2-1/2
	Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES UNSHEATHED 0.6/1 kV - EN 50264-2-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter d	Mean thickness of insulation	Overall diameter D		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1.0	1.25	0.8	2.8	3.2	20.0	65
1.5	1.5	0.8	3.0	3.5	13.7	55
2.5	1.95	0.8	3.4	3.9	8.21	50
4	2.5	0.8	3.9	4.6	5.09	40
6	3.0	0.9	4.6	5.4	3.39	35
10	3.9	1.1	5.8	6.8	1.95	30
16	5.0	1.1	7.2	8.5	1.24	30
25	6.4	1.3	8.6	10.0	0.795	30
35	7.7	1.3	10.2	11.5	0.565	25
50	9.2	1.5	11.6	13.5	0.393	25
70	11.0	1.5	13.3	15.5	0.277	20
95	12.5	1.6	14.9	17.4	0.210	20
120	14.2	1.6	16.5	19.3	0.164	20
150	15.8	1.9	18.5	21.7	0.132	15
185	17.5	1.9	20.1	23.6	0.108	15
240	20.1	2.1	22.9	26.8	0.0817	15
300	22.5	2.2	25.4	29.7	0.0654	10
400	25.8	2.3	28.7	33.6	0.0495	10

SINGLE CORE CABLES UNSHEATHED 1.8/3 kV - EN 50264-2-1

CABLE SPECIFICATIONS	**Conductor**	Stranded tinned copper class 5 according to EN 60228
	Separator	Eventual polyester colored tape
	Insulation	Type crosslinked LSZH see table 1
	Core identification	Black if not elsewhere specified
TECHNICAL DATA	**Operating voltage**	1.8/3 kV
	Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
	Minimum bending radius	5xØ
FIRE PERFORMANCE	**Fire propagation**	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
	Smoke density	EN 61034-1/2
	Halogen-free	EN 50267-2-1/2
	Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES UNSHEATHED 1.8/3 kV - EN 50264-2-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter d	Mean thickness of insulation	Overall diameter D		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1.5	1.5	2.5	6.2	7.3	13.7	120
2.5	1.95	2.5	6.6	7.8	8.21	100
4	2.5	2.5	7.1	8.4	5.09	90
6	3.0	2.5	7.6	8.9	3.39	80
10	3.9	2.5	8.4	9.9	1.95	65
16	5.0	2.5	9.5	11.1	1.24	55
25	6.4	2.5	10.8	12.7	0.795	45
35	7.7	2.5	12.0	14.1	0.565	40
50	9.2	2.5	13.4	15.7	0.393	35
70	11.0	2.5	15.1	17.7	0.277	30
95	12.5	2.7	16.9	19.8	0.210	30
120	14.2	2.7	18.5	21.7	0.164	25
150	15.8	2.7	20.0	23.4	0.132	20
185	17.5	2.7	21.6	25.3	0.108	20
240	20.1	2.7	24.1	28.2	0.0817	20
300	22.5	2.7	26.3	30.8	0.0654	15
400	25.8	2.9	29.8	34.9	0.0495	15

SINGLE CORE CABLES SHEATHED 1.8/3 kV - EN 50264-2-1

CABLE SPECIFICATIONS	**Conductor**	Stranded tinned copper class 5 according to EN 60228
	Separator	Eventual polyester colored tape
	Insulation	Type crosslinked LSZH see table 1
	Core identification	Black if not elsewhere specified
	Sheath	Type crosslinked LSZH See table 1 Black if not elsewhere specified
TECHNICAL DATA	**Operating voltage**	1.8/3 kV
	Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
	Minimum bending radius	5xØ
FIRE PERFORMANCE	**Fire propagation**	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
	Smoke density	EN 61034-1/2
	Halogen-free	EN 50267-2-1/2
	Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES SHEATHED 1.8/3 kV - EN 50264-2-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter d	Mean thickness of insulation	Mean thickness of sheath	Overall diameter D		Resistance of conductor @20°C	Insulation resistance @20°C
				min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1.5	1.5	1.3	1.4	6.7	7.8	13.7	960
2.5	1.95	1.3	1.4	7.1	8.3	8.21	850
4	2.5	1.3	1.4	7.6	8.9	5.09	750
6	3.0	1.3	1.4	8.1	9.5	3.39	670
10	3.9	2.2	1.4	10.6	12.4	1.95	550
16	5.0	2.2	1.4	11.7	13.6	1.24	450
25	6.4	2.2	1.4	13.0	15.2	0.795	390
35	7.7	2.2	1.4	14.2	16.6	0.565	350
50	9.2	2.2	1.4	15.6	18.3	0.393	300
70	11.0	2.2	1.5	17.5	20.5	0.277	260
95	12.5	2.4	1.6	19.6	22.3	0.210	250
120	14.2	2.4	1.6	21.1	24.6	0.164	220
150	15.8	2.4	1.7	22.7	26.6	0.132	210
185	17.5	2.4	1.7	24.0	28.1	0.1080	200
240	20.1	2.4	1.8	27.0	31.6	0.0817	180
300	22.5	2.4	1.9	29.4	34.4	0.0654	170
400	25.8	2.6	2.0	32.7	38.3	0.0495	150

SINGLE CORE CABLES SHEATHED 3.6/6 kV - EN 50264-2-1

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Semiconductor black tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black if not elsewhere specified
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	3.6/6 kV
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES SHEATHED 3.6/6 kV - EN 50264-2-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter d	Mean thickness of insulation	Mean thickness of sheath	Overall diameter D		Resistance of conductor @20°C	Insulation resistance @20°C
				min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2.5	1.95	3.0	1.4	10.5	12.3	8.21	1300
4	2.5	3.0	1.4	11.0	12.9	5.09	1150
6	3.0	3.0	1.4	11.5	13.4	3.39	1050
10	3.9	3.0	1.4	12.3	14.4	1.95	850
16	5.0	3.0	1.4	13.3	15.6	1.24	710
25	6.4	3.0	1.4	14.7	17.2	0.795	630
35	7.7	3.0	1.4	15.9	18.6	0.565	550
50	9.2	3.0	1.5	17.5	20.5	0.393	500
70	11.0	3.0	1.5	19.2	22.4	0.277	430
95	12.5	3.0	1.6	20.8	24.3	0.210	400
120	14.2	3.1	1.7	22.7	26.6	0.164	360
150	15.8	3.1	1.7	24.2	28.4	0.132	340
185	17.5	3.2	1.8	26.2	30.7	0.1080	330
240	20.1	3.4	1.9	29.2	34.2	0.0817	300
300	22.5	3.4	1.9	31.5	36.9	0.0654	250
400	25.8	3.4	2.0	34.8	40.7	0.0495	230

MULTICORE UNSCRENEED CABLES 300/500 V - EN 50264-2-2

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 1
	-25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

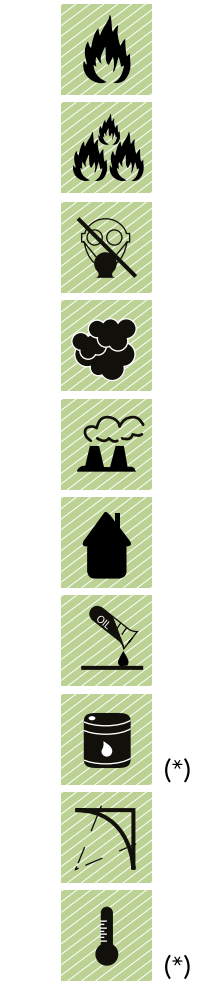
(*)see table 1

MULTICORE UNSCRENEED CABLES 300/500 V - EN 50264-2-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1	1.25	0.6	2.4	2.8	1.4	7.2	8.5	20.0	140
4x1	1.25	0.6	2.4	2.8	1.4	8.2	9.6	20.0	140
7x1	1.25	0.6	2.4	2.8	1.4	9.6	11.2	20.0	140
9x1	1.25	0.6	2.4	2.8	1.4	11.5	13.4	20.0	140
12x1	1.25	0.6	2.4	2.8	1.4	12.3	14.4	20.0	140
19x1	1.25	0.6	2.4	2.8	1.4	14.5	16.6	20.0	140
24x1	1.25	0.6	2.4	2.8	1.5	16.7	19.6	20.0	140
32x1	1.25	0.6	2.4	2.8	1.6	18.5	21.7	20.0	140
37x1	1.25	0.6	2.4	2.8	1.6	19.2	22.4	20.0	140
40x1	1.25	0.6	2.4	2.8	1.6	19.9	23.3	20.0	140
4x1.5	1.5	0.7	2.8	3.3	1.4	9.2	10.8	13.7	120
7x1.5	1.5	0.7	2.8	3.3	1.4	10.9	12.8	13.7	120
9x1.5	1.5	0.7	2.8	3.3	1.4	13.1	15.3	13.7	120
12x1.5	1.5	0.7	2.8	3.3	1.4	14.0	16.4	13.7	120
19x1.5	1.5	0.7	2.8	3.3	1.4	16.5	19.4	13.7	120
24x1.5	1.5	0.7	2.8	3.3	1.5	19.5	22.8	13.7	120
32x1.5	1.5	0.7	2.8	3.3	1.6	21.5	25.2	13.7	120
37x1.5	1.5	0.7	2.8	3.3	1.7	22.4	26.2	13.7	120
4x2.5	1.95	0.8	3.4	4.0	1.4	10.7	12.5	8.21	90
7x2.5	1.95	0.8	3.4	4.0	1.4	12.7	14.9	8.21	90
9x2.5	1.95	0.8	3.4	4.0	1.5	15.6	18.3	8.21	90
12x2.5	1.95	0.8	3.4	4.0	1.5	16.7	19.6	8.21	90
19x2.5	1.95	0.8	3.4	4.0	1.6	19.7	23.1	8.21	90
24x2.5	1.95	0.8	3.4	4.0	1.8	23.5	27.5	8.21	90

MULTICORE SCRENEED CABLES 300/500 V - EN 50264-2-2



CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Screen	Tinned copper braid
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 1
	-25°C ÷ +90°C see table 1
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

MULTICORE SCRENEED CABLES 300/500 V - EN 50264-2-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Wire diameter of screen	Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1	1.25	0.6	2.4	2.8	0.16	1.4	8.1	9.5	20.0	140
4x1	1.25	0.6	2.4	2.8	0.16	1.4	9.0	10.6	20.0	140
7x1	1.25	0.6	2.4	2.8	0.16	1.4	10.4	12.2	20.0	140
9x1	1.25	0.6	2.4	2.8	0.21	1.4	12.5	14.6	20.0	140
12x1	1.25	0.6	2.4	2.8	0.21	1.4	13.3	15.6	20.0	140
19x1	1.25	0.6	2.4	2.8	0.26	1.4	15.7	18.4	20.0	140
24x1	1.25	0.6	2.4	2.8	0.26	1.5	18.1	21.2	20.0	140
32x1	1.25	0.6	2.4	2.8	0.26	1.6	19.7	23.1	20.0	140
37x1	1.25	0.6	2.4	2.8	0.26	1.7	20.7	24.2	20.0	140
40x1	1.25	0.6	2.4	2.8	0.26	1.7	21.4	25.1	20.0	140
4x1.5	1.5	0.7	2.8	3.3	0.16	1.4	10.1	11.8	13.7	120
7x1.5	1.5	0.7	2.8	3.3	0.21	1.4	11.9	14.0	13.7	120
9x1.5	1.5	0.7	2.8	3.3	0.21	1.4	14.1	16.5	13.7	120
12x1.5	1.5	0.7	2.8	3.3	0.21	1.8	15.8	18.5	13.7	120
19x1.5	1.5	0.7	2.8	3.3	0.26	1.5	17.8	20.8	13.7	120
24x1.5	1.5	0.7	2.8	3.3	0.26	1.6	20.7	24.2	13.7	120
32x1.5	1.5	0.7	2.8	3.3	0.26	1.7	22.7	26.6	13.7	120
37x1.5	1.5	0.7	2.8	3.3	0.26	1.7	23.6	27.6	13.7	120
4x2.5	1.95	0.8	3.4	4.0	0.21	1.4	11.8	13.0	8.21	90
7x2.5	1.95	0.8	3.4	4.0	0.21	1.4	13.7	16.1	8.21	90
9x2.5	1.95	0.8	3.4	4.0	0.26	1.5	16.8	19.7	8.21	90
12x2.5	1.95	0.8	3.4	4.0	0.26	1.5	18.0	21.1	8.21	90
19x2.5	1.95	0.8	3.4	4.0	0.26	1.6	21.1	24.6	8.21	90
24x2.5	1.95	0.8	3.4	4.0	0.26	1.8	24.7	28.9	8.21	90

MULTICORE UNSCRENEED CABLES 0.6/1 KV - EN 50264-2-2

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CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	0,6/1 kV
Operating temperature	-40°C ÷ +90°C see table 1
	-25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

MULTICORE UNSCRENEED CABLES 0.6/1 KV - EN 50264-2-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1.5	1.5	0.8	3.0	3.5	1.4	8.5	9.9	13.7	150
3x1.5	1.5	0.8	3.0	3.5	1.4	8.9	10.5	13.7	150
4x1.5	1.5	0.8	3.0	3.5	1.4	9.7	11.3	13.7	150
2x2.5	1.95	0.8	3.4	3.9	1.4	9.3	10.9	8.21	130
3x2.5	1.95	0.8	3.4	3.9	1.4	9.9	11.6	8.21	130
4x2.5	1.95	0.8	3.4	3.9	1.4	10.7	12.5	8.21	130
2x4	2.5	0.8	3.9	4.6	1.4	10.3	12.1	5.09	110
3x4	2.5	0.8	3.9	4.6	1.4	11.0	12.9	5.09	110
3x4	2.5	0.8	3.9	4.6	1.4	11.9	14.0	5.09	110
2x6	3.0	0.9	4.6	5.4	1.4	11.8	13.9	3.99	90
3x6	3.0	0.9	4.6	5.4	1.4	12.5	14.6	3.99	90
4x6	3.0	0.9	4.6	5.4	1.4	13.7	16.1	3.99	90
2x10	3.9	1.1	5.8	6.8	1.4	14.3	16.7	1.95	85
3x10	3.9	1.1	5.8	6.8	1.5	15.3	17.9	1.95	85
4x10	3.9	1.1	5.8	6.8	1.5	16.9	19.8	1.95	85
2x16	5.0	1.1	7.2	8.5	1.5	16.5	19.4	1.24	70
3x16	5.0	1.1	7.2	8.5	1.6	17.8	20.8	1.24	70
4x16	5.0	1.1	7.2	8.5	1.6	19.6	22.9	1.24	70
2x25	6.4	1.3	8.6	10.0	1.6	20.1	23.5	0.795	65
3x25	6.4	1.3	8.6	10.0	1.7	21.6	25.3	0.795	65
4x25	6.4	1.3	8.6	10.0	1.8	24.1	28.2	0.795	65
2x35	7.7	1.3	10.2	11.5	1.7	22.7	26.6	0.565	60
3x35	7.7	1.3	10.2	11.5	1.8	24.4	28.6	0.565	60
3x35+ 1x25	7.7	1.3	10.2	11.5	1.9	28.5	34.2	0.565	60
2x50	9.2	1.5	11.6	13.5	1.9	26.7	31.2	0.393	55
3x50	9.2	1.5	11.6	13.5	1.9	28.2	33.3	0.393	55
3x50+1x25	9.2	1.5	11.6	13.5	2.0	33.4	40.0	0.393	55

MULTICORE SCRENEED CABLES 0.6/1 KV - EN 50264-2-2

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Screen	Tinned copper braid
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	0.6/1 kV
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

MULTICORE SCRENEED CABLES 0.6/1 KV - EN 50264-2-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Wire diameter of screen	Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1.5	1.5	0.8	3.0	3.5	0.16	1.4	9.3	10.9	13.7	150
3x1.5	1.5	0.8	3.0	3.5	0.16	1.4	9.8	11.4	13.7	150
4x1.5	1.5	0.8	3.0	3.5	0.16	1.4	10.5	12.3	13.7	150
2x2.5	1.95	0.8	3.4	3.9	0.16	1.4	10.2	11.9	8.2	130
3x2.5	1.95	0.8	3.4	3.9	0.16	1.4	10.7	12.5	8.2	130
4x2.5	1.95	0.8	3.4	3.9	0.21	1.4	11.8	13.9	8.2	130
2x4	2.5	0.8	3.9	4.6	0.21	1.4	11.5	13.4	5.1	110
3x4	2.5	0.8	3.9	4.6	0.21	1.4	12.0	14.1	5.1	110
3x4	2.5	0.8	3.9	4.6	0.21	1.4	13.1	15.3	5.1	110
2x6	3.0	0.9	4.6	5.4	0.21	1.4	12.9	15.1	4.0	90
3x6	3.0	0.9	4.6	5.4	0.21	1.4	13.6	16.0	4.0	90
4x6	3.0	0.9	4.6	5.4	0.21	1.4	14.9	17.4	4.0	90
2x10	3.9	1.1	5.8	6.8	0.21	1.5	15.5	18.2	2.0	85
3x10	3.9	1.1	5.8	6.8	0.26	1.5	16.7	19.6	2.0	85
4x10	3.9	1.1	5.8	6.8	0.26	1.6	18.4	21.6	2.0	85
2x16	5.0	1.1	7.2	8.5	0.26	1.5	17.9	20.9	1.2	70
3x16	5.0	1.1	7.2	8.5	0.26	1.6	19.1	22.3	1.2	70
4x16	5.0	1.1	7.2	8.5	0.26	1.7	21.1	24.6	1.2	70
2x25	6.4	1.3	8.6	10.0	0.26	1.7	21.6	25.3	0.8	65
3x25	6.4	1.3	8.6	10.0	0.26	1.7	22.9	26.8	0.8	65
4x25	6.4	1.3	8.6	10.0	0.31	1.8	25.6	29.9	0.8	65
2x35	7.7	1.3	10.2	11.5	0.31	1.8	24.4	28.6	0.6	60
3x35	7.7	1.3	10.2	11.5	0.31	1.8	26.0	30.5	0.6	60
3x35+ 1x25	7.7	1.3	10.2	11.5	0.31	1.9	30.0	35.1	0.6	60
2x50	9.2	1.5	11.6	13.5	0.31	1.9	28.2	33.0	0.4	55
3x50	9.2	1.5	11.6	13.5	0.31	2.0	30.3	35.4	0.4	55
3x50+1x25	9.2	1.5	11.6	13.5	0.31	2.1	34.9	40.8	0.4	55

SINGLE CORE CABLES UNSHEATHED 0.6/1 kV - EN 50264-3-1

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CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	0.6/1 kV
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES UNSHEATHED 0.6/1 kV - EN 50264-3-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Overall diameter Ø		Resistance of conductor @ 20° C	Insulation resistance @ 20°C
			min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1.0	1.25	0.6	2.4	2.8	20	11.4
1.5	1.5	0.7	2.8	3.3	13.7	11.0
2.5	1.95	0.7	3.2	3.8	8.21	9.1
4	2.5	0.7	3.8	4.4	5.09	7.5
6	3.0	0.7	4.2	5.0	3.39	6.5
10	3.9	0.7	5.1	5.9	1.95	5.2
16	5.0	0.7	6.1	7.2	1.24	4.2
25	6.4	0.9	7.8	9.1	0.795	4.1
35	7.7	0.9	9.0	10.6	0.565	3.5
50	9.2	1.0	10.6	12.4	0.393	3.3
70	11.0	1.1	12.5	14.6	0.277	3.0
95	12.5	1.1	13.9	16.3	0.210	2.7
120	14.2	1.2	15.7	18.4	0.164	2.7
150	15.8	1.4	17.6	20.6	0.132	2.7
185	17.5	1.6	19.6	22.9	0.108	2.6
240	20.1	1.7	22.2	26.0	0.0817	2.6
300	22.5	1.8	24.6	28.8	0.0654	2.4
400	25.8	2.0	28.1	32.9	0.0495	2.4

SINGLE CORE CABLES UNSHEATHED 1.8/3 kV - EN 50264-3-1

CABLE SPECIFICATIONS	**Conductor**	Stranded tinned copper class 5 according to EN 60228
	Separator	Eventual polyester colored tape
	Insulation	Type crosslinked LSZH see table 1
	Core identification	Black if not elsewhere specified
TECHNICAL DATA	**Operating voltage**	1.8/3 kV
	Operating temperature	-40°C ÷ +90°C see table 1
		-25°C ÷ +90°C see table 1
	Minimum bending radius	5xØ
FIRE PERFORMANCE	**Fire propagation**	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
	Smoke density	EN 61034-1/2
	Halogen-free	EN 50267-2-1/2
	Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES UNSHEATHED 1.8/3 kV - EN 50264-3-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1.5	1.5	2.0	5.3	6.2	13.7	21.0
2.5	1.95	2.0	5.7	6.7	8.21	18.0
4	2.5	2.0	6.2	7.3	5.09	15.5
6	3.0	2.0	6.7	7.8	3.39	13.7
10	3.9	2.0	7.5	8.8	1.95	11.5
16	5.0	2.0	8.6	10.0	1.24	9.5
25	6.4	2.0	9.9	11.6	0.795	7.9
35	7.7	2.0	11.1	13.0	0.565	6.8
50	9.2	2.0	12.5	14.6	0.393	5.9
70	11.0	2.0	14.2	16.6	0.277	5.0
95	12.5	2.2	16.0	18.7	0.210	4.5
120	14.2	2.2	17.6	20.6	0.164	4.0
150	15.8	2.2	19.1	22.3	0.132	3.7
185	17.5	2.4	20.9	24.4	0.108	3.4
240	20.1	2.4	23.7	27.5	0.0817	3.0
300	22.5	2.4	25.6	30.1	0.0654	2.7
400	25.8	2.6	29.2	34.2	0.0495	2.4

SINGLE CORE CABLES SHEATHED 1.8/3 kV - EN 50264-3-1

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CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black if not elsewhere specified
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	1.8/3 kV
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES SHEATHED 1.8/3 kV - EN 50264-3-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
				min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1.5	1.5	1.3	0.8	5.7	6.7	13.7	21.8
2.5	1.95	1.3	0.8	6.0	7.0	8.21	18.8
4	2.5	1.3	0.8	6.5	7.6	5.09	16.2
6	3.0	1.3	0.8	7.0	8.1	3.39	14.4
10	3.9	1.5	0.8	8.2	9.6	1.95	12.8
16	5.0	1.5	0.8	9.2	10.8	1.24	10.7
25	6.4	1.8	1.0	11.5	13.4	0.795	10.3
35	7.7	1.8	1.0	12.7	14.9	0.565	8.9
50	9.2	1.8	1.0	14.1	16.5	0.393	7.8
70	11.0	1.8	1.0	15.8	18.5	0.277	6.7
95	12.5	2.2	1.0	18.0	21.0	0.210	6.5
120	14.2	2.2	1.0	19.6	22.9	0.164	6.1
150	15.8	2.2	1.2	21.4	25.1	0.132	5.8
185	17.5	2.4	1.2	23.4	27.4	0.108	5.6
240	20.1	2.4	1.2	25.9	30.3	0.0817	5.0
300	22.5	2.4	1.2	28.1	32.9	0.0654	4.5
400	25.8	2.6	1.4	32.0	37.4	0.0495	4.4

SINGLE CORE CABLES SHEATHED 3.6/6 kV - EN 50264-3-1

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Semiconductor black tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black if not elsewhere specified
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	3.6/6 kV
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

SINGLE CORE CABLES SHEATHED 3.6/6 kV - EN 50264-3-1

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
				min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2.5	1.95	2.6	0.8	8.6	10.1	8.21	24.6
4	2.5	2.6	0.8	9.1	10.7	5.09	21.6
6	3.0	2.6	0.8	9.6	11.2	3.39	19.5
10	3.9	2.6	0.8	10.4	12.2	1.95	16.7
16	5.0	2.6	0.8	11.5	13.4	1.24	14.2
25	6.4	2.9	1.0	13.7	16.4	0.795	13.1
35	7.7	2.9	1.0	14.9	17.5	0.565	11.6
50	9.2	2.9	1.0	16.4	19.1	0.393	10.2
70	11.0	2.9	1.0	18.0	21.1	0.277	8.9
95	12.5	2.9	1.0	19.5	22.8	0.210	8.0
120	14.2	2.9	1.0	21.4	25.1	0.164	7.5
150	15.8	2.9	1.2	22.9	26.8	0.132	6.9
185	17.5	3.2	1.2	25.1	29.4	0.108	6.7
240	20.1	3.4	1.2	28.3	33.1	0.0817	6.4
300	22.5	3.4	1.2	30.6	35.8	0.0654	5.9
400	25.8	3.4	1.4	33.7	39.4	0.0495	5.2

MULTICORE UNSCRENEED CABLES 300/500 V - EN 50264-3-2

(*)

(*)

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester color tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 1
	-25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

MULTICORE UNSCRENEED CABLES 300/500 V - EN 50264-3-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1	1.25	0.4	2.0	2.4	0.6	5.3	6.2	20.0	15.0
4x1	1.25	0.4	2.0	2.4	0.6	6.1	7.2	20.0	15.0
7x1	1.25	0.4	2.0	2.4	0.7	7.5	8.7	20.0	15.0
9x1	1.25	0.4	2.0	2.4	0.7	9.1	10.6	20.0	15.0
12x1	1.25	0.4	2.0	2.4	0.7	9.8	11.5	20.0	15.0
19x1	1.25	0.4	2.0	2.4	0.8	11.7	13.7	20.0	15.0
24x1	1.25	0.4	2.0	2.4	1.0	14.1	16.5	20.0	15.0
32x1	1.25	0.4	2.0	2.4	1.0	15.5	18.2	20.0	15.0
37x1	1.25	0.4	2.0	2.4	1.0	16.1	18.9	20.0	15.0
40x1	1.25	0.4	2.0	2.4	1.0	16.7	19.6	20.0	15.0
4x1.5	1.5	0.5	2.4	2.9	0.7	7.3	8.6	13.7	14.0
7x1.5	1.5	0.5	2.4	2.9	0.7	8.7	10.2	13.7	14.0
9x1.5	1.5	0.5	2.4	2.9	0.8	10.9	12.7	13.7	14.0
12x1.5	1.5	0.5	2.4	2.9	0.8	11.8	13.8	13.7	14.0
19x1.5	1.5	0.5	2.4	2.9	1.0	14.2	16.6	13.7	14.0
24x1.5	1.5	0.5	2.4	2.9	1.0	16.6	19.5	13.7	14.0
32x1.5	1.5	0.5	2.4	2.9	1.2	18.7	21.9	13.7	14.0
37x1.5	1.5	0.5	2.4	2.9	1.2	19.5	22.8	13.7	14.0
4x2.5	1.95	0.5	2.9	3.4	0.7	8.3	9.8	8.21	13.0
7x2.5	1.95	0.5	2.9	3.4	0.8	10.2	11.9	8.21	13.0
9x2.5	1.95	0.5	2.9	3.4	1.0	12.9	15.1	8.21	13.0
12x2.5	1.95	0.5	2.9	3.4	1.0	13.9	16.3	8.21	13.0
19x2.5	1.95	0.5	2.9	3.4	1.0	16.3	19.1	8.21	13.0
24x2.5	1.95	0.5	2.9	3.4	1.2	19.6	22.9	8.21	13.0

MULTICORE SCRENEED CABLES 300/500 V - EN 50264-3-2

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual Polyester
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Screen	Tinned copper braid
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

MULTICORE SCRENEED CABLES 300/500 V - EN 50264-3-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Wire diameter of screen	Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩ.km]
2x1	1.25	0.4	2.0	2.4	0.16	0.6	6.0	7.1	20.0	15.0
4x1	1.25	0.4	2.0	2.4	0.16	0.7	7.0	8.2	20.0	15.0
7x1	1.25	0.4	2.0	2.4	0.16	0.7	8.2	9.6	20.0	15.0
9x1	1.25	0.4	2.0	2.4	0.21	0.8	10.2	11.9	20.0	15.0
12x1	1.25	0.4	2.0	2.4	0.21	0.8	10.9	12.7	20.0	15.0
19x1	1.25	0.4	2.0	2.4	0.26	1.0	13.2	15.4	20.0	15.0
24x1	1.25	0.4	2.0	2.4	0.26	1.0	15.2	17.8	20.0	15.0
32x1	1.25	0.4	2.0	2.4	0.26	1.0	16.6	19.4	20.0	15.0
37x1	1.25	0.4	2.0	2.4	0.26	1.0	17.2	20.1	20.0	15.0
40x1	1.25	0.4	2.0	2.4	0.26	1.2	18.2	21.3	20.0	15.0
4x1.5	1.5	0.5	2.4	2.9	0.16	0.7	8.0	9.4	13.7	14.0
7x1.5	1.5	0.5	2.4	2.9	0.21	0.7	9.6	11.3	13.7	14.0
9x1.5	1.5	0.5	2.4	2.9	0.21	1.0	12.1	14.2	13.7	14.0
12x1.5	1.5	0.5	2.4	2.9	0.21	1.0	13.0	15.2	13.7	14.0
19x1.5	1.5	0.5	2.4	2.9	0.26	1.0	15.3	17.9	13.7	14.0
24x1.5	1.5	0.5	2.4	2.9	0.26	1.2	18.1	21.2	13.7	14.0
32x1.5	1.5	0.5	2.4	2.9	0.26	1.2	19.8	23.2	13.7	14.0
37x1.5	1.5	0.5	2.4	2.9	0.26	1.2	20.5	24.0	13.7	14.0
4x2.5	1.95	0.5	2.9	3.4	0.21	0.7	9.2	10.8	8.21	13.0
7x2.5	1.95	0.5	2.9	3.4	0.21	0.8	11.1	13.0	8.21	13.0
9x2.5	1.95	0.5	2.9	3.4	0.26	1.0	13.9	16.3	8.21	13.0
12x2.5	1.95	0.5	2.9	3.4	0.26	1.0	15.0	17.5	8.21	13.0
19x2.5	1.95	0.5	2.9	3.4	0.26	1.2	17.8	20.8	8.21	13.0
24x2.5	1.95	0.5	2.9	3.4	0.26	1.2	20.6	24.1	8.21	13.0

MULTICORE UNSCRENEED CABLES 0.6/1 KV - EN 50264-3-2

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	0.6/1 kV
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

MULTICORE UNSCRENEED CABLES 0.6/1 KV - EN 50264-3-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1.5	1.5	0.7	2.8	3.3	0.7	7.2	9.0	13.7	21.0
3x1.5	1.5	0.7	2.8	3.3	0.7	7.7	9.5	13.7	21.0
4x1.5	1.5	0.7	2.8	3.3	0.7	8.5	10.5	13.7	21.0
2x2.5	1.95	0.7	3.2	3.8	0.7	8.0	10.0	8.21	17.2
3x2.5	1.95	0.7	3.2	3.8	0.7	8.5	10.5	8.21	17.2
4x2.5	1.95	0.7	3.2	3.8	0.7	9.4	11.6	8.21	17.2
2x4	2.5	0.7	3.8	4.4	0.7	9.1	11.3	5.09	14.2
3x4	2.5	0.7	3.8	4.4	0.7	9.7	12.0	5.09	14.2
4x4	2.5	0.7	3.8	4.4	0.8	10.9	13.4	5.09	14.2
2x6	3.0	0.7	4.2	5.0	0.8	10.1	12.4	3.39	12.2
3x6	3.0	0.7	4.2	5.0	0.8	10.7	13.2	3.39	12.2
4x6	3.0	0.7	4.2	5.0	1.0	12.2	14.9	3.39	12.2
2x10	3.9	0.7	5.1	5.9	1.0	12.5	15.4	1.95	9.8
3x10	3.9	0.7	5.1	5.9	1.0	13.3	16.5	1.95	9.8
4x10	3.9	0.7	5.1	5.9	1.0	14.7	18.2	1.95	9.8
2x16	5.0	0.7	6.1	7.2	1.0	14.9	18.4	1.24	7.9
3x16	5.0	0.7	6.1	7.2	1.0	16.0	19.6	1.24	7.9
4x16	5.0	0.7	6.1	7.2	1.2	18.0	22.1	1.24	7.9
2x25	6.4	0.9	7.8	9.1	1.2	18.7	23.0	0.795	7.3
3x25	6.4	0.9	7.8	9.1	1.2	20.0	24.7	0.795	7.3
4x25	6.4	0.9	7.8	9.1	1.4	22.6	27.6	0.795	7.3
2x35	7.7	0.9	9.0	10.6	1.2	21.2	25.9	0.565	6.7
3x35	7.7	0.9	9.0	10.6	1.2	23.0	28.2	0.565	6.7
3x35 + 1x25	7.7	0.9	9.0	10.6	1.4	25.7	31.2	0.565	6.7
2x50	9.2	1.0	10.6	12.4	1.4	25.1	30.7	0.393	6.3
3x50	9.2	1.0	10.6	12.4	1.4	26.3	32.2	0.393	6.3
3x50 + 1x25	9.2	1.0	10.6	12.4	1.6	30.0	36.5	0.393	6.3

MULTICORE SCRENEED CABLES 0.6/1 KV - EN 50264-3-2

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Separator	Eventual polyester colored tape
Insulation	Type crosslinked LSZH see table 1
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Screen	Tinned copper braid
Sheath	Type crosslinked LSZH see table 1 Black if not elsewhere specified

TECHNICAL DATA

Operating voltage	0.6/1 kV
Operating temperature	-40°C ÷ +90°C see table 1 -25°C ÷ +90°C see table 1
Minimum bending radius	10xØ

FIRE PERFORMANCE

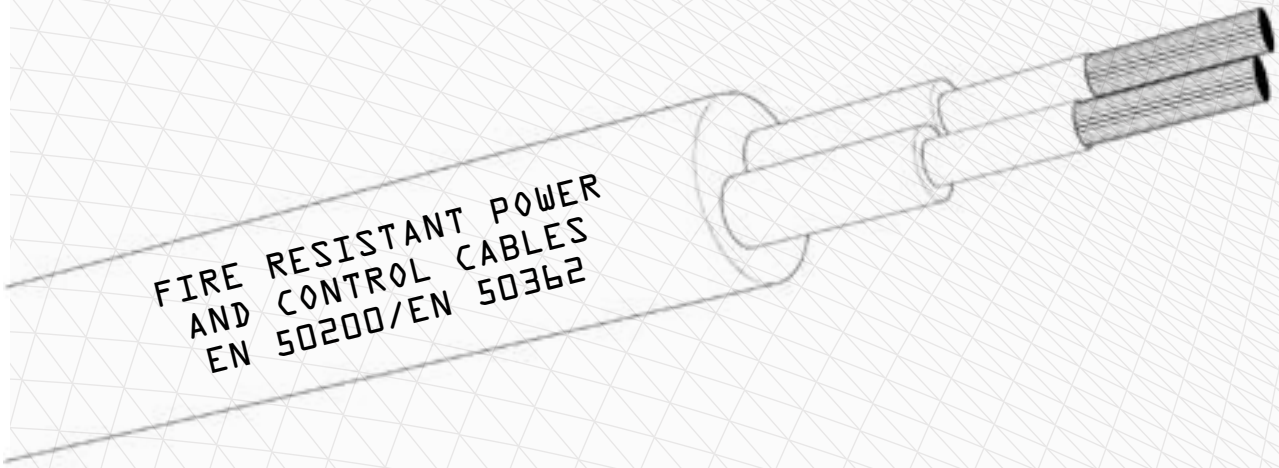
Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 1

MULTICORE SCRENEED CABLES 0.6/1 KV - EN 50264-3-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Wire diameter of screen	Mean thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1.5	1.5	0.7	2.8	3.3	0.16	0.7	7.9	9.9	13.7	21.0
3x1.5	1.5	0.7	2.8	3.3	0.16	0.7	8.4	10.4	13.7	21.0
4x1.5	1.5	0.7	2.8	3.3	0.16	0.7	9.1	11.3	13.7	21.0
2x2.5	1.95	0.7	3.2	3.8	0.16	0.7	8.7	10.7	8.21	17.2
3x2.5	1.95	0.7	3.2	3.8	0.16	0.7	9.2	11.4	8.21	17.2
4x2.5	1.95	0.7	3.2	3.8	0.21	0.8	10.4	12.9	8.21	17.2
2x4	2.5	0.7	3.8	4.4	0.21	0.8	10.2	12.7	5.09	14.2
3x4	2.5	0.7	3.8	4.4	0.21	0.8	10.8	13.3	5.09	14.2
4x4	2.5	0.7	3.8	4.4	0.21	0.8	11.8	14.5	5.09	14.2
2x6	3.0	0.7	4.2	5.0	0.21	0.8	10.9	13.6	3.39	12.2
3x6	3.0	0.7	4.2	5.0	0.21	0.8	11.6	14.3	3.39	12.2
4x6	3.0	0.7	4.2	5.0	0.21	1.0	13.1	16.1	3.39	12.2
2x10	3.9	0.7	5.1	5.9	0.21	1.0	13.4	16.6	1.95	9.8
3x10	3.9	0.7	5.1	5.9	0.26	1.0	14.4	18.0	1.95	9.8
4x10	3.9	0.7	5.1	5.9	0.26	1.0	15.9	19.5	1.95	9.8
2x16	5.0	0.7	6.1	7.2	0.26	1.0	16.0	19.8	1.24	7.9
3x16	5.0	0.7	6.1	7.2	0.26	1.2	17.4	21.3	1.24	7.9
4x16	5.0	0.7	6.1	7.2	0.26	1.2	19.3	23.6	1.24	7.9
2x25	6.4	0.9	7.8	9.1	0.26	1.2	19.8	24.6	0.795	7.3
3x25	6.4	0.9	7.8	9.1	0.26	1.2	21.3	26.1	0.795	7.3
4x25	6.4	0.9	7.8	9.1	0.31	1.4	24.0	29.3	0.795	7.3
2x35	7.7	0.9	9.0	10.6	0.31	1.4	22.8	27.9	0.565	6.7
3x35	7.7	0.9	9.0	10.6	0.31	1.4	24.5	29.8	0.565	6.7
4x35	7.7	0.9	9.0	10.6	0.31	1.4	26.9	32.9	0.565	6.7
2x50	9.2	1.0	10.6	12.4	0.31	1.4	26.4	32.3	0.393	6.3
3x50	9.2	1.0	10.6	12.4	0.31	1.6	28.3	34.6	0.393	6.3
3x50 + 1x25	9.2	1.0	10.6	12.4	0.31	1.6	31.5	38.2	0.393	6.3


FIRE RESISTANT POWER
AND CONTROL CABLES
EN 50200/EN 50362

FIRE RESISTANT POWER AND CONTROL CABLES

HAVING SPECIAL FIRE PERFORMANCE

Standard Reference

EN 50200; EN 50362; EN 50264; EN 50305; EN 50355; EN 50343; EN 45545-2 HL3; UNI CEI 11170-3 LR4; DIN 5510-2; BS 6853; NFPA 130

CODE DESIGNATIONS

Insulation System (EN 50264-2-1 and 2-2)

EI 101 Low Temperature Resistant, Oil Resistant ..... Code Designation C
EI 102 Extra Low Temperature Resistant, Oil Resistant ..... Code Designation F
EI 103 Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation J
EI 104 Extra Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation M
EI 105 Extra Low Temperature Resistant, Non Oil Resistant ..... Code Designation O

Insulation System (EN 50264-3-1 and 3-2)

EI 106 Low Temperature Resistant, Oil Resistant ..... Code Designation C
EI 107 Extra Low Temperature Resistant, Oil Resistant ..... Code Designation F
EI 108 Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation J
EI 109 Extra Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation M
EI 110 Extra Low Temperature Resistant, Non Oil Resistant ..... Code Designation O

Sheath Type (EN 50264-2-1, EN 50264-2-2, EN 50264-3-1 and EN 50264-3-2)

EM 101 Low Temperature Resistant, Oil Resistant ..... Code Designation C
EM 102 Extra Low Temperature Resistant, Oil Resistant ..... Code Designation F
EM 103 Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation J
EM 104 Extra Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation M

SINGLE CORE CABLES UNSHEATHED 0.6/1 KV - EN 50200/EN 50362

CABLE SPECIFICATIONS	**Conductor**	Stranded tinned copper class 5 according to EN 60228
	Fire protection	Glass-mica tape
	Insulation	Type crosslinked LSZH see table 2
	Core identification	Red if not elsewhere specified
TECHNICAL DATA	**Operating Voltage**	0.6/1 kV
	Operating temperature	-40°C ÷ +90°C see table 2 -25°C ÷ +90°C see table 2
	Minimum bending radius	6xØ
FIRE PERFORMANCE	**Fire propagation**	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
	Fire resistant	EN 50200 / EN 50362 PH 90
	Smoke density	EN 61034-1/2
	Halogen-free	EN 50267-2-1/2
	Fumes	No corrosive and toxic fumes

(*)see table 2

SINGLE CORE CABLES UNSHEATHED 0.6/1 KV - EN 50200/EN 50362

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	External diameter Ø	Resistance of conductor @20°C	Insulation resistance @20°C
			max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1.0	1.25	0.8	3.5	20.0	65
1.5	1.5	0.8	3.8	13.7	55
2.5	1.95	0.8	4.2	8.21	50
4	2.5	0.8	4.9	5.09	40
6	3.0	0.9	5.7	3.39	35
10	3.9	1.1	7.1	1.95	30
16	5.0	1.1	8.8	1.24	30
25	6.4	1.3	10.3	0.795	30
35	7.7	1.3	11.8	0.565	25
50	9.2	1.5	13.8	0.393	25
70	11.0	1.5	15.8	0.277	20
95	12.5	1.6	17.7	0.210	20
120	14.2	1.6	19.6	0.164	20
150	15.8	1.9	22.0	0.132	15
185	17.5	1.9	24.0	0.108	15

MULTICORE UNSCREENED CABLES 300/500 V - EN 50200 / EN 50362

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Fire protection	Glass-mica tape
Insulation	Type crosslinked LSZH see table 2
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Sheath	Type crosslinked LSZH see table 2 Red if not elsewhere specified

TECHNICAL DATA

Operating Voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 2 -25°C ÷ +90°C see table 2
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Fire resistant	EN 50200 / EN 50362 PH 90
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 2

MULTICORE UNSCREENED CABLES 300/500 V - EN 50200 / EN 50362

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Mean thickness of sheath	External diameter Ø	Resistance of conductor @20°C	Insulation resistance @20°C
				max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x1	1.25	0.6	1.4	9.5	20.0	140
2x1.5	1.5	0.7	1.4	10.3	13.7	120
2x2.5	1.95	0.8	1.4	11.7	8.21	90
2x4	2.5	0.8	1.4	12.7	5.09	80
3x1	1.25	0.6	1.4	9.9	20.0	140
3x1.5	1.5	0.7	1.4	10.8	13.7	120
3x2.5	1.95	0.8	1.4	12.4	8.21	90
3x4	2.5	0.8	1.4	13.6	5.09	80
4x1	1.25	0.6	1.4	10.7	20.0	140
4x1.5	1.5	0.7	1.4	11.9	13.7	120
4x2.5	1.95	0.8	1.4	13.6	8.21	90
4x4	2.5	0.8	1.4	15.0	5.09	80

SINGLE AND MULTICORE SCREENED CABLES WITH SHEATH 300/500 V - EN 50200 / EN 50362

(*)see table 2

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper class 5 according to EN 60228
Fire protection	Glass-mica tape
Insulation	Type crosslinked LSZH see table 2
Core identification	Black numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Screen	Tinned copper braid
Sheath	Type crosslinked LSZH see table 2 Red if not elsewhere specified

TECHNICAL DATA

Operating Voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 2 -25°C ÷ +90°C see table 2
Minimum bending radius	10xØ

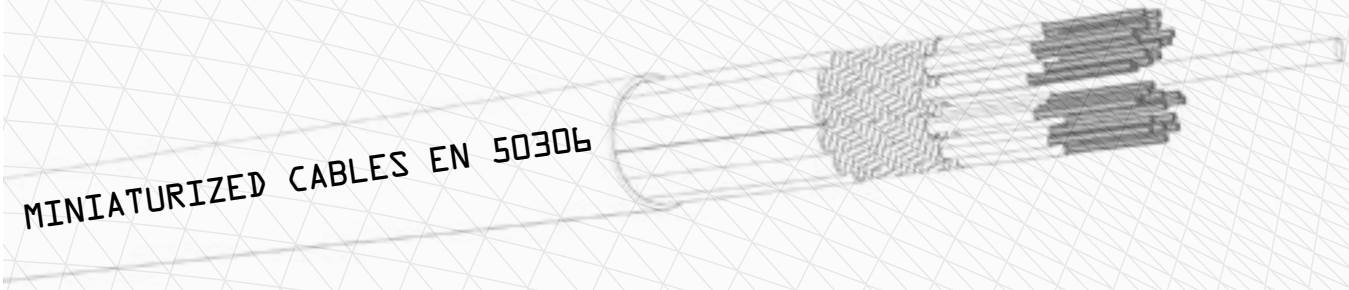
FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Fire resistant	EN 50200 / EN 50362 PH 90
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Wire diameter of screen	Mean thickness of sheath	External diameter Ø	Resistance of conductor @20°C	Insulation resistance @20°C
			max.		max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1x1	1.25	0.6	0.16	1.4	7.0	20.0	140
1x1.5	1.5	0.7	0.16	1.4	7.6	13.7	120
1x2.5	1.95	0.8	0.21	1.4	8.4	8.21	90
1x4	2.5	0.8	0.21	1.4	9.0	5.09	80
2x0.75	1.15	0.6	0.16	1.4	8.9	26.7	150
2x1	1.25	0.6	0.16	1.4	10.5	20.0	140
2x1.5	1.5	0.7	0.16	1.4	11.3	13.7	120
2x2.5	1.95	0.8	0.21	1.4	12.9	8.21	90
2x4	2.5	0.8	0.21	1.4	14.0	5.09	80
3x1	1.25	0.6	0.16	1.4	10.9	20.0	140
3x1.5	1.5	0.7	0.16	1.4	11.8	13.7	120
3x2.5	1.95	0.8	0.21	1.4	13.7	8.21	90
3x4	2.5	0.8	0.21	1.4	15.0	5.09	80
4x1	1.25	0.6	0.16	1.4	11.7	20.0	140
4x1.5	1.5	0.7	0.16	1.4	12.9	13.7	120
4x2.5	1.95	0.8	0.21	1.4	15.0	8.21	90
4x4	2.5	0.8	0.21	1.4	16.5	5.09	80
6x1	1.25	0.6	0.16	1.4	13.3	20.0	140
6x1.5	1.5	0.7	0.16	1.4	14.6	13.7	120
6x2.5	1.95	0.8	0.21	1.4	17.0	8.21	90
6x4	2.5	0.8	0.21	1.5	18.6	5.09	80

MINIATURIZED CABLES EN 50306



MINIATURIZED CABLES

HAVING SPECIAL FIRE PERFORMANCE
THIN WALL

Standard Reference
EN 50306; EN 50264; EN 50305; EN 50355; EN 50343; EN 45545-2 HL3; UNI CEI 11170-3 LR4; DIN 5510-2; BS 6853; NFPA 130

CODE DESIGNATIONS

Insulation System (EN 50306-1, EN 50306-2)

Low Temperature Resistant, Oil Resistant..... Code Designation C
Extra Low Temperature Resistant, Oil Resistant ..... Code Designation F
Low Temperature Resistant, Extra Oil and Fuel Resistant..... Code Designation J
Extra Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation M

Sheath Type (EN 50264-1, EN 50306-3, EN 50306-4)

EM 101 Low Temperature Resistant, Oil Resistant..... Code Designation C
EM 102 Extra Low Temperature Resistant, Oil Resistant..... Code Designation F
EM 103 Low Temperature Resistant, Extra Oil and Fuel Resistant ..... Code Designation J
EM 104 Extra Low Temperature Resistant, Extra Oil and Fuel Resistant..... Code Designation M

SINGLE CORE CABLES UNSHEATHED 300/500 V - EN 50306-2

CABLE SPECIFICATIONS	**Conductor**	Stranded tinned copper according to EN 60228 configuration according to table A
	Insulation	Double layer of olefinic thermoplastic mixture
	Core identification	White if not elsewhere specified
TECHNICAL DATA	**Operating voltage**	300/500 V
	Operating temperature	-40°C ÷ +105°C see table 3
		-25°C÷ +105°C see table 3
	Minimum bending radius	4xØ
FIRE PERFORMANCE	**Fire propagation**	EN 60332-1-2 EN 50305 9.1.2
	Smoke density	EN 61034-1/2
	Halogen-free	EN 50267-2-1/2
	Fumes	No corrosive and toxic fumes

(*)see table 3

SINGLE CORE CABLES UNSHEATHED 300/500 V - EN 50306-2

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Number and diameter of strands	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[mm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
0.5	0.85	0.18	0.8	0.95	19x0.18	1.15	1.45	40.1	600
0.75	1.05	0.18	1.0	1.15	37x0.16 (a)	1.35	1.65	26.7	500
1.0	1.2	0.18	1.1	1.3	37x0.18 (a)	1.45	1.8	20.0	500
1.5	1.55	0.22	1.45	1.65	37x0.23 (a)	1.95	2.3	13.7	400
2.5	2.0	0.28	1.85	2.15	37x0.30 (a)	2.5	2.85	8.21	400

(a) Also formation with 19 strands is possible

SINGLE AND MULTICORE SCREENED CABLES 300/500 V - EN 50306-3

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper according to EN 60228 configuration according to single core unsheathed
Insulation	Double layer of olefinic thermoplastic mixture
Core identification	White if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Screen	Tinned copper braid
Sheath	Type crosslinked LSZH see table 3 Black if not elsewhere specified Thickness and outer diameter according to cable class, E exposed, P protected: See table E

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-25°C ÷ +105°C see table 3 (single core) -40°C ÷ +105°C see table 3 (single core) -25°C ÷ +90°C see table 3 (multicore) -40°C ÷ +90°C see table 3 (multicore)
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 3

SINGLE AND MULTICORE SCREENED CABLES 300/500 V - EN 50306-3

MAIN FEATURES

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Minimum thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1x0.5	0.85	0.18	1.15	1.45	0.2	2.3	2.8	40.1	600
2x0.5	0.85	0.18	1.15	1.45	0.2	3.5	4.3	40.1	600
3x0.5	0.85	0.18	1.15	1.45	0.2	3.7	4.5	40.1	600
4x0.5	0.85	0.18	1.15	1.45	0.2	4.0	5.0	40.1	600
1x0.75	1.05	0.18	1.35	1.65	0.2	2.5	3.0	26.7	500
2x0.75	1.05	0.18	1.35	1.65	0.2	3.9	4.7	26.7	500
3x0.75	1.05	0.18	1.35	1.65	0.2	4.0	5.0	26.7	500
4x0.75	1.05	0.18	1.35	1.65	0.2	4.5	5.5	26.7	500
1x1.0	1.2	0.18	1.45	1.8	0.2	2.7	3.2	20.0	500
2x1.0	1.2	0.18	1.45	1.8	0.2	4.2	5.2	20.0	500
3x1.0	1.2	0.18	1.45	1.8	0.2	4.5	5.5	20.0	500
4x1.0	1.2	0.18	1.45	1.8	0.2	5.0	6.0	20.0	500
1x1.5	1.55	0.22	1.95	2.3	0.2	3.1	3.6	13.7	400
2x1.5	1.55	0.22	1.95	2.3	0.2	5.1	6.1	13.7	400
3x1.5	1.55	0.22	1.95	2.3	0.2	5.4	6.4	13.7	400
4x1.5	1.55	0.22	1.95	2.3	0.2	6.0	7.0	13.7	400
1x2.5	2.0	0.28	2.5	2.85	0.2	3.6	4.4	13.7	400
2x2.5	2.0	0.28	2.5	2.85	0.2	6.4	7.4	13.7	400
3x2.5	2.0	0.28	2.5	2.85	0.2	6.8	7.8	13.7	400
4x2.5	2.0	0.28	2.5	2.85	0.2	7.5	8.5	13.7	400

MULTICORE UNSCREENED CABLES 300/500 V - EN 50306-4

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper according to EN 60228 configuration according to single core unsheathed
Insulation	Double layer of olefinic thermoplastic mixture Thickness and outer diameter: according to single core unsheathed
Core identification	White numbered if not elsewhere specified
Assembling	N° conductors + eventual filler and tape are assembled together
Sheath	Type crosslinked LSZH see table 3 Black if not elsewhere specified Thickness and outer diameter according to cable class, E exposed, P protected:

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 3 -25°C ÷ +90°C see table 3
Minimum bending radius	4xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)see table 3

MULTICORE UNSCREENED CABLES 300/500 V - EN 50306-4

MAIN FEATURES CLASS E

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Minimum thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
4x0.5	0.85	0.18	1.15	1.45	1.0	5.5	6.5	40.1	600
5x0.5	0.85	0.18	1.15	1.45	1.0	5.8	6.9	40.1	600
7x0.5	0.85	0.18	1.15	1.45	1.0	6.3	7.3	40.1	600
9x0.5	0.85	0.18	1.15	1.45	1.0	6.3	7.3	40.1	600
13x0.5	0.85	0.18	1.15	1.45	1.0	8.3	9.3	40.1	600
19x0.5	0.85	0.18	1.15	1.45	1.0	9.0	10.2	40.1	600
37x0.5	0.85	0.18	1.15	1.45	1.0	12.3	13.5	40.1	600
4x0.75	1.05	0.18	1.35	1.65	1.0	6.0	7.0	26.7	500
7x0.75	1.05	0.18	1.35	1.65	1.0	6.9	7.9	26.7	500
13x0.75	1.05	0.18	1.35	1.65	1.0	9.1	10.3	26.7	500
19x0.75	1.05	0.18	1.35	1.65	1.0	10.0	11.2	26.7	500
37x0.75	1.05	0.18	1.35	1.65	1.0	13.2	14.4	26.7	500
48x0.75	1.05	0.18	1.35	1.65	1.0	14.8	16.4	26.7	500
4x1.0	1.2	0.18	1.45	1.8	1.0	6.3	7.3	20.0	500
7x1.0	1.2	0.18	1.45	1.8	1.0	7.3	8.3	20.0	500
13x1.0	1.2	0.18	1.45	1.8	1.0	9.7	10.9	20.0	500
19x1.0	1.2	0.18	1.45	1.8	1.0	10.7	11.9	20.0	500
37x1.0	1.2	0.18	1.45	1.8	1.0	14.0	15.6	20.0	500
4x1.5	1.55	0.22	1.95	2.3	1.0	7.4	8.4	13.7	400
7x1.5	1.55	0.22	1.95	2.3	1.0	8.6	9.8	13.7	400
13x1.5	1.55	0.22	1.95	2.3	1.0	11.7	12.9	13.7	400
19x1.5	1.55	0.22	1.95	2.3	1.0	13.0	14.2	13.7	400
37x1.5	1.55	0.22	1.95	2.3	1.0	17.2	18.8	13.7	400
2x2.5	2.0	0.28	2.5	2.85	1.0	7.7	8.7	8.21	400
3x2.5	2.0	0.28	2.5	2.85	1.0	8.1	9.1	8.21	400
4x2.5	2.0	0.28	2.5	2.85	1.0	8.8	10.0	8.21	400

MAIN FEATURES CLASS P

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Minimum thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩ.km]
4x0.5	0.85	0.18	1.15	1.45	0.42	4.1	5.1	40.1	600
5x0.5	0.85	0.18	1.15	1.45	0.42	4.4	5.5	40.1	600
7x0.5	0.85	0.18	1.15	1.45	0.42	4.9	5.9	40.1	600
9x0.5	0.85	0.18	1.15	1.45	0.42	4.9	5.9	40.1	600
13x0.5	0.85	0.18	1.15	1.45	0.56	7.3	8.3	40.1	600
19x0.5	0.85	0.18	1.15	1.45	0.56	8.1	9.1	40.1	600
37x0.5	0.85	0.18	1.15	1.45	0.56	10.8	12.0	40.1	600
4x0.75	1.05	0.18	1.35	1.65	0.42	4.6	5.6	26.7	500
7x0.75	1.05	0.18	1.35	1.65	0.42	5.5	6.5	26.7	500
13x0.75	1.05	0.18	1.35	1.65	0.56	8.2	9.2	26.7	500
19x0.75	1.05	0.18	1.35	1.65	0.56	9.0	10.2	26.7	500
37x0.75	1.05	0.18	1.35	1.65	0.56	12.2	13.4	26.7	500
48x0.75	1.05	0.18	1.35	1.65	0.56	13.9	15.5	26.7	500
4x1.0	1.2	0.18	1.45	1.8	0.42	4.9	5.9	20.0	500
7x1.0	1.2	0.18	1.45	1.8	0.42	6.0	7.0	20.0	500
13x1.0	1.2	0.18	1.45	1.8	0.56	8.7	9.9	20.0	500
19x1.0	1.2	0.18	1.45	1.8	0.56	9.8	11.0	20.0	500
37x1.0	1.2	0.18	1.45	1.8	0.56	13.3	14.5	20.0	500
4x1.5	1.55	0.22	1.95	2.3	0.42	6.0	7.0	13.7	400
7x1.5	1.55	0.22	1.95	2.3	0.56	7.7	8.7	13.7	400
13x1.5	1.55	0.22	1.95	2.3	0.56	10.7	11.9	13.7	400
19x1.5	1.55	0.22	1.95	2.3	0.56	12.0	13.2	13.7	400
37x1.5	1.55	0.22	1.95	2.3	0.56	16.2	17.8	13.7	400
2x2.5	2.0	0.28	2.5	2.85	0.56	6.7	7.7	8.21	400
3x2.5	2.0	0.28	2.5	2.85	0.56	7.7	8.1	8.21	400
4x2.5	2.0	0.28	2.5	2.85	0.56	7.9	8.9	8.21	400

SINGLE AND MULTICORE SCRENEED CABLES 300/500 V - EN 50306-4

CABLE SPECIFICATIONS	**Conductor**	Stranded tinned copper according to EN 60228 configuration according to single core
	Insulation	Double layer of olefinic thermoplastic mixture Thickness and outer diameter: see single core
	Core identification	White numbered if not elsewhere specified
	Assembling	N° conductors + eventual filler and tape are assembled together
	Screen	Tinned copper braid
	Sheath	Type crosslinked LSZH see table 3 Black if not elsewhere specified Thickness and outer diameter according to cable class, E exposed, P protected:

TECHNICAL DATA	**Operating voltage**	300/500 V
	Operating temperature	-40°C ÷ +90°C see table 3 -25°C ÷ +90°C see table 3
	Minimum bending radius	5xØ

FIRE PERFORMANCE	**Fire propagation**	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
	Smoke density	EN 61034-1/2
	Halogen-free	EN 50267-2-1/2
	Fumes	No corrosive and toxic fumes

(*)see table 3

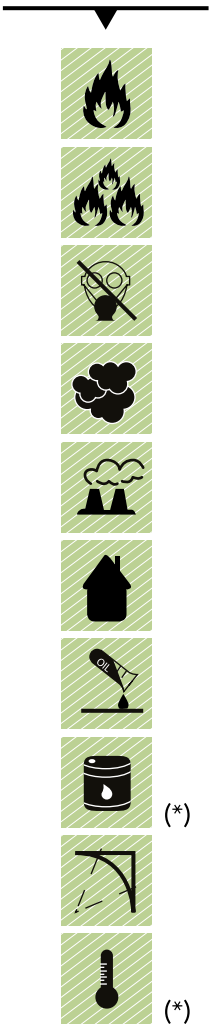
MAIN FEATURES CLASS E

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Minimum thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1x0.5	0.85	0.18	1.15	1.45	1.0	3.6	4.6	40.1	600
2x0.5	0.85	0.18	1.15	1.45	1.0	5.5	6.5	40.1	600
3x0.5	0.85	0.18	1.15	1.45	1.0	5.7	6.7	40.1	600
4x0.5	0.85	0.18	1.15	1.45	1.0	6.1	7.1	40.1	600
6x0.5	0.85	0.18	1.15	1.45	1.0	6.9	7.9	40.1	600
8x0.5	0.85	0.18	1.15	1.45	1.0	7.5	8.5	40.1	600
1x0.75	1.05	0.18	1.35	1.65	1.0	3.8	4.8	26.7	500
2x0.75	1.05	0.18	1.35	1.65	1.0	5.9	6.9	26.7	500
3x0.75	1.05	0.18	1.35	1.65	1.0	6.2	7.2	26.7	500
4x0.75	1.05	0.18	1.35	1.65	1.0	6.5	7.5	26.7	500
6x0.75	1.05	0.18	1.35	1.65	1.0	7.5	8.5	26.7	500
8x0.75	1.05	0.18	1.35	1.65	1.0	8.2	9.2	26.7	500
1x1.0	1.2	0.18	1.45	1.8	1.0	3.8	4.8	20.0	500
2x1.0	1.2	0.18	1.45	1.8	1.0	6.2	7.2	20.0	500
3x1.0	1.2	0.18	1.45	1.8	1.0	6.5	7.5	20.0	500
4x1.0	1.2	0.18	1.45	1.8	1.0	6.9	7.9	20.0	500
6x1.0	1.2	0.18	1.45	1.8	1.0	8.0	9.0	20.0	500
8x1.0	1.2	0.18	1.45	1.8	1.0	8.6	9.8	20.0	500
1x1.5	1.55	0.22	1.95	2.3	1.0	4.4	5.4	13.7	400
2x1.5	1.55	0.22	1.95	2.3	1.0	7.1	8.1	13.7	400
3x1.5	1.55	0.22	1.95	2.3	1.0	7.4	8.4	13.7	400
4x1.5	1.55	0.22	1.95	2.3	1.0	8.0	9.0	13.7	400
6x1.5	1.55	0.22	1.95	2.3	1.0	9.2	10.4	13.7	400
8x1.5	1.55	0.22	1.95	2.3	1.0	10.2	11.4	13.7	400
1x2.5	2.0	0.28	2.5	2.85	1.0	5.0	6.0	8.21	400
2x2.5	2.0	0.28	2.5	2.85	1.0	8.3	9.3	8.21	400
3x2.5	2.0	0.28	2.5	2.85	1.0	8.6	9.8	8.21	400
4x2.5	2.0	0.28	2.5	2.85	1.0	9.4	10.6	8.21	400

MAIN FEATURES CLASS P

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Minimum thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
1x0.5	0.85	0.18	1.15	1.45	0.28	2.2	2.6	40.1	600
2x0.5	0.85	0.18	1.15	1.45	0.42	4.1	5.1	40.1	600
3x0.5	0.85	0.18	1.15	1.45	0.42	4.3	5.3	40.1	600
4x0.5	0.85	0.18	1.15	1.45	0.42	4.7	5.7	40.1	600
6x0.5	0.85	0.18	1.15	1.45	0.42	5.5	6.5	40.1	600
8x0.5	0.85	0.18	1.15	1.45	0.42	6.0	7.0	40.1	600
1x0.75	1.05	0.18	1.35	1.65	0.28	2.5	3.1	26.7	500
2x0.75	1.05	0.18	1.35	1.65	0.42	4.5	5.5	26.7	500
3x0.75	1.05	0.18	1.35	1.65	0.42	4.7	5.7	26.7	500
4x0.75	1.05	0.18	1.35	1.65	0.42	5.2	6.2	26.7	500
6x0.75	1.05	0.18	1.35	1.65	0.42	6.1	7.1	26.7	500
8x0.75	1.05	0.18	1.35	1.65	0.42	6.6	7.6	26.7	500
1x1.0	1.2	0.18	1.45	1.8	0.28	2.8	3.3	20.0	500
2x1.0	1.2	0.18	1.45	1.8	0.42	4.7	5.7	20.0	500
3x1.0	1.2	0.18	1.45	1.8	0.42	5.1	6.0	20.0	500
4x1.0	1.2	0.18	1.45	1.8	0.42	5.5	6.5	20.0	500
6x1.0	1.2	0.18	1.45	1.8	0.42	6.6	7.6	20.0	500
8x1.0	1.2	0.18	1.45	1.8	0.56	7.7	8.7	20.0	500
1x1.5	1.55	0.22	1.95	2.3	0.28	3.1	3.7	13.7	400
2x1.5	1.55	0.22	1.95	2.3	0.42	5.7	6.7	13.7	400
3x1.5	1.55	0.22	1.95	2.3	0.42	6.0	7.0	13.7	400
4x1.5	1.55	0.22	1.95	2.3	0.42	6.6	7.6	13.7	400
6x1.5	1.55	0.22	1.95	2.3	0.56	8.3	9.3	13.7	400
8x1.5	1.55	0.22	1.95	2.3	0.56	8.9	10.1	13.7	400
1x2.5	2.0	0.28	2.5	2.85	0.56	4	4.4	8.21	400
2x2.5	2.0	0.28	2.5	2.85	0.56	7.3	8.3	8.21	400
3x2.5	2.0	0.28	2.5	2.85	0.56	7.7	8.7	8.21	400
4x2.5	2.0	0.28	2.5	2.85	0.56	8.4	9.6	8.21	400

MULTIPAIRS CABLES INDIVIDUALLY SCREENED AND SHEATHED WITH AN OVERALL SHEATH 300/500 V - EN 50306-4



(*)see table 3

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper according to EN 60228 configuration according to single core
Insulation	Double layer of olefinic thermoplastic mixture Thickness and outer diameter: see single core
Core identification	White numbered if not elsewhere specified
Assembling	2 conductors + eventual filler and tape are twisted together
Pair	Each pair screened and sheathed
Assembling	N° pairs + eventual filler and tape are assembled together
Sheath	Type crosslinked LSZH see table 3 Black if not elsewhere specified Thickness and outer diameter according to cable class, E exposed, P protected

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 3 -25°C ÷ +90°C see table 3
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2 EN 50266-2-5 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MULTIPAIRS CABLES INDIVIDUALLY SCREENED AND SHEATHED WITH AN OVERALL SHEATH 300/500 V - EN 50306-4

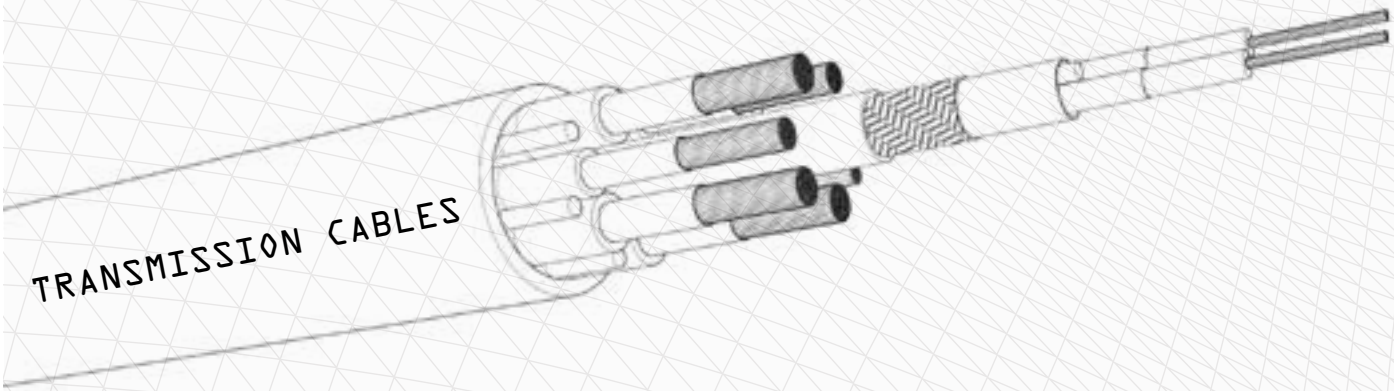
MAIN FEATURES CLASS E

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Minimum thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩxkm]
2x2x0.5	0.85	0.18	1.15	1.45	1.0	10.1	11.3	40.1	600
3x2x0.5	0.85	0.18	1.15	1.45	1.0	10.8	12.0	40.1	600
4x2x0.5	0.85	0.18	1.15	1.45	1.0	11.8	13.0	40.1	600
7x2x0.5	0.85	0.18	1.15	1.45	1.0	13.9	15.5	40.1	600
2x2x0.75	1.05	0.18	1.35	1.65	1.0	10.9	12.1	26.7	500
3x2x0.75	1.05	0.18	1.35	1.65	1.0	11.6	12.8	26.7	500
4x2x0.75	1.05	0.18	1.35	1.65	1.0	12.8	14.0	26.7	500
7x2x0.75	1.05	0.18	1.35	1.65	1.0	15.1	16.7	26.7	500
2x2x1.0	1.2	0.18	1.45	1.8	1.0	11.3	12.5	20.0	500
3x2x1.0	1.2	0.18	1.45	1.8	1.0	12.0	13.2	20.0	500
4x2x1.0	1.2	0.18	1.45	1.8	1.0	13.2	14.4	20.0	500
7x2x1.0	1.2	0.18	1.45	1.8	1.0	15.7	17.3	20.0	500
2x2x1.5	1.55	0.22	1.95	2.3	1.0	13.3	14.5	13.7	400
3x2x1.5	1.55	0.22	1.95	2.3	1.0	14.0	15.6	13.7	400
4x2x1.5	1.55	0.22	1.95	2.3	1.0	15.5	17.1	13.7	400
7x2x1.5	1.55	0.22	1.95	2.3	1.0	18.7	20.3	13.7	400

MULTI-PAIRS CABLES INDIVIDUALLY SCREENED AND SHEATHED WITH AN OVERALL SHEATH 300/500 V - EN 50306-4

MAIN FEATURES CLASS P

Nominal cross-sectional area	Conductor diameter Ø	Mean thickness of insulation	Core diameter		Minimum thickness of sheath	Overall diameter Ø		Resistance of conductor @20°C	Insulation resistance @20°C
			min.	max.		min.	max.	max.	min.
[nxmm²]	[mm]	[mm]	[mm]	mm]	[mm]	[mm]	[mm]	[Ω/km]	[MΩ.km]
2x2x0.5	0.85	0.18	1.15	1.45	0.56	9.0	10.2	40.1	600
3x2x0.5	0.85	0.18	1.15	1.45	0.56	9.6	10.8	40.1	600
4x2x0.5	0.85	0.18	1.15	1.45	0.56	10.7	11.9	40.1	600
7x2x0.5	0.85	0.18	1.15	1.45	0.56	13.0	14.2	40.1	600
2x2x0.75	1.05	0.18	1.35	1.65	0.56	9.8	11.0	26.7	500
3x2x0.75	1.05	0.18	1.35	1.65	0.56	10.5	11.7	26.7	500
4x2x0.75	1.05	0.18	1.35	1.65	0.56	11.6	12.8	26.7	500
7x2x0.75	1.05	0.18	1.35	1.65	0.56	14.0	15.6	26.7	500
2x2x1.0	1.2	0.18	1.45	1.8	0.56	10.2	11.6	20.0	500
3x2x1.0	1.2	0.18	1.45	1.8	0.56	10.9	12.1	20.0	500
4x2x1.0	1.2	0.18	1.45	1.8	0.56	12.1	13.3	20.0	500
7x2x1.0	1.2	0.18	1.45	1.8	0.56	14.6	16.2	20.0	500
2x2x1.5	1.55	0.22	1.95	2.3	0.56	12.2	13.4	13.7	400
3x2x1.5	1.55	0.22	1.95	2.3	0.56	13.1	14.3	13.7	400
4x2x1.5	1.55	0.22	1.95	2.3	0.56	14.3	15.9	13.7	400
7x2x1.5	1.55	0.22	1.95	2.3	0.56	17.6	19.2	13.7	400


TRANSMISSION CABLES

TK-MVB 2x0.50 OR 4x0.50 / 2x0.50 FR OR 4x0.50 FR (MULTIFUNCTION VEHICLE BUS)

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper 0.50 mm^2
Insulation	Special thermoplastic polymer
Core identification	White-Red-Black-Blue for 4x0.50 White - Black for 2x0.50
Protection	Flame barrier tape (*)
Assembling	2 or 4 conductors + eventual filler and tape are assembled together
Screen	Aluminium/Mylar tape + tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free black or green

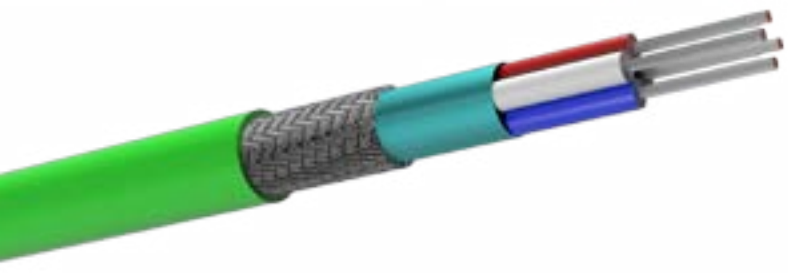
TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Fire resistant	EN 50200 PH 15(*)
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*)Only for FR version



TK-MVB 2x0.50 OR 4x0.50 / 2x0.50 FR OR 4x0.50 FR (MULTIFUNCTION VEHICLE BUS)

MAIN FEATURES

		TK-MVB 2x0.50	TK-MVB 4x0.50	TK-MVB 2x0.50 FR	TK-MVB 4x0.50 FR
Conductor resistance		≤ 40.1 Ω/km	≤ 40.1 Ω/km	≤ 40.1 Ω/km	≤ 40.1 Ω/km
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm	≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		2000 V	2000 V	2000 V	2000 V
Characteristic Impedance	@ 0.5 ÷ 3 MHz	120 ± 12 Ω	120 ± 12 Ω	120 ± 12 Ω	120 ± 12 Ω
	@ 1.5 MHz	120 ± 6 Ω	120 ± 6 Ω	120 ± 6 Ω	120 ± 6 Ω
Transfer Impedance	≤ 20 MHz	≤ 1 mΩ/m	≤ 1 mΩ/m	≤ 1 mΩ/m	≤ 1 mΩ/m
Mutual capacitance		≤ 46 pF/m	≤ 46 pF/m	≤ 46 pF/m	≤ 46 pF/m
Nominal Velocity of Propagation		78%	78%	78%	78%
Next	@ 0.75 - 3 MHz	≥ 55 dB	≥ 55 dB	≥ 55 dB	≥ 55 dB
Attenuation	@ 1.5 MHz	≤ 15 dB/km	≤ 15 dB/km	≤ 15 dB/km	≤ 15 dB/km
	@ 3 MHz	≤ 20 dB/km	≤ 20 dB/km	≤ 20 dB/km	≤ 20 dB/km
Nominal weight		65 kg/km	90 kg/km	85 kg/km	100 kg/km
Nominal diameter		6.8 mm	7.4 mm	7.5 mm	8.0 mm

TK-MVB 4x0.50+4x0.25 (MULTIFUNCTION VEHICLE BUS)

ON REQUEST

CABLE SPECIFICATIONS

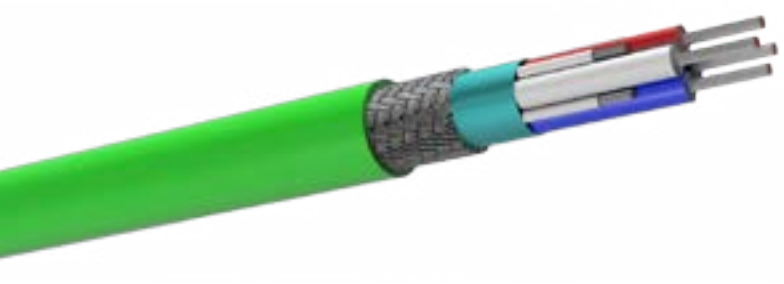
Conductor	Stranded tinned copper 0.50 mm²
Insulation	Special thermoplastic polymer
Core identification	White-Red-Black-Blue
Conductor	Stranded tinned copper 0.25 mm²
Insulation	Tecnopolymer compounds (double layer) compliant to EN 50306-1
Core identification	White numbered
Total assembling	4x0.50 mm² + 4x0.25 mm² with eventual filler and synthetic tape
Total Screen	Tinned Copper Braid
Total Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black or Green

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	6xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



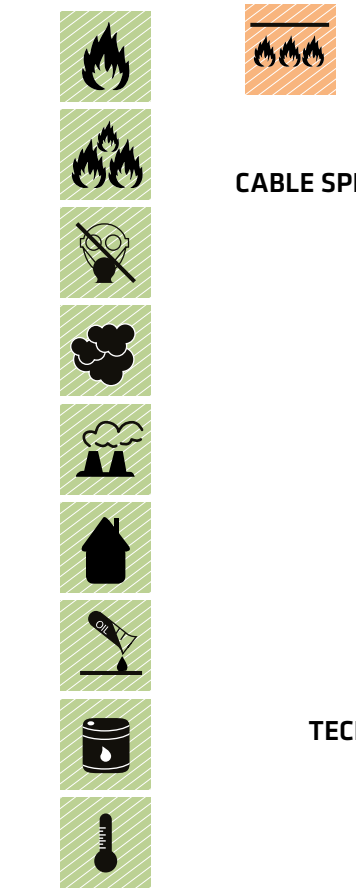
TK-MVB 4x0.50+4x0.25 (MULTIFUNCTION VEHICLE BUS)

MAIN FEATURES

		TK-MVB 4x0.50+4x0.25
Conductor resistance		≤ 40.1 Ω/km (0.50mm²) ≤ 90.1 Ω/km (0.25mm²)
Insulation resistance		≥ 250 MΩxkm
Test voltage		2000 V
Characteristic Impedance	@ 0.5 ÷ 3 MHz	120 ± 12 Ω
	@ 1.5 MHz	120 ± 6 Ω
Mutual capacitance		≤ 46 pF/m
Nominal Velocity of Propagation		78%
Attenuation	@ 1.5 MHz	≤ 17 dB/km
	@3 MHz	≤ 25 dB/km
Nominal weight		95 kg/km
Nominal diameter		7.4 mm

TK-RS485 2x2x0.50 OR 4x2x0.50

ON REQUEST



CABLE SPECIFICATIONS

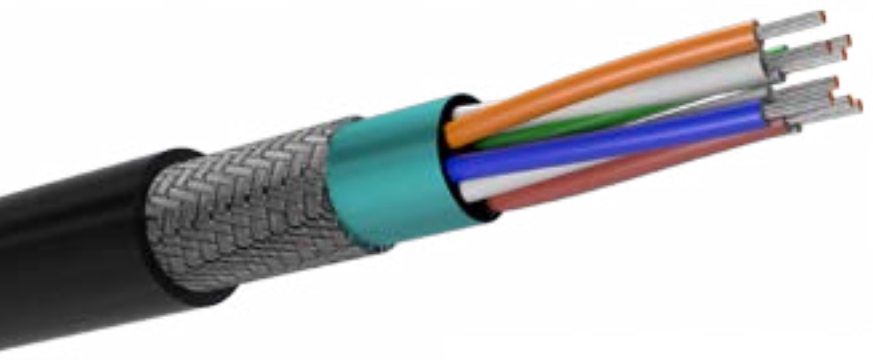
Conductors	Stranded tinned copper 0.50 mm^2
Insulation	Special thermoplastic polymer
Core identification	White/Red - Black/Blue for 2 pairs White/Blue - White/ Orange White/Green - White/ Brown for 4 pairs
Pair	Two conductors twisted together
Assembling	2 or 4 pairs + eventual filler and tape are assembled together
Screen	Aluminium/Mylar tape + tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free black

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-RS485 2x2x0.50 OR 4x2x0.50

MAIN FEATURES

		TK-RS485 2x2x0.50	TK-RS485 4x2x0.50
Conductor resistance		≤ 40.1 Ω/km	≤ 40.1 Ω/km
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		2000 V	2000 V
Characteristic Impedance	@ 0.75 ÷ 3 MHz	120 ± 12 Ω	120 ± 12 Ω
Transfer Impedance	@ ≤ 30 MHz	≤ 30 mΩ/m	≤ 30 mΩ/m
Mutual capacitance		≤ 46 pF/m	≤ 46 pF/m
Nominal Velocity of Propagation		78%	78%
Attenuation	@ 1 MHz	≤ 12.5 dB/km	≤ 12.5 dB/km
	@ 2 MHz	≤ 18 dB/km	≤ 18 dB/km
	@ 3 MHz	≤ 22.5 dB/km	≤ 22.5 dB/km
Nominal weight		165 kg/km	180 kg/km
Nominal diameter		10.2 mm	11.0 mm

TK-RS485 2x0.50+1x0.50

CABLE SPECIFICATIONS

	PAIR 2X0.5 WITH CONTROLLED IMPEDANCE
Conductors	Stranded tinned copper 0.50 mm^2
Insulation	Special thermoplastic polymer
Pair colour	White-Red
	SINGLE CORE
Conductors	Stranded tinned copper 0.50 mm^2
Insulation	Special double layers of olefinic
Core identification	Black
Total assembling	1 pair and single core + eventual filler and tape are assembled together
Total Screen	Aluminium/Mylar tape + tinned copper braid
Total Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

TK-RS485 2x0.50+1x0.50

MAIN FEATURES

		TK-RS485 2x0.50+1x0.50
Conductor resistance		≤ 40.1 Ω/km
Insulation resistance		≥ 500 MΩxkm
Test voltage		2000 V
Characteristic Impedance	@ 0.75 ÷ 3 MHz	120 ± 12 Ω
	@ 1 MHz	120 ± 6 Ω
Transfer Impedance	@ ≤ 30 MHz	≤ 30 mΩ/m
Mutual capacitance		≤ 46 pF/m
Nominal Velocity of Propagation		78%
Attenuation	@ 1 MHz	≤ 12.5 dB/km
	@ 2 MHz	≤ 18 dB/km
	@ 3 MHz	≤ 22.5 dB/km
Nominal weight		70 kg/km
Nominal diameter		6.8 mm

TK-RS485 2x0.60

CABLE SPECIFICATIONS

Conductors	Stranded tinned copper 0.60 mm²
Insulation	Special thermoplastic polymer
Pair colour	White-Red
First screen	Tinned copper braid
Inner sheath	Crosslinked material type EM 104, flame retardant, halogen free Black
Second screen	Tinned copper braid
Outer Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	5xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

TK-RS485 2x0.60

MAIN FEATURES

		TK-RS485 2x0.60
Conductor resistance		≤ 32.2 Ω/km
Insulation resistance		≥ 3000 MΩxkm
Test voltage		2000 V
Characteristic Impedance	@ 1 MHz	120 ± 6 Ω
Transfer Impedance	@ ≤ 30 MHz	≤ 10 mΩ/m
Mutual capacitance		≤ 50 pF/m
Nominal Velocity of Propagation		78%
Attenuation	@ 200 KHz	≤ 6 dB/km
Nominal weight		125 kg/km
Nominal diameter		8.8 mm

TK-RS485 2x2xAWG22

CABLE SPECIFICATIONS

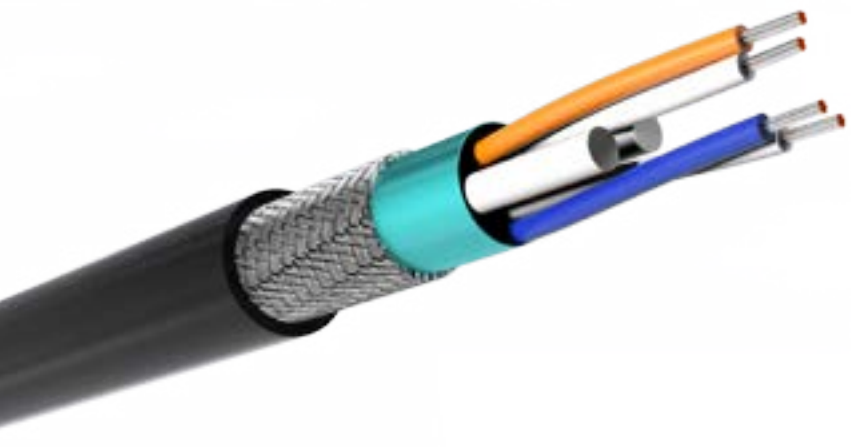
Conductors	Stranded tinned copper AWG22
Insulation	Special thermoplastic polymer
Pair colour	White-Blue White Orange
First screen	Alu/Poliester or Alu/Poliester Alu
Second screen	Tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating voltage	300 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-RS485 2x2xAWG22

MAIN FEATURES

		TK-RS485 2x2xAWG22
Conductor resistance		≤ 55.0 Ω/km
Insulation resistance		≥ 250 MΩxkm
Test voltage		1000 V
Characteristic Impedance	@ 1÷100 MHz	120 ± 15 Ω
Mutual capacitance		≤ 45 pF/m
Nominal Velocity of Propagation		78%
Attenuation	@ 1 MHz	≤ 1.8 dB/100m
Nominal weight		125 kg/km
Nominal diameter		8.5 mm

TK-CAN BUS 2x(2x0.25) OR 2x(2x0.50)

CABLE SPECIFICATIONS

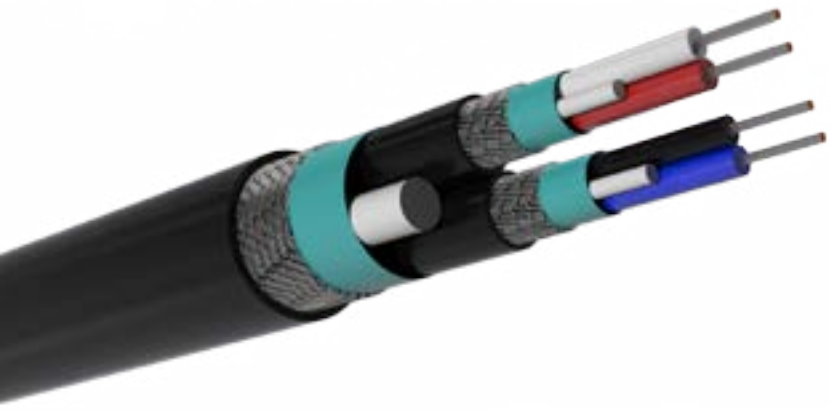
Conductor	Stranded tinned copper 0.25 mm^2 or 0.50 mm^2
Insulation	Special thermoplastic polymer
Colours	White-Red-Black-Blue
Pair screen	Aluminium/Mylar tape + tinned copper braid
Pair sheath	Crosslinked material type EM 104, flame retardant, halogen free Black
Overall screen	Tinned copper braid
Overall sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating Voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-CAN BUS 2x(2x0.25) OR 2x(2x0.50)

MAIN FEATURES

		TK-CAN BUS 2x2x0.25	TK-CAN BUS 2x2x0.50
Conductor resistance		≤ 40.1 Ω/km	≤ 40.1 Ω/km
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		2000 V	2000 V
Characteristic Impedance	@ 0.75 ÷ 3 MHz	120 ± 12 Ω	120 ± 12 Ω
Transfer Impedance	@ ≤ 30 MHz	≤ 30 mΩ/m	≤ 30 mΩ/m
Mutual capacitance		≤ 46 pF/m	≤ 46 pF/m
Nominal Velocity of Propagation		78%	78%
Attenuation	@ 1 MHz	≤ 22.8 dB/km	≤ 12.5 dB/km
	@ 2 MHz	≤ 33.7 dB/km	≤ 18 dB/km
	@ 3 MHz	≤ 43.5 dB/km	≤ 22.5 dB/km
Nominal weight		180 kg/km	365 kg/km
Nominal diameter		11.8 mm	16.5 mm

TK-UIC WTB 2x0.50 or 2x0.75 / 2x0.50 FR or 2x0.75 FR (WIRED TRAIN BUS)

CABLE SPECIFICATIONS

Conductors	Stranded tinned copper 0.50 mm^2 or 0.75 mm^2
Insulation	Special thermoplastic polymer
Pair Colour	White - Black
Protection	Flame barrier tape (*)
Screen	Tinned copper braid Aluminium/ Mylar tape + tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black or Blue

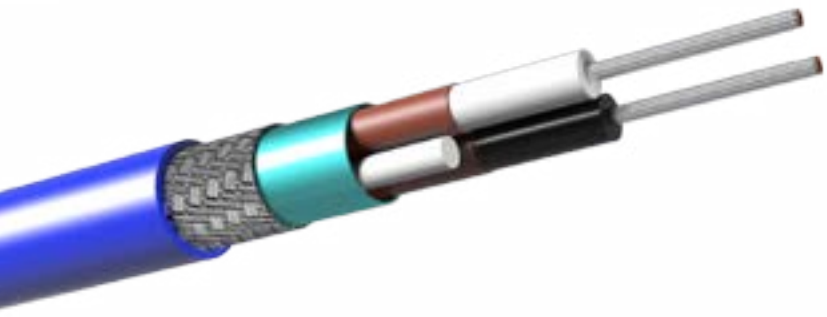
TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Fire resistant	EN 50200 PH 15 (*)
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*) only for FR version



TK-UIC WTB 2x0.50 or 2x0.75 / 2x0.50 FR or 2x0.75 FR (WIRED TRAIN BUS)

MAIN FEATURES

		TK-WTB 2x0.50	TK-WTB 2x0.75	TK-WTB 2x0.50 FR	TK-WTB 2x0.75 FR
Conductor resistance		≤ 40.1 Ω/Km	≤ 26.0 Ω/Km	≤ 40.1 Ω/Km	≤ 26.0 Ω/Km
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm	≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		1500 V	1500 V	1500 V	1500 V
Characteristic Impedance	@ 0.5 ÷ 2 MHz	120 ± 12 Ω	120 ± 12 Ω	120 ± 12 Ω	120 ± 12 Ω
	@ 1 MHz	120 ± 6 Ω	120 ± 6 Ω	120 ± 6 Ω	120 ± 6 Ω
Transfer Impedance	@ ≤ 20 MHz	≤ 20 mΩ/m	≤ 20 mΩ/m	≤ 20 mΩ/m	≤ 20 mΩ/m
Mutual capacitance		≤ 65 pF/m	≤ 65 pF/m	≤ 65 pF/m	≤ 65 pF/m
Attenuation	@ 1 MHz	≤ 11 dB/km	≤ 10 dB/km	≤ 13 dB/km	≤ 12 dB/km
	@ 2 MHz	≤ 17 dB/km	≤ 12 dB/km	≤ 19 dB/km	≤ 14 dB/km
Nominal weight		90 kg/km	100 kg/km	95 kg/km	105 kg/km
Nominal diameter		8.0 mm	8.0 mm	8.5 mm	8.5 mm

TK-UIC 9 CORE / 9 CORE FR

(*) only for FR version

CABLE SPECIFICATIONS

	PAIR 2X0.75 WITH CONTROLLED IMPEDANCE
Conductors	Stranded tinned copper 0.75 mm^2
Insulation	Special thermoplastic polymer
Pair Colour	White - Black
Protection	Flame barrier tape (*)
Pair Screen	Aluminium/Mylar tape + tinned copper braid
Pair Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black
	SIGNAL / POWER ELEMENTS
Conductors	Stranded tinned copper 10 mm^2
Protection	Flame barrier tape (*)
Insulation	Cross-linked Material type EI105
Colours	White numbered
Conductors	Stranded tinned copper 6 mm^2
Protection	Flame barrier tape (*)
Insulation	Cross-linked Polymer type EI105
Colours	White numbered
Conductors	Stranded tinned copper 2.5 mm^2
Protection	Flame barrier tape (*)
Insulation	Cross-linked Material type EI105
Colours	White numbered
Total assembling	1 Pair with controlled impedance + 4x10mm^2 + 2x6mm^2 + 1x2.5mm^2 + eventually filler and tape are assembled together
Total Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating voltage	300 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

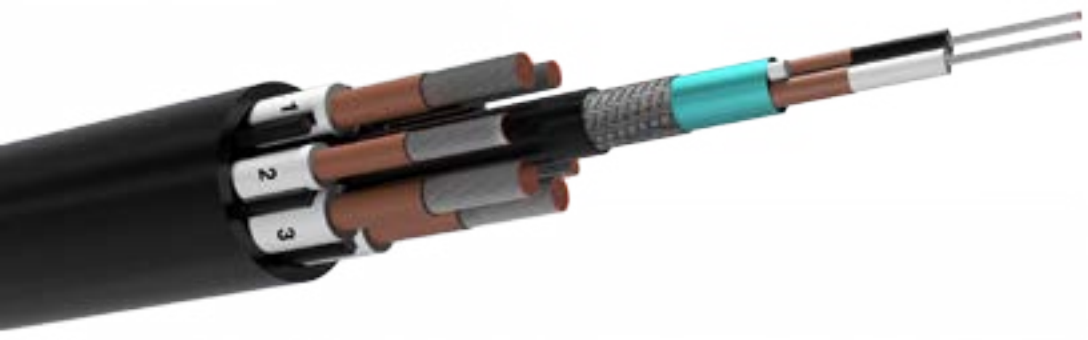
Fire propagation	EN 60332-1-2 EN 50264-2-4
Fire resistant	EN 50362 PH 15 (*)
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

TK-UIC 9 CORE / 9 CORE FR

MAIN FEATURES

		TK-UIC 9 CORE	TK-UIC 9 CORE FR
Conductor resistance		≤ 26.0 Ω/Km (0.75mm²) ≤ 1.95 Ω/Km (10mm²) ≤ 3.39 Ω/Km (6mm²) ≤ 8.21 Ω/Km (2.5mm²)	≤ 26.0 Ω/Km (0.75mm²) ≤ 1.95 Ω/Km (10mm²) ≤ 3.39 Ω/Km (6mm²) ≤ 8.21 Ω/Km (2.5mm²)
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		1500 V	1500 V
Characteristic Impedance	@ 0.5 ÷ 2 MHz	120 ± 12 Ω*	120 ± 12 Ω*
	@ 1 MHz	120 ± 6 Ω*	120 ± 6 Ω*
Transfer Impedance	@ ≤ 30 MHz	≤ 30 mΩ/m*	≤ 30 mΩ/m*
Mutual capacitance		≤ 65 pF/m*	≤ 65 pF/m*
Attenuation	@ 1 MHz	≤ 10 dB/km*	≤ 12 dB/km*
	@ 2 MHz	≤ 12 dB/km*	≤ 14 dB/km*
Nominal weight		1050 kg/km	1150 kg/km
Nominal diameter		26.5 mm	28.0 mm

*Only for pair 0.75mm²



TK-UIC 12 CORE / 12 CORE FR

CABLE SPECIFICATIONS

Conductors	Stranded tinned copper 0.5 mm^2
Insulation	Cross-linked Halogen free
Quad colour	Red, Black, White and Yellow
Protection	Flame barrier tape (*)
Assembling	3 quads + eventually filler and tape are assembled together
Screen	Tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating voltage	300 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	6xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-4
Fire resistant	EN 50200 PH 15 (*)
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*) only for FR version

TK-UIC 12 CORE / 12 CORE FR

MAIN FEATURES

		TK-UIC 12 CORE	TK-UIC 12 CORE FR
Conductor resistance		≤ 40.1 Ω/Km	≤40.1 Ω/Km
Insulation resistance		≥ 400 MΩxkm	≥ 400 MΩxkm
Test voltage		1500 V	1500 V
Transfer Impedance	@ ≤ 30 MHz	≤ 20 mΩ/m	≤ 20 mΩ/m
Mutual capacitance		≤ 65 pF/m	≤ 65 pF/m
Nominal weight		180 kg/km	200 kg/km
Nominal diameter		11.2 mm	12.0 mm

CABLE SPECIFICATIONS

	QUAD 4X1 WITH CONTROLLED IMPEDANCE
Conductors	Stranded tinned copper 1 mm²
Insulation	Special thermoplastic polymer
Colours	White numbered
Protection	Flame barrier tape (*)
	SIGNAL QUAD 3X4X1
Conductors	Stranded tinned copper 1 mm²
Insulation	Double layers of olefinic insulation according to EN50306
Colours	White numbered
Protection	Flame barrier tape (*)
Total assembling	1 quad with controlled impedance + 3 signal quads + eventually filler and tape are assembled together
Total Screen	Tinned copper braid
Total Sheath	Cross-linked Material, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-4
Fire resistant	EN 50200 PH 15(*)
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*) only for FR version

TK-UIC 16 CORE / 16 CORE FR

MAIN FEATURES

		TK-UIC 16 CORE	TK-UIC 16 CORE FR
Conductor resistance		≤ 20.0 Ω/Km	≤ 20.0 Ω/Km
Insulation resistance		≥ 400 MΩxkm	≥ 500 MΩxkm
Test voltage		1500 V	1500 V
Characteristic Impedance	@ 0.5 MHz	120 ± 6 Ω*	120 ± 6 Ω*
Transfer Impedance	@ ≤ 20 MHz	≤ 50 mΩ/m	≤ 50 mΩ/m
Mutual capacitance		≤ 65 pF/m*	≤ 65 pF/m*
Nominal weight		360 kg/km	430 kg/km
Nominal diameter		16.0 mm	18.0 mm

*Only for quad 1mm^2 with controlled impedance

TK-UIC 18 CORE / 18 CORE FR

(*) only for FR version

CABLE SPECIFICATIONS

	PAIR 2X0.75 WITH CONTROLLED IMPEDANCE
Conductors	Stranded tinned copper 0.75 mm^2
Insulation	Special thermoplastic polymer
Pair Colours	White-Black
Protection	Flame barrier tape (*)
Pair Screen	Tinned copper braid
Sheath	Cross-linked Material, Flame Retardant, Halogen Free Black
	QUAD 4X1 WITH CONTROLLED IMPEDANCE
Conductors	Stranded tinned copper 1mm^2
Insulation	Special thermoplastic polymer
Pair Colours	White-numbered
Protection	Flame barrier tape (*)
	SIGNAL QUAD 4X1
Conductors	Stranded tinned copper 1 mm^2
Insulation	Double layers of olefinic insulation according to EN50306
Pair Colours	White-numbered
Protection	Flame barrier tape (*)
Total assembling	1 quad with controlled impedance + 3 signal quads + 1 pair with controlled impedance + eventually filler and tape are assembled together
Total Screen	Tinned copper braid
Total Sheath	Cross-linked Material, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

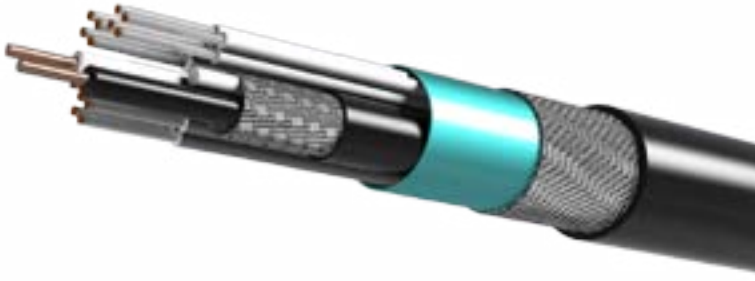
Fire propagation	EN 60332-1-2 EN 50266-2-4
Fire resistant	EN 50200 / EN 50362 PH 15(*)
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

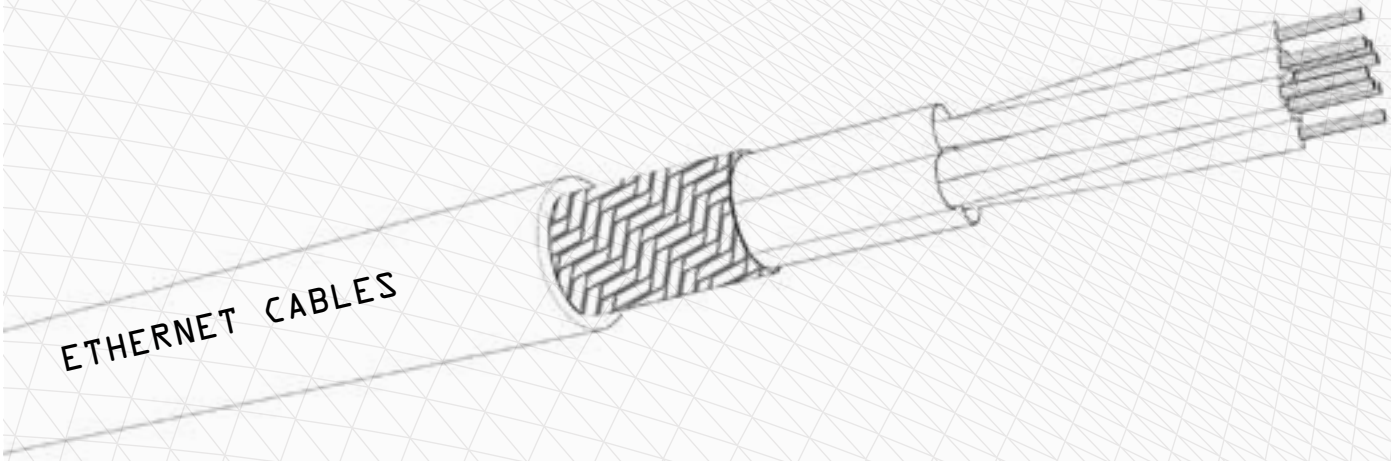
TK-UIC 18 CORE / 18 CORE FR

MAIN FEATURES

		TK-UIC 18 CORE	TK-UIC 18 CORE FR
Conductor resistance		≤ 26.7 Ω/Km (0.75mm²) ≤ 20.0 Ω/Km (1mm²)	≤ 26.7 Ω/Km (0.75mm²) ≤ 20.0 Ω/Km (1mm²)
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		1500 V	1500 V
Characteristic Impedance	@ 0.5 ÷ 2 MHz	120 ± 12 Ω*	120 ± 12 Ω*
	@ 1 MHz	120 ± 6 Ω*	120 ± 6 Ω*
	@ 0.5 MHz	120 ± 6 Ω**	120 ± 6 Ω**
Transfer Impedance			
	@ ≤ 20 MHz	≤ 50 mΩ/m	≤ 50 mΩ/m
Mutual capacitance		≤ 65 pF/m* **	≤ 65 pF/m* **
Attenuation	@ 1 MHz	≤ 10 dB/Km*	≤ 12 dB/Km*
	@ 2 MHz	≤ 12 dB/Km*	≤ 14 dB/Km*
Nominal weight		515 kg/km	600 kg/km
Nominal diameter		18.0 mm	20.5 mm

*only for pair 0.75 mm²
**Only for quad 1mm² with controlled impedance.




ETHERNET CABLES

TK-SF/UTP 2x2xAWG22 CAT.5E OR 4x2xAWG22 CAT.5E

CABLE SPECIFICATIONS

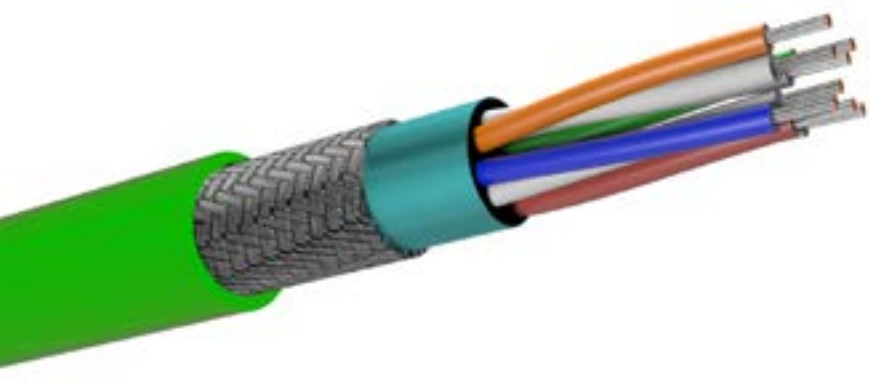
Conductor	Stranded tinned copper AWG22
Insulation	Special thermoplastic polymer
Pair Colours	White/Blue; Yellow/Orange for 2 pair White/Blue; White/Orange; White/Green; White/Brown for 4 pair
Assembling	2 or 4 pairs + eventual filler and tape are assembled together
Screen	Aluminium/Mylar tape + tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free green

TECHNICAL DATA

Operating Voltage	300 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10 xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-SF/UTP 2x2xAWG22 CAT.5E OR 4x2xAWG22 CAT.5E

MAIN FEATURES

		TK-SF/UTP 2x2xAWG22 CAT.5E	TK-SF/UTP 4x2xAWG22 CAT.5E
Conductor resistance		≤ 60.0 Ω/km	≤ 60.0 Ω/km
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		700 V	700 V
Characteristic Impedance	@ 1÷ 100 MHz	100 ± 15 Ω	100 ± 15 Ω
Transfer Impedance	@ ≤ 1 MHz	≤ 50 mΩ/m	≤ 50 mΩ/m
	@ ≤ 10 MHz	≤ 100 mΩ/m	≤ 100 mΩ/m
	@ ≤ 30 MHz	≤ 200 mΩ/m	≤ 200 mΩ/m
Mutual capacitance		≤ 46 pF/m	≤ 52 pF/m
Nominal Velocity of Propagation		78%	78%
Nominal weight		65 kg/km	115 kg/km
Nominal diameter		8.0 mm	8.5 mm

TK-SF/UTP 2x2xAWG22 CAT.5E OR 4x2xAWG22 CAT.5E

MAIN FEATURES

		TK-SF/UTP 2x2xAWG22 CAT.5E	TK-SF/UTP 4x2xAWG22 CAT.5E
Attenuation	1 MHz	≤ 3.2 dB/100m	≤ 3.2 dB/100m
	4 MHz	≤ 6.0 dB/100m	≤ 6.0 dB/100m
	10 MHz	≤ 9.5 dB/100m	≤ 9.5 dB/100m
	16 MHz	≤ 12.1 dB/100m	≤ 12.1 dB/100m
	20 MHz	≤ 13.6 dB/100m	≤ 13.6 dB/100m
	31.25 MHz	≤ 17.1 dB/100m	≤ 17.1 dB/100m
	62.5 MHz	≤ 24.1 dB/100m	≤ 24.1 dB/100m
	100 MHz	≤ 32.0 dB/100m	≤ 32.0 dB/100m
Next	1 MHz	≥ 65.3 dB	≥ 65.3 dB
	4 MHz	≥ 56.3 dB	≥ 56.3 dB
	10 MHz	≥ 50.3 dB	≥ 50.3 dB
	16 MHz	≥ 47.2 dB	≥ 47.2 dB
	20 MHz	≥ 45.8 dB	≥ 45.8 dB
	31.25 MHz	≥ 42.9 dB	≥ 42.9 dB
	62.5 MHz	≥ 38.4 dB	≥ 38.4 dB
	100 MHz	≥ 35.3 dB	≥ 35.3 dB
PSNext	1 MHz	≥ 63.8 dB	≥ 63.8 dB
	4 MHz	≥ 51.8 dB	≥ 51.8 dB
	10 MHz	≥ 43.8 dB	≥ 43.8 dB
	16 MHz	≥ 39.7 dB	≥ 39.7 dB
	20 MHz	≥ 37.8 dB	≥ 37.8 dB
	31.25 MHz	≥ 33.9 dB	≥ 33.9 dB
	62.5 MHz	≥ 27.9 dB	≥ 27.9 dB
	100 MHz	≥ 23.8 dB	≥ 23.8 dB
Return Loss	1 MHz	≥ 23.0 dB	≥ 23.0 dB
	4 MHz	≥ 24.1 dB	≥ 24.1 dB
	10 MHz	≥ 25.0 dB	≥ 25.0 dB
	16 MHz	≥ 25.0 dB	≥ 25.0 dB
	20 MHz	≥ 25.0 dB	≥ 25.0 dB
	31.25 MHz	≥ 23.6 dB	≥ 23.6 dB
	62.5 MHz	≥ 21.5 dB	≥ 21.5 dB
	100 MHz	≥ 20.1 dB	≥ 20.1 dB

TK-SF/UTP 4xAWG22 CAT.5E / 4xAWG22 FR CAT.5E

(*)

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper AWG22
Insulation	Special thermoplastic polymer
Pair Colours	White-Blue; Yellow-Orange
Protection	Flame barrier tape (*)
Assembling	4 conductors + eventual filler and tape are assembled together
Inner Sheath	Halogen free material
Screen	Aluminium/Mylar tape + tinned copper braid
Outer Sheath	Crosslinked material type EM 104, flame retardant, halogen free green

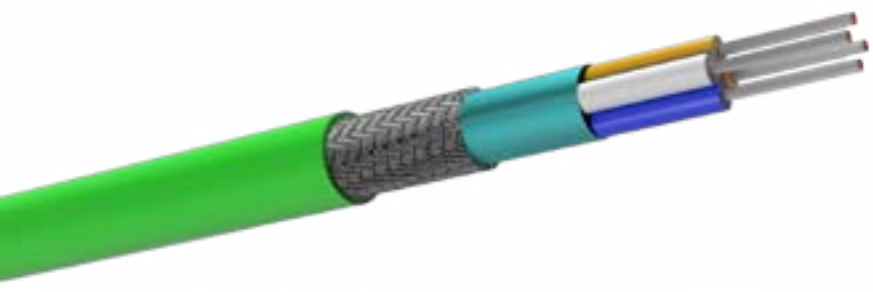
TECHNICAL DATA

Operating Voltage	300 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10 xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

(*) only for FR version



TK-SF/UTP 4xAWG22 CAT.5E / 4xAWG22 FR CAT.5E

MAIN FEATURES

		TK-SF/UTP 4xAWG22 CAT.5E	TK-SF/UTP 4xAWG22 FR CAT.5E
Conductor resistance		≤ 60.0 Ω/km	≤ 60.0 Ω/km
Insulation resistance		≥ 500 MΩxkm	≥ 500 MΩxkm
Test voltage		1000 V	1000 V
Characteristic Impedance	@ 1÷ 100 MHz	100 ± 15 Ω	100 ± 15 Ω
Transfer Impedance	@ ≤ 1 MHz	≤ 50 mΩ/m	≤ 50 mΩ/m
	@ ≤ 10 MHz	≤ 100 mΩ/m	≤ 100 mΩ/m
	@ ≤ 30 MHz	≤ 200 mΩ/m	≤ 200 mΩ/m
Mutual capacitance		≤ 46 pF/m	≤ 46 pF/m
Nominal Velocity of Propagation		78%	78%
Nominal weight		65 kg/km	70 kg/km
Nominal diameter		6.5 mm	7.0 mm

TK-SF/UTP 4xAWG22 CAT.5E / 4xAWG22 FR CAT.5E

MAIN FEATURES

		TK-SF/UTP 4xAWG22 CAT.5E	TK-SF/UTP 4xAWG22 FR CAT.5E
Attenuation	1 MHz	≤ 3.2 dB/100m	≤ 2.4 dB/100m
	4 MHz	≤ 6.0 dB/100m	≤ 4.9 dB/100m
	10 MHz	≤ 9.5 dB/100m	≤ 7.8 dB/100m
	16 MHz	≤ 12.1 dB/100m	≤ 9.8 dB/100m
	20 MHz	≤ 13.6 dB/100m	≤ 11.1 dB/100m
	31.25 MHz	≤ 17.1 dB/100m	≤ 14.0 dB/100m
	62.5 MHz	≤ 24.1 dB/100m	≤ 20.4 dB/100m
	100 MHz	≤ 32.0 dB/100m	≤ 26.4 dB/100m
Next	1 MHz	≥ 65.3 dB	≥ 65.3 dB
	4 MHz	≥ 56.3 dB	≥ 56.3 dB
	10 MHz	≥ 50.3 dB	≥ 50.3 dB
	16 MHz	≥ 47.2 dB	≥ 47.3 dB
	20 MHz	≥ 45.8 dB	≥ 45.8 dB
	31.25 MHz	≥ 42.9 dB	≥ 42.9 dB
	62.5 MHz	≥ 38.4 dB	≥ 38.4 dB
	100 MHz	≥ 35.3 dB	≥ 35.0 dB
PSNext	1 MHz	≥ 63.8 dB	
	4 MHz	≥ 51.8 dB	
	10 MHz	≥ 43.8 dB	
	16 MHz	≥ 39.7 dB	
	20 MHz	≥ 37.8 dB	
	31.25 MHz	≥ 33.9 dB	
	62.5 MHz	≥ 27.9 dB	
	100 MHz	≥ 23.8 dB	
Return Loss	1 MHz	≥ 23.0 dB	
	4 MHz	≥ 24.1 dB	
	10 MHz	≥ 25.0 dB	
	16 MHz	≥ 25.0 dB	
	20 MHz	≥ 25.0 dB	
	31.25 MHz	≥ 23.6 dB	
	62.5 MHz	≥ 21.5 dB	
	100 MHz	≥ 20.1 dB	

TK-SF/UTP 4x2xAWG26 CAT.5E

CABLE SPECIFICATIONS

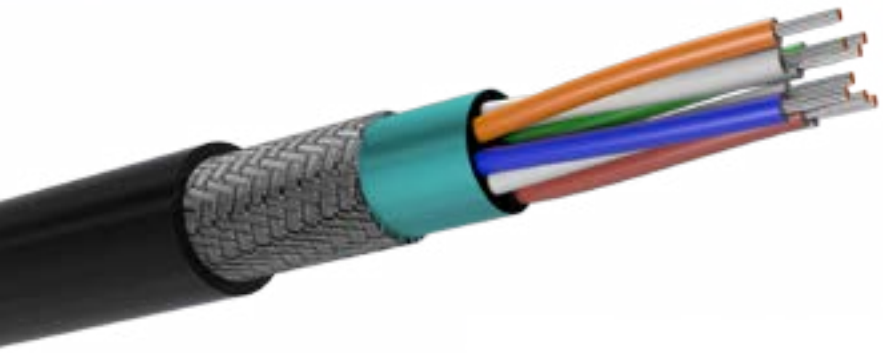
Conductor	Stranded tinned copper AWG26
Insulation	Polyethylene
Pair Colours	White/Blue-Blue; White/Orange-Orange; White/Green-Green; White/Brown-Brown
Assembling	4 pairs + eventual filler and tape are assembled together
Screen	Aluminium/Mylar tape + tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free black

TECHNICAL DATA

Operating Voltage	230 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10 xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-SF/UTP 4x2xAWG26 CAT.5E

MAIN FEATURES

TK-SF/UTP 4x2xAWG26 CAT.5E		
Conductor resistance		≤ 170.0 Ω/km
Insulation resistance		≥ 500 MΩxkm
Test voltage		700V
Characteristic Impedance	@ 1÷ 100 MHz	100 ± 12 Ω
Mutual capacitance		≤ 55 pF/m
Nominal Velocity of Propagation		66%
Nominal weight		65 kg/km
Nominal diameter		6.2 mm

TK-SF/UTP 4x2xAWG26 CAT.5E		
Attenuation	1 MHz	≤ 3.2 dB/100m
	4 MHz	≤ 6.0 dB/100m
	10 MHz	≤ 9.5 dB/100m
	16 MHz	≤ 12.1 dB/100m
	20 MHz	≤ 13.6 dB/100m
	31.25 MHz	≤ 17.1 dB/100m
	62.5 MHz	≤ 24.1 dB/100m
	100 MHz	≤ 32.0 dB/100m
Next	1 MHz	≥ 65.3 dB
	4 MHz	≥ 56.3 dB
	10 MHz	≥ 50.3 dB
	16 MHz	≥ 47.2 dB
	20 MHz	≥ 45.8 dB
	31.25 MHz	≥ 42.9 dB
	62.5 MHz	≥ 38.4 dB
	100 MHz	≥ 35.3 dB
PSNext	1 MHz	≥ 63.8 dB
	4 MHz	≥ 51.8 dB
	10 MHz	≥ 43.8 dB
	16 MHz	≥ 39.7 dB
	20 MHz	≥ 37.8 dB
	31.25 MHz	≥ 33.9 dB
	62.5 MHz	≥ 27.9 dB
	100 MHz	≥ 23.8 dB
Return Loss	1 MHz	≥ 23.0 dB
	4 MHz	≥ 24.1 dB
	10 MHz	≥ 25.0 dB
	16 MHz	≥ 25.0 dB
	20 MHz	≥ 25.0 dB
	31.25 MHz	≥ 23.6 dB
	62.5 MHz	≥ 21.5 dB
	100 MHz	≥ 20.1 dB

TK-SF/UTP 4x2xAWG24 CAT.5E

CABLE SPECIFICATIONS

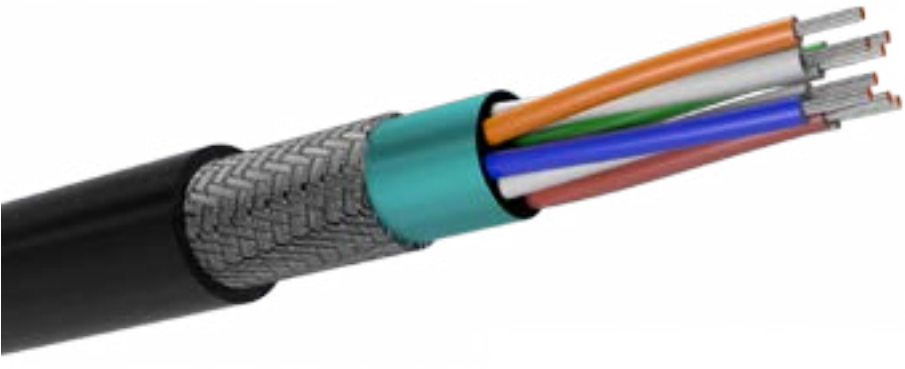
Conductor	Stranded bare copper AWG24
Insulation	Polyethylene
Pair Colours	White/Blue; White/Orange; White/Green; White/Brown
Assembling	2 or 4 pairs + eventual filler and tape are assembled together
Screen	Aluminium/Mylar tape + tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free black

TECHNICAL DATA

Operating Voltage	230 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10 xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-SF/UTP 4x2x AWG24 CAT.5E

MAIN FEATURES

TK-SF/UTP 4x2xAWG24 CAT.5E		
Conductor resistance		≤ 88.0 Ω/km
Insulation resistance		≥ 500 MΩxkm
Test voltage		700 V
Characteristic Impedance	@ 1÷ 100 MHz	100 ± 15 Ω
Transfer Impedance	@ ≤ 1 MHz	≤ 100 mΩ/m
	@ ≤ 10 MHz	≤ 100 mΩ/m
Mutual capacitance		≤ 52 pF/m
Nominal Velocity of Propagation		66%
Nominal weight		70 kg/km
Nominal diameter		7.0 mm

TK-SF/UTP 4x2xAWG24 CAT.5E		
Attenuation	1 MHz	≤ 3.2 dB/100m
	4 MHz	≤ 6.0 dB/100m
	10 MHz	≤ 9.5 dB/100m
	16 MHz	≤ 12.1 dB/100m
	20 MHz	≤ 13.6 dB/100m
	31.25 MHz	≤ 17.1 dB/100m
	62.5 MHz	≤ 24.1 dB/100m
	100 MHz	≤ 32.0 dB/100m
Next	1 MHz	≥ 65.3 dB
	4 MHz	≥ 56.3 dB
	10 MHz	≥ 50.3 dB
	16 MHz	≥ 47.2 dB
	20 MHz	≥ 45.8 dB
	31.25 MHz	≥ 42.9 dB
	62.5 MHz	≥ 38.4 dB
	100 MHz	≥ 35.3 dB
PSNext	1 MHz	≥ 63.8 dB
	4 MHz	≥ 51.8 dB
	10 MHz	≥ 43.8 dB
	16 MHz	≥ 39.7 dB
	20 MHz	≥ 37.8 dB
	31.25 MHz	≥ 33.9 dB
	62.5 MHz	≥ 27.9 dB
	100 MHz	≥ 23.8 dB
Return Loss	1 MHz	≥ 23.0 dB
	4 MHz	≥ 24.1 dB
	10 MHz	≥ 25.0 dB
	16 MHz	≥ 25.0 dB
	20 MHz	≥ 25.0 dB
	31.25 MHz	≥ 23.6 dB
	62.5 MHz	≥ 21.5 dB
	100 MHz	≥ 20.1 dB

TK-S/FTP 4x2xAWG24 CAT.7

CABLE SPECIFICATIONS

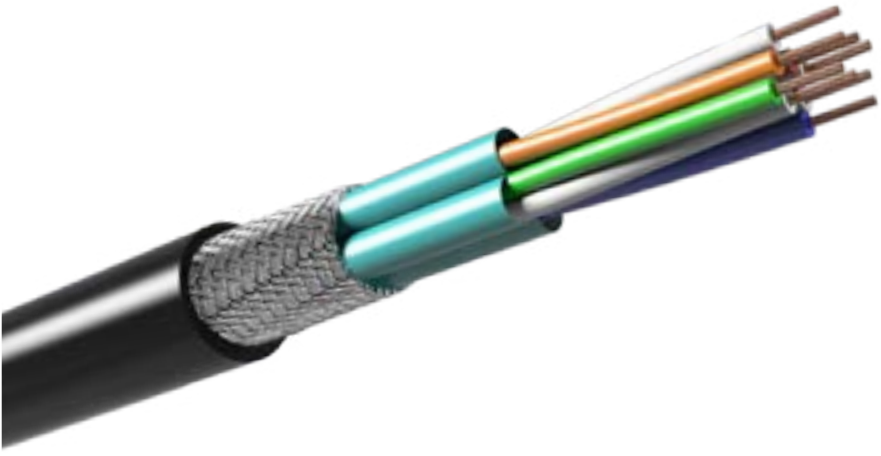
Conductor	Stranded bare copper AWG24
Insulation	Foam Polyolefin
Pair Colours	White-Blue; White-Orange; White-Green; White-Brown
Pair Screen	Aluminium/Mylar tape
Assembling	4 pairs + eventual filler and tape are assembled together
Overall Screen	Tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating Voltage	125 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10 xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-S/FTP 4x2xAWG24 CAT.7

MAIN FEATURES

TK-S/FTP 4X2XAWG24 CAT.7		
Conductor resistance		≤ 88.0 Ω/km
Insulation resistance		≥ 500 MΩxkm
Test voltage		700 V
Characteristic Impedance	@ 1 ÷ 100 MHz	100 ± 15 Ω
Transfer Impedance	@ ≤ 1 MHz	≤ 10 mΩ/m
	@ ≤ 30 MHz	≤ 30 mΩ/m
Mutual capacitance		≤ 43 pF/m
Nominal Velocity of Propagation		78%
Nominal weight		97 kg/km
Nominal diameter		8.8 mm

TK-S/FTP 4X2XAWG24 CAT.7		
Attenuation	1 MHz	≤ 2.9 dB/100m
	4 MHz	≤ 5.5 dB/100m
	10 MHz	≤ 8.5 dB/100m
	16 MHz	≤ 10.8 dB/100m
	20 MHz	≤ 12.1 dB/100m
	31.25 MHz	≤ 15.2 dB/100m
	62.5 MHz	≤ 21.7 dB/100m
	100 MHz	≤ 27.8 dB/100m
	155 MHz	≤ 35 dB/100m
	200 MHz	≤ 40.1 dB/100m
	300 MHz	≤ 50 dB/100m
	600 MHz	≤ 73.3 dB/100m
Next	1 MHz	≥ 80 dB
	4 MHz	≥ 80 dB
	10 MHz	≥ 80 dB
	16 MHz	≥ 80 dB
	20 MHz	≥ 80 dB
	31.25 MHz	≥ 80 dB
	62.5 MHz	≥ 75.1 dB
	100 MHz	≥ 72.4 dB
	155 MHz	≥ 69.6 dB
	200 MHz	≥ 67.9 dB
	300 MHz	≥ 65.3 dB
	600 MHz	≥ 60.8 dB
PSNext	1 MHz	≥ 80 dB
	4 MHz	≥ 80 dB
	10 MHz	≥ 74 dB
	16 MHz	≥ 69.6 dB
	20 MHz	≥ 68 dB
	31.25 MHz	≥ 64.1 dB
	62.5 MHz	≥ 58.1 dB
	100 MHz	≥ 54 dB
	155 MHz	≥ 50.2 dB
	200 MHz	≥ 48 dB
	300 MHz	≥ 44.5 dB
	600 MHz	≥ 38.4 dB
Return Loss	1 MHz	≤ 20 dB/100m
	4 MHz	≤ 23.1 dB/100m
	10 MHz	≤ 25.0 dB/100m
	16 MHz	≤ 25.0 dB/100m
	20 MHz	≤ 25.0 dB/100m
	31.25 MHz	≤ 23.6 dB/100m
	62.5 MHz	≤ 21.5 dB/100m
	100 MHz	≤ 20.1 dB/100m
	155 MHz	≤ 18.8 dB/100m
	200 MHz	≤ 17.3 dB/100m
	300 MHz	≤ 17.3 dB/100m
	600 MHz	≤ 17.3 dB/100m

TK-S/FTP 4x2xAWG23 CAT.7

CABLE SPECIFICATIONS

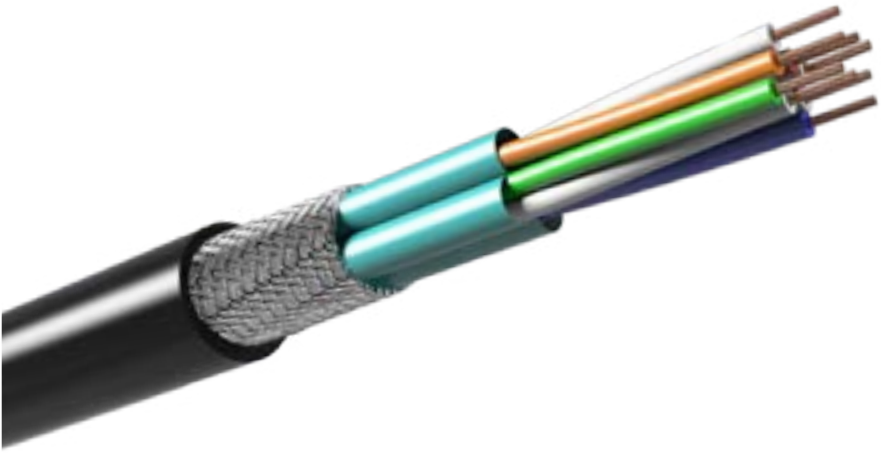
Conductor	Stranded bare copper AWG23
Insulation	Foam Polyolefin
Pair Colours	White-Blue; White-Orange; White-Green; White-Brown
Pair Screen	Aluminium/Mylar tape
Assembling	4 pairs + eventual filler and tape are assembled together
Overall Screen	Tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating Voltage	125 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10 xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-S/FTP 4x2xAWG23 CAT.7

MAIN FEATURES

TK-S/FTP 4X2XAWG23 CAT.7		
Conductor resistance		≤ 69.5 Ω/km
Insulation resistance		≥ 500 MΩxkm
Test voltage		700 V
Characteristic Impedance"	@ 1 ÷ 100 MHz	100 ± 15 Ω
Transfer Impedance	@ ≤ 1 MHz	≤ 10 mΩ/m
	@ ≤ 10 MHz	≤ 15 mΩ/m
	@ ≤ 30 MHz	≤ 30 mΩ/m
Mutual capacitance		≤ 43 pF/m
Nominal Velocity of Propagation		78%
Nominal weight		91 kg/km
Nominal diameter		8.8 mm

TK-S/FTP 4X2XAWG23 CAT.7		
Attenuation	1 MHz	≤ 2.9 dB/100m
	4 MHz	≤ 5.5 dB/100m
	10 MHz	≤ 8.5 dB/100m
	16 MHz	≤ 10.8 dB/100m
	20 MHz	≤ 12.1 dB/100m
	31.25 MHz	≤ 15.2 dB/100m
	62.5 MHz	≤ 21.7 dB/100m
	100 MHz	≤ 27.8 dB/100m
	155 MHz	≤ 35 dB/100m
	200 MHz	≤ 40.1 dB/100m
	300 MHz	≤ 50 dB/100m
	600 MHz	≤ 73.3 dB/100m
Next	1 MHz	≥ 80 dB
	4 MHz	≥ 80 dB
	10 MHz	≥ 80 dB
	16 MHz	≥ 80 dB
	20 MHz	≥ 80 dB
	31.25 MHz	≥ 80 dB
	62.5 MHz	≥ 75.1 dB
	100 MHz	≥ 72.4 dB
	155 MHz	≥ 69.6 dB
	200 MHz	≥ 67.9 dB
	300 MHz	≥ 65.3 dB
	600 MHz	≥ 60.8 dB
PSNext	1 MHz	≥ 80 dB
	4 MHz	≥ 80 dB
	10 MHz	≥ 74 dB
	16 MHz	≥ 69.6 dB
	20 MHz	≥ 68 dB
	31.25 MHz	≥ 64.1 dB
	62.5 MHz	≥ 58.1 dB
	100 MHz	≥ 54 dB
	155 MHz	≥ 50.2 dB
	200 MHz	≥ 48 dB
	300 MHz	≥ 44.5 dB
	600 MHz	≥ 38.4 dB
Return Loss	1 MHz	≤ 20 dB/100m
	4 MHz	≤ 23.1 dB/100m
	10 MHz	≤ 25.0 dB/100m
	16 MHz	≤ 25.0 dB/100m
	20 MHz	≤ 25.0 dB/100m
	31.25 MHz	≤ 23.6 dB/100m
	62.5 MHz	≤ 21.5 dB/100m
	100 MHz	≤ 20.1 dB/100m
	155 MHz	≤ 18.8 dB/100m
	200 MHz	≤ 17.3 dB/100m
	300 MHz	≤ 17.3 dB/100m
	600 MHz	≤ 17.3 dB/100m

TK-S/FTP 4x2xAWG23 CAT.7A

CABLE SPECIFICATIONS

Conductor	Stranded bare copper AWG23
Insulation	Foam Polyolefin
Pair Colours	White-Blue; White-Orange; White-Green; White-Brown
Pair Colours	Aluminium/Mylar tape
Assembling	4 pairs + eventual filler and tape are assembled together
Overall Screen	Tinned copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free black

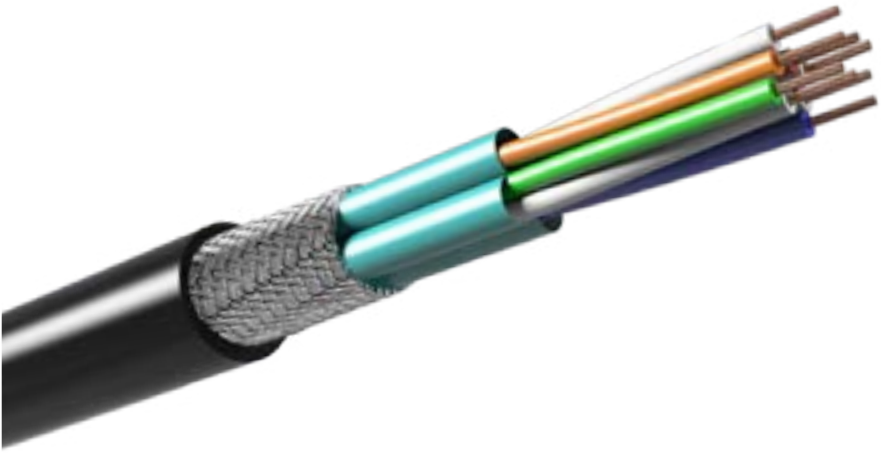
TECHNICAL DATA

Operating Voltage	125 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	7xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

Also available for jumper version

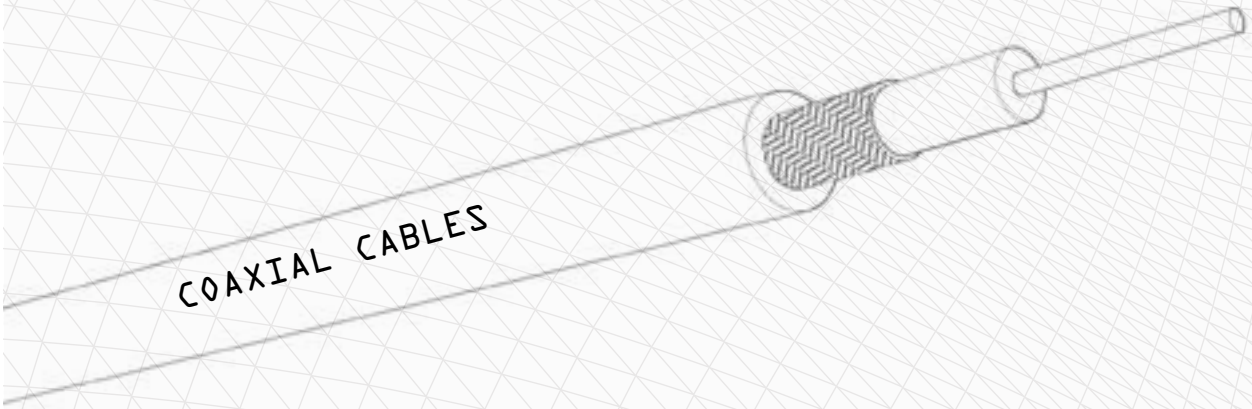


TK-S/FTP 4x2xAWG23 CAT.7A

MAIN FEATURES

TK-S/FTP 4X2XAWG23 CAT.7A		
Conductor resistance [Ω/km]		≤ 69.5 Ω/km
Insulation resistance [MΩxkm]		≥ 500 MΩxkm
Test voltage [V]		700 V
Characteristic Impedance"	@ 1÷ 100 MHz	100 ± 10 Ω
Transfer Impedance	@ ≤ 1 MHz	≤ 10 mΩ/m
	@ ≤ 10 MHz	≤ 10 mΩ/m
	@ ≤ 30 MHz	≤ 30 mΩ/m
	@ ≤ 100 MHz	≤ 100 mΩ/m
Mutual capacitance [pF/m]		≤ 43 pF/m
Nominal Velocity of Propagation		78%
Nominal weight [kg/km]		105 kg/km
Nominal diameter [mm]		9.2 mm

TK-S/FTP 4X2XAWG23 CAT.7A		
Attenuation	1 MHz	≤ 3.01 dB/100m
	4 MHz	≤ 5.38 dB/100m
	10 MHz	≤ 8.71 dB/100m
	16 MHz	≤ 11.0 dB/100m
	20 MHz	≤ 12.29 dB/100m
	62.5 MHz	≤ 21.785dB/100m
	100 MHz	≤ 27.78 dB/100m
	200 MHz	≤ 39.70 dB/100m
	300 MHz	≤ 49.03 dB/100m
	600 MHz	≤ 70.65 dB/100m
	800 MHz	≤ 82.38 dB/100m
	1000 MHz	≤ 92.89 dB/100m
Next	1 MHz	≥ 78 dB
	4 MHz	≥ 78 dB
	10 MHz	≥ 78 dB
	16 MHz	≥ 78 dB
	20 MHz	≥ 78 dB
	62.5 MHz	≥ 78 dB
	100 MHz	≥ 78 dB
	200 MHz	≥ 73.88 dB
	300 MHz	≥ 71.24 dB
	600 MHz	≥ 66.73 dB
	800 MHz	≥ 64.85 dB
	1000 MHz	≥ 63.40 dB
PSNext	1 MHz	≥ 75 dB
	4 MHz	≥ 75 dB
	10 MHz	≥ 75 dB
	16 MHz	≥ 75 dB
	20 MHz	≥ 75 dB
	62.5 MHz	≥ 75 dB
	100 MHz	≥ 75 dB
	200 MHz	≥ 70.88 dB
	300 MHz	≥ 68.24 dB
	600 MHz	≥ 63.73 dB
	800 MHz	≥ 61.85 dB
	1000 MHz	≥ 60.40 dB
Return Loss	1 MHz	≤ 20 dB/100m
	4 MHz	≤ 23.1 dB/100m
	10 MHz	≤ 25.0 dB/100m
	16 MHz	≤ 25.0 dB/100m
	20 MHz	≤ 25.0 dB/100m
	62.5 MHz	≤ 20.74 dB/100m
	100 MHz	≤ 18.99 dB/100m
	200 MHz	≤ 16.4 dB/100m
	300 MHz	≤ 15.6 dB/100m
	600 MHz	≤ 15.6 dB/100m
	800 MHz	≤ 15.6 dB/100m
	1000 MHz	≤ 15.6 dB/100m


COAXIAL CABLES

TK-COAXIAL RG213

CABLE SPECIFICATIONS

Conductor	Stranded bare copper 7x0.75 mm
Insulation	Polyetylene
Screen	Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	3700 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 5.77 Ω/km
Test voltage		10000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 105 pF/m
Nominal Velocity of Propagation		66%
Attenuation	@ 10 MHz	≤ 1.80 dB/100m
	@ 200 MHz	≤ 8.86 dB/100m
	@ 400 MHz	≤ 13.5 dB/100m
	@ 3000 MHz	≤ 52.5 dB/100m
Nominal weight		160 kg/km
Nominal diameter		10.30 mm

TK-COAXIAL RG223

CABLE SPECIFICATIONS

Conductor	Silver copper 0.9 mm
Insulation	Polyetylene
First Screen	Silver Copper braid
Second Screen	Silver Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	1900 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 29.43 Ω/km
Test voltage		5000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 105 pF/m
Nominal Velocity of Propagation		66%
Attenuation	@ 10 MHz	≤ 7 dB/100m
	@ 50 MHz	≤ 15.7 dB/100m
	@ 100 MHz	≤ 27 dB/100m
	@ 400 MHz	≤ 39 dB/100m
	@ 1000 MHz	≤ 68.9 dB/100m
Nominal weight		55 kg/km
Nominal diameter		5.4 mm

TK-COAXIAL RG316

CABLE SPECIFICATIONS

Conductor	Stranded Silver copperweld 7x0.16 mm
Insulation	Special thermoplastic polymer
Screen	Silver Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 276.0 Ω/km
Test voltage		2000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 95 pF/m
Nominal Velocity of Propagation		70%
Attenuation	@ 10 MHz	≤ 19.7 dB/100m
	@ 50 MHz	≤ 24.6 dB/100m
	@ 100 MHz	≤ 36 dB/100m
	@ 400 MHz	≤ 68.9 dB/100m
	@ 1000 MHz	≤ 102 dB/100m
	@ 3000 MHz	≤ 205 dB/100m
Nominal weight		15 kg/km
Nominal diameter		3.1 mm

TK-COAXIAL RG400

CABLE SPECIFICATIONS

Conductor	Stranded Silver copper 19x0.20 mm
Insulation	Special thermoplastic polymer
First Screen	Tinned Copper braid
Second Screen	Tinned Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	750 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 30.0 Ω/km
Test voltage		2000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 100 pF/m
Nominal Velocity of Propagation		71%
Attenuation	@ 400 MHz	≤ 31.3 dB/100m
	@ 3000 MHz	≤ 100.7 dB/100m
Nominal weight		50 kg/km
Nominal diameter		4.95 mm

TK-COAXIAL RG58

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper 19x0.18 mm
Insulation	Polyetylene
Screen	Tinned Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	2000 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 48.0 Ω/km
Test voltage		5000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 100 pF/m
Nominal Velocity of Propagation		66%
Attenuation	@ 50 MHz	≤ 11.5 dB/100m
	@ 100 MHz	≤ 20 dB/100m
	@ 200 MHz	≤ 24.3 dB/100m
	@ 400 MHz	≤ 62 dB/100m
	@ 1000 MHz	≤ 39.4 dB/100m
Nominal weight		40 kg/km
Nominal diameter		4.95 mm

TK-COAXIAL RG214

CABLE SPECIFICATIONS

Conductor	Stranded Silver copper 7x0.75 mm
Insulation	XLPE
First Screen	Silver Copper braid
Second Screen	Silver Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	1400 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 6.0 Ω/km
Test voltage		10000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 100 pF/m
Nominal Velocity of Propagation		66%
Attenuation	@ 50 MHz	≤ 4.7 dB/100m
	@ 100 MHz	≤ 7.1 dB/100m
	@ 200 MHz	≤ 10.4 dB/100m
	@ 500 MHz	≤ 17.4 dB/100m
	@ 1000 MHz	≤ 26.2 dB/100m
	@ 3000 MHz	≤ 55 dB/100m
Nominal weight		205 kg/km
Nominal diameter		10.8 mm

TK-COAXIAL RG142

CABLE SPECIFICATIONS

Conductor	Silver copperweld 0.95 mm
Insulation	Special thermoplastic polymer
First Screen	Silver Copper braid
Second Screen	Silver Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	2500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 63.97 Ω/km
Test voltage		5000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 100 pF/m
Nominal Velocity of Propagation		72%
Attenuation	@ 300 MHz	≤ 27 dB/100m
	@ 600 MHz	≤ 40 dB/100m
	@ 900 MHz	≤ 51 dB/100m
	@ 1200 MHz	≤ 61 dB/100m
	@ 1500 MHz	≤ 69 dB/100m
	@ 3000 MHz	≤ 107 dB/100m
Nominal weight		60 kg/km
Nominal diameter		5.0 mm

TK-COAXIAL RG174

CABLE SPECIFICATIONS

Conductor	Stranded copperweld 7x0.16 mm
Insulation	Polyetylene
Screen	Tinned Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	750 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 290.0 Ω/km
Test voltage		2000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 100 pF/m
Nominal Velocity of Propagation		66%
Attenuation	@ 50 MHz	≤ 17.5 dB/100m
	@ 100 MHz	≤ 25.8 dB/100m
	@ 200 MHz	≤ 38.2 dB/100m
	@ 400 MHz	≤ 54.9 dB/100m
	@ 600 MHz	≤ 68.6 dB/100m
	@ 860 MHz	≤ 81.2 dB/100m
	@ 1000 MHz	≤ 87.5 dB/100m
Nominal weight		12.5 kg/km
Nominal diameter		2.80 mm

TK-COAXIAL AERIAL

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper 19x0.30 mm
Insulation	Special thermoplastic polymer
Screen	Aluminium/ Mylar / Aluminium tape
Second Screen	Tinned Copper braid (with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

Operating Voltage	750 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 30.0 Ω/km
Test voltage		2000 V
Characteristic Impedance		50 ± 2 Ω
Mutual capacitance		≤ 82 pF/m
Nominal Velocity of Propagation		81%
Attenuation	@ 50 MHz	≤ 6.5 dB/100m
	@ 100 MHz	≤ 9.3 dB/100m
	@ 300 MHz	≤ 16.3 dB/100m
	@ 400 MHz	≤ 19.0 dB/100m
	@ 860 MHz	≤ 28.5 dB/100m
	@ 1000 MHz	≤ 30.9 dB/100m
Nominal weight		50 kg/km
Nominal diameter		5.4 mm

TK-COAXIAL RG59

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper 19x0.20 mm
Insulation	Foam Polyolefin
Screen	Tinned Copper braid with eventual tape)
Sheath	Cross-linked Material type EM104, Flame Retardant, Halogen Free Black

TECHNICAL DATA

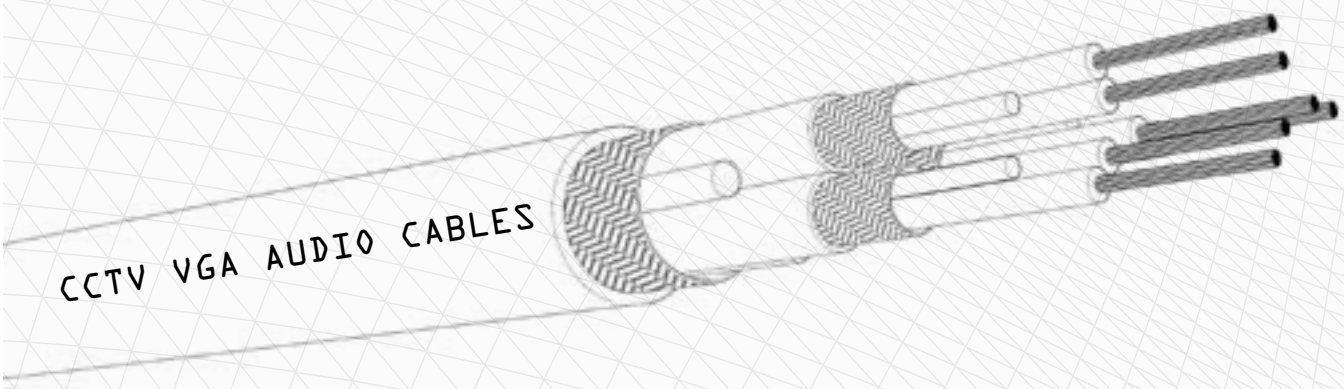
Operating Voltage	500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

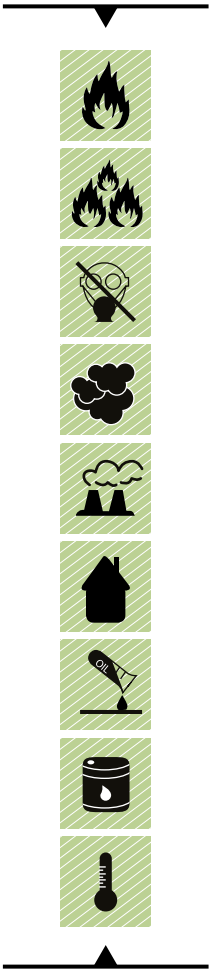
Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

Conductor resistance		≤ 33.2 Ω/km
Test voltage		2000 V
Characteristic Impedance		75 ± 3 Ω
Mutual capacitance		≤ 56 pF/m
Nominal Velocity of Propagation		78%
Attenuation	@ 5 MHz	≤ 2.20 dB/100m
	@ 10 MHz	≤ 3.20 dB/100m
	@ 50 MHz	≤ 7.90 dB/100m
	@ 100 MHz	≤ 11.20 dB/100m
	@ 200 MHz	≤ 16.10 dB/100m
	@ 400 MHz	≤ 23.30 dB/100m
	@ 1000 MHz	≤ 39.40 dB/100m
Nominal weight		65 kg/km
Nominal diameter		6.15 mm


CCTV VGA AUDIO CABLES

TK-CCTV / VGA 3 COAX 75 Ω+3xAWG26



CABLE SPECIFICATIONS

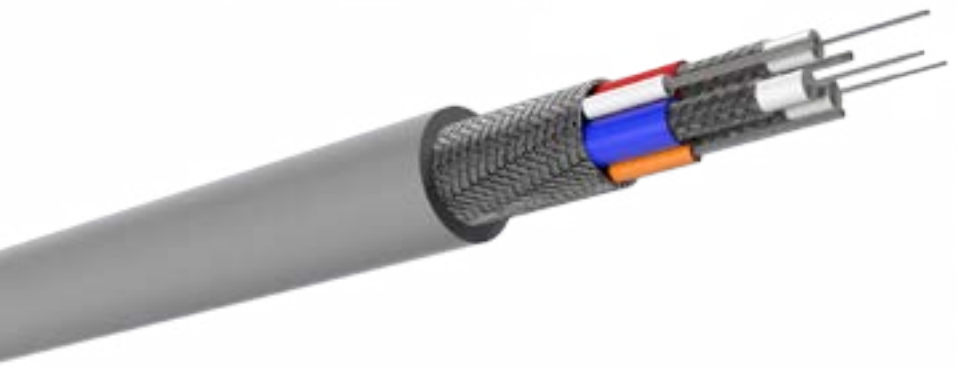
	COAX
Conductors	Stranded tinned copper AWG28 (7x0.127) mm
Insulation	Special thermoplastic polymer
Screen	Tinner copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Red-Green-Blue
	AWG26
Conductors	Stranded tinned copper AWG26 (7x0.16) mm
Insulation	Cross-linked Material type EI105
Colours	White-Orange-Brown
Total assembling	3 coax + 3 xA26WG + eventual filler and tape are assembled together
Total Screen	Tinner copper braid
Total Sheath	Crosslinked material type EM 104, flame retardant, halogen free Grey

TECHNICAL DATA

Operating Voltage	30 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



TK-CCTV / VGA 3 COAX 75 Ω+3xAWG26

MAIN FEATURES

TK-CCTV / VGA 3 COAX 75 Ω+3xAWG26		
Conductor resistance		≤ 230.0 Ω/km (AWG28) ≤ 140.0 Ω/km (AWG26)
Insulation resistance		≥ 500 MΩxkm
Test voltage		1000 V
Characteristic Impedance	@ 1 MHz	75 ± 10 Ω*
Mutual capacitance		≤ 56 pF/m
Nominal Velocity of Propagation		80%
Nominal weight		115 kg/km
Nominal diameter		8.8 mm

*Only for Coax

TK-AUDIO 3x(2x0.60)

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper 0.60 mm^2
Insulation	Special thermoplastic polymer
Colours	White-Blue; White-Orange; White-Green
Pair screen	Tinned copper braid
Pair sheath	Crosslinked material type EM 104, flame retardant, halogen free Black
Assembling	3 elements + eventual filler and tape are assembled together
Screen	Tinner copper braid
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating Voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

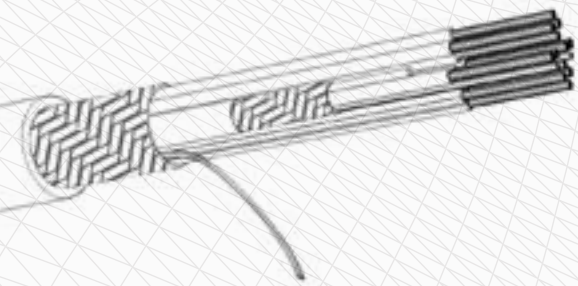
Fire propagation	EN 60332-1-2 EN 50266-2-4
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

TK-AUDIO 3x(2x0.60)

MAIN FEATURES

TK-AUDIO 3x(2x0.60)		
Conductor resistance		≤ 37.0 Ω/km
Insulation resistance		≥ 2500 MΩxkm
Test voltage		2000 V
Characteristic Impedance	@ 1 MHz	110 ± 10 Ω
Mutual capacitance		≤ 50 pF/m
Nominal Velocity of Propagation		78%
Nominal weight		335 kg/km
Nominal diameter		15.5 mm

RF VALIDATION TICKET CABLES



TK-RF VALIDATION TICKET 2xAWG22

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper AWG22
Insulation	Special double layer of oleolefinic insulation according to EN50306
Colors	White-Red
Assembling	2 conductors + eventual filler and tape are assembled together
Screen	Tinner copper braid + drain wire
Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

TK-RF VALIDATION TICKET 2xAWG22	
Conductor resistance	≤ 55.0 Ω/km
Insulation resistance	≥ 250.0 MΩxkm
Test voltage	2000 V
Nominal weight	40 kg/km
Nominal diameter	5.0 mm

TK-RF VALIDATION TICKET 4xAWG22+2xAWG22

CABLE SPECIFICATIONS

	SINGLE PAIR SCREENED
Conductors	Stranded tinned copper AWG22
Insulation	Special double layer of oleolefinic insulation according to EN50306
Pair Colors	White-Red
Pair Screen	Tinned copper braid + drain wire
Pair Protection	Syntetic tape
	OTHER ELEMENTS
Conductors	Stranded tinned copper AWG22
Insulation	Special double layer of oleolefinic insulation according to EN50306
Colours	Black-Orange-Blue-Brown
Total assembling	1 pair and 4 conductors + eventually filler and tape are assembled together
Total Screen	Tinner copper braid + drain wire
Total Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating voltage	300/500 V
Operating temperature	-40°C ÷ +90°C
Minimum bending radius	10xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

TK-RF VALIDATION TICKET 4xAWG22+2xAWG22	
Conductor resistance	≤ 55.0 Ω/km
Insulation resistance	≥ 250.0 MΩxkm
Test voltage	2000 V
Nominal weight	90 kg/km
Nominal diameter	7.0 mm

TK-RF VALIDATION TICKET 8xAWG22+2x(2xAWG22)

CABLE SPECIFICATIONS

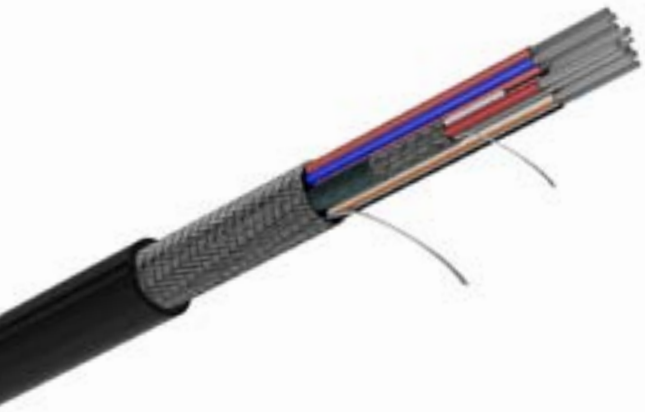
	SINGLE PAIR SCREENED
Conductors	Stranded tinned copper AWG22
Insulation	Special double layer of oleolefinic insulation according to EN50306
Pair Colors	White-Red; Black-Orange
Pair Screen	Tinned copper braid + drain wire
Pair Protection	Syntetic tape
	OTHER ELEMENTS
Conductor	Stranded tinned copper AWG22
Insulation	Special double layer of oleolefinic insulation according to EN50306
Quad Colours	(Blue-Brown-Green-Pink)-(Violet-White/Red-White/Black-White/Orange)
Total assembling	2 pair and 2 quad + eventually filler and tape are assembled together
Total Screen	Tinned copper braid + drain wire
Total Sheath	Crosslinked material type EM 104, flame retardant, halogen free Black

TECHNICAL DATA

Operating Voltage	300/500 V
Operating temperature	-40°C ÷ +90°C see table 2
Minimum bending radius	10xØ

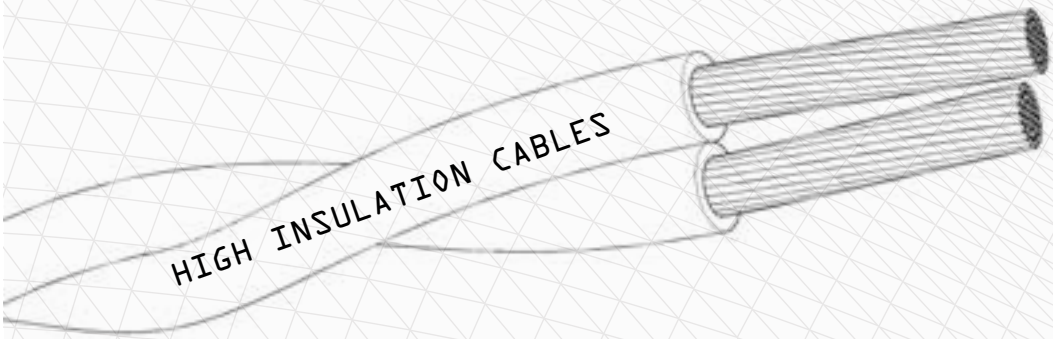
FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50266-2-5
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes



MAIN FEATURES

TK-RF VALIDATION TICKET 8xAWG22+2x(2xAWG22)	
Conductor resistance	≤ 55.0 Ω/km
Insulation resistance	≥ 250.0 MΩxkm
Test voltage	2000 V
Nominal weight	170 kg/km
Nominal diameter	10.4 mm


HIGH INSULATION CABLES

TK-HIGH INSULATION

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper 19x0.25 mm (1x1 mm²) Stranded tinned copper 37x0.23 mm (1x1.5 mm²) Stranded tinned copper 37x0.30 mm (1x2.5 mm²)
Insulation	Special oleolefinic insulation according to EN50306

TECHNICAL DATA

Operating voltage	1.8/3 kV
Operating temperature	-40°C ÷ +105°C
Minimum bending radius	4xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

TK-HIGH INSULATION			
	1x1 mm²	**1x1.5 mm²**	**1x2.5 mm²**
Voltage rating	1.8/3 kV	1.8/3 kV	1.8/3 kV
Test voltage	6500 V	6500 V	6500 V
Nominal weight	12 kg/km	17 kg/km	28 kg/km
Nominal diameter	2.1 mm	2.45 mm	2.95 mm
Minimum bending radius	4xØ	4xØ	4xØ

TK-MULTICORE HIGH INSULATION

CABLE SPECIFICATIONS

Conductor	Stranded tinned copper 19x0.20mm (2xAWG20) Stranded tinned copper 19x0.127mm (2xAWG24) Stranded tinned copper 19x0.20mm (3xAWG20) Stranded tinned copper 19x0.127mm (3xAWG24)
Insulation	Special oleolefinic insulation according to EN50306
Assembling	Twisted conductors

TECHNICAL DATA

Operating voltage	1.8/3 kV
Operating temperature	-40°C ÷ +105°C
Minimum bending radius	4xØ

FIRE PERFORMANCE

Fire propagation	EN 60332-1-2 EN 50305 9.1.2
Smoke density	EN 61034-1/2
Halogen-free	EN 50267-2-1/2
Fumes	No corrosive and toxic fumes

MAIN FEATURES

TK-MULTICORE HIGH INSULATION				
	2xAWG20	**2xAWG24**	**3xAWG20**	**3xAWG24**
Voltage rating	1.8/3 kV	1.8/3 kV	1.8/3 kV	1.8/3 kV
Test voltage	6500 V	6500 V	6500 V	6500 V
Nominal weight	15 kg/km	8 kg/km	23 kg/km	11 kg/km
Nominal diameter	3.8 mm	2.4 mm	4.1 mm	2.7 mm
Minimum bending radius	4xØ	4xØ	4xØ	4xØ

CONTACT

HEADQUARTER
VOLPIANO
via Brandizzo, 243
10088 Volpiano (Turin) Italy
Tel. +39 011 9951997
Fax +39 011 9953062
www.tecnikabel.com

PRODUCTION PLANTS
VOLPIANO
via Brandizzo, 243
10088 Volpiano (Turin) Italy

ALMESE
via Rivera, 100
10040 Almese (Turin) Italy

COMMERCIAL OFFICES

TK ROME

TECNIKABEL ROME
via Casali delle Cornacchiole, 154
00178 ROMA - ITALY

TK MIDDLE EAST

TECNIKABEL M.E. JLT
3008 Mazaya Business Avenue
Jumeirah Lake Towers
DUBAI, UAE

TK ASIA-PACIFIC

TECNIKABEL ASIA PTE LTD
16 Tuas South Street 2
SINGAPORE 637786

TK DEUTSCHLAND

TK DEUTSCHLAND GmbH
Herdewerg 8
83623 Steingau, GERMANY

AGENT / DEALER

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