



BUILDING TECHNOLOGY

**CABLES FOR BUILDING
APPLICATION**

tecniKabel
SPECIAL ELECTRICAL AND OPTICAL CABLES
WWW.TECNIKABEL.COM

tecniKabel

SPECIAL ELECTRICAL AND OPTICAL CABLES



INTRODUCTION

Structured cabling solutions.

Tecnikabel can provide a wide range of signal transmission solutions for public and private areas. Whether building entrance or roof, data center, meeting rooms, auditoriums or conference rooms, we can build management and security system control rooms for each individual office or workstation. Fully integrated solutions employing copper cable and fiber to carry voice, video and data.

Security & alarm cables

Many current public and private buildings, such as offices, hospitals, airports, amusement parks, retail outlets, schools, stadiums and other such places, all have surveillance systems to track visitors and employees. The purpose of these systems is clear: to protect people, the facility and its assets. These cables are designed to make installation as simple as possible, and thereby save time and money. Based on the continuous demands of the market, Tecnikabel has developed the series 3, 6 and 7 of cables for building applications. In the event of fire, it is critically important that the electrical detection, warning and alarm systems continue to operate - even in extreme conditions, such as fire and high heat. To ensure the safety and evacuation of personnel, the fire alarm system must not fail. Many Tecnikabel cables are specifically designed for use during severe fires. In such circumstances, fire resistance, low smoke emission and zero halogen emissions ensure there is no irreparable risk to either circuit or personnel.

These cables are ideal for fire detection systems, emergency lighting, video surveillance and public address systems.

The cables must ensure the following main features are complied with:

- high level of alarm circuit efficiency
- continuous operation in the event of fire

PRODUCT LINES

	TRANSPORTATION
	OIL / GAS & PETROCHEMICALS
	TELECOMMUNICATION
	OPTICAL
	AUTOMATION
	SUBMARINE
	HEALTHCARE
	AUDIOVIDEO
	NAVAL
	DEFENSE
	HYBRID
	BUILDING TECHNOLOGY

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.



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 Chemical properties 9

 Mechanical properties 9

Fire performances 10

TK-BT SERIES 3.....

 Multicores Unshielded Cable For Audio, Security, Control, Bms And Instrumentation Applications.....14

 Multicores Shielded Cable For Audio, Security, Control, Bms And Instrumentation Applications 16

TK-BT SERIES 6.....

 Multipairs Shielded Cable Rs485 Low Capacitance For Bms, Access Control And Instrumentation Applications..... 20

 Multipairs Individual Shielded Cable Rs422 Low Capacitance For Bms, Access Control Applications 22

 Multipairs Shielded Cable Rs232 For Bms And Access Control Applications..... 24

 Pair And Quad Shielded Cable Knx/Eib Low Capacitance For Bms, Home Automation And Access Control Applications..... 26

 Multipairs Unshielded Cable Lonwoks Bus Low Capacitance For Bms And Access Control Applications..... 28

 Multipairs Individual Shielded Cable Lonwoks Bus Low Capacitance For Bms And Access Control Applications 30

 Pair Unshielded Cable Interface Bus Low Capacitance For Bms, Instrumentation And Access Control Applications..... 32

 Pair Shielded Cable Interface Bus Low Capacitance For Bms, Instrumentation And Access Control Applications..... 34

 Multipairs Individual Shielded Cable Interface Bus Low Capacitance For Bms, Instrumentation
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TK-BT SERIES 7.....

 Coax Cctv Analogic And Video Applications.....40

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Fire and flame behaviour tests 44

ENVIRONMENTAL PROPERTIES



FLAME RETARDANT SINGLE WIRE
(IEC 60332-1-2)



FLAME RETARDANT BUNCHED WIRES
(IEC 60332-3)



FIRE RESISTANCE (IEC 60331 - EN50200 -
BS6387 CWZ)



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



SMOKE DENSITY (IEC 61034-1/2)



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



WEATHERING TEST RESISTANCE
(OUTDOOR)



INDOOR



WATER RESISTANCE



RODENT RESISTANCE



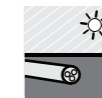
HAZARDOUS AREA



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 / EN 50265 / BS 4066:

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 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 Test on gases evolved during combustion of materials from cables - Determination of the halogen acid gas content.

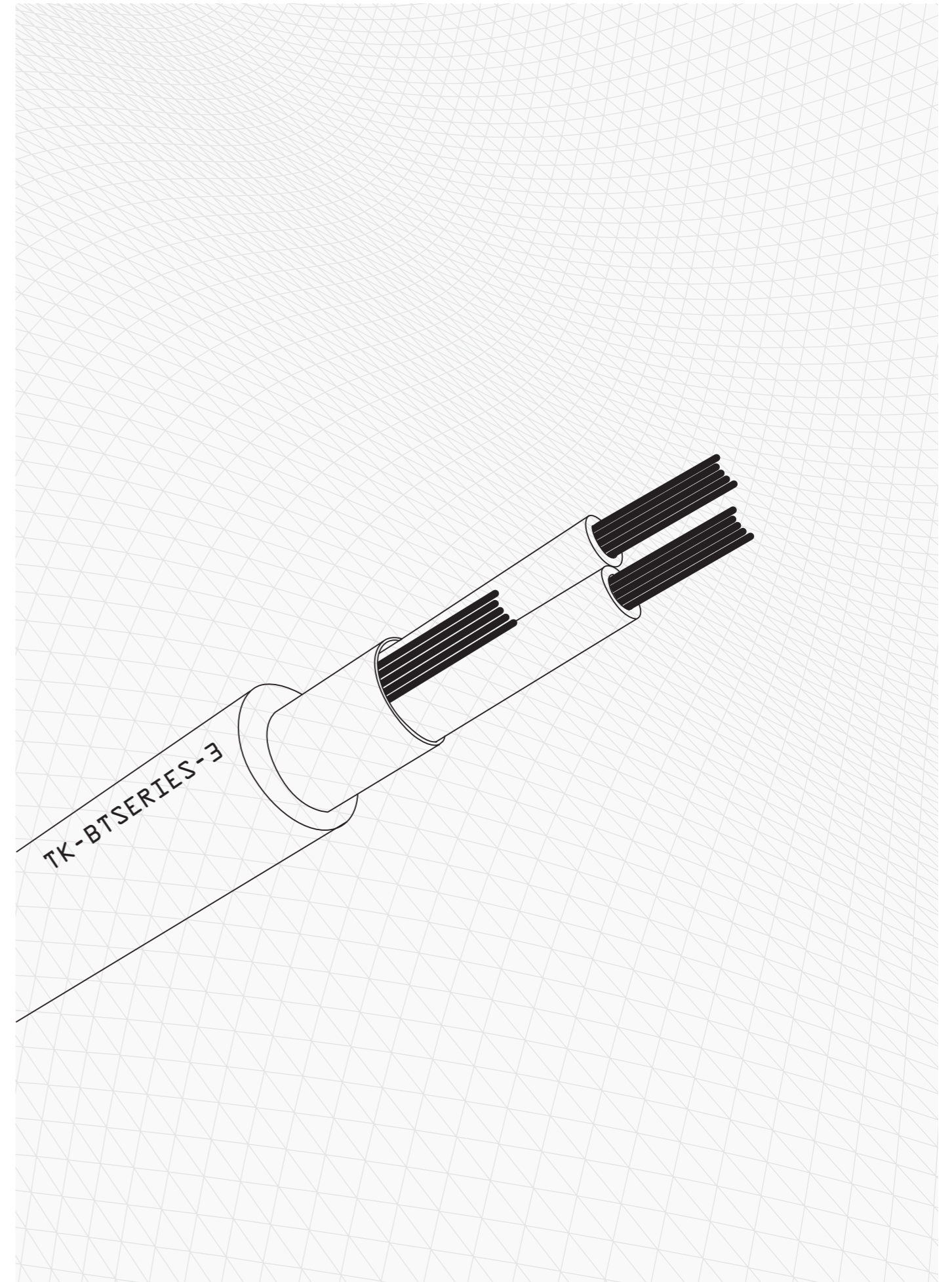
This standard covers the general aspects of potential hazard caused from corrosiveness of smoke and combustion gases. A small quantity of non-metallic material is heated in a tube, the resulting gases are tested for their halogen content. The flame temperature is $800\text{ }^{\circ}\text{C} \pm 10\text{ }^{\circ}\text{C}$, with a test duration of 40 ± 5 min in total.

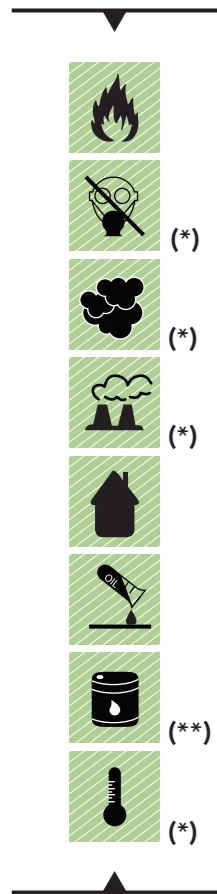
The halogen content of non-metallic materials must be less than 0.5% or 5 mg/g.

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 $10\text{ }\mu\text{S}/\text{mm}$.





CABLE SPECIFICATIONS

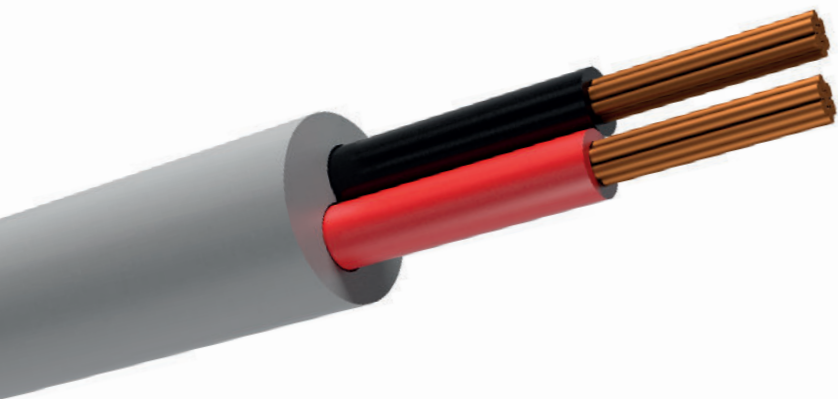
Conductor	Stranded Bare Copper
Insulation	Polyolefin
Core identification	Black, Red. (2 Cores) Black, Red, White. (3 Cores) Black, Red, White, Green. (4 Cores) Black, Red, White, Green, Brown, Blue. (6 Cores) Black, Red, White, Green, Brown, Blue, Orange, Yellow. (8 Cores)
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Grey Other colours available upon request

TECHNICAL DATA

Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Low smoke density	IEC 61034-1/2 (only LSZH material)

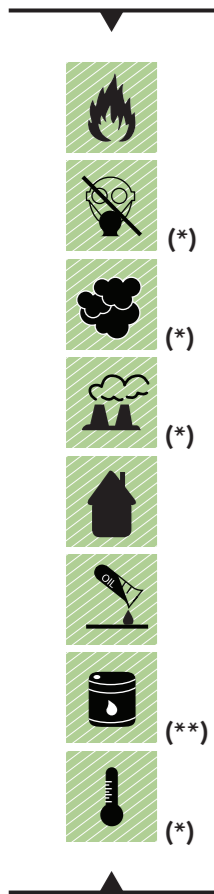


(*) Only for LSZH version

(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N°. X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
2 x AWG22	3.7	58	20	34	18.2	324TK36222
3 x AWG22	3.9	58	20	51	23.3	324TK36322
4 x AWG22	4.2	58	20	68	28.8	324TK36422
6 x AWG22	5.0	58	20	102	41.3	324TK36622
8 x AWG22	5.4	58	20	136	52.2	324TK36822
2 x AWG20	4.5	38	20	56	27.9	331TK36220
3 x AWG20	4.7	38	20	84	35.1	331TK36320
4 x AWG20	5.1	38	20	112	44.4	331TK36420
6 x AWG20	6.1	38	20	168	62.3	331TK36620
8 x AWG20	6.6	38	20	224	76.8	331TK36820
2 x AWG18	4.9	24	20	80	36.6	338TK36218
3 x AWG18	5.2	24	20	120	48.0	338TK36318
4 x AWG18	5.6	24	20	160	59.4	338TK36418
6 x AWG18	6.6	24	20	240	84.5	338TK36618
8 x AWG18	7.1	24	20	320	106.2	338TK36818
2 x AWG16	5.2	16	20	132	44.2	343TK36216
3 x AWG16	5.5	16	20	198	59.3	343TK36316
4 x AWG16	6.0	16	20	264	74.9	343TK36416
6 x AWG16	7.1	16	20	396	104.2	343TK36616
8 x AWG16	7.7	16	20	528	133.1	343TK36816
2 x AWG14	6.3	10	20	204	63.3	350TK36214
3 x AWG14	6.7	10	20	306	88.6	350TK36314
4 x AWG14	7.3	10	20	408	110.5	350TK36414
6 x AWG14	8.7	10	20	612	159.6	350TK36614
8 x AWG14	9.4	10	20	813	206.2	350TK36814
2 x AWG12	7.5	6.4	20	326	98.2	363TK36212
3 x AWG12	7.9	6.4	20	489	130.6	363TK36312
4 x AWG12	8.7	6.4	20	652	164.9	363TK36412
6 x AWG12	10.4	6.4	20	978	237.4	363TK36612
8 x AWG12	11.5	6.4	20	1304	306.8	363TK36812



CABLE SPECIFICATIONS

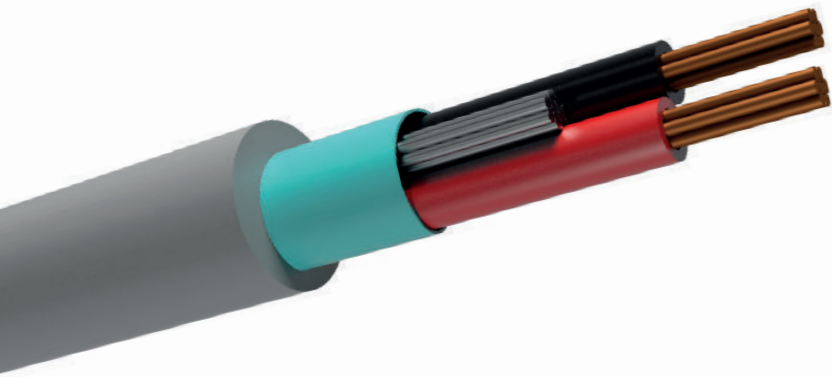
Conductor	Stranded Bare Copper
Insulation	Polyolefin
Core identification	<ul style="list-style-type: none"> • Black, Red. (2 Cores) • Black, Red, White. (3 Cores) • Black, Red, White, Green. (4 Cores) • Black, Red, White, Green, Brown, Blue. (6 Cores) • Black, Red, White, Green, Brown, Blue, Orange, Yellow. (8 Cores)
Overall Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Grey Other colours available upon request

TECHNICAL DATA

Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

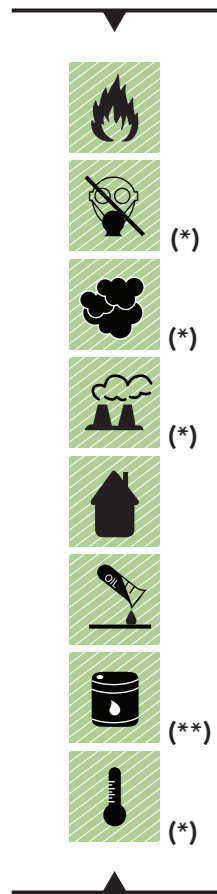


(*) Only for LSZH version

(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N°. X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
2 x AWG22	3.8	58	20	34	21.5	424TK35222
3 x AWG22	4.0	58	20	51	26.6	424TK35322
4 x AWG22	4.3	58	20	68	32.1	424TK35422
6 x AWG22	5.1	58	20	102	44.6	424TK35622
8 x AWG22	5.5	58	20	136	55.5	424TK35822
2 x AWG20	4.6	38	20	56	31.2	431TK35220
3 x AWG20	4.8	38	20	84	38.4	431TK35320
4 x AWG20	5.2	38	20	112	47.7	431TK35420
6 x AWG20	6.2	38	20	168	65.6	431TK35620
8 x AWG20	6.7	38	20	224	80.1	431TK35820
2 x AWG18	5.0	24	20	80	39.9	438TK35218
3 x AWG18	5.3	24	20	120	51.3	438TK35318
4 x AWG18	5.7	24	20	160	62.7	438TK35418
6 x AWG18	6.7	24	20	240	87.8	438TK35618
8 x AWG18	7.2	24	20	320	109.5	438TK35818
2 x AWG16	5.3	16	20	132	47.5	443TK35216
3 x AWG16	5.6	16	20	198	62.6	443TK35316
4 x AWG16	6.1	16	20	264	78.2	443TK35416
6 x AWG16	7.2	16	20	396	107.5	443TK35616
8 x AWG16	7.8	16	20	528	136.4	443TK35816
2 x AWG14	6.4	10	20	204	66.6	450TK35214
3 x AWG14	6.8	10	20	306	91.9	450TK35314
4 x AWG14	7.4	10	20	408	113.8	450TK35414
6 x AWG14	8.8	10	20	612	162.9	450TK35614
8 x AWG14	9.5	10	20	813	209.5	450TK35814
2 x AWG12	7.6	6.4	20	326	101.5	463TK35212
3 x AWG12	8.0	6.4	20	489	133.9	463TK35312
4 x AWG12	8.8	6.4	20	652	168.2	463TK35412
6 x AWG12	10.5	6.4	20	978	240.7	463TK35612
8 x AWG12	11.6	6.4	20	1304	310.1	463TK35812



CABLE SPECIFICATIONS

Conductor	Stranded Tinned Copper
Insulation	Foam or Solid Polyolefin
Core identification	- (White/Blue, Blue/White) 1 Pair - (White/Blue, Blue/White) (White/Orange, Orange/White) 2 Pairs - (White/Blue, Blue/White) (White/Orange, Orange/White) (White/Green, Green/White) 3 Pair - (White/Blue, Blue/White) (White/Orange, Orange/White) (White/Green, Green/White) (White/Brown, Brown/White) 4 Pairs
Overall Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire and Tinned Copper Braid
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Grey Other colours available upon request

TECHNICAL DATA

Characteristic Impedance	120Ω (nominal)
Mutual Capacitance	42 pF/m (nominal)
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

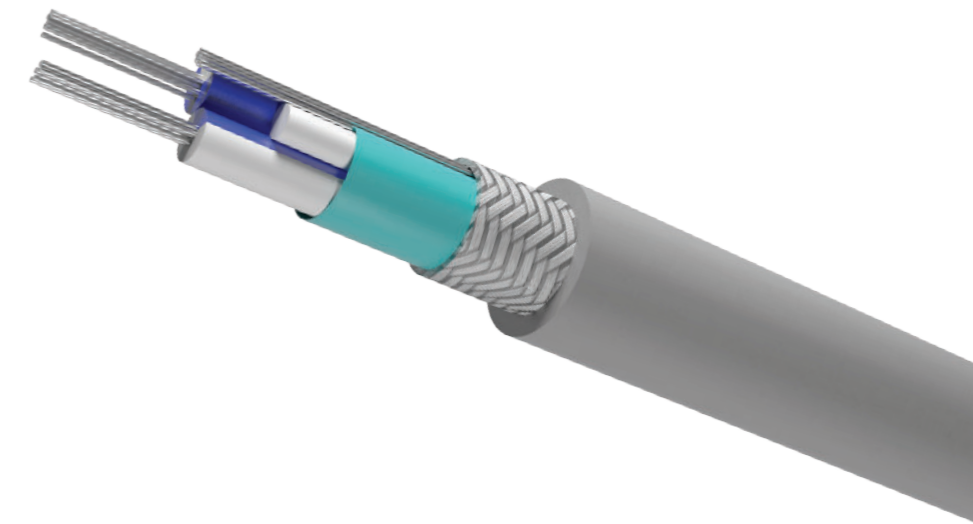
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

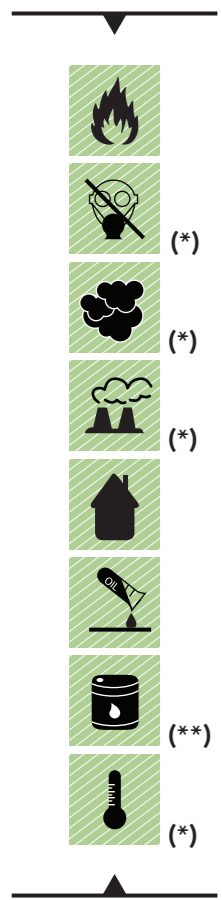
(*) Only for LSZH version

(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N° X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
1 x 2 x AWG24	5.9	90	500	22	49	518TK69124
2 x 2 x AWG24	8.7	90	500	44	81.8	518TK69224
3 x 2 x AWG24	9.2	90	500	66	90.9	518TK69324
4 x 2 x AWG24	9.9	90	500	88	114.1	518TK69424
1 x 2 x AWG22	7.3	59	500	35	67.5	518TK69122
2 x 2 x AWG22	9.1	59	500	70	76.1	518TK69222
3 x 2 x AWG22	10.5	59	500	105	97.6	518TK69322
4 x 2 x AWG22	11.4	59	500	140	120.2	518TK69422





CABLE SPECIFICATIONS

Conductor	Stranded Tinned Copper
Insulation	Foam Polyolefin
Core identification	- (Black/Red, Black/White) 2 Pairs - (Black/Red) (Black/White) (Black/Green) 3 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) 4 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) (Black/Yellow) (Black Brown) 6 Pairs
Overall Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire and on each pair
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Grey Other colours available upon request

TECHNICAL DATA

Characteristic Impedance	100Ω (nominal)
Mutual Capacitance	46 pF/m (nominal)
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

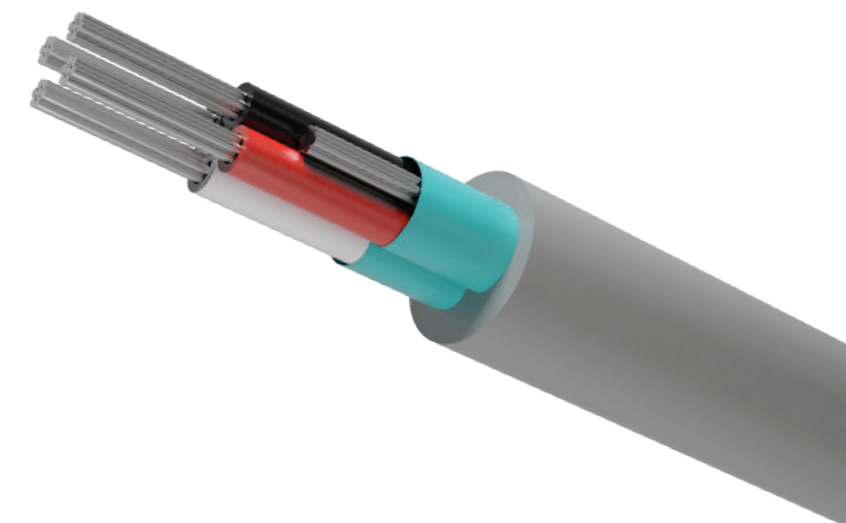
FIRE PERFORMANCE

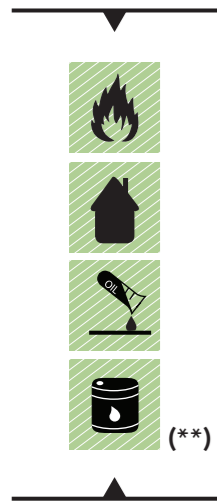
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

(*) Only for LSZH version
(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N°. X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
2 x 2 x AWG24	6.7	90	500	44	42.1	418TK68224
3 x 2 x AWG24	8.4	90	500	66	58.8	418TK68324
4 x 2 x AWG24	9.2	90	500	88	74.6	418TK68424
6 x 2 x AWG24	10.7	59	500	132	105.1	418TK68624
1 x 2 x AWG22	7.3	59	500	35	67.5	424TK68122
2 x 2 x AWG22	9.1	59	500	70	76.1	424TK68222
3 x 2 x AWG22	10.5	59	500	105	97.6	424TK68322
4 x 2 x AWG22	11.4	59	500	140	120.2	424TK68422





CABLE SPECIFICATIONS

Conductor	Stranded Tinned Copper
Insulation	Semi-Rigid PVC
Core identification	- (Black/Red) 1 Pair - (Black/Red) (Black/White) 2 Pairs - (Black/Red) (Black/White) (Black/Green) 3 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) 4 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) (Black/Yellow) 5 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) (Black/Yellow) (Black/Brown) 6 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) (Black/Yellow) (Black/Brown) (Black/Orange) 7 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) (Black/Yellow) (Black/Brown) (Black/Orange) (Black/White) 8 Pairs
Overall Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Grey Other colours available upon request

TECHNICAL DATA

Characteristic Impedance	100Ω (nominal)
Mutual Capacitance	46 pF/m (nominal)
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

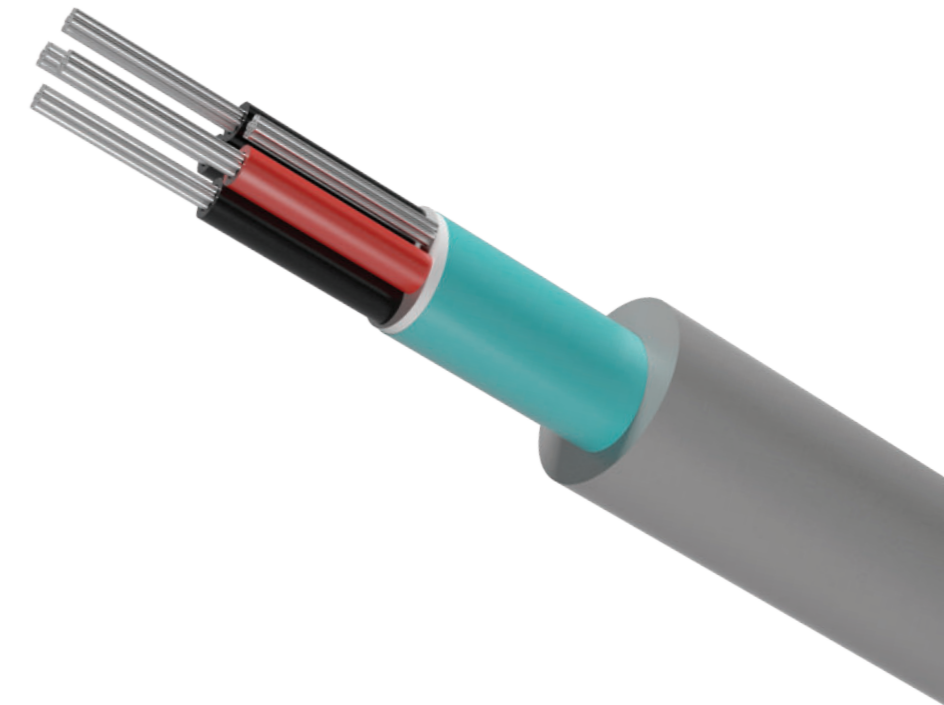
FIRE PERFORMANCE

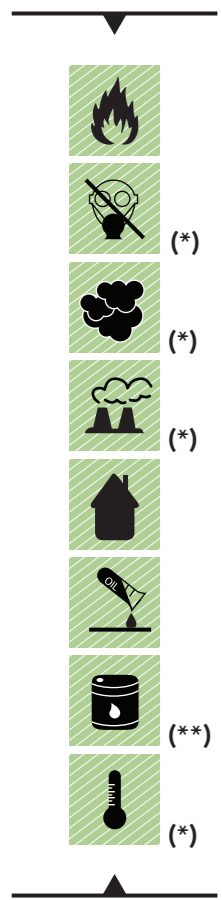
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N°. X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
1 x 2 x AWG24	4	90	20	22.5	18.1	418TK67124
2 x 2 x AWG24	5.7	90	20	45	27.5	418TK67224
3 x 2 x AWG24	5.9	90	20	67.5	38.9	418TK67324
4 x 2 x AWG24	6.7	90	20	90	48.2	418TK67424
5 x 2 x AWG24	7.3	90	20	112.5	57	418TK67524
6 x 2 x AWG24	7.4	90	20	135	65.6	418TK67624
7 x 2 x AWG24	7.5	90	20	157.5	72.8	418TK67724
8 x 2 x AWG24	8.3	90	20	180	85	418TK67824





CABLE SPECIFICATIONS

Conductor	Solid Bare Copper
Insulation	Polyolefin
Core identification	- (Black/White) Pair - (Black, Red, White, Green) Star quad
Overall Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Green Other colours available upon request

TECHNICAL DATA

Mutual Capacitance	≤ 100 pF/m
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

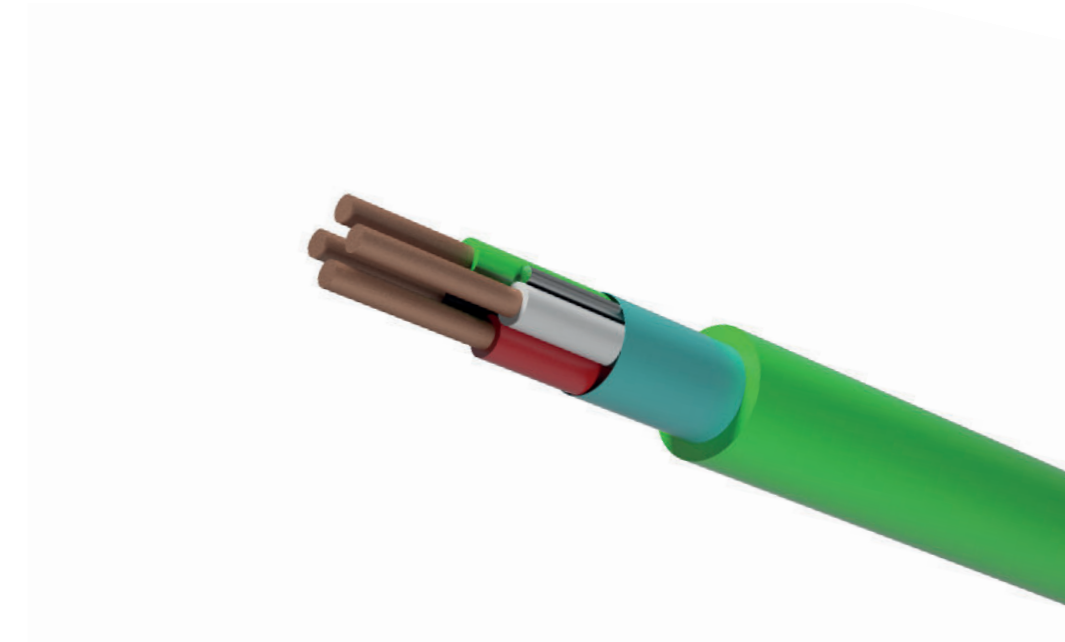
FIRE PERFORMANCE

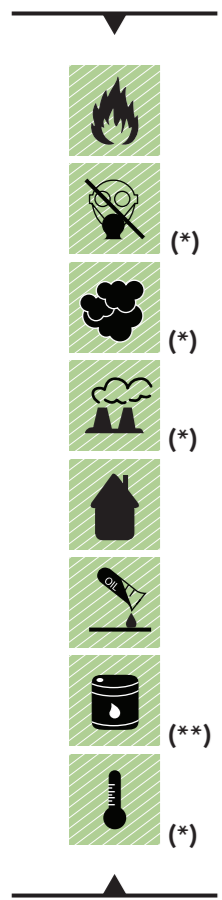
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

(*) Only for LSZH version
(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N°. X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
1 x 2 x AWG20	5.6	39	500	50	38.1	431TKXE208
1 x 4 x AWG20	6.2	39	500	100	52.2	431TKXE408





CABLE SPECIFICATIONS

Conductor	Solid Bare Copper
Insulation	Polyolefin
Core identification	- (White/Blue, Blue/White) 1 Pair - (White/Blue, Blue/White) (White/Orange, Orange/White) 2 Pairs
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Violet Other colours available upon request

TECHNICAL DATA

Characteristic Impedance	100Ω (nominal)
Mutual Capacitance	46 pF/m (nominal)
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

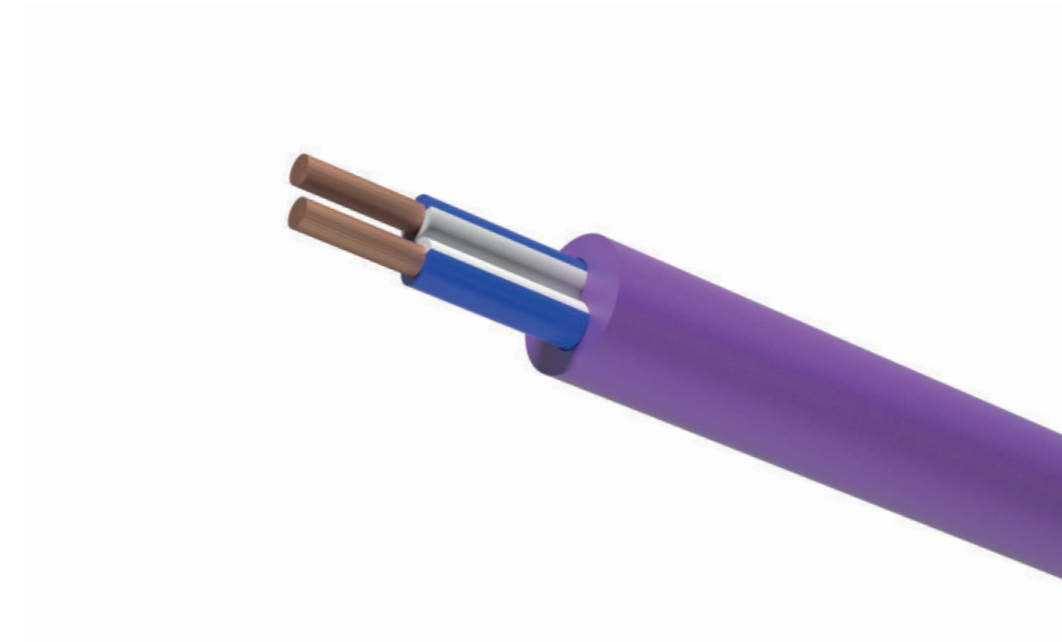
FIRE PERFORMANCE

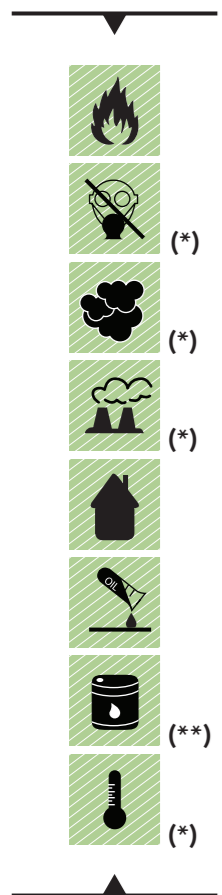
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

(*) Only for LSZH version
(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N° X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
1 x 2 x AWG22	3.5	61	500	33	17.5	324TK66122
2 x 2 x AWG22	4.6	61	500	66	23.9	324TK66222





CABLE SPECIFICATIONS

Conductor	Solid Bare Copper
Insulation	Polyolefin
Core identification	- (White/Blue, Blue/White) 1 Pair - (White/Blue, Blue/White) (White/Orange, Orange/White) 2 Pairs
Individual Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire or each pair
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Violet Other colours available upon request

TECHNICAL DATA

Characteristic Impedance	100Ω (nominal)
Mutual Capacitance	46 pF/m (nominal)
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

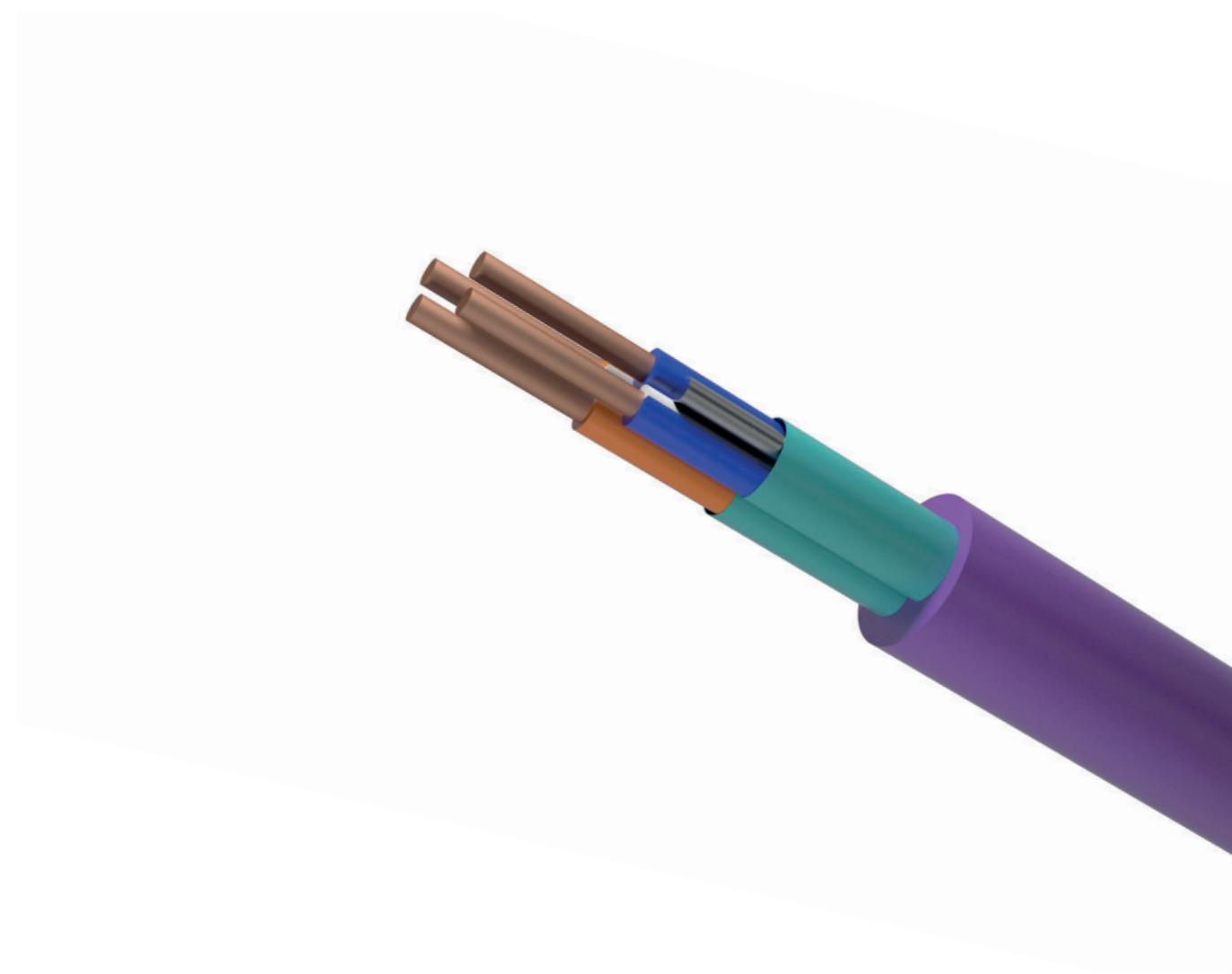
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

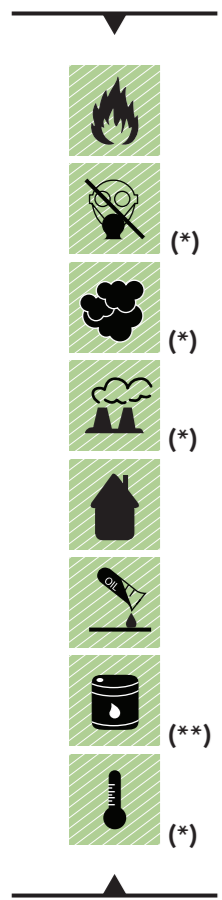
(*) Only for LSZH version

(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N° X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
1 x 2 x AWG22	5.2	61	500	33	27.5	424TK65122
2 x 2 x AWG22	7.6	61	500	66	56.2	424TK65222





CABLE SPECIFICATIONS

Conductor	Solid Bare Copper
Insulation	Polyolefin
Core identification	- White/Black
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Colour	Grey Other colours available upon request

TECHNICAL DATA

Mutual Capacitance	≤ 100 pF/m
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

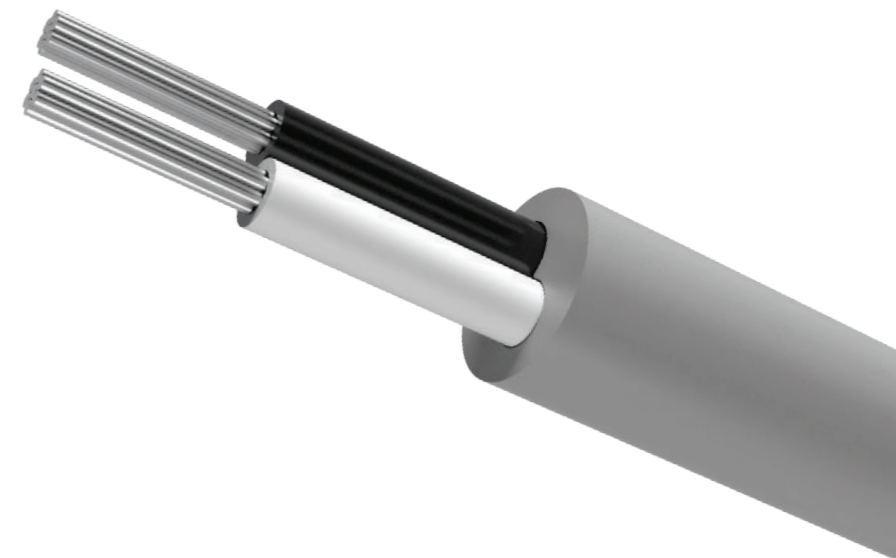
FIRE PERFORMANCE

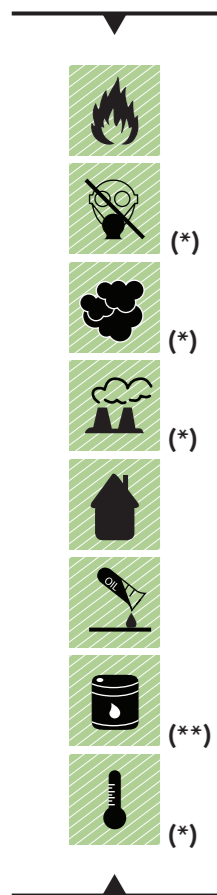
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

(*) Only for LSZH version
(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N° X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
1 x 2 x AWG22	4.5	59	500	35	26.9	324TK66122P
1 x 2 x AWG20	5.3	38	500	60	36.8	331TK66120P
1 x 2 x AWG18	6	24	500	88	48.1	338TK66118P
1 x 2 x AWG16	7.9	16	500	125	75.2	343TK66116P
1 x 2 x AWG14	8.9	10	500	215	103.8	350TK66114P
1 x 2 x AWG12	10.1	6	500	344	123.8	363TK66112P





CABLE SPECIFICATIONS

Conductor	Stranded Bare Copper
Insulation	Polyolefin
Core identification	- White/Black
Outer Sheath	Flame retardant, low smoke and halogen-free or PVC material
Overall Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire
Colour	Grey Other colours available upon request

TECHNICAL DATA

Mutual Capacitance	≤ 100 pF/m
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

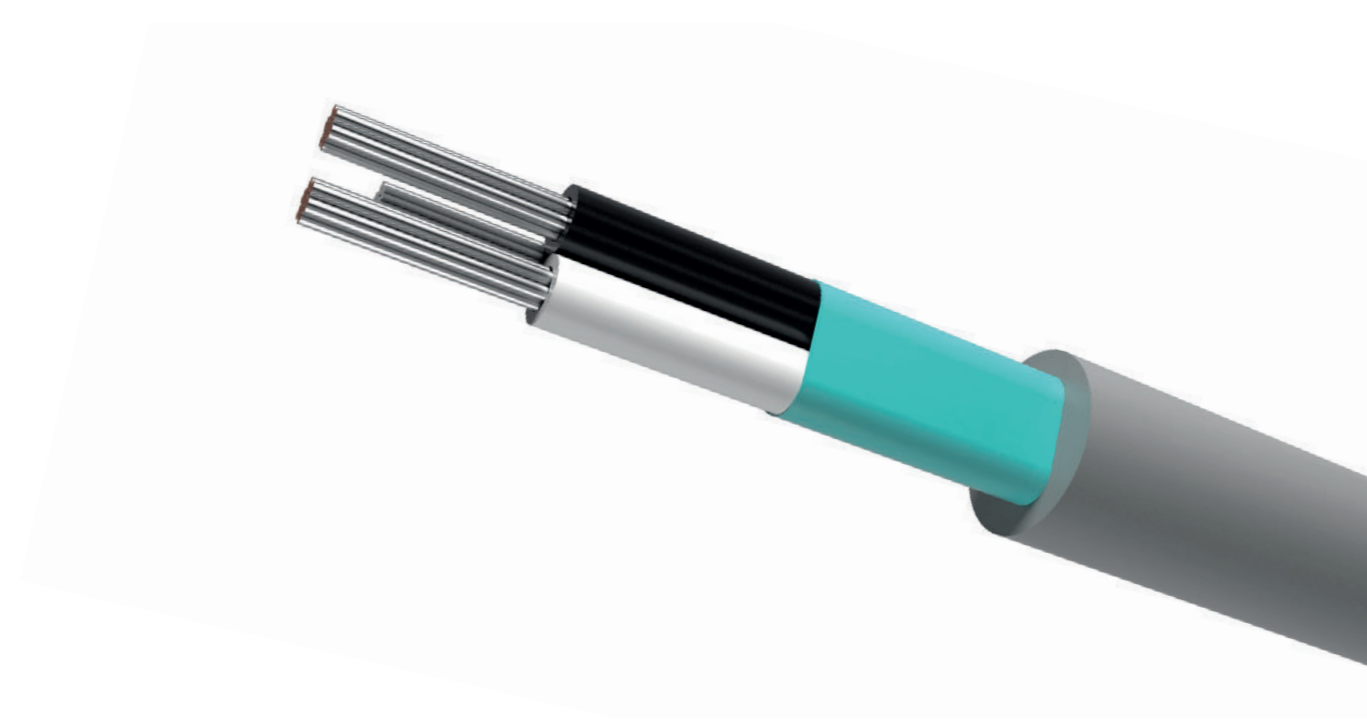
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

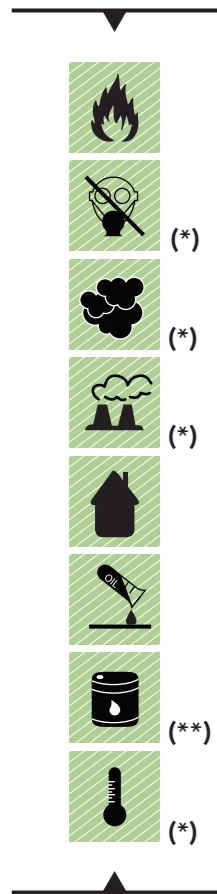
(*) Only for LSZH version

(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N° X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
1 x 2 x AWG22	4.6	59	500	35	27.9	424TK65122P
1 x 2 x AWG20	5.4	38	500	60	37.8	431TK65220P
1 x 2 x AWG18	6.1	24	500	88	49.1	438TK65218P
1 x 2 x AWG16	8	16	500	125	76.2	443TK65216P
1 x 2 x AWG14	9	10	500	215	104.8	450TK65214P
1 x 2 x AWG12	10.2	6	500	344	124.8	463TK65212P





CABLE SPECIFICATIONS

Conductor	Stranded Bare Copper
Insulation	Polyolefin
Core identification	- (Black/Red) (Black/White) 2 Pairs - (Black/Red) (Black/White) (Black/Green) 3 Pairs - (Black/Red) (Black/White) (Black/Green) (Black/Blue) (Black/Yellow) (Black/Brown) 6 Pairs
Individual Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire and on each pair
Outer Sheat	Flame retardant, low smoke and halogen-free or PVC material
Colour	Grey Other colours available upon request

TECHNICAL DATA

Characteristic Impedance	50Ω (nominal)
Mutual Capacitance	100 pF/m (nominal)
Operating Voltage	300V
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

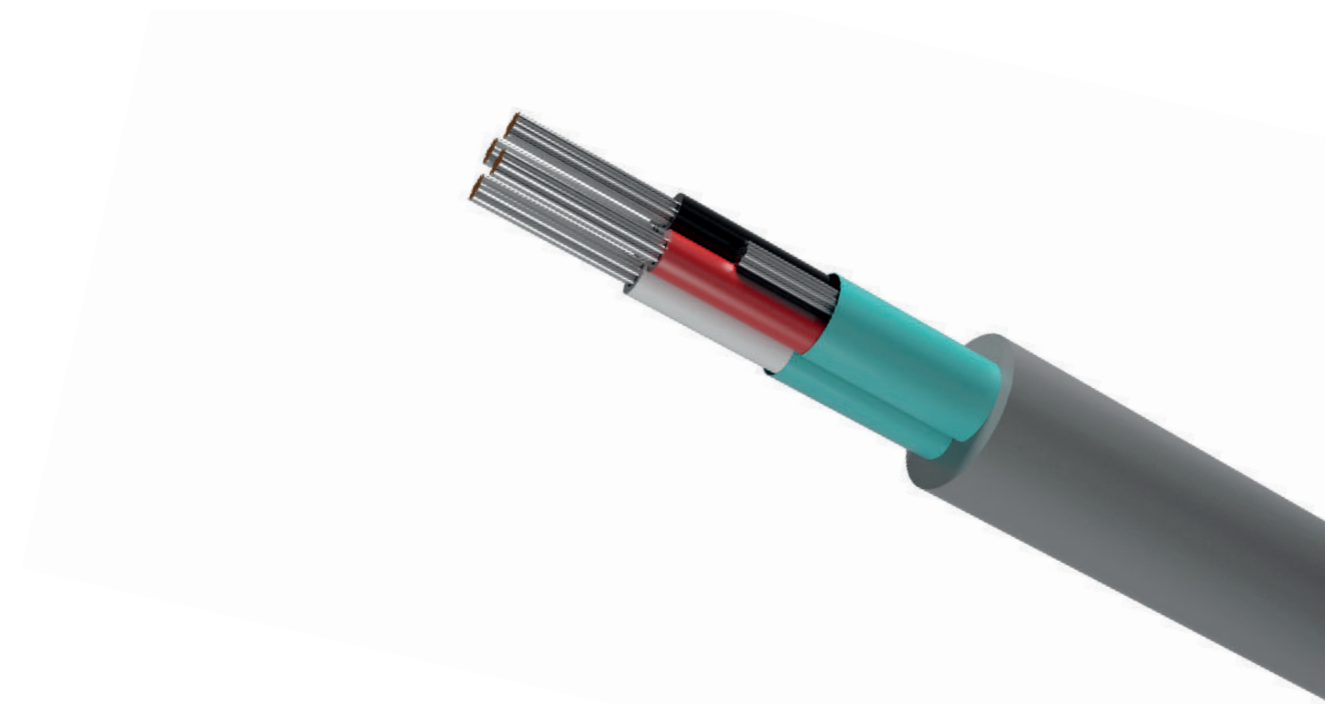
Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

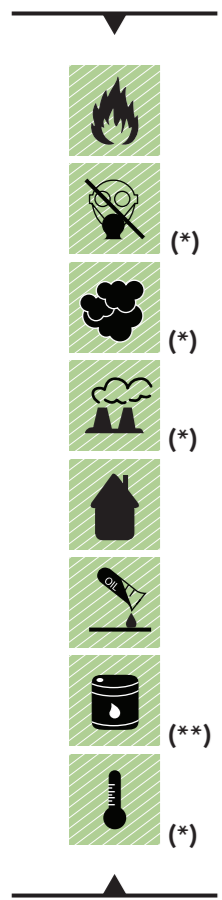
(*) Only for LSZH version

(**) Only for PVC version

MAIN FEATURES

N° of Cores & Conductor Cross Section N°. X AWG	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
2 x 2 x AWG22	4.2	61	500	33	50.1	424TK65222P
3 x 2 x AWG22	7.1	61	500	50	73.3	424TK65322P
6 x 2 x AWG22	9.3	61	500	100	149.5	424TK65622P





CABLE SPECIFICATIONS

Conductor	Solid or Stranded Bare Copper
Insulation	Foam or Solid Polyolefin
Core identification	Natural
Individual Shield	Bare Copper Braid - Coverage 95%
Outer Sheat	Flame retardant, low smoke and halogen-free or PVC material
Colour	Black Other colours available upon request

TECHNICAL DATA

Characteristic Impedance	75Ω (nominal)
Mutual Capacitance	53 pF/m (nominal)
Return Loss 1 ÷ 1000MHz	<20 dB
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

(*) Only for LSZH version

(**) Only for PVC version

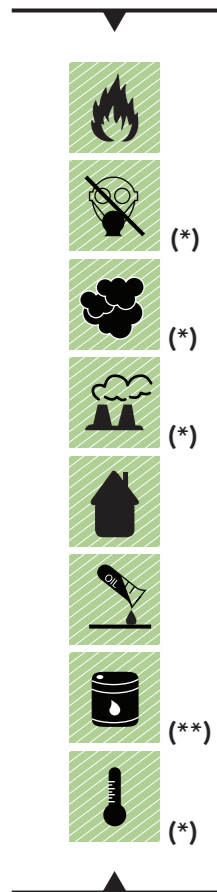
MAIN FEATURES

Coax Type	Nominal diameter Conductor [mm]	Nominal diameter Insulation [mm]	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
RG59	0.81	3.7	6	35	500	32	49	6059TK7559A
RG59 flex	19 x 0.18	3.7	6	40	500	25	50	6059TK7559AF
RG6	1.02	4.6	6.8	23	500	40	56	6006TK7506A
RG6 flex	19 x 0.22	4.6	6.8	30	500	33	57	6006TK7506AF
RG11	1.63	7.1	10	9	500	65	116	6011TK7511A
RG11 flex	19 x 0.34	7.1	10	10	500	86	117	6011TK7511AF

Nominal attenuation in dB/100 m

MHz	5	10	50	100	200	300	400	450	550	700	750	870	1000
RG59	1.9	2.95	6.23	8.53	11.81	15.3	16.41	18.92	21.03	22.97	24.8	26.84	27.89
RG6	1.78	2.36	4.92	6.56	9.51	12.43	13.78	15.14	17.15	18.37	19.73	20.26	21.96
RG11	0.99	1.51	2.96	4.27	6.23	8.27	9.51	10.31	11.51	13.45	13.95	14.87	17.06





CABLE SPECIFICATIONS

Conductor	Solid Bare Copper
Insulation	Foam or Solid Polyolefin
Core identification	Natural
Overall Shield	Aluminium/Plastic Tape with Tinned Copper Drain Wire and Tinned Copper Braid - Coverage 95%
Individual Shield	Bare Copper Braid - Coverage 95%
Outer Sheat	Flame retardant, low smoke and halogen-free or PVC material
Colour	Black Other colours available upon request

Characteristic Impedance	75Ω (nominal)
Mutual Capacitance	53 pF/m (nominal)
Operating temperature range	-40°C ÷ + 80°C (LSZH) -20°C ÷ + 70°C (PVC)
Installation temperature	-10°C ÷ + 50°C
Minimum bending radius	Static: 5 x outer diameter Dynamic: 15 x outer diameter

FIRE PERFORMANCE

Fire propagation	IEC 60332-1-2
Halogen-free	IEC 60754-1/2 (only LSZH material)
Smoke density	IEC 61034-1/2 (only LSZH material)

(*) Only for LSZH version
(**) Only for PVC version

MAIN FEATURES

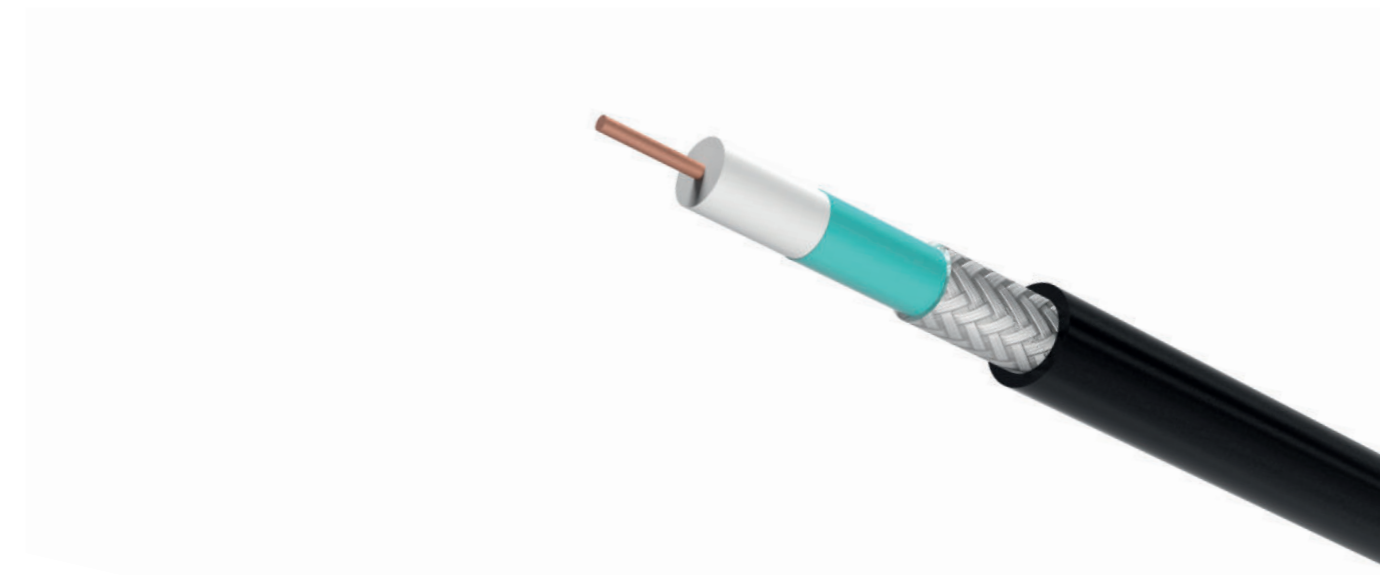
Coax Type	Nominal diameter Conductor [mm]	Nominal diameter Insulation [mm]	Nominal diameter Sheath [mm]	Conductor resistance (@20°C max.) [Ω/Km]	Insulation resistance (@20°C min.) [MΩ * Km]	Max pulling force [N]	Cable weight [Kg/Km]	TK code [p/h]
RG59	0.81	3.7	6	35	500	32	49	6059TK7559H
RG6	1.02	4.6	6.8	23	500	40	56	6006TK7506H
RG11 flex	19 x 0.34	7.1	10	10	500	86	117	6011TK7511HF

Nominal Return Loss (dB)

MHz	<1000	<2000	<3000	<4500
RG59	23	22	16	15
RG6	23	22	16	15
RG11	23	22	16	15

Nominal attenuation in dB/100 m

MHz	1	5	10	50	100	300	550	750	1000	2000	3000	4500
RG59	0.98	2.07	2.95	6.23	7.55	13.68	18.83	22.23	25.29	38.24	46.13	56.50
RG6	0.79	1.71	2.33	4.57	6.40	11.96	15.76	18.05	21.36	31.44	39.76	50.46
RG11	0.53	1.12	1.51	2.96	4.20	7.49	10.41	12.38	14.57	21.84	27.84	35.98



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