



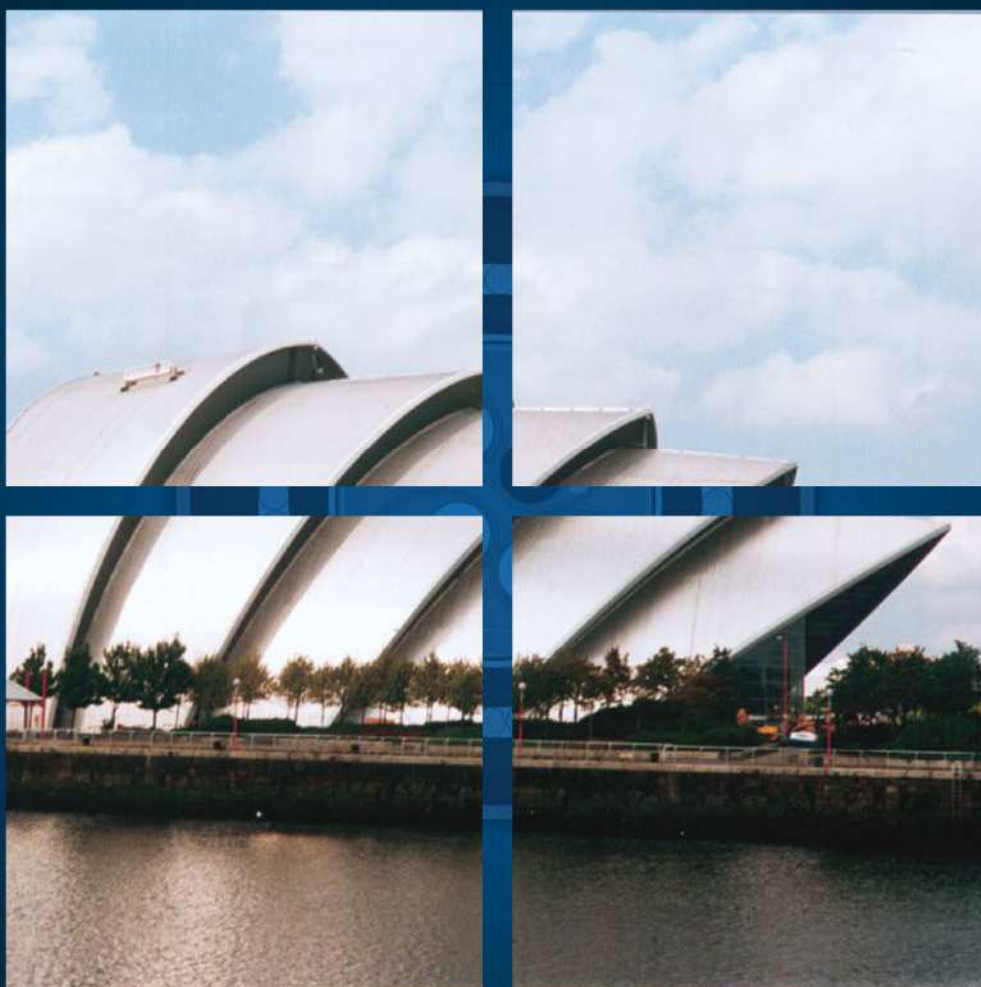
Conducting Value

SAS

Security and Alarm Safety Cables

LOW SMOKE ZERO HALOGEN

*The right range of cables
for modern building installations*





Flexible solutions for commercial, residential and industrial applications



ISO 9001:2008
Certificate No. 217



ISO 9001:2008
n. 9125.CAVL



ISO 14001:2004
n. 9191.CVCL

New complex and intelligent installations nowadays require an up-to-date technology in many buildings, either commercial or industrial.

Specially for systems that supervise critical installations the designers have to consider very carefully all components to assure the best performance with reasonable price.

Security, alarm, sound application, computer network, CCTV are installations that require these specific products.

Cavicel with its SAS cable range gives the right answer for safe wiring of all these systems.

Quality, performance, compliance with standards, but we add more:

SAFETY at any time. For this reason, the first choice we have done for this range of cables is the selection of materials that assure the best performance in case of a fire: LSZH – Low Smoke Zero Halogen.



CUSTOM MADE SOLUTION

Cables can be supplied as standard types, or special constructions can be properly designed in order to meet special requirements.

Every specific needs with its own solution.



Fires have a high cost in terms of loss of human life and of damages to plants and structures.

About a third of fires originate inside buildings.

Research studies in this field state that the most commonly identified cause of death from a fire accident is being overcome by gas or smoke (Department for Communities and Local Government - formerly ODPM - Fire Statistics, United Kingdom, 2005).

Other influential sources have demonstrated that for the last 50 years, the average time from ignition of a fire to flashover has gone from 15 minutes to 3 minutes, thus seriously complicating the escape from fire. And this is due only to the increase of plastics in home and buildings.

It has to be kept into consideration, then, that even the most sophisticated alarm systems or emergency systems can be useless if their performance is compromised by the destruction of the cables. This is the reason why, over the last few years, the companies have strongly invested in design and development of insulation material and cables providing the best performance and circuit integrity in case of fire, while reducing fumes and acid gases emission.

CaviceL has been present for years onto the market with its own products and its own experience.



QUALITY ABOVE ALL

Quality in design, in analysis of problems, in the choice of materials for the right construction. Quality tested in our laboratory, according our ISO 9001 Quality Management System.

And Quality also for the environment according to our approved ISO 14001 system.

Different constructions, different specifications, only one aim: SAFETY.

Materials are properly selected in order to assure required electrical performance, but also to assure the best reaction in case of fire.

Cavice! Technical Department has all the know how to design the proper construction, and Cavice! Quality Control Department can verify not only traditional electrical characteristic but also the fire performance.



APPLICATIONS

Airport
Data centres
Hospitals
Urban security
Public Buildings
Commercial Centres

FOR

Building automation
Fire Safety
Security
Energy efficiency
Low voltage systems
C.C.T.V.
F.A. systems
P.A. systems



Security and Alarm Cable

Miniaturized, unshielded, multiconductor, flame retardant

Solid conductor

- U-PP/LSZH 300V

Stranded conductor

- R-PP/LSZH 300V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Solid or stranded plain annealed copper wire

Insulation

Polypropylene

Colour code: black-red-white-green-brown-blue

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Outer Sheath

LSZH thermoplastic material

Colour: red or gray

Behaviour under fire conditions

Flame retardant

Halogen acid gas $\leq 0.5\%$

Smoke density (LT $\geq 60\%$)

EN / IEC 60332-1-2

EN / IEC 60754 part 1

EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
010224U	2x24	1/0.51	0.15	0.4	2.4	10	90	66
010224R	2x24	7/0.20	0.15	0.4	2.6	12	85.1	70
010222R	2x22	7/0.25	0.15	0.4	2.9	15	54.8	70
010322R	3x22	7/0.25	0.15	0.4	3.2	19	54.8	70
010218U	2x18	1/1.02	0.20	0.5	3.8	27	21.3	75
010218R	2x18	7/0.40	0.20	0.5	4.2	30	21.9	78
010216U	2x16	1/1.29	0.25	0.5	4.6	38	13.4	75
010216R	2x16	19/0.30	0.25	0.5	4.8	42	13.7	80
010214U	2x14	1/1.62	0.25	0.6	5.5	58	8.4	80
010214R	2x14	19/0.36	0.25	0.6	5.8	61	8.6	82

Security and Alarm Cable

Miniaturized, shielded, multiconductor, flame retardant

Solid conductor

- U-PP/OS/LSZH 300V

Stranded conductor

- R-PP/OS/LSZH 300V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Solid or stranded plain annealed copper wire

Insulation

Polypropylene

Colour code: black-red-white-green-brown-blue

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Overall shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Outer Sheath

LSZH thermoplastic material

Colour: red or gray

Behaviour under fire conditions

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas $\leq 0.5\%$

EN / IEC 60754 part 1

Smoke density (LT $\geq 60\%$)

EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
020224U	2x24	1/0.51	0.15	0.4	2.7	15	90	120
020224R	2x24	7/0.20	0.15	0.4	2.9	15	85.1	130
020222R	2x22	7/0.25	0.15	0.4	3.2	20	54.8	135
020322R	3x22	7/0.25	0.15	0.4	3.5	25	54.8	135
020622R	6x22	7/0.25	0.15	0.4	4.4	40	54.8	135
020218U	2x18	1/1.02	0.20	0.5	4.1	35	21.3	150
020218R	2x18	7/0.40	0.20	0.5	4.5	35	21.9	160
020318R	3x18	7/0.40	0.20	0.5	4.8	45	21.9	160
020518R	5x18	7/0.40	0.20	0.5	5.7	70	21.9	160
020216U	2x16	1/1.29	0.25	0.5	4.9	50	13.4	150
020216R	2x16	19/0.30	0.25	0.5	5.1	50	13.7	163
020214U	2x14	1/1.62	0.25	0.6	5.8	65	8.4	170
020214R	2x14	19/0.36	0.25	0.6	6.1	65	8.6	180

Security and Alarm Cable

Miniaturized, unshielded, multiconductor, fire retardant

Solid conductor

- U-PO/LSZH 300V

Stranded conductor

- R-PO/LSZH 300V

Applications

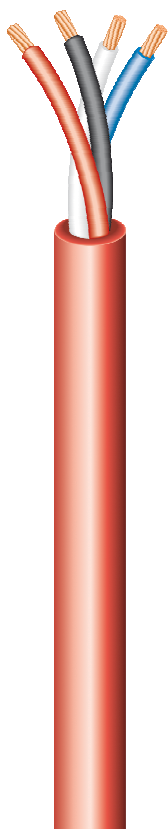
- Residential, light commercial and institutional application
- Security Systems
- Intercom / PA Systems
- Sound / Audio Systems
- Power -Limited controls
- Single Line Telephone

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Solid or stranded plain annealed copper wire

Insulation

Polyolefin

Colours: 2 conductors: red-black

4 conductors: red-black-white-blue

Above 4 conductors: different colours

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Outer Sheath

LSZH thermoplastic material

Colour: red or gray

Behaviour under fire conditions

Fire retardant cat. C

EN / IEC 60332-3-24

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas $\leq 0.5\%$

EN / IEC 60754 part 1

Smoke density (LT $\geq 60\%$)

EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
030422R	4x22	7/0.25	0.15	0.4	3.5	24	54.8	70
030622R	6x22	7/0.25	0.15	0.4	4.1	34	54.8	70
030822R	8x22	7/0.25	0.15	0.4	4.5	42	54.8	70
030218U	2x18	1/1.02	0.15	0.4	3.4	26	21.3	140
030218R	2x18	7/0.40	0.15	0.4	3.8	30	21.9	145
030318U	3x18	1/1.02	0.15	0.4	3.6	38	21.3	140
030318R	3x18	7/0.40	0.15	0.4	4.0	40	21.9	145
030418U	4x18	1/1.02	0.15	0.4	4.0	42	21.3	140
030418R	4x18	7/0.40	0.15	0.4	4.4	50	21.9	145
030518U	5x18	1/1.02	0.15	0.4	4.4	55	21.3	140
030518R	5x18	7/0.40	0.15	0.4	4.8	60	21.9	145
030618U	6x18	1/1.02	0.15	0.4	4.8	63	21.3	140
030618R	6x18	7/0.40	0.15	0.4	5.3	74	21.9	145
030818R	8x18	7/0.40	0.15	0.4	6.2	90	21.9	145
031218R	12x18	7/0.40	0.15	0.5	7.6	140	21.9	145
030216U	2x16	1/1.29	0.15	0.4	4.0	40	13.4	148
030216R	2x16	19/0.30	0.15	0.4	4.2	42	13.7	152
030416U	4x16	1/1.29	0.15	0.4	4.6	66	13.4	148
030416R	4x16	19/0.30	0.15	0.4	4.9	70	13.7	152
030214U	2x14	1/1.63	0.20	0.4	4.9	58	8.4	146
030214R	2x14	19/0.36	0.20	0.4	5.2	61	8.6	149
030414U	4x14	1/1.63	0.20	0.4	5.7	100	8.4	146
030414R	4x14	19/0.36	0.20	0.4	6.1	104	8.6	149

Security and Alarm Cable

Miniaturized, shielded, multiconductor, fire retardant

Solid conductor

- U-PO/OS/LSZH 300V

Stranded conductor

- R-PO/OS/LSZH 300V

Applications

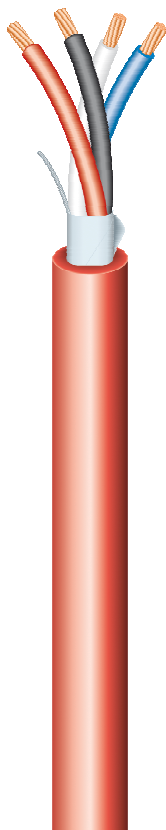
- Residential, light commercial and institutional application
- Security Systems
- Intercom / PA Systems
- Sound / Audio Systems
- Power -Limited controls
- Single Line Telephone

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Solid or stranded plain annealed copper wire

Insulation

Polyolefin

Colours: 2 conductors: red-black

4 conductors: red-black-white-blue

Above 4 conductors: different colours

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Overall shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Outer Sheath

LSZH thermoplastic material

Colour: red or gray

Behaviour under fire conditions

Fire retardant cat. C

EN / IEC 60332-3-24

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas $\leq 0.5\%$

EN / IEC 60754 part 1

Smoke density (LT $\geq 60\%$)

EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
040218U	2x18	1/1.02	0.15	0.4	3.7	30	21.3	304
040218R	2x18	7/0.40	0.15	0.4	4.1	35	21.9	330
040318U	3x18	1/1.02	0.15	0.4	3.9	44	21.3	260
040318R	3x18	7/0.40	0.15	0.4	4.3	45	21.9	277
040418U	4x18	1/1.02	0.15	0.4	4.3	47	21.3	220
040418R	4x18	7/0.40	0.15	0.4	4.7	54	21.9	234
040518U	5x18	1/1.02	0.15	0.4	4.7	60	21.3	200
040518R	5x18	7/0.40	0.15	0.4	5.1	65	21.9	210
040618U	6x18	1/1.02	0.15	0.4	5.1	68	21.3	184
040618R	6x18	7/0.40	0.15	0.4	5.6	80	21.9	192
040818R	8x18	7/0.40	0.15	0.4	6.3	95	21.9	182
041218R	12x18	7/0.40	0.15	0.5	7.8	145	21.9	165
040216U	2x16	1/1.29	0.15	0.4	4.3	45	13.4	341
040216R	2x16	19/0.30	0.15	0.4	4.5	48	13.7	367
040416U	4x16	1/1.29	0.15	0.4	4.9	70	13.4	240
040416R	4x16	19/0.30	0.15	0.4	5.2	75	13.7	252
040214U	2x14	1/1.63	0.20	0.4	5.2	64	8.4	332
040214R	2x14	19/0.36	0.20	0.4	5.5	67	8.6	348
040414U	4x14	1/1.63	0.20	0.4	6.0	105	8.4	235
040414R	4x14	19/0.36	0.20	0.4	6.4	110	8.6	244

Data and Security Cable

Unshielded, low capacitance, flame retardant

Solid conductor

- U-XLPE/LSZH 300V

Stranded conductor

- R-XLPE/LSZH 300V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter

Cable Construction

Conductors

Solid or stranded plain annealed copper wire

Insulation

Cross-linked Polyethylene

Colours: red-black

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Outer Sheath

LSZH thermoplastic material

Colour: red or gray

Behaviour under fire conditions

Flame retardant

Halogen acid gas $\leq 0.5\%$

Smoke density (LT $\geq 60\%$)

EN / IEC 60332-1-2

EN / IEC 60754 part 1

EN / IEC 61034-2



SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)	Nominal inductance (mH/km)	Max. current (A)
050218U	2x18	1/1.02	0.5	0.6	5.2	35	21.3	55	0.65	8
050218R	2x18	7/0.40	0.5	0.6	5.6	35	21.9	59	0.65	8
050216U	2x16	1/1.29	0.5	0.7	6.0	50	13.4	60	0.60	13
050216R	2x16	19/0.30	0.5	0.7	6.4	50	13.7	64	0.60	13
050214U	2x14	1/1.63	0.6	0.8	7.2	70	8.4	65	0.60	18
050214R	2x14	19/0.36	0.6	0.8	7.6	70	8.6	67	0.60	18

Data and Security Cable Shielded, low capacitance, flame retardant

Solid conductor

- U-XLPE/OS/LSZH 300V

Stranded conductor

- R-XLPE/OS/LSZH 300V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter

Cable Construction

Conductors

Solid or stranded plain annealed copper wire

Insulation

Cross-linked Polyethylene

Colours: red-black

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Overall shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Outer Sheath

LSZH thermoplastic material

Colour: red or gray

Behaviour under fire conditions

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas $\leq 0.5\%$

EN / IEC 60754 part 1

Smoke density (LT $\geq 60\%$)

EN / IEC 61034-2



SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)	Nominal inductance (mH/km)	Max. Current (A)
060218U	2x18	1/1.02	0.5	0.6	5.5	40	21.3	89	0.65	8
060218R	2x18	7/0.40	0.5	0.6	5.9	45	21.9	97	0.65	8
060216U	2x16	1/1.29	0.5	0.7	6.3	55	13.4	102	0.60	13
060216R	2x16	19/0.30	0.5	0.7	6.7	60	13.7	110	0.60	13
060214U	2x14	1/1.63	0.6	0.8	7.5	90	8.4	115	0.60	18
060214R	2x14	19/0.36	0.6	0.8	7.9	90	8.6	122	0.60	18

Data Cable

Individual shielded pairs, flame retardant

Stranded conductor

- R(t)-FPP/IS/LSZH 300V

Applications

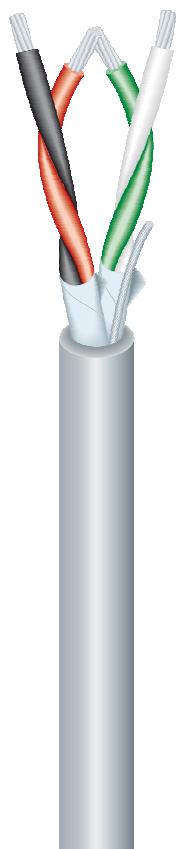
- Security Systems
- Sound/Audio Systems
- Power-Limited Controls
- CCTV Systems
- Access Control Systems

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded tinned annealed copper wire

Insulation

Foamed Polypropylene

Colours: 1st pair: black-red
2nd pair: green-white
3rd pair: orange-blue

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Individual shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Cabling

The shielded pairs are cabled together

Outer Sheath

LSZH thermoplastic material
Colour: gray or silver

Behaviour under fire conditions

Flame retardant
Halogen acid gas $\leq 0.5\%$
Smoke density (LT $\geq 60\%$)

EN / IEC 60332-1-2
EN / IEC 60754 part 1
EN / IEC 61034-2

SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω /km)	Nominal capacitance core/core (nF/km)	Nominal capacitance core/screen (nF/km)	Nominal impedance (Ω)
0702222	2x2x22	7/0.25	5.6	55	57	60	110	75
0703222	3x2x22	7/0.25	6.5	60	57	60	110	75
0702224	2x2x24	7/0.20	5.2	45	90	55	100	85
0703224	3x2x24	7/0.20	6.0	50	90	55	100	85

Data Cable

Overall shielded pairs, flame retardant

Stranded conductor

- R(t)-FPP/OS/LSZH 300V

Applications

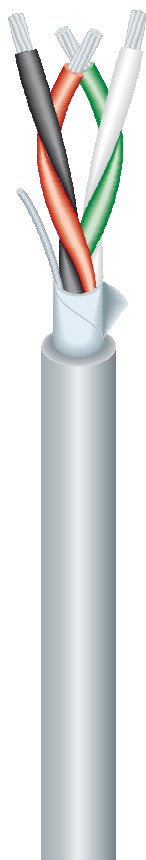
- Security Systems
- Sound/Audio Systems
- Power-Limited Controls
- CCTV Systems
- Access Control Systems

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded tinned annealed copper wire

Insulation

Foamed Polypropylene

Colours: 1st pair: black-red
2nd pair: green-white
3rd pair: orange-blue

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Cabling

The pairs are cabled together

Overall shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Outer Sheath

LSZH thermoplastic material
Colour: gray or silver

Behaviour under fire conditions

Flame retardant
Halogen acid gas $\leq 0.5\%$
Smoke density (LT $\geq 60\%$)

EN / IEC 60332-1-2
EN / IEC 60754 part 1
EN / IEC 61034-2

SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω /km)	Nominal capacitance core/core (nF/km)	Nominal capacitance core/screen (nF/km)	Nominal impedance (Ω)
0802222	2x2x22	7/0.25	5.5	50	57	40	75	95
0803222	3x2x22	7/0.25	6.3	55	57	40	75	95
0802224	2x2x24	7/0.20	5.1	40	90	35	65	110
0803224	3x2x24	7/0.20	5.8	45	90	35	65	110

Data Cable

Overall shielded pairs, flame retardant

Stranded conductor

- R(t)-PE/OS/LSZH 300 V

Applications

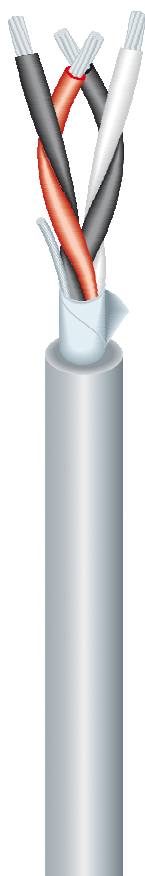
- RS-485
- RS-422
- RS-232

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded tinned annealed copper wire

Insulation

Polyethylene

Colours: 1st pair: black-red
2nd pair: black-white
3rd pair: black-green
4th pair: black-blue
5th pair: black-yellow

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Cabling

The pairs are cabled together

Overall shield

Aluminium/polyester tape

Drain wire

24 AWG stranded tinned copper wire for 24 and 22 AWG cores
20 AWG stranded tinned copper wire for 18 and 16 AWG cores

Outer Sheath

LSZH thermoplastic material

Behaviour under fire conditions

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas ≤ 0.5%

EN / IEC 60754 part 1

Smoke density (LT ≥ 60%)

EN / IEC 61034-2

SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance core/core (nF/km)	Nominal capacitance core/screen (nF/km)	Nominal impedance (Ω)
0901224	1x2x24	7/0.20	4.3	25	90	65	120	85
0902224	2x2x24	7/0.20	5.7	35	90	45	85	105
0903224	3x2x24	7/0.20	6.6	45	90	45	85	105
0904224	4x2x24	7/0.20	7.0	55	90	45	85	105
0901222	1x2x22	7/0.25	4.7	30	57	70	130	75
0902222	2x2x22	7/0.25	6.3	45	57	50	90	100
0903222	3x2x22	7/0.25	7.3	55	57	50	90	100
0904222	4x2x22	7/0.25	7.8	65	57	50	90	100
0901218	1x2x18	7/0.40	6.1	50	22	80	145	65
0902218	2x2x18	7/0.40	8.3	80	22	60	110	80
0903218	3x2x18	7/0.40	9.6	105	22	60	110	80
0904218	4x2x18	7/0.40	10.3	130	22	60	110	80
0905218	5x2x18	7/0.40	11.5	165	22	60	110	80
0901216	1x2x16	19/0.30	6.7	60	16	90	165	60

Data Cable

Overall shielded pairs, flame retardant

Stranded conductor

- R(t)-PE/OS+TCWB/LSZH
300 V

Applications

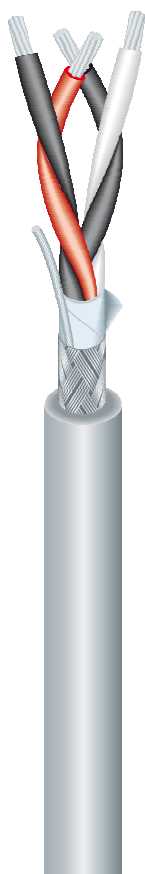
- RS-485
- RS-422
- RS-232

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded tinned annealed copper wire

Insulation

Polyethylene

Colours: 1st pair: black-red
2nd pair: black-white
3rd pair: black-green
4th pair: black-blue

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Cabling

The pairs are cabled together

Overall shield

Aluminium/polyester tape plus tinned copper wire braid with 24 AWG stranded tinned copper drain wire

Outer Sheath

LSZH thermoplastic material

Behaviour under fire conditions

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas ≤ 0.5%

EN / IEC 60754 part 1

Smoke density (LT ≥ 60%)

EN / IEC 61034-2

SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance core/core (nF/km)	Nominal capacitance core/screen (nF/km)	Nominal impedance (Ω)
1001224	1x2x24	7/0.20	6.4	60	90	60	110	90
1002224	2x2x24	7/0.20	7.9	80	90	45	80	120
1003224	3x2x24	7/0.20	8.8	100	90	45	80	120
1004224	4x2x24	7/0.20	9.2	110	90	45	80	120

Security and Alarm Cable

Overall shielded, multiconductor, flame retardant

Stranded conductor

- R-PE/OS/LSZH 300 V

Applications

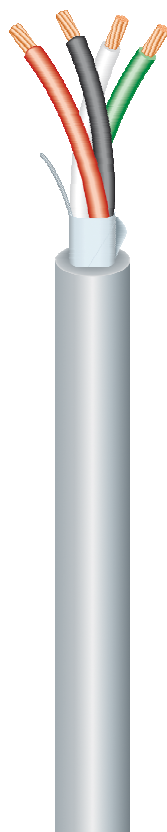
- Residential, light commercial and institutional application
- Security Systems
- Intercom / PA Systems
- Sound / Audio Systems
- Power -Limited controls
- Single Line Telephone

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded plain annealed copper wire

Insulation

Polyethylene

Colour code: black-red-white-green-brown-blue-orange-yellow

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Overall shield

Aluminium/polyester tape

Drain wire

24 AWG stranded tinned copper wire for 22 AWG cores

20 AWG stranded tinned copper wire for 18 AWG cores

Outer Sheath

LSZH thermoplastic material

Colour: grey

Behaviour under fire conditions

Flame retardant

Halogen acid gas $\leq 0.5\%$

Smoke density (LT $\geq 60\%$)

EN / IEC 60332-1-2

EN / IEC 60754 part 1

EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
110222R	2x22	7/0.25	0.25	0.45	3.6	18	48.6	90
110322R	3x22	7/0.25	0.25	0.45	3.8	22	48.6	85
110822R	8x22	7/0.25	0.25	0.50	5.3	46	48.6	65
110218R	2x18	7/0.40	0.25	0.45	4.5	33	21.9	120
110418R	4x18	7/0.40	0.25	0.50	5.3	54	21.9	90

Data Cable

Unshielded pair, flame retardant

Stranded conductor

- R(t)-PE/LSZH 300 V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter

Cable Construction

Conductors

Stranded tinned annealed copper wire

Insulation

Polyethylene

Colours: black-white

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Outer Sheath

LSZH thermoplastic material

Colour: grey

Behaviour under fire conditions

Flame retardant

Halogen acid gas $\leq 0.5\%$

Smoke density (LT $\geq 60\%$)

EN / IEC 60332-1-2

EN / IEC 60754 part 1

EN / IEC 61034-2



SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω /km)	Nominal capacitance (nF/km)
1201216	1x2x16	19/0.30	0.6	0.85	7.2	59	15.8	52

Data Cable

Individual shielded pairs, flame retardant

Stranded conductor

- R(t)-PP/IS/LSZH 300V

Applications

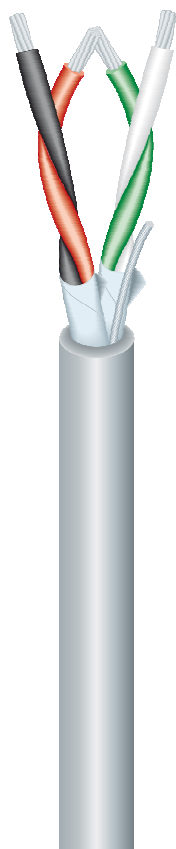
- Security Systems
- Sound/Audio Systems
- Power-Limited Controls
- CCTV Systems
- Access Control Systems

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded tinned annealed copper wire

Insulation

Polypropylene

Colours: 1st pair: black-red

2nd pair: green-white

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Individual shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Cabling

The shielded pairs are cabled together

Outer Sheath

LSZH thermoplastic material

Colour: gray or silver

Behaviour under fire conditions

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas $\leq 0.5\%$

EN / IEC 60754 part 1

Smoke density (LT $\geq 60\%$)

EN / IEC 61034-2

SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω /km)	Nominal capacitance core/core (nF/km)	Nominal capacitance core/screen (nF/km)	Nominal impedance (Ω)
1302222	2x2x22	7/0.25	4.6	28	57	110	200	50

Data Cable

Individually insulated shielded pairs, flame retardant

Stranded conductor

▪ R(t)-PP/IS/LSZH 300V

Applications

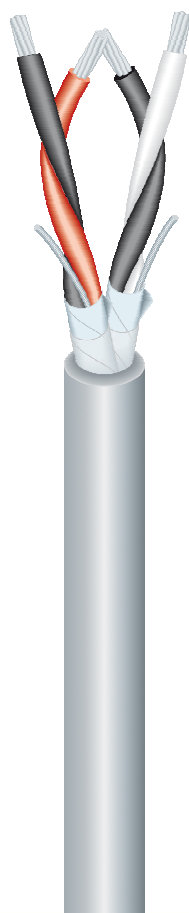
- Security Systems
- Sound/Audio Systems
- Power-Limited Controls
- CCTV Systems
- Access Control Systems

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded tinned annealed copper wire

Insulation

Polypropylene

Colours: 1st pair: black-red
2nd pair: black-white
3rd pair: black-green

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Individual shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Screen insulation

Polyester tape

Cabling

The insulated shielded pairs are cabled together

Outer Sheath

LSZH thermoplastic material
Colour: gray or silver

Behaviour under fire conditions

Flame retardant	EN / IEC 60332-1-2
Halogen acid gas $\leq 0.5\%$	EN / IEC 60754 part 1
Smoke density (LT $\geq 60\%$)	EN / IEC 61034-2

SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω /km)	Nominal capacitance core/core (nF/km)	Nominal capacitance core/screen (nF/km)	Nominal impedance (Ω)
1403222	3x2x22	7/0.25	6.4	60	57	90	165	60

Security and Alarm Cable

Unshielded multiconductor, flame retardant

Solid conductor

- U-PE/LSZH 300V

Applications

- Security Systems
- Sound/Audio Systems
- Power-Limited Controls
- CCTV Systems
- Access Control Systems

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Solid plain annealed copper wire

Insulation

Polyethylene

Colours: red-black

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Outer Sheath

LSZH thermoplastic material

Colour: red or gray

Behaviour under fire conditions

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas $\leq 0.5\%$

EN / IEC 60754 part 1

Smoke density (LT $\geq 60\%$)

EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
150218U	2x18	1/1.02	0.6	0.6	5.9	40	21.8	45

Security and Alarm Cable Miniaturized, unshielded, multiconductor, flame retardant

Solid conductor

- U(t)-PP/LSZH 300V

Stranded conductor

- R(t)-PP/LSZH 300V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Solid or stranded tinned annealed copper wire

Insulation

Polypropylene

Colour code: black-red-white-green-brown-blue-orange-yellow-purple-grey-pink-tan

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Outer Sheath

LSZH thermoplastic material

Colour: white

Behaviour under fire conditions

Flame retardant EN / IEC 60332-1-2
Halogen acid gas $\leq 0.5\%$ EN / IEC 60754 part 1
Smoke density (LT $\geq 60\%$) EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
160424R	4x24	7/0.20	0.15	0.4	3.1	20	88.6	70
160624R	6x24	7/0.20	0.15	0.5	3.9	30	88.6	70
160824R	8x24	7/0.20	0.15	0.5	4.2	35	88.6	70
161224R	12x24	7/0.20	0.15	0.6	5.2	45	88.6	70

Security and Alarm Cable Miniaturized, shielded, multiconductor, flame retardant

Solid conductor

- U(t)-PP/OS/LSZH 300V

Stranded conductor

- R(t)-PP/OS/LSZH 300V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Solid or stranded tinned annealed copper wire

Insulation

Polypropylene

Colour code: black-red-white-green-brown-blue-orange-yellow-purple-grey-pink-tan

Cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Overall shield

Aluminium/polyester tape with 24 AWG stranded tinned copper drain wire

Outer Sheath

LSZH thermoplastic material

Colour: white

Behaviour under fire conditions

Flame retardant

EN / IEC 60332-1-2

Halogen acid gas $\leq 0.5\%$

EN / IEC 60754 part 1

Smoke density (LT $\geq 60\%$)

EN / IEC 61034-2

SAS Code	n. of cores x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
170424R	4x24	7/0.20	0.15	0.4	3.4	25	88.6	95
170624R	6x24	7/0.20	0.15	0.5	4.1	30	88.6	85
170824R	8x24	7/0.20	0.15	0.5	4.4	35	88.6	80
171224R	12x24	7/0.20	0.15	0.6	5.4	50	88.6	75

Data Cable

Miniaturized, unshielded, multi pair, flame retardant

Stranded conductor

- R-PP/LSZH 300 V

Applications

- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter

Cable Construction

Conductors

Stranded plain annealed copper wire

Insulation

Polypropylene

Colours: 1st pair: black-red 6th pair: black-brown
2nd pair: black-white 7th pair: black-orange
3rd pair: black-green 8th pair: red-white
4th pair: black-blue 9th pair: red-green
5th pair: black-yellow 10th pair: red-blue

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Cabling

The pairs are cabled together

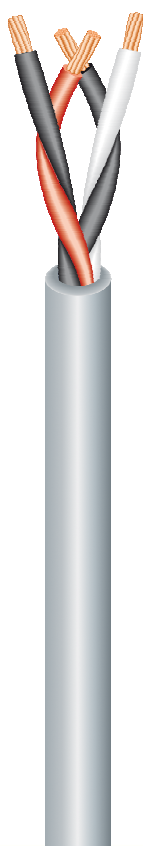
Outer Sheath

LSZH thermoplastic material

Colour: grey

Behaviour under fire conditions

Flame retardant EN / IEC 60332-1-2
Halogen acid gas ≤ 0.5% EN / IEC 60754 part 1
Smoke density (LT ≥ 60%) EN / IEC 61034-2



SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω/km)	Nominal capacitance (nF/km)
1801214	1x2x14	19/0.36	0.30	0.55	5.9	55	9.5	78
1801216	1x2x16	19/0.30	0.25	0.55	5.1	40	15	78
1802216	2x2x16	19/0.30	0.25	0.65	7.3	75	15	78
1801218	1x2x18	7/0.40	0.20	0.50	4.2	30	22	78
1802218	2x2x18	7/0.40	0.20	0.55	5.9	50	22	78
1803218	3x2x18	7/0.40	0.20	0.60	7.0	75	22	78
1805218	5x2x18	7/0.40	0.20	0.65	8.3	120	22	78
1810218	10x2x18	7/0.40	0.20	0.80	11.5	225	22	78

Data Cable

Miniaturized, shielded, multi pair, flame retardant

Stranded conductor

- R-PP/OS/LSZH 300 V

Applications

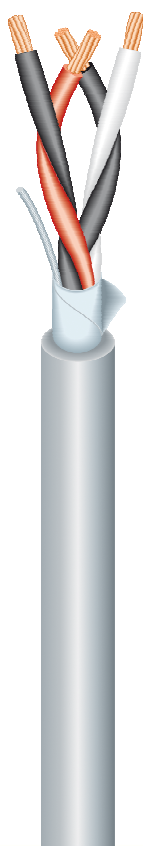
- Addressable Fire Systems
- Security Systems
- Data Circuits
- Audio Circuits
- Control Circuits
- Notification Circuits

Operating temperature

After installation -20°C to +80°C
During installation -5°C to +65°C

Minimum bending radius

12 times the outer diameter



Cable Construction

Conductors

Stranded plain annealed copper wire

Insulation

Polypropylene

Colours: 1st pair: black-red

2nd pair: black-white

3rd pair: black-green

Primary cabling

The insulated cores are twisted together with suitable lay of twist which depends on cores diameter

Cabling

The pairs are cabled together

Overall shield

Aluminium/polyester tape

Drain wire

24 AWG stranded tinned copper wire for 22 AWG cores

20 AWG stranded tinned copper wire for 18 AWG cores

Outer Sheath

LSZH thermoplastic material

Colour: grey

Behaviour under fire conditions

Flame retardant

Halogen acid gas $\leq 0.5\%$

Smoke density (LT $\geq 60\%$)

EN / IEC 60332-1-2

EN / IEC 60754 part 1

EN / IEC 61034-2

SAS Code	n. of pairs x size (AWG)	Stranding n/diameter (mm)	Nominal insulation thickness (mm)	Nominal sheath thickness (mm)	Nominal outer diameter (mm)	Approx. net weight (kg/km)	Max. conductor resistance @ 20°C (Ω /km)	Nominal capacitance (nF/km)
1901218	1x2x18	7/0.40	0.2	0.45	4.4	35	22	155
1902218	2x2x18	7/0.40	0.2	0.55	6.2	60	22	95
1903218	3x2x18	7/0.40	0.2	0.55	7.1	80	22	95
1902222	2x2x22	7/0.25	0.15	0.45	4.5	25	55	85
1903222	3x2x22	7/0.25	0.15	0.45	5.2	40	55	85



Conducting Value

CAVICEL SpA

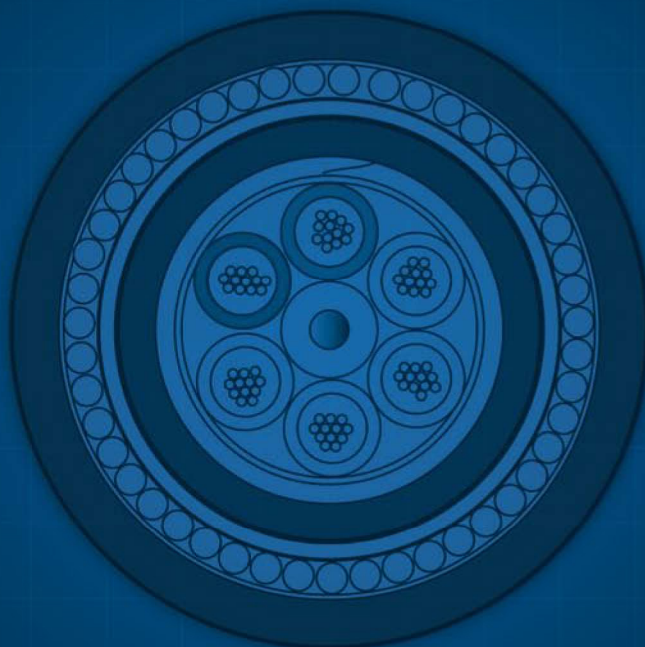
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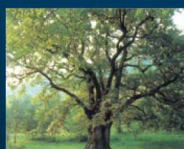
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DUBAI BRANCH OFFICE



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