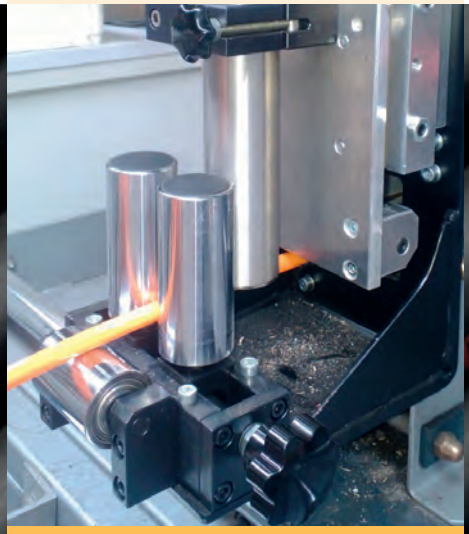
CATALOGUE 2014
CABLES

MAKE AN IMPRESSION WITH YOUR INSCRIPTION



CUSTOM PRINTING AT THE PUSH OF A BUTTON

- **Individual and distinctive labels and inscriptions**
- **White lettering**
- **Text and numbers**
- **Company logos on request**
- **Cables with diameters of 7.5 – 37 mm**
- **Printing on bundles of 50 m or more**

YOUR PERSONAL CONNECTION: NOW WITH A CUSTOMISED INSCRIPTION!

Your premium partner for custom solutions has added a personal touch to your connections: all elmat cables from a diameter of 7.5 mm can now be printed with a concise inscription. Whether a company logo, slogan or advertising message, text or numbers – a distinctive inscription opens up innumerable possibilities for using your cables as advertising media. Ask us for no obligation information about the full range of options and conditions. All it takes is a phone call – and your dream text will become a reality.

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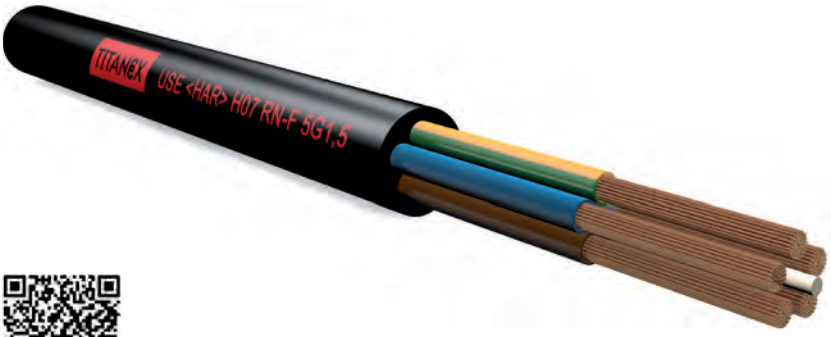
RUBBER CABLES

H07 RN-F / TITANEX

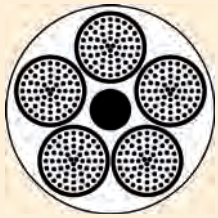
RoHS

Flexible rubber cable



TITANEX

CROSS SECTION



Acc. to DIN EN 50525-2-21
(VDE 0285-525-221):2012-01

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

For the connection of equipment subject to extreme mechanical and thermal loads. For average mechanical loads in dry and damp rooms as well as outdoors. Only to be buried in the ground when using mechanical protection. Suitable for use in portable motors or machines on construction sites (circular saws, drills etc.) or in agricultural companies. Also approved for fixed installation, e.g. on plastered surfaces or in temporary structures, as well as for direct installation on components of hoisting devices, machines etc.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	Cross-linked elastomer insulation
Outer sheath	Cross-linked elastomer with high mechanical properties

TECHNICAL DATA

Nominal voltage	450 V/750 V
Test voltage	2500 V
Conductor resistance	According to DIN VDE 0295 cl. 5
Conductor temperature	Fixed installation: max. +85°C; moving: max. +60°C
Short-circuit temperature	Max. +200°C on the conductor
Operating temperature	-25°C to +55°C
Min. bending radius	6 x cable diameter
Permanent tensile loading	(Total copper cross section in mm²) max. 15N/mm²
TESTS ACCORDING TO DIN VDE 0472 AND IEC:	
Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
Oil resistance	Test method A acc. to VDE 0472 part 803 or test method C acc. to part 805 A1
Ozone resistance	Test method A according to VDE 0472 part 805

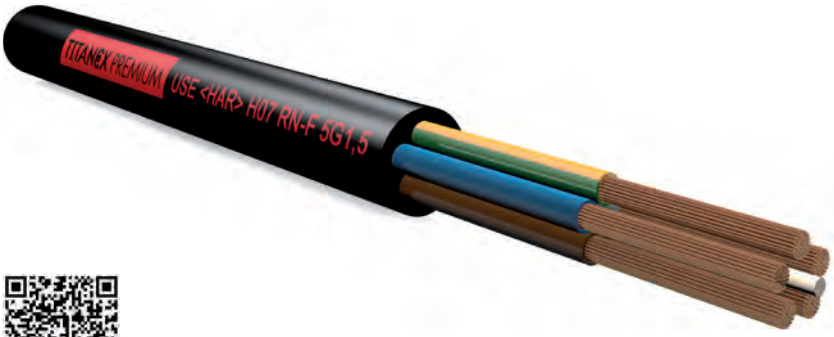
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H07 RN-F	1x1.5	14.4	7.1	50	1011003
H07 RN-F	1x2.5	24.0	7.9	66	1011004
H07 RN-F	1x4	38.0	9.0	94	1011005
H07 RN-F	1x6	58.0	9.6	109	1011006
H07 RN-F	1x10	96.0	11.9	182	1011007
H07 RN-F	1x16	154.0	13.4	256	1011008
H07 RN-F	1x25	240.0	15.8	369	1011009
H07 RN-F	1x35	336.0	17.9	482	1011010
H07 RN-F	1x50	480.0	20.6	662	1011011
H07 RN-F	1x70	672.0	23.3	895	1011012
H07 RN-F	1x95	912.0	26.0	1164	1011013

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H07 RN-F	1x120	1152.0	28.6	1430	1011014
H07 RN-F	1x150	1440.0	31.4	1739	1011015
H07 RN-F	1x185	1776.0	34.4	2160	1011016
H07 RN-F	1x240	2304.0	38.3	2732	1011017
H07 RN-F	1x300	2880.0	41.9	3477	1011018
H07 RN-F	2x1	19.0	10.0	99	1011020
H07 RN-F	2x1.5	29.0	11.0	111	1011023
H07 RN-F	2x2.5	48.0	13.1	161	1011025
H07 RN-F	2x4	77.0	15.1	238	1011027
H07 RN-F	2x6	115.0	18.6	279	1011028
H07 RN-F	2x10	192.0	22.6	538	1011029
H07 RN-F	2x16	308.0	25.7	744	1011030
H07 RN-F	2x25	480.0	30.7	1074	1011033
H07 RN-F	3G1	29.0	10.7	117	1011132
H07 RN-F	3G1.5	43.0	11.8	134	1011135
H07 RN-F	3G2.5	72.0	14.0	195	1011138
H07 RN-F	3G4	115.0	16.2	290	1011139
H07 RN-F	3G6	173.0	18.0	346	1011140
H07 RN-F	3G10	288.0	24.2	663	1011141
H07 RN-F	3G16	461.0	27.6	924	1011142
H07 RN-F	3G25	720.0	33.0	1345	1011143
H07 RN-F	3G35	1008.0	37.1	1760	1011144
H07 RN-F	3G50	1440.0	42.9	2392	1011145
H07 RN-F	3G70	2016.0	48.3	3107	1011146
H07 RN-F	3G95	2736.0	54.0	4177	1011147
H07 RN-F	3G120	3456.0	60.0	5078	1011148
H07 RN-F	3G150	4320.0	56.0	6397	1011149
H07 RN-F	4G1	38.0	11.9	144	1011150
H07 RN-F	4G1.5	58.0	13.1	165	1011153
H07 RN-F	4G2.5	96.0	15.5	245	1011156
H07 RN-F	4G4	154.0	17.9	357	1011158
H07 RN-F	4G6	230.0	20.0	443	1011160
H07 RN-F	4G10	384.0	26.5	818	1011162
H07 RN-F	4G16	614.0	30.1	1150	1011163
H07 RN-F	4G25	960.0	36.6	1700	1011164
H07 RN-F	4G35	1344.0	41.1	2175	1011165
H07 RN-F	4G50	1920.0	47.5	3030	1011166
H07 RN-F	4G70	2688.0	54.0	3995	1011167
H07 RN-F	4G95	3648.0	61.0	5365	1011168
H07 RN-F	4G120	4608.0	66.0	6500	1011169
H07 RN-F	4G150	5760.0	73.0	7995	1011170
H07 RN-F	4G185	7104.0	80.0	9912	1011171
H07 RN-F	5G1.5	72.0	14.4	238	1011174
H07 RN-F	5G2.5	120.0	17.0	297	1011177
H07 RN-F	5G4	192.0	19.9	453	1011179
H07 RN-F	5G6	288.0	22.2	557	1011181
H07 RN-F	5G10	480.0	29.1	1001	1011183
H07 RN-F	5G16	768.0	33.3	1430	1011185
H07 RN-F	5G25	1200.0	40.4	2096	1011186
07 RN-F	5G35	1680.0	40.0	2700	1011187
07 RN-F	5G50	2400.0	53.0	3835	1011188
07 RN-F	5G70	3360.0	60.0	5153	1011189
H07 RN-F	7G1.5	101.0	17.0	371	1011201
H07 RN-F	7G2.5	168.0	19.9	499	1011202
H07 RN-F	12G1.5	173.0	18.0	516	1011213
H07 RN-F	12G2.5	288.0	24.0	719	1011214
H07 RN-F	14G1.5	202.0	20.0	600	1011215
H07 RN-F	18G1.5	259.0	20.0	782	1011217
H07 RN-F	18G2.5	432.0	28.0	1010	1011218
H07 RN-F	19G1.5	274.0	27.7	819	1011219
H07 RN-F	19G2.5	456.0	32.9	1170	1011220
H07 RN-F	24G1.5	346.0	30.7	1005	1011221
H07 RN-F	24G2.5	576.0	32.5	1380	1011222
H07 RN-F	27G1.5	385.0	28.5	1077	1011223
H07 RN-F	27G2.5	638.0	33.5	1521	1011224
H07 RN-F	36G1.5	518.0	35.2	1260	1011225
H07 RN-F	36G2.5	864.0	41.8	1862	1011226
H07 RN-F	37G1.5	533.0	32.0	1370	1011227

H07 RN-F / TITANEX PREMIUM

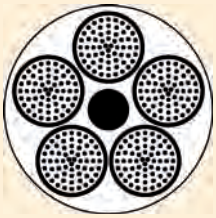
RoHS

Flexible rubber cable



TITANEX PREMIUM

CROSS SECTION



Acc. to DIN EN 50525-2-21
(VDE 0285-525-2-21):2012-01

SPECIAL FEATURES

Properties
Water resistant
Oil and grease resistant
Halogen free
Salt water resistant
Waste water resistant
UV resistant

Sheath colour
Black

APPLICATION

Heavy rubber-insulated cable for various applications involving high mechanical and thermal loads. Fulfils the requirements of H07RN8-F for continual use in water (AD8), H07BN4-F for operating temperatures of 90°C and H07BB-F for extremely low ambient temperatures (up to -50°C static and up to -40°C dynamic). Halogen free and, therefore, suitable for use in fire risk areas (IEC 60332-1). Use at up to 1000 V when permanently installed or supplying power to motors. Application areas: port cranes, mobile machines on public construction sites, portable professional tools. Heavy duty applications in harbours, on ships (Bureau Veritas cert. 26673/AO BV IEC 60092-350/351/353/359; IEC 60228, IEC 60332-1-2, IEC 60811), on drilling platforms, in road tunnels and at train stations and airports.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	Special cross-linked elastomer insulation
Outer sheath	Special cross-linked elastomer with high mechanical properties, LSOH

TECHNICAL DATA

Nominal voltage	450 V/750 V
Test voltage	2500 V
Conductor temperature	Fixed installation: max. +85°C
Short-circuit temperature	Max. +250°C on the conductor
Operating temperature	-50°C to +90°C
Max. operating temperature	+90°C
Installation temperature	Min. -40°C
Min. bending radius	6-8 x cable diameter

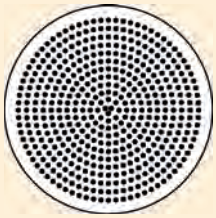
Product description		Cu weight	Outer Ø max. (mm)	Weight (kg/km)	Product number
Titanex Premium	1x1.5	14.4	7.1	50	1211003
Titanex Premium	1x2.5	24.0	7.9	66	1211004
Titanex Premium	1x4	38.0	9.0	94	1211005
Titanex Premium	1x6	58.0	9.8	109	1211006
Titanex Premium	1x10	96.0	11.9	182	1211007
Titanex Premium	1x16	154.0	13.4	256	1211008
Titanex Premium	1x25	240.0	15.8	369	1211009
Titanex Premium	1x35	336.0	17.9	482	1211010
Titanex Premium	1x50	480.0	20.6	662	1211011
Titanex Premium	1x70	672.0	23.3	895	1211012
Titanex Premium	1x95	912.0	26.0	1160	1211013
Titanex Premium	1x120	1152.0	28.6	1430	1211014
Titanex Premium	1x150	1440.0	31.4	1740	1211015
Titanex Premium	1x185	1776.0	34.4	2160	1211016
Titanex Premium	1x240	2304.0	38.3	2730	1211017
Titanex Premium	1x300	2880.0	41.9	3480	1211018
Titanex Premium	2x1.5	29.0	11.0	111	1211023
Titanex Premium	2x2.5	48.0	13.1	161	1211025
Titanex Premium	2x4	77.0	15.1	238	1211027
Titanex Premium	2x6	115.0	16.8	279	1211028
Titanex Premium	2x10	192.0	22.6	538	1211029
Titanex Premium	2x16	308.0	25.7	744	1211030
Titanex Premium	2x25	480.0	30.7	1074	1211033
Titanex Premium	3G1.5	43.0	11.9	134	1211135
Titanex Premium	3G2.5	72.0	14.0	195	1211138
Titanex Premium	3G4	115.0	16.2	290	1211139
Titanex Premium	3G6	173.0	18.0	346	1211140
Titanex Premium	3G10	288.0	24.2	663	1211141
Titanex Premium	3G16	461.0	27.6	924	1211142
Titanex Premium	3G25	720.0	33.0	1345	1211143
Titanex Premium	3G35	1008.0	37.1	1760	1211144
Titanex Premium	3G50	1440.0	42.9	2390	1211145
Titanex Premium	3G70	2016.0	48.3	3110	1211146
Titanex Premium	3G95	2736.0	54.0	4170	1211147
Titanex Premium	4G1.5	58.0	13.1	165	1211153
Titanex Premium	4G2.5	96.0	15.5	245	1211156
Titanex Premium	4G4	154.0	17.9	357	1211158
Titanex Premium	4G6	230.0	20.0	443	1211160
Titanex Premium	4G10	384.0	26.5	818	1211162
Titanex Premium	4G16	614.0	30.1	1150	1211163
Titanex Premium	4G25	960.0	36.6	1700	1211164
Titanex Premium	4G35	1344.0	41.1	2180	1211165
Titanex Premium	4G50	1920.0	47.5	3030	1211166
Titanex Premium	4G70	2688.0	54.0	3990	1211167
Titanex Premium	4G95	3648.0	61.0	5360	1211168
Titanex Premium	4G120	4608.0	66.0	6500	1211169
Titanex Premium	4G150	5760.0	73.0	7990	1211170
Titanex Premium	5G1.5	72.0	14.4	238	1211174
Titanex Premium	5G2.5	120.0	17.0	297	1211177
Titanex Premium	5G4	192.0	19.9	453	1211179
Titanex Premium	5G6	288.0	22.2	557	1211181
Titanex Premium	5G10	480.0	29.1	1001	1211183
Titanex Premium	5G16	768.0	33.3	1430	1211185
Titanex Premium	5G25	1200.0	40.4	2096	1211186
Titanex Premium	5G35	1680.0	45.1	2690	1211187
Titanex Premium	5G50	2400.0	53.0	3840	1211188
Titanex Premium	5G70	3360.0	60.0	4996	1211189
Titanex Premium	7G1.5	101.0	18.7	349	1211201
Titanex Premium	7G2.5	168.0	22.0	487	1211202
Titanex Premium	12G1.5	173.0	22.4	510	1211213
Titanex Premium	12G2.5	288.0	26.2	702	1211214
Titanex Premium	18G1.5	259.0	26.3	730	1211217
Titanex Premium	18G2.5	432.0	30.9	1018	1211218
Titanex Premium	36G1.5	518.0	35.2	1325	1211225
Titanex Premium	36G2.5	864.0	39.1	1879	1211226

H01 N2-D (flexible)

TITARC welding cable

RoHS

CROSS SECTION



Acc. to DIN EN 50525-2-21
(VDE 0285-525-2-21):2012-01

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

For welding specialists with high robustness and flexibility requirements. This special cable is used to transmit high currents from electrical welding devices to welding tools. It is suitable for flexible use under extreme conditions, on assembly lines and handling systems, in machine tool construction, automotive manufacturing and shipbuilding and for manual and automatic arc and spot welding devices. The cable remains highly flexible even under the influence of light, ozone, inert gas, oil and oxygen. It is also resistant to high thermal loads.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	Rubber compound insulation
Outer sheath	Cross-linked elastomer with high mechanical strength

TECHNICAL DATA

Nominal voltage	100 V/100 V
Test voltage	1000 V
Operating temperature	-25°C to +60°C
Max. operating temperature	+85°C
Min. installation temperature	-25°C
Max. installation temperature	+80°C
Min. bending radius:	12 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
Welding resistance	Test for resistance against welding spatter: according to HD 22.2
Oil resistance	At 100°C, testing temperature 200°C/24h: test method A according to VDE 0472 part 803

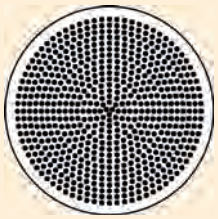
Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H01 N2-D 16 mm² TITARC	154.0	11.5	204	1021002
H01 N2-D 25 mm² TITARC	240.0	13.0	292	1021004
H01 N2-D 35 mm² TITARC	336.0	14.5	388	1021006
H01 N2-D 50 mm² TITARC	480.0	17.0	542	1021008
H01 N2-D 70 mm² TITARC	672.0	19.0	756	1021010
H01 N2-D 95 mm² TITARC	912.0	21.5	976	1021012
H01 N2-D 120 mm² TITARC	1152.0	24.0	1221	1021014

H01 N2-E (Highly flexible)

TITARC welding cable

RoHS

CROSS SECTION



Acc. to DIN EN 50525-2-21
(VDE 0285-525-2-21):2012-01

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Sheath colour
Black

APPLICATION

For welding specialists with high robustness and flexibility requirements. This special cable is used to transmit high currents from electrical welding devices to welding tools. It is suitable for flexible use under extreme conditions, on assembly lines and handling systems, in machine tool construction, automotive manufacturing and shipbuilding and for manual and automatic arc and spot welding devices. The cable remains highly flexible even under the influence of light, ozone, inert gas, oil and oxygen. It is also resistant to high thermal loads.

STRUCTURE

Conductor	Copper conductor, bare, extra-flexible (class 6) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	Rubber compound insulation
Outer sheath	Cross-linked elastomer with high mechanical strength

TECHNICAL DATA

Nominal voltage	100 V/100 V
Test voltage	1000 V
Operating temperature	-25°C to +60°C
Max. operating temperature	+85°C
Min. installation temperature	-25°C
Max. installation temperature	+80°C
Min. bending radius:	12 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

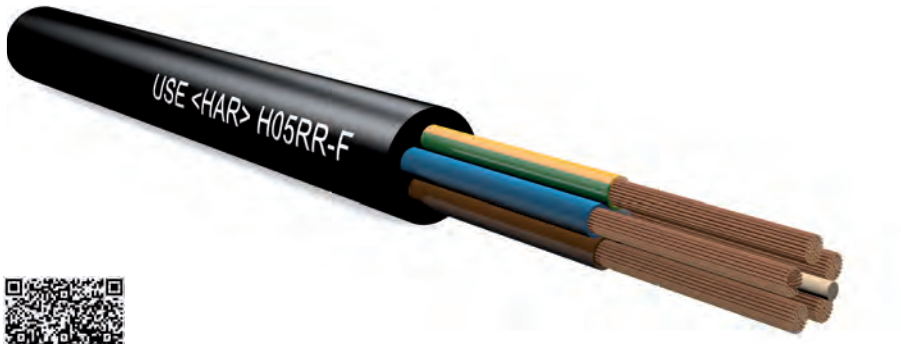
Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
Sheath oil resistance	Test method A according to VDE 0472 part 803
Ozone resistance	Test method A according to VDE 0472 part 805 and test method C according to VDE 0472 part 805 A1

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H01 N2-E	25 mm²	Highly flexible	240.0	11.0	247	1021202
H01 N2-E	35 mm²	Highly flexible	336.0	12.5	338	1021206
H01 N2-E	50 mm²	Highly flexible	480.0	15.0	478	1021208
H01 N2-E	70 mm²	Highly flexible	672.0	17.0	693	1021210
H01 N2-E	95 mm²	Highly flexible	912.0	19.5	889	1021212
H01 N2-E	120 mm²	Highly flexible	1.152.0	21.5	1218	1021214

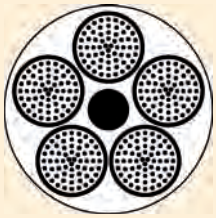
H05 RR-F

Flexible rubber cable

RoHS



CROSS SECTION



Acc. to DIN EN 50525-2-21
(VDE 0285-525-2-21):2012-01

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

For connecting electrical appliances subject to low to medium mechanical loads in households, kitchens and offices. For light hand-held devices (e.g. vacuum cleaners, irons, kitchen appliances, toasters, soldering irons etc.) but not for permanent outdoor use.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) pursuant to DIN VDE 0282 part 4
Cores	Insulation made from rubber compound EI4, colour acc. to VDE 0293
Outer sheath	Rubber compound EM3 according to VDE 0207 part 21

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Operating temperature	-25°C to +60°C
Max. operating temperature	+60°C
Min. installation temperature	-25°C
Max. installation temperature	+60°C
Min. bending radius:	6 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

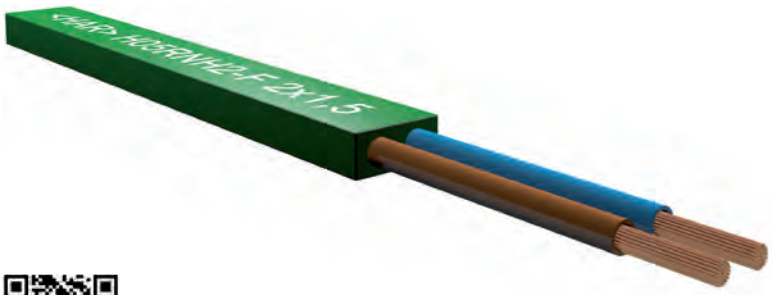
Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
Sheath oil resistance	Test method A according to VDE 0472 part 803
Ozone resistance	Test method A according to VDE 0472 part 805 and test method C according to VDE 0472 part 805 A1

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05 RR-F	2x0.75	14.4	8.2	67	1031003
H05 RR-F	2x1	19.0	8.8	75	1031006
H05 RR-F	2x1.5	29.0	10.5	114	1031009
H05 RR-F	2x2.5	48.0	12.5	161	1031012
H05 RR-F	3G0.75	21.6	8.8	77	1031015
H05 RR-F	3G1	29.0	9.2	93	1031018
H05 RR-F	3G1.5	43.0	11.0	140	1031021
H05 RR-F	3G2.5	72.0	13.0	198	1031024
H05 RR-F	4G0.75	29.0	9.6	94	1031027
H05 RR-F	4G1	38.0	10.0	115	1031030
H05 RR-F	4G1.5	58.0	12.5	175	1031033
H05 RR-F	4G2.5	96.0	14.0	250	1031036
H05 RR-F	5G1.5	72.0	13.5	215	1031039
H05 RR-F	5G2.5	120.0	15.5	310	1031042

H05 RNH2-F

Flat light-chain cable

RoHS



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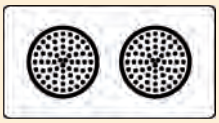

Acc. to VDE 0285-525-2-82

APPLICATION

This cable is particularly suitable for use in strings of lights, i.e. for suspended outdoor installation. The maximum cable tensile load of 50 N must be observed during installation.

SPECIAL FEATURES

Sheath colour
Green

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5)
Cores	Cross-linked elastomer insulation
Outer sheath	Cross-linked elastomer

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Operating temperature	-40°C to +60°C
Max. operating temperature	+60°C
Min. installation temperature	-25°C
Max. installation temperature	+60°C
Min. bending radius:	12 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
Sheath oil resistance	Test method A according to VDE 0472 part 803
Ozone resistance	Test method A according to VDE 0472 part 805 and test method C according to VDE 0472 part 805 A1

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05 RNH2-F 2x1.5 Illumination cable	29.0		120	1092008


RUB
BE
R C
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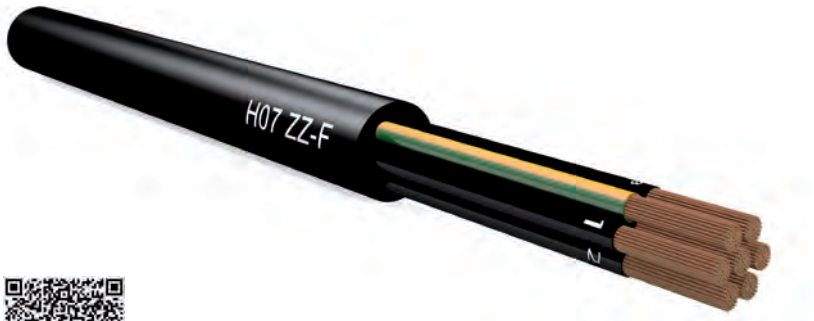
H07 ZZ-F

Flexible LSOH cable

RoHS



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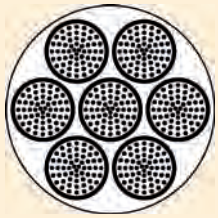


Acc. to DIN VDE 0285-525-3-21 CEI 20-107/3-21

SPECIAL FEATURES

Properties
Flame retardant
Halogen free
Minimal smoke density

Sheath colour
Black

APPLICATION

These cables are designed for both indoor and outdoor use. They are particularly suitable for applications where only low volumes of smoke and corrosive gases may arise in the event of a fire.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	Insulation made from rubber EI8
Core identification	Colour VDE 0293, more than 5 cores: green and yellow + digits
Outer sheath	Rubber (EPR) EM8

TECHNICAL DATA

Flame retardant according to VDE 0482-266-2-4/IEC 60332-3-24

Nominal voltage	450 V/750 V
Test voltage	2500 V
Max. permissible conductor temperature	90°C
Permissible cable sheath temperature	-40°C to +70°C (fixed installation)
Permissible cable sheath temperature	-5°C to +70°C (moving)
Flame retardant	According to VDE 0482-266-2-4/IEC 60332-3-24
Smoke density	DIN EN 61034/IEC 61034
Halogen free	DIN EN 50267/IEC 60754

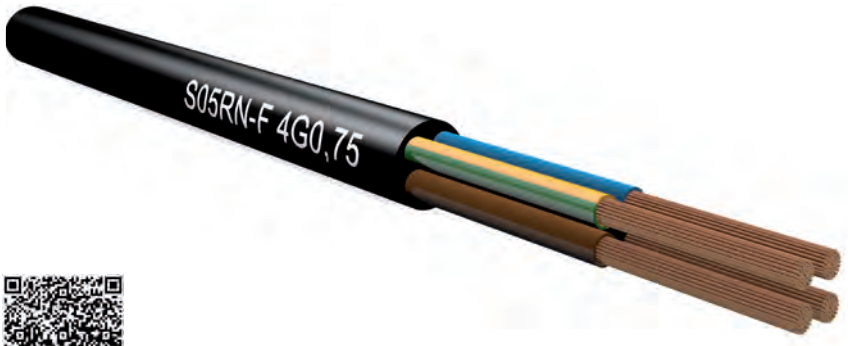
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)
H07ZZ-F	1x1.5	14.4	7.1	50
H07ZZ-F	1x2.5	24.0	7.9	65
H07ZZ-F	1x4	38.0	9.0	89
H07ZZ-F	1x6	58.0	9.8	115
H07ZZ-F	1x10	96.0	11.9	190
H07ZZ-F	1x16	154.0	13.4	259
H07ZZ-F	1x25	240.0	15.8	375
H07ZZ-F	1x35	336.0	17.9	492
H07ZZ-F	1x50	480.0	20.6	675
H07ZZ-F	1x70	672.0	23.3	908
H07ZZ-F	1x95	912.0	26.0	1171
H07ZZ-F	1x120	1152.0	28.6	1445
H07ZZ-F	1x150	1440.0	31.4	1783
H07ZZ-F	1x185	1776.0	34.4	2125
H07ZZ-F	1x240	2304.0	38.3	2733
H07ZZ-F	1x300	2880.0	41.9	3348

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)
H07ZZ-F	2x1	19.0	10.0	90
H07ZZ-F	2x1.5	29.0	11.0	109
H07ZZ-F	2x2.5	48.0	13.1	158
H07ZZ-F	2x4	77.0	15.1	217
H07ZZ-F	2x6	115.0	16.8	282
H07ZZ-F	2x10	192.0	22.6	539
H07ZZ-F	2x16	308.0	25.7	722
H07ZZ-F	2x25	480.0	30.7	1043
H07ZZ-F	3G1	29.0	10.7	110
H07ZZ-F	3G1.5	43.0	11.9	134
H07ZZ-F	3G2.5	72.0	14.0	196
H07ZZ-F	3G4	115.0	16.2	271
H07ZZ-F	3G6	173.0	18.0	355
H07ZZ-F	3G10	288.0	24.2	674
H07ZZ-F	3G16	461.0	27.6	913
H07ZZ-F	3G25	720.0	33.0	1324
H07ZZ-F	3G35	1008.0	37.1	1754
H07ZZ-F	3G50	1440.0	42.9	2409
H07ZZ-F	3G70	2016.0	48.3	3211
H07ZZ-F	3G95	2736.0	54.0	4210
H07ZZ-F	3G120	3456.0	60.0	5205
H07ZZ-F	3G150	4320.0	66.0	6389
H07ZZ-F	4G1	38.0	11.9	136
H07ZZ-F	4G1.5	58.0	13.1	166
H07ZZ-F	4G2.5	96.0	15.5	241
H07ZZ-F	4G4	154.0	17.9	336
H07ZZ-F	4G6	230.0	20.0	449
H07ZZ-F	4G10	384.0	26.5	833
H07ZZ-F	4G16	614.0	30.1	1138
H07ZZ-F	4G25	960.0	36.6	1714
H07ZZ-F	4G35	1344.0	41.1	2204
H07ZZ-F	4G50	1920.0	47.5	3029
H07ZZ-F	4G70	2688.0	54.0	4121
H07ZZ-F	4G95	3648.0	61.0	5361
H07ZZ-F	4G120	4608.0	66.0	6546
H07ZZ-F	4G150	5760.0	73.0	8095
H07ZZ-F	4G185	7104.0	80.0	9652
H07ZZ-F	5G1	48.0	13.1	168
H07ZZ-F	5G1.5	72.0	14.4	206
H07ZZ-F	5G2.5	120.0	17.0	297
H07ZZ-F	5G4	192.0	19.9	422
H07ZZ-F	5G6	288.0	22.2	567
H07ZZ-F	5G10	480.0	29.1	1010
H07ZZ-F	5G16	768.0	33.3	1400
H07ZZ-F	5G25	1200.0	40.0	2096
H07ZZ-F	7G1.5	101.0	17.2	315
H07ZZ-F	7G2.5	168.0	20.0	445
H07ZZ-F	12G1.5	173.0	22.4	493
H07ZZ-F	12G2.5	288.0	26.2	702
H07ZZ-F	19G1.5	274.0	26.3	710
H07ZZ-F	19G2.5	456.0	30.9	1030
H07ZZ-F	24G1.5	346.0	30.7	898
H07ZZ-F	24G2.5	576.0	36.4	1312
H07ZZ-F	36G1.5	518.0	35.2	1246
H07ZZ-F	36G2.5	864.0	41.8	1851

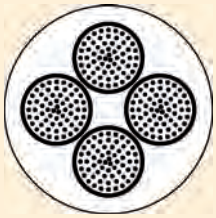
S05 RN-F

Flexible rubber cable

RoHS



CROSS SECTION



Acc. to DIN VDE 0482-332-1-2/IEC 60332-1

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

For connecting electrical equipment subject to low mechanical loads, whether in moving or fixed installation. For example, Venetian blinds for indoors or on façades. Suitable for use indoors, outdoors and in potentially explosive atmospheres. The general provisions established in DIN VDE 0298-300 also apply.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	Insulation made from rubber compound EI4
Outer sheath	Rubber compound EM2

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Alternating or three-phase current	Conductor-earth/conductor-conductor 318/550 V
Direct current	Conductor-earth/conductor-conductor 413/825 V
Conductor resistance	Max. 26.0 Ohm/km
Installation temperature	-25°C to +60°C
Operating temperature	-40°C to +40°C
Conductor limit temperature	Max. +60°C under permanent load
Conductor limit temperature	Max. +200°C in the event of a short circuit
Bending radius, moving	4 x cable diameter
Bending radius, fixed installation	3 x cable diameter
Tensile strength	Max. 15 N/mm²
Oil resistance of the outer sheaths	Test according to DIN EN 60811-2-1
Flammability	Test according to DIN EN 60332-1-2

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
S05RN-F 4x0.75	29.0	7.6	120	1032031


RUB
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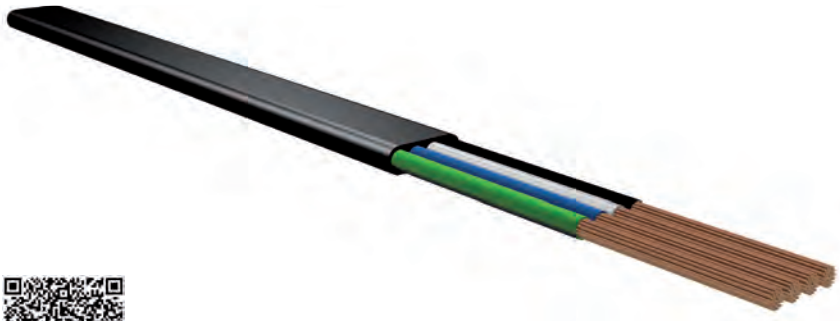
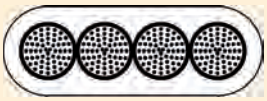
NGFLGÖU

Flat rubber cable

RoHS



CROSS SECTION



Acc. to VDE 0250 part 809

APPLICATION

As an energy and control cable subject to high mechanical loads and high bending frequencies during operations. Suitable for use on cable trolleys and for connection to moving parts on machine tools, assembly lines and similar as well as when bending on a single plane. The cables are used for crane systems, lifting equipment, handling systems and crane and container bridges and the flat cables can be installed in dry, damp and wet rooms as well as outdoors.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Conductor	According to DIN VDE 0295, electrolyte copper, bare, soft Up to 25 mm²: very flexible (class 6), from 35 mm²: flexible (class 5)
Cores	Insulation according to DIN VDE 0207 part 20: Protolon; material basis EPR, rubber compound 3GI3, colours for up to 5 cores: green and yellow (or black for '...-O') black, blue, brown, grey; colours for more than 5 cores: black with white imprinted digits in parallel alignment; for more than 12 cores, parallel alignment in bundles
Shield (for shielded cores or core pairs)	Mesh of copper wires (tin plated), transfer impedance optimised at 30 MHz. Fill level: approx. 60% with shielded cores, approx. 80% with shielded pairs
Outer sheath	Acc. to DIN VDE 0207 part 21, material basis CR, rubber compound 5GM3

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2500 V
Max. permissible operating voltage	Uo/U = 0.7/1.2 kV (in AC grids)
Max. permissible operating voltage	Uo/U = 0.9/1.8 kV (in DC grids)
Current carrying capacity	According to DIN BDE 0298 part 4
Ambient temperature	-35°C to +80°C (moving), -50°C to +80°C (fixed)
Max. operating temperature	+90°C (on conductor)
Short-circuit temperature	+250°C (on conductor)
Tensile strength	Up to 15 N/mm²
Max. installation temperature	+80°C
Torsional load	None
Minimum bending radii	According to DIN VDE 0298 part 3
Minimum clearances	N/a (in the event of S-shaped deflection)
Travel speed	Crane trolley (reeling): n/a Crab trolley (cable trolley): up to 180 m/min (guide value)
Additional test	Bending test
Oil resistance	According to DIN VDE 0473 part 811-2-1 para. 10
Weather resistance	Unrestricted indoor and outdoor use, ozone, UV and moisture resistant

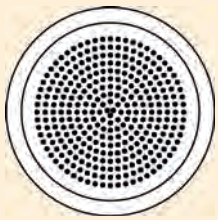
Product description		Cu weight	Max. outer dimensions (mm)	Weight (kg/km)	Product number
NGFLGÖU-J	4x10	384.0	11 x 33.3	730	105404010
NGFLGÖU-J	4x16	614.0	12.9 x 39.0	1263	105404016
NGFLGÖU-J	4x25	960.0	14.9 x 48.0	1638	105404025
NGFLGÖU-J	4x35	1344.0	17.0 x 51.0	2123	105404035
NGFLGÖU-J	4x50	1920.0	19.3 x 62.0	2916	105404050
NGFLGÖU-J	4x70	2688.0	22.0 x 69.0	3840	105404070
NGFLGÖU-J	4x95	3648.0	24.3 x 78.4	4960	105404095
NGFLGÖU-J	4x120	4608.0	26.5 x 85.4	6040	105404120
NGFLGÖU-J	8x1.5	115.0	6.3 x 32.0	335	105408015
NGFLGÖU-J	8x2.5	192.0	7.5 x 38.3	450	105408025
NGFLGÖU-J	10x1.5	144.0	6.9 x 40.5	420	105410015
NGFLGÖU-J	10x2.5	240.0	8.1 x 47.0	653	105410025
NGFLGÖU-J	12x1.5	173.0	6.9 x 47.6	510	105412015
NGFLGÖU-J	12x2.5	288.0	8.2 x 57.0	770	105412025
NGFLGÖU-J	24x1.5	346.0	13.5 x 59.4	1060	105424015

NSGAFÖU

Rubber insulated wire 1.8/3kV

RoHS

CROSS SECTION



Acc. to VDE 0250 part 602

APPLICATION

For use in rail vehicles and buses, as well as in dry rooms. The cables are short-circuit and earth leakage proof up to 1000 V in switchgears and terminal blocks and can be used with a nominal voltage of U0/U 1.8/3 kV according to DIN VDE 0100 part 520, including for unsecured connections. They are used in dry rooms, tubes and sealed installation ducts, as well as to connect moving parts.

SPECIAL FEATURES

Properties
Ozone resistant

Sheath colour
Black

STRUCTURE

Conductor	Tin-plated copper conductor, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	Insulation made from rubber 3GI3, halogen free
Outer sheath	Rubber 5GM5

TECHNICAL DATA

Nominal voltage	1800 V/3000 V
Test voltage	6000 V
Operating temperature	+90°C
Max. operating temperature	+100°C
Min. installation temperature	-25°C
Max. installation temperature	+80°C
Min. bending radius	Approx. 5 x cable diameter

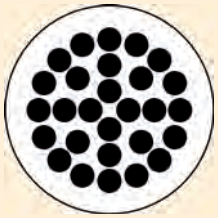
Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NSGAFÖU 1.5 mm² 3 kV	14.4	7.0	60	1052001
NSGAFÖU 2.5 mm² 3 kV	24.0	7.5	70	1052002
NSGAFÖU 4.0 mm² 3 kV	38.0	9.0	90	1052003
NSGAFÖU 6.0 mm² 3 kV	58.0	9.5	120	1052004
NSGAFÖU 10 mm² 3 kV	96.0	11.0	180	1052005
NSGAFÖU 16 mm² 3 kV	154.0	13.0	250	1052006
NSGAFÖU 25 mm² 3 kV	240.0	15.0	390	1052007
NSGAFÖU 35 mm² 3 kV	336.0	16.5	470	1052008
NSGAFÖU 50 mm² 3 kV	480.0	18.0	625	1052009
NSGAFÖU 70 mm² 3 kV	672.0	20.5	880	1052010
NSGAFÖU 95 mm² 3 kV	912.0	24.0	1,190	1052011
NSGAFÖU 120 mm² 3 kV	1152.0	26.0	1,430	1052012
NSGAFÖU 150 mm² 3 kV	1440.0	28.0	1,750	1052013
NSGAFÖU 185 mm² 3 kV	1776.0	31.0	2,160	1052014
NSGAFÖU 240 mm² 3 kV	2304.0	34.5	2,534	1052015
NSGAFÖU 300 mm² 3 kV	2880.0	38.0	3,178	1052016

NSHXAFÖ

LSOH flexible wire 1.8/3kV

RoHS

CROSS SECTION



Acc. to VDE 0250 part 606

APPLICATION

Particularly suited for use as a short-circuit-proof cable for rail vehicles and buses. In switchgears and terminal blocks, the cables are short-circuit and earth leakage proof up to 1000 V.

SPECIAL FEATURES

Properties
Halogen free
Ozone resistant
Flame retardant
Largely oil resistant

Sheath colour
Black

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Outer sheath	Made from a flame-retardant polymer compound

TECHNICAL DATA

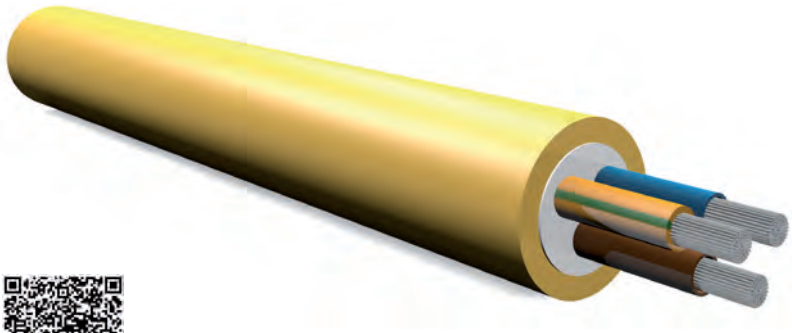
Nominal voltage	1800 V/3000 V
Test voltage	6000 V
Min. temperature range	-25°C (installed)
Max. temperature range	+80°C (installed)

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NSHXAFö	1.5	1.8/3 kV	14.4	7.0	60	2552001
NSHXAFö	2.5	1.8/3 kV	24.0	7.5	70	2552002
NSHXAFö	4.0	1.8/3 kV	38.0	9.0	90	2552003
NSHXAFö	6.0	1.8/3 kV	58.0	9.5	120	2552004
NSHXAFö	10.0	1.8/3 kV	96.0	11.0	180	2552005
NSHXAFö	16.0	1.8/3 kV	154.0	13.0	250	2552006
NSHXAFö	25.0	1.8/3 kV	240.0	15.0	390	2552007
NSHXAFö	35.0	1.8/3 kV	336.0	16.5	470	2552008
NSHXAFö	50.0	1.8/3 kV	480.0	18.0	625	2552009
NSHXAFö	70.0	1.8/3 kV	672.0	20.5	880	2552010
NSHXAFö	95.0	1.8/3 kV	912.0	24.0	1190	2552011
NSHXAFö	120.0	1.8/3 kV	1152.0	26.0	1430	2552012
NSHXAFö	150.0	1.8/3 kV	1440.0	28.0	1750	2552013
NSHXAFö	185.0	1.8/3 kV	1776.0	31.0	2160	2552014
NSHXAFö	240.0	1.8/3 kV	2304.0	34.5	2640	25520153

NSSHÖU

Flexible rubber cable 0.6/1kV, yellow

RoHS



APPLICATION

For extremely high mechanical loads, e.g. for underground mining, open-cast mining on construction sites and in industry, in dry and damp rooms and outdoors, as well as for fixed installation.
Usage conditions to be determined on a case-by-case basis. The neoprene outer sheath makes the cable largely resistant to oil, acid, grease, petrol and chemicals as well as flame retardant and wear resistant.

STRUCTURE

Conductor	Tin-plated copper conductor, flexible, in accordance with DIN VDE 0250 part 812; cores stranded in layers, without elongated central core
Cores	Insulation made from heat-resistant rubber in accordance with VDE 207 part 20, colour coded according to VDE 0293: up to 5 cores: monochrome, > 7 cores: black with imprinted numbers
Outer sheath	Made from chlorinated polyethylene

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	3000 V
Insulation resistance	Conductor-earth/conductor-conductor 318/550 V
Operating temperature	Conductor-earth/conductor-conductor 413/825 V
Max. operating temperature	+ 90°C
Min. installation temperature	- 25°C
Max. installation temperature	+ 80°C
Min. bending radius	When laid freely, 5 x cable diameter

CROSS SECTION

Acc. to VDE 0250 part 812

SPECIAL FEATURES

Properties
Largely flame retardant
Oil resistant
Tin-plated copper

Sheath colour
Yellow

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NSSHÖU-J	3x1.5	43.0	15.0	200	1051006
NSSHÖU-J	3x2.5	72.0	16.5	260	1051007
NSSHÖU-J	4x1.5	58.0	16.0	230	1051008
NSSHÖU-J	4x2.5	96.0	19.0	360	1051009
NSSHÖU-J	4x4	154.0	21.5	470	1051010
NSSHÖU-J	4x6	230.0	23.0	580	1051011
NSSHÖU-J	4x10	384.0	27.5	950	1051012
NSSHÖU-J	4x16	614.0	37.0	1400	1051013
NSSHÖU-J	4x25	960.0	39.0	2000	1051014
NSSHÖU-J	4x35	1344.0	42.5	2700	1051015
NSSHÖU-J	4x50	1920.0	49.0	3700	1051016
NSSHÖU-J	5x1.5	72.0	17.0	280	1051017
NSSHÖU-J	5x2.5	120.0	20.0	420	1051018
NSSHÖU-J	5x4	192.0	23.0	550	1051019
NSSHÖU-J	5x6	288.0	26.5	740	1051020
NSSHÖU-J	5x10	480.0	30.0	1100	1051021
NSSHÖU-J	5x16	768.0	30.4	1396	1051022
NSSHÖU-J	5x25	1200.0	35.4	2051	1051025
NSSHÖU-J	7x1.5	101.0	19.5	350	1051050
NSSHÖU-J	7x2.5	168.0	21.5	540	1051051
NSSHÖU-O	1x16	154.0	11.8	231	1051001
NSSHÖU-O	1x95	912.0	21.2	1041	1051099
NSSHÖU-O	1x120	1152.0	23.9	1325	1051096
NSSHÖU-O	1x150	1440.0	25.9	1615	1051097
NSSHÖU-O	1x185	1776.0	29.4	1997	1051098

NOTES

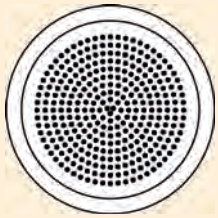
SOLAR CABLES

Solar cable PV1-F
Cable for solar panel wiring

RoHS

solarline

CROSS SECTION



APPLICATION

This solar cable is the perfect solution for photovoltaic systems. It offers outstanding UV, ozone, microbe and cold resistance and is resistant to the broadest range of weather conditions. The large working temperature range also enables the cable's use under extreme conditions and at any time of year. This cable can be buried underground within sealed photovoltaic systems. It is also resistant to oil and grease and offers excellent wear and abrasion resistance. The cable has an expected service life of 25 years.

SPECIAL FEATURES

Properties
Flame retardant
Halogen free
Minimal smoke density

Sheath colours
Black, red or blue

STRUCTURE

Conductor	Tin-plated copper conductor, flexible (class 5) according to CEI EN 60228 (CEI 20-29)
Cores	PVC according to VDE 0207 part 4 and VDE 0293
Outer sheath	Halogen-free elastomers, TÜV pfg 1169/08.2007 CEI EN 50363 (CEI 20-11)

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	6500 V
Min. bending radius	Fixed installation: 15 x cable Ø
Min. bending radius	Moving: 6 x cable Ø
Operating temperature	-40°C to +90°C
Short-circuit temperature	+200°C
Electrical resistance	Test according to CEI 20-29 EN60228 cl. 5
Ozone resistance	Test according to EN 50396 part 8.1.3
UV resistance	Test according to HD605/A1 part 2.4.20

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
Solar cable 1x4 / blue	/ TÜV II + VDE	Halogen free	38.4	5.7	63	eSOLAR10040blV
Solar cable 1x4 / red	/ TÜV II + VDE	Halogen free	38.4	5.7	63	eSOLAR10040rtV
Solar cable 1x4 / black	/ TÜV II + VDE	Halogen free	38.4	5.7	63	eSOLAR10040swV
Solar cable 1x6 / blue	/ TÜV II + VDE	Halogen free	58.0	6.5	86	eSOLAR10060blV
Solar cable 1x6 / red	/ TÜV II + VDE	Halogen free	58.0	6.5	86	eSOLAR10060rtV
Solar cable 1x6 / black	/ TÜV II + VDE	Halogen free	58.0	6.5	86	eSOLAR10060swV
Solar cable 1x10 / black	/ TÜV II + VDE	Halogen free	96.0	7.2	120	eSOLAR10100swV
Solar cable 1x16 / black	/ TÜV II + VDE	Halogen free	154.0	9.0	178	eSOLAR10160swV
Solar cable 1x25 / black	/ TÜV II + VDE	Halogen free	240.0	10.7	273	eSOLAR10250swV
Solar cable 1x35 / black	/ TÜV II + VDE	Halogen free	336.0	11.8	364	eSOLAR10350swV
Solar cable 1x4 / blue	/ TÜV II	Halogen free	38.4	5.7	63	eSOLAR10040bl
Solar cable 1x4 / red	/ TÜV II	Halogen free	38.4	5.7	63	eSOLAR10040rt
Solar cable 1x4 / black	/ TÜV II	Halogen free	38.4	5.7	63	eSOLAR10040sw
Solar cable 1x6 / blue	/ TÜV II	Halogen free	58.0	6.5	86	eSOLAR10060bl
Solar cable 1x6 / red	/ TÜV II	Halogen free	58.0	6.5	86	eSOLAR10060rt
Solar cable 1x6 / black	/ TÜV II	Halogen free	58.0	6.5	86	eSOLAR10060sw
Solar cable 1x10 / black	/ TÜV II	Halogen free	96.0	7.2	120	eSOLAR10100sw
Solar cable 1x16 / black	/ TÜV II	Halogen free	154.0	9.0	178	eSOLAR10160sw
Solar cable 1x25 / black	/ TÜV II	Halogen free	240.0	10.7	273	eSOLAR10250sw
Solar cable 1x35 / black	/ TÜV II	Halogen free	336.0	11.8	364	eSOLAR10350sw

NOTES

WIRING CABLES

H05-VU

PVC - insulated wires

RoHS

CROSS SECTION

Acc. to VDE 0285-525-2-31

APPLICATION

These PVC wiring cables are used for the internal wiring of appliances, as well as for shielded installation in and on lights, in pipes or on or within plastered surfaces, but only for bell or signalling systems.

STRUCTURE

Conductor	Copper conductor, bare, single-cored class 1
Cores	PVC insulation according to VDE 0207 part 4, colour coding according to VDE 0293

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Insulation resistance	20 MOhm x km
Operating temperature	On the conductor: +70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C
Min. bending radius	15 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

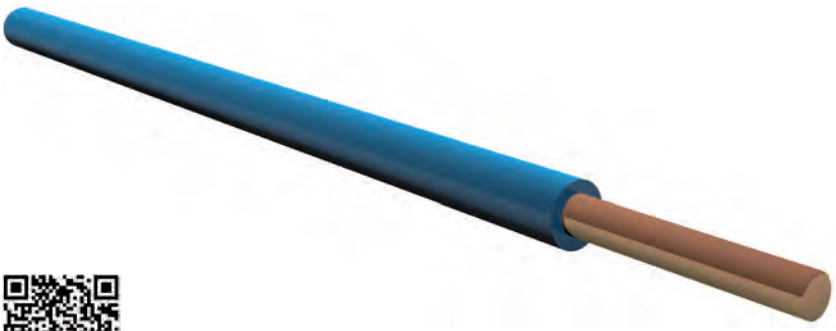
Flammability	Test method B according to VDE 0427 part 804 and IEC 332-1

Product description		Colour	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H05 V-U	0.5	Black	4.8	2.0	9	1046001	-100
		Green/yellow	4.8	2.0	9	1046001	-101
		White	4.8	2.0	9	1046001	-102
		Red	4.8	2.0	9	1046001	-103
		Light blue RAL5015	4.8	2.0	9	1046001	-104
		Brown	4.8	2.0	9	1046001	-105
H05 V-U	0.75	Black	7.2	2.2	10	1046050	-100
		Green/yellow	7.2	2.2	10	1046050	-101
		White	7.2	2.2	10	1046050	-102
		Red	7.2	2.2	10	1046050	-103
		Light blue RAL5015	7.2	2.2	10	1046050	-104
		Brown	7.2	2.2	10	1046050	-105
		Grey	7.2	2.2	10	1046050	-106
		Violet	7.2	2.2	10	1046050	-107
H05 V-U	1.0	Black	9.6	2.4	14	1046100	-100
		Green/yellow	9.6	2.4	14	1046100	-101
		White	9.6	2.4	14	1046100	-102
		Red	9.6	2.4	14	1046100	-103
		Light blue RAL5015	9.6	2.4	14	1046100	-104
		Brown	9.6	2.4	14	1046100	-105
		Grey	9.6	2.4	14	1046100	-106
		Violet	9.6	2.4	14	1046100	-107
		Orange	9.6	2.4	14	1046100	-108
		Dark blue RAL5010	9.6	2.4	14	1046100	-109

H07-VU

PVC - insulated wires

RoHS



CROSS SECTION

Acc. to VDE 0285-525-2-31

APPLICATION

Installation in dry rooms, switchgears and distribution boards, as well as in pipes, on or within plastered surfaces and in sealed cable ducts. For the internal wiring of appliances, switchgears and distribution boards, as well as for shielded installation in and on lights with a nominal voltage of up to 1000 V alternating current or up to 750 V direct current to earth.

STRUCTURE

Conductor	Copper conductor, bare, single-cored class 1
Cores	PVC insulation according to VDE 0207 part 4, colour coding according to VDE 0293

TECHNICAL DATA

Nominal voltage	450 V/750 V
Test voltage	2500 V
Insulation resistance	20 MOhm x km
Operating temperature	On the conductor +70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C
Min. bending radius	15 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
PVC properties	Self-extinguishing and flame retardant

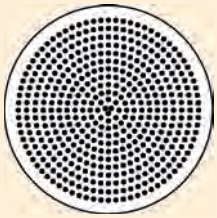
Product description	Colour	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H07 V-U 1.5	Black	14.4	2.8	20	1046150	-100
	Green/yellow	14.4	2.8	20	1046150	-101
	White	14.4	2.8	20	1046150	-102
	Red	14.4	2.8	20	1046150	-103
	Light blue RAL5015	14.4	2.8	20	1046150	-104
	Brown	14.4	2.8	20	1046150	-105
	Grey	14.4	2.8	20	1046150	-106
	Violet	14.4	2.8	20	1046150	-107
	Orange	14.4	2.8	20	1046150	-108
	Dark blue RAL5010	14.4	2.8	20	1046150	-109
	Yellow	14.4	2.8	20	1046150	-110
	Flame red RAL3000	14.4	2.8	20	1046150	-118
H07 V-U 2.5	Black	24.0	3.4	31	1046200	-100
	Green/yellow	24.0	3.4	31	1046200	-101
	White	24.0	3.4	31	1046200	-102
	Red	24.0	3.4	31	1046200	-103
	Light blue RAL5015	24.0	3.4	31	1046200	-104
	Brown	24.0	3.4	31	1046200	-105
	Grey	24.0	3.4	31	1046200	-106
	Violet	24.0	3.4	31	1046200	-107
	Dark blue RAL5010	24.0	3.4	31	1046200	-109
	Flame red RAL3000	24.0	3.4	31	1046200	-118
H07 V-U 4.0	Black	38.0	3.9	46	1046250	-100
	Green/yellow	38.0	3.9	46	1046250	-101
	White	38.0	3.9	46	1046250	-102
	Red	38.0	3.9	46	1046250	-103
	Light blue RAL5015	38.0	3.9	46	1046250	-104
	Brown	38.0	3.9	46	1046250	-105
	Grey	38.0	3.9	46	1046250	-106
H07 V-U 6.0	Black	58.0	4.4	65	1046300	-100
	Green/yellow	58.0	4.4	65	1046300	-101
	Light blue RAL5015	58.0	4.4	65	1046300	-104
	Brown	58.0	4.4	65	1046300	-105
	Grey	58.0	4.4	65	1046300	-106
	Flame red RAL3000	58.0	4.4	65	1046300	-118
H07 V-U 10.0	Black	96.0	5.6	110	1046350	-100
	Green/yellow	96.0	5.6	110	1046350	-101
	Light blue RAL5015	96.0	5.6	110	1046350	-104
	Brown	96.0	5.6	110	1046350	-105
H07 V-U 16.0	Green/yellow	154.0	6.8	150	1046400	-101

H05-VK

PVC - insulated flexible wires

RoHS

CROSS SECTION



Acc. to VDE 0285-525-2-31

APPLICATION

These flexible PVC wiring cables are used for the internal wiring of appliances, as well as for shielded installation in and on lights, in pipes or on and within plastered surfaces, but only for bell or signalling systems.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	PVC insulation according to BDE 0207 part 4, colour coding according to VDE 0293

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Insulation resistance	20 MOhm x km
Operating temperature	On the conductor +70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C
Min. bending radius	15 x cable diameter

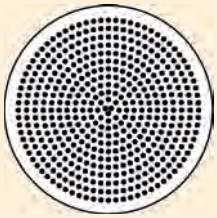
Product description		Colour	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H05 V-K	0.5	Black	4.8	2.1	8	1045001	-100
		Green/yellow	4.8	2.1	8	1045001	-101
		White	4.8	2.1	8	1045001	-102
		Red	4.8	2.1	8	1045001	-103
		Light blue RAL5015	4.8	2.1	8	1045001	-104
		Brown	4.8	2.1	8	1045001	-105
		Grey	4.8	2.1	8	1045001	-106
		Violet	4.8	2.1	8	1045001	-107
		Orange	4.8	2.1	8	1045001	-108
		Dark blue RAL5010	4.8	2.1	8	1045001	-109
		Yellow	4.8	2.1	8	1045001	-110
		Green	4.8	2.1	8	1045001	-111
		Ultramarine RAL5002	4.8	2.1	8	1045001	-112
		Light blue RAL5012	4.8	2.1	8	1045001	-113
		Flame red RAL3000	4.8	2.1	8	1045001	-118
H05 V-K	0.75	Black	7.2	2.4	12	1045050	-100
		Green/yellow	7.2	2.4	12	1045050	-101
		White	7.2	2.4	12	1045050	-102
		Red	7.2	2.4	12	1045050	-103
		Light blue RAL5015	7.2	2.4	12	1045050	-104
		Brown	7.2	2.4	12	1045050	-105
		Grey	7.2	2.4	12	1045050	-106
		Violet	7.2	2.4	12	1045050	-107
		Orange	7.2	2.4	12	1045050	-108
		Dark blue RAL5010	7.2	2.4	12	1045050	-109
		Yellow	7.2	2.4	12	1045050	-110
		Green	7.2	2.4	12	1045050	-111
		Ultramarine RAL5002	7.2	2.4	12	1045050	-112
		Light blue RAL5012	7.2	2.4	12	1045050	-113
		Clay brown RAL8003	7.2	2.4	12	1045050	-117
		Flame red RAL3000	7.2	2.4	12	1045050	-118
H05 V-K	1.0	Black	9.6	2.6	14	1045100	-100
		Green/yellow	9.6	2.6	14	1045100	-101
		White	9.6	2.6	14	1045100	-102
		Red	9.6	2.6	14	1045100	-103
		Light blue RAL5015	9.6	2.6	14	1045100	-104
		Brown	9.6	2.6	14	1045100	-105
		Grey	9.6	2.6	14	1045100	-106
		Violet	9.6	2.6	14	1045100	-107
		Orange	9.6	2.6	14	1045100	-108
		Dark blue RAL5010	9.6	2.6	14	1045100	-109
		Yellow	9.6	2.6	14	1045100	-110
		Green	9.6	2.6	14	1045100	-111
		Ultramarine RAL5002	9.6	2.6	14	1045100	-112
		Light blue RAL5012	9.6	2.6	14	1045100	-113
		Flame red RAL3000	9.6	2.6	14	1045100	-118
		Squirrel grey RAL7000	9.6	2.6	14	1045100	-119
		Pink	9.6	2.6	14	1045100	-130

H07-VK

PVC - insulated flexible wires

RoHS

CROSS SECTION



Acc. to VDE 0285-525-2-31

APPLICATION

Installation in dry rooms, switchgears and distribution boards, in pipes, on or within plastered surfaces and in sealed cable ducts. This PVC core cable can be installed for the following purposes: the internal wiring of appliances, switchgears and distribution boards, as well as for shielded installation in and on lights with a nominal voltage of up to 1000 V alternating current or up to 750 V direct current to earth. It is not suitable to be directly laid on platforms, channels or troughs.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5) according to DIN VDE 0295 and IEC 60228 cl. 5, HD 383
Cores	PVC insulation according to VDE 0281 part 1, colour coding according to VDE 0293

TECHNICAL DATA

Nominal voltage	450 V/750 V
Test voltage	2500 V
Insulation resistance	20 MOhm x km
Operating temperature	On the conductor +70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C

Product description		Colour	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H07 V-K	1.5	Black	14.4	3.1	20	1045150	-100
		Green/yellow	14.4	3.1	20	1045150	-101
		White	14.4	3.1	20	1045150	-102
		Red	14.4	3.1	20	1045150	-103
		Light blue RAL5015	14.4	3.1	20	1045150	-104
		Brown	14.4	3.1	20	1045150	-105
		Grey	14.4	3.1	20	1045150	-106
		Violet	14.4	3.1	20	1045150	-107
		Orange	14.4	3.1	20	1045150	-108
		Dark blue RAL5010	14.4	3.1	20	1045150	-109
		Yellow	14.4	3.1	20	1045150	-110
		Green	14.4	3.1	20	1045150	-111
		Ultramarine RAL5002	14.4	3.1	20	1045150	-112
		Light blue RAL5012	14.4	3.1	20	1045150	-113
		Flame red RAL3000	14.4	3.1	20	1045150	-118
		Squirrel grey RAL7000	14.4	3.1	20	1045150	-119
		Pink	14.4	3.1	20	1045150	-130

Product description		Colour	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H07 V-K	2.5	Black	24.0	3.8	32	1045200	-100
		Green/yellow	24.0	3.8	32	1045200	-101
		White	24.0	3.8	32	1045200	-102
		Red	24.0	3.8	32	1045200	-103
		Light blue RAL5015	24.0	3.8	32	1045200	-104
		Brown	24.0	3.8	32	1045200	-105
		Grey	24.0	3.8	32	1045200	-106
		Violet	24.0	3.8	32	1045200	-107
		Orange	24.0	3.8	32	1045200	-108
		Dark blue RAL5010	24.0	3.8	32	1045200	-109
		Yellow	24.0	3.8	32	1045200	-110
		Green	24.0	3.8	32	1045200	-111
		Ultramarine RAL5002	24.0	3.8	32	1045200	-112
		Light blue RAL5012	24.0	3.8	32	1045200	-113
		Flame red RAL3000	24.0	3.8	32	1045200	-118
H07 V-K	4.0	Black	38.0	4.4	46	1045250	-100
		Green/yellow	38.0	4.4	46	1045250	-101
		White	38.0	4.4	46	1045250	-102
		Red	38.0	4.4	46	1045250	-103
		Light blue RAL5015	38.0	4.4	46	1045250	-104
		Brown	38.0	4.4	46	1045250	-105
		Grey	38.0	4.4	46	1045250	-106
		Orange	38.0	4.4	46	1045250	-108
		Dark blue RAL5010	38.0	4.4	46	1045250	-109
		Yellow	38.0	4.4	46	1045250	-110
		Flame red RAL3000	38.0	4.4	46	1045250	-118
H07 V-K	6.0	Black	58.0	5.0	65	1045300	-100
		Green/yellow	58.0	5.0	65	1045300	-101
		White	58.0	5.0	65	1045300	-102
		Red	58.0	5.0	65	1045300	-103
		Light blue RAL5015	58.0	5.0	65	1045300	-104
		Brown	58.0	5.0	65	1045300	-105
		Grey	58.0	5.0	65	1045300	-108
		Dark blue RAL5010	58.0	5.0	65	1045300	-109
		Yellow	58.0	5.0	65	1045300	-110
		Flame red RAL3000	58.0	5.0	65	1045300	-118
H07 V-K	10.0	Black	96.0	6.4	113	1045350	-100
		Green/yellow	96.0	6.4	113	1045350	-101
		White	96.0	6.4	113	1045350	-102
		Red	96.0	6.4	113	1045350	-103
		Light blue RAL5015	96.0	6.4	113	1045350	-104
		Brown	96.0	6.4	113	1045350	-105
		Grey	96.0	6.4	113	1045350	-108
		Dark blue RAL5010	96.0	6.4	113	1045350	-109
		Yellow	96.0	6.4	113	1045350	-110
		Flame red RAL3000	96.0	6.4	113	1045350	-118
H07 V-K	16.0	Black	154.0	7.2	170	1045400	-100
		Green/yellow	154.0	7.2	170	1045400	-101
		White	154.0	7.2	170	1045400	-102
		Red	154.0	7.2	170	1045400	-103
		Light blue RAL5015	154.0	7.2	170	1045400	-104
		Brown	154.0	7.2	170	1045400	-105
		Grey	154.0	7.2	170	1045400	-108
		Dark blue RAL5010	154.0	7.2	170	1045400	-109
		Yellow	154.0	7.2	170	1045400	-110
		Flame red RAL3000	154.0	7.2	170	1045400	-118
H07 V-K	25.0	Black	240.0	8.9	260	1045451	-100
		Green/yellow	240.0	8.9	260	1045451	-101
		Light blue RAL5015	240.0	8.9	260	1045451	-104
H07 V-K	35.0	Black	336.0	10.1	360	1045506	-100
		Green/yellow	336.0	10.1	360	1045506	-101
		Light blue RAL5015	336.0	10.1	360	1045506	-104
H07 V-K	50.0	Black	480.0	11.8	515	1045556	-100
		Green/yellow	480.0	11.8	515	1045556	-101

Product description		Colour	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H07 V-K	70.0	Black	672.0	13.6	710	1045600	-100
		Green/yellow	672.0	13.6	710	1045600	-101
H07 V-K	95.0	Black	912.0	15.7	940	1045650	-100
		Green/yellow	912.0	15.7	940	1045650	-101
H07 V-K	120.0	Black	1152.0	17.3	1180	1045700	-100
		Green/yellow	1152.0	17.3	1180	1045700	-101
H07 V-K	150.0	Black	1440.0	19.8	1400	1045750	-100
		Green/yellow	1440.0	19.8	1400	1045750	-101
H07 V-K	185.0	Black	1776.0	21.6	1700	1045800	-100
		Green/yellow	1776.0	21.6	1700	1045800	-101
H07 V-K	240.0	Black	2300.0	24.6	2230	1045850	-100
		Green/yellow	2300.0	24.6	2230	1045850	-101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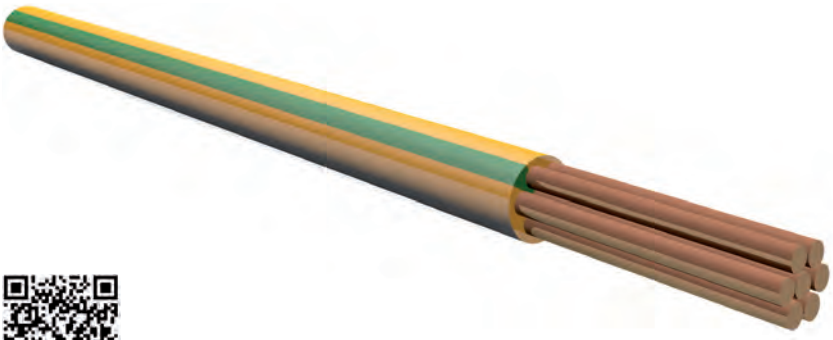
H07-VR

PVC - insulated wires

RoHS



CROSS SECTION

Acc. to VDE 0285-525-2-31

APPLICATION

Installation in dry rooms, switchgears and distribution boards, as well as in pipes, on or within plastered surfaces and in sealed cable ducts. This PVC core cable can be installed for the following purposes: the internal wiring of appliances, switchgears and distribution boards. It is not suitable to be directly laid on platforms, channels or troughs.

STRUCTURE

Conductor	Copper conductor, bare, multi-cored class 2
Cores	PVC insulation according to VDE 0281 part 1, colour coding according to VDE 0293

TECHNICAL DATA

Nominal voltage	450 V/750 V
Test voltage	2500 V
Insulation resistance	20 MOhm x km
Operating temperature	On the conductor +70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C
Min. bending radius	15 x cable diameter

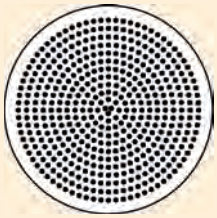
Product description		Colour	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H07 V-R	10	Black	96.0	6.4	112	1046690	-100
		Green/yellow	96.0	6.4	112	1046690	-101
		Light blue RAL5015	96.0	6.4	112	1046690	-104
		Brown	96.0	6.4	112	1046690	-105
H07 V-R	16	Black	154.0	7.6	170	1046701	-100
		Green/yellow	154.0	7.6	170	1046701	-101
		Light blue RAL5015	154.0	7.6	170	1046701	-104
		Brown	154.0	7.6	170	1046701	-105
H07 V-R	25	Black	240.0	9.2	260	1046710	-100
		Green/yellow	240.0	9.2	260	1046710	-101
H07 V-R	35	Black	336.0	10.5	350	1046721	-100
		Green/yellow	336.0	10.5	350	1046721	-101
H07 V-R	50	Black	480.0	12.5	530	1046730	-100
		Green/yellow	480.0	12.5	530	1046730	-101
H07 V-R	70	Black	672.0	14.5	750	1046740	-100
		Green/yellow	672.0	14.5	750	1046740	-101
H07 V-R	95	Black	912.0	16.5	950	1046745	-100
		Green/yellow	912.0	16.5	950	1046745	-101
H07 V-R	120	Black	1152.0	18.5	1250	1046750	-100
		Green/yellow	1152.0	18.5	1250	1046750	-101
H07 V-R	150	Black	1440.0	21.0	1550	1046755	-100
		Green/yellow	1440.0	21.0	1550	1046755	-101
H07 V-R	185	Black	1776.0	24.0	1900	1046760	-100
		Green/yellow	1776.0	24.0	1900	1046760	-101
H07 V-R	240	Black	2304.0	27.5	2500	1046765	-100
		Green/yellow	2304.0	27.5	2500	1046765	-101
H07 V-R	300	Black	2880.0	29.6	3100	1046770	-100
		Green/yellow	2880.0	29.6	3100	1046770	-101

H05 Z-K / H07 Z-K

LSOH wires

RoHS

CROSS SECTION



Acc. to VDE 0285-525-2-31

APPLICATION

Halogen-free core cables with enhanced fire properties are designed for use in dry rooms, for wiring lights, appliances, switchgears and distribution boards, in buildings with high concentrations of people and material assets, as well as in vehicles. They can be used for the internal wiring of appliances, switchgears and distribution boards and for shielded installation in and on lights. DINVDE0298 part 3 applies with regard to the general requirements.

SPECIAL FEATURES

Properties
Flame retardant
Halogen free
Minimal smoke density

STRUCTURE

Conductor	Copper conductor, bare, flexible according to DIN VDE 0295 cl. 5 and IEC 60228 cl. 5, HD 383
Cores	Cross-linked, halogen-free polyolefin insulation, E15 compound according to DIN VDE 0207 part 21
Outer sheath	Halogen-free polyolefin compound E14, coloured

TECHNICAL DATA

Nominal voltage	300 V/450 V 500 V/750 V
Test voltage	2500V
Conductor resistance	According to DIN VDE 0295 cl. 5
Temperature range	-40°C to +90°C
Operating temperature	On the conductor +90°C
Min. bending radius	8 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 60332-1
Ozone resistance	HD 505.2.1 and 811
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 part 1+2

Product description		Colour	Cu-Gewicht	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
H05 ZK	0.5	Black	4.8	2.6	10	1043001	-100
		Green/yellow	4.8	2.6	10	1043001	-101
		White	4.8	2.6	10	1043001	-102
		Red	4.8	2.6	10	1043001	-103
		Light blue RAL5015	4.8	2.6	10	1043001	-104
		Brown	4.8	2.6	10	1043001	-105
		Grey	4.8	2.6	10	1043001	-106
		Dark blue RAL5010	4.8	2.6	10	1043001	-109
		Yellow	4.8	2.6	10	1043001	-110
H05 ZK	0.75	Black	7.2	2.8	12	1043020	-100
		Green/yellow	7.2	2.8	12	1043020	-101
		White	7.2	2.8	12	1043020	-102
		Red	7.2	2.8	12	1043020	-103
		Light blue RAL5015	7.2	2.8	12	1043020	-104
		Brown	7.2	2.8	12	1043020	-105
		Grey	7.2	2.8	12	1043020	-106
		Violet	7.2	2.8	12	1043020	-107
		Orange	7.2	2.8	12	1043020	-108
		Dark blue RAL5010	7.2	2.8	12	1043020	-109
		Yellow	7.2	2.8	12	1043020	-110
H05 ZK	1.0	Black	9.6	3.5	25	1044100	-100
		Green/yellow	9.6	3.5	25	1044100	-101
		White	9.6	3.5	25	1044100	-102
		Red	9.6	3.5	25	1044100	-103
		Light blue RAL5015	9.6	3.5	25	1044100	-104
		Brown	9.6	3.5	25	1044100	-105
		Grey	9.6	3.5	25	1044100	-106
		Violet	9.6	3.5	25	1044100	-107
		Orange	9.6	3.5	25	1044100	-108
		Dark blue RAL5010	9.6	3.5	25	1044100	-109
		Yellow	9.6	3.5	25	1044100	-110
H07 ZK	1.5	Black	14.4	4.3	36	1044120	-100
		Green/yellow	14.4	4.3	36	1044120	-101
		White	14.4	4.3	36	1044120	-102
		Red	14.4	4.3	36	1044120	-103
		Light blue RAL5015	14.4	4.3	36	1044120	-104
		Brown	14.4	4.3	36	1044120	-105
		Grey	14.4	4.3	36	1044120	-106
		Dark blue RAL5010	14.4	4.3	36	1044120	-109
H07 ZK	2.5	Black	24.0	4.9	52	1044140	-100
		Green/yellow	24.0	4.9	52	1044140	-101
		White	24.0	4.9	52	1044140	-102
		Red	24.0	4.9	52	1044140	-103
		Light blue RAL5015	24.0	4.9	52	1044140	-104
		Brown	24.0	4.9	52	1044140	-105
		Grey	24.0	4.9	52	1044140	-106
		Dark blue RAL5010	24.0	4.9	52	1044140	-109
H07 ZK	4.0	Black	38.4	5.5	69	1044160	-100
		Green/yellow	38.4	5.5	69	1044160	-101
		Red	38.4	5.5	69	1044160	-103
		Light blue RAL5015	38.4	5.5	69	1044160	-104
		Brown	38.4	5.5	69	1044160	-105
H07 ZK	6.0	Black	58.0	7.1	120	1044180	-100
		Green/yellow	58.0	7.1	120	1044180	-101
		Red	58.0	7.1	120	1044180	-103
		Light blue RAL5015	58.0	7.1	120	1044180	-104
		Brown	58.0	7.1	120	1044180	-105
H07 ZK	10.0	Black	96.0	8.4	180	1044200	-100
		Green/yellow	96.0	8.4	180	1044200	-101
		Light blue RAL5015	96.0	8.4	180	1044200	-104
		Brown	96.0	8.4	180	1044200	-105
H07 ZK	16.0	Black	154.0	10.6	280	1044220	-100
		Green/yellow	154.0	10.6	280	1044220	-101
		Light blue RAL5015	154.0	10.6	280	1044220	-104
		Brown	154.0	10.6	280	1044220	-105

Product description		Colour	Cu-Gewicht	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
			240.0				
H07 ZK	25.0	Black	240.0	12.1	380	1044240	-100
		Green/yellow		12.1	380	1044240	-101
			336.0				
H07 ZK	35.0	Black	336.0	14.4	560	1044260	-100
		Green/yellow		14.4	560	1044260	-101
			480.0				
H07 ZK	50.0	Black	480.0	16.6	780	1044280	-100
		Green/yellow		16.6	780	1044280	-101
			672.0				
H07 ZK	70.0	Black	672.0	18.8	1000	1044300	-100
		Green/yellow		18.8	1000	1044300	-101
			912.0				
H07 ZK	95.0	Black	912.0	20.9	1300	1044320	-100
		Green/yellow		20.9	1300	1044320	-101
			1152.0				
H07 ZK	120.0	Black	1152.0	23.3	1600	1044340	-100
		Green/yellow		23.3	1600	1044340	-101
			1440.0				
H07 ZK	150.0	Black	1440.0	25.8	2000	1044360	-100
		Green/yellow		25.8	2000	1044360	-101
H07 ZK	185.0	Black	1776.0	29.4	2600	1044380	-100
		Green/yellow	1776.0	29.4	2600	1044380	-101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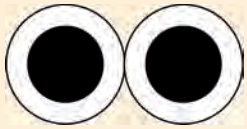
YV
Jumper wires

RoHS

CROSS SECTION



Acc. to VDE 0812

SPECIAL FEATURES

Properties
Tin-plated copper

APPLICATION

Jumper wire for attaching to equipment, assembly units or similar in telecommunication systems for voice and signal transmission. Jumper wires are used to create circuits in switchboards, amplifier racks, selector racks, measuring devices, telephone exchanges, master clocks and information processing devices etc. They have been approved for all types of operating sites. These jumper wires must not be used for heavy current insulation purposes outside appliances.

INSTALLATION INSTRUCTIONS

Jumper wires must be unwound from coils or rings without any kinks or twists. They can be laid as shaping wire, individually or in cantilever format so as to move freely against each other and offer compensative bending. The wires must be laid without mechanical loads, tension, compression, friction, notching etc. Multiple jumper wires are combined as bundles. In doing so, ties must not cut into the insulation sheaths. The tie materials must be non-conducting and must not swell or shrink as a result of moisture. If soldering the wires without using crimping pliers, the soldering process should be kept as brief as possible to prevent the insulation sheath from excessive shrinkage or damage.

STRUCTURE

Conductor	Copper wire, solid, tin plated, 0.6 to 0.8 mm Ø
Cores	PVC YI3 according to DIN VDE 0207 part 4, wires: monochrome or two-coloured; two-coloured wires are identified by a basic colour and a labelling colour (in the form of rings), according to DIN VDE 0812

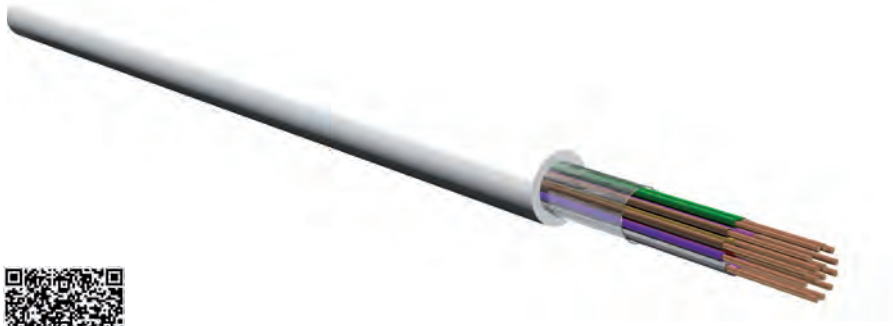
TECHNICAL DATA

Nominal voltage	900 V
Test voltage	2500 V
Temperature range	Moving -5°C to + 70°C
Temperature range	Fixed installation -30°C to + 70°C
PVC properties	PVC self-extinguishing and flame retardant, test method A according to VDE 0472 part 804 and IEC 60332-2

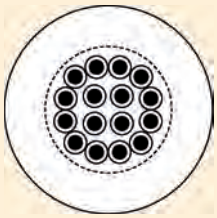
Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
Yv	1x0.6/1.1	Blue	2.8	3.4	3	3301110
Yv	1x0.6/1.1	Red	2.8	3.4	3	3311020
Yv	1x0.6/1.1	Green	2.8	3.4	3	3311030
Yv	1x0.6/1.1	Brown	2.8	3.4	3	3311060
Yv	1x0.6/1.1	Yellow	2.8	3.4	3	3301111
Yv	1x0.6/1.1	Black	2.8	3.4	3	3301115
Yv	1x0.6/1.1	White	2.8	3.4	3	3301116
Yv	2X0.6/1.1	Red/green	5.8	6.8	8	3301107
Yv	2X0.6/1.1	Red/blue	5.8	6.8	8	3301108
Yv	2x0.6/1.1	Red/black	5.8	6.8	8	3301119
Yv	2x0.6/1.1	Grey/blue	5.8	6.8	8	3301201
Yv	2x0.6/1.1	White/blue	5.8	6.8	8	3301310
Yv	2X0.6/1.1	White/brown	5.8	6.8	8	3301311
Yv	2X0.6/1.1	White/yellow	5.8	6.8	8	3301312
Yv	2x0.6/1.1	White/green	5.8	6.8	8	3301313
Yv	2X0.6/1.1	White/red	5.8	6.8	8	3301314
Yv	2X0.6/1.1	White/black	5.8	6.8	8	3301315
Yv	2X0.6/1.1	White/grey	5.8	6.8	8	3301316
Yv	2x0.8/1.4	White/blue	10.0	2.8	12	3301410
Yv	2x0.8/1.4	White/brown	10.0	2.8	12	3301411
Yv	2x0.8/1.4	White/yellow	10.0	2.8	12	3301412
Yv	2x0.8/1.4	White/green	10.0	2.8	12	3301413
Yv	2x0.8/1.4	White/red	10.0	2.8	12	3301414
Yv	2x0.8/1.4	White/black	10.0	2.8	12	3301415
Yv	2x0.8/1.4	Red/yellow	10.0	2.8	12	3301507
Yv	2x0.8/1.4	Red/blue	10.0	2.8	12	3301508
Yv	2x0.8/1.4	Red/black	10.0	2.8	12	3301509
Yv	1x0.8/1.4	Black	4.8	1.4	8	3312000
Yv	1x0.8/1.4	White	4.8	1.4	8	3312010
Yv	1x0.8/1.4	Red	4.8	1.4	8	3312020
Yv	1x0.8/1.4	Green	4.8	1.4	8	3312030
Yv	1x0.8/1.4	Yellow	4.8	1.4	8	3312040
Yv	1x0.8/1.4	Blue	4.8	1.4	8	3312050
Yv	1x0.8/1.4	Brown	4.8	1.4	8	3312060
Yv	1x0.8/1.4	Grey	4.8	1.4	8	3312070

YR
Signal cable

RoHS



CROSS SECTION



Acc. to VDE 0815

SPECIAL FEATURES

Sheath colour
White

APPLICATION

For installation as an insulation cable on or within plastered surfaces. However, they must not be used for heavy current installation purposes. For signal transmission in telecommunication and door intercom systems etc. They have been approved for all types of operating sites.

STRUCTURE

Conductor	Copper, bare, class 1 – single core
Cores	PVC insulation
Outer sheath	PVC

TECHNICAL DATA

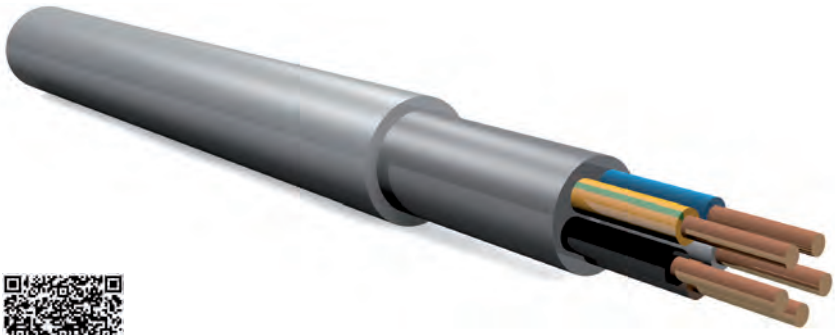
Temperature range	-5°C to + 70°C
Nominal voltage	100 V
Test voltage	2500 V
Bending radius	7.5 x cable diameter

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YR 2x0.8	9.6	4.0	25	3331002
YR 3x0.8	14.4	4.4	32	3331003
YR 4x0.8	19.2	4.9	40	3331004
YR 5x0.8	24.0	5.4	50	3331005
YR 6x0.8	28.0	5.8	58	3331006
YR 8x0.8	38.0	6.5	75	3331008
YR 10x0.8	48.0	7.6	98	3331010
YR 12x0.8	58.0	7.7	106	3331012
YR 14x0.8	67.0	8.2	122	3331014
YR 16x0.8	77.0	8.6	136	3331016
YR 20x0.8	96.0	9.1	173	3331020
YR 24x0.8	115.0	10.5	220	3331024

INSTALLATION & POWER CABLE

NYM
Building wire

RoHS



CROSS SECTION

Acc. to DIN VDE 0250-204

SPECIAL FEATURES

Sheath colour
Grey

APPLICATION

The NYM sheathed cable is designed for installation in residential, public and industrial buildings. It is suitable to be laid over, on, in and under plastered surfaces in dry, damp and wet rooms, as well as in brickwork and concrete except for shake, vibrated or tamped concrete. The cable has also been approved for outdoor use providing it is protected against direct sunlight.
The cable must not be buried underground or in water and is flame retardant according to DIN EN 50265-1 and DIN EN 50265-2-1.

STRUCTURE

Conductor	Copper cable, round, single-cored (RE) or round, multi-cored (RM)
Cores	Polyvinyl chloride (PVC), lead free 1-cored: NYM-O black; NYM-J green and yellow 3-cored: NYM-O brown, black, grey; NYM-J green and yellow, blue, brown 4-cored: NYM-O blue, brown, black, grey; NYM-J green and yellow, brown, black, grey 5-cored: NYM-J green and yellow, blue, brown, black, grey Multi-cored: NYM-O black with white digits; NYM-J, black with white digits, one green and yellow core
Outer sheath	Polyvinyl chloride (PVC), lead free, grey

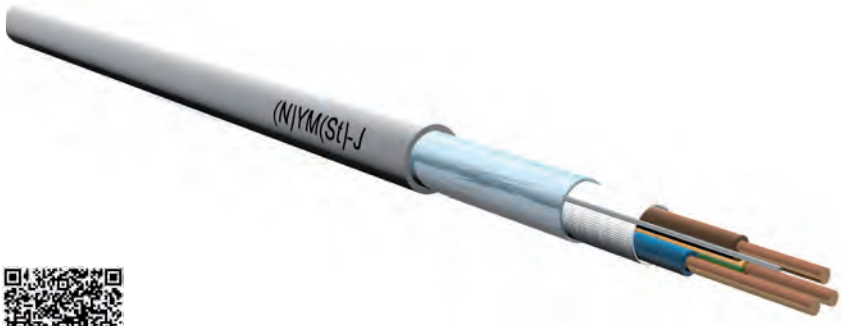
TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Insulation resistance	20 MOhm x km
Temperature range	During installation +5°C to +70°C
Temperature range	Fixed installation -40°C to +70°C

Product description		Cu weight	Outer Ø (mm)	Weight(kg/km)	Product number
NYM - J	1x1.5	14.4	5.4	40	10660001
NYM - J	1x2.5	24.0	6.0	70	10660002
NYM - J	1x4	38.0	6.6	80	10660004
NYM - J	1x6	58.0	7.2	105	10660006
NYM - J	1x10	96.0	8.4	155	10660010
NYM - J	1x16	154.0	9.9	230	10660016
NYM - J	3x1.5	43.0	9.1	135	10660100
NYM - J	3x2.5	72.0	10.4	190	10660110
NYM - J	3x4	115.0	13.0	258	10660114
NYM - J	3x6	173.0	15.0	320	10660116
NYM - J	3x10	288.0	16.5	510	10660118
NYM - J	4x1.5	58.0	9.8	160	10660120
NYM - J	4x2.5	96.0	11.3	230	10660130
NYM - J	4x4	154.0	13.6	330	10660140
NYM - J	4x6	230.0	15.1	460	10660150
NYM - J	4x10	384.0	17.9	680	10660160
NYM - J	4x16	614.0	22.0	1048	10660170
NYM - J	4x25	960.0	26.9	1649	10660180
NYM - J	4x35	1344.0	30.0	2000	10660190
NYM - J	5x1.5	72.0	10.8	190	10660200
NYM - J	5x2.5	120.0	12.2	270	10660210
NYM - J	5x4	192.0	14.9	410	10660220
NYM - J	5x6	288.0	16.3	540	10660230
NYM - J	5x10	480.0	19.5	850	10660240
NYM - J	5x16	768.0	24.4	1280	10660250
NYM - J	5x25	1200.0	29.1	1970	10660260
NYM - J	7x1.5	101.0	11.3	235	10660270
NYM - J	7x2.5	168.0	15.2	342	10660280
NYM - J	10x1.5	144.0	14.7	296	10660290
NYM - J	12x1.5	173.0	16.0	345	10660300

(N)YM(St)
Screened building wire

RoHS



CROSS SECTION

Acc. to VDE 0250

SPECIAL FEATURES

Sheath colour
Grey

APPLICATION

These installation cables are designed to effectively limit electromagnetic interference fields using a static shield. This kind of shield is primarily installed in the computing sector, hospitals or industrial measuring stations with measuring equipment that is particularly susceptible to interferences. These cables are also ideally suited for installation in the homes of people who are susceptible to radiation and highly sensitive. This cable is laid on, in and under plastered surfaces, in dry and humid rooms and within concrete and brickwork (exception: not suitable for directly embedding in vibrated or tamped concrete). It can only be installed outdoors if the cable is not subjected to direct sunlight and/or laid in cable ducts. The use in high-risk areas is prohibited.

STRUCTURE

Conductor	Copper conductor, bare, solid, according to DIN VDE 0295 cl. 1 and IEC 60228 cl. 1
Cores	PVC, YI1 insulation according to DIN VDE 0207 part 4, Inner sheath: plastic filler inner sheath
Arrangement	Cores with optimum lay lengths stranded in layers
Drain wire	Tin plated, solid
Shield	Laminated aluminium foil
Outer sheath	PVC, YM1 according to DIN VDE 0207 part 5

TECHNICAL DATA

Shielded PVC sheathed cable based on DIN VDE 0250 part 204/209

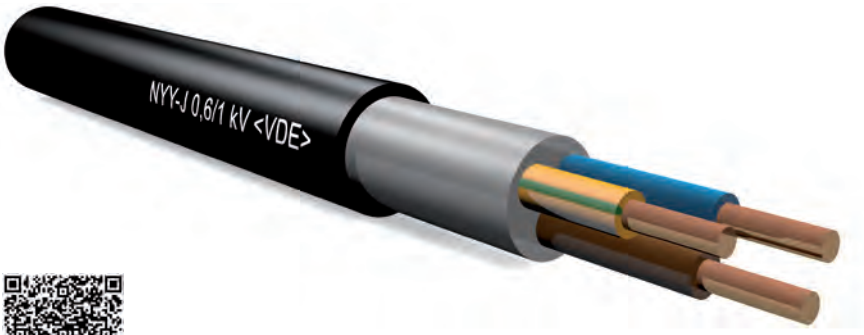
Nominal voltage	300 V/500 V
Test voltage	2000 V
Temperature range	Moving +5°C to +70°C
Temperature range	Fixed installation -30°C to +70°C
Permissible operating temperature	On the conductor: +70°C
Direct current resistance	According to DIN VDE 0295
Current carrying capacity	According to VDE 0100
Min. bending radius	According to DIN VDE 0298 not moving, approx. 4 x cable ø
PVC properties	Self-extinguishing and flame retardant PVC, test method A according to VDE 0472 part 804 and IEC 60332-2

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NYM(ST)-J	3x1.5/1.5 RE	58.0	10.5	154	1065010
NYM(ST)-J	3x2.5/1.5 RE	87.0	12.0	203	1065020
NYM(ST)-J	3x4.0/1.5 RE	123.0	12.5	290	1065030
NYM(ST)-J	3x6.0/1.5 RE	180.0	14.5	379	1065035
NYM(ST)-J	4x1.5/1.5 RE	65.0	11.5	184	1065040
NYM(ST)-J	4x2.5/1.5 RE	104.0	13.0	256	1065050
NYM(ST)-J	4x4.0/1.5 RE	159.0	14.5	359	1065055
NYM(ST)-J	4x6.0/1.5 RE	235.0	16.5	477	1065057
NYM(ST)-J	5x1.5/1.5 RE	87.0	12.0	208	1065060
NYM(ST)-J	5x2.5/1.5 RE	135.0	13.5	285	1065070
NYM(ST)-J	5x4.0/1.5 RE	200.0	14.5	444	1065080
NYM(ST)-J	5x16.0/2.5 RM	776.0	25.4	1347	1065083
NYM(ST)-J	5x6.0/1.5 RE	296.0	17.3	567	1065085
NYM(ST)-J	5x10.0/1.5 RE	488.0	20.5	863	1065087
NYM(ST)-J	5x25.0/2.5 RM	1208.0	30.4	2023	1065109
NYM(ST)-J	7x1.5/1.5 RE	108.0	15.6	250	1065090

NYY

Power cable 0.6/1kV

RoHS



CROSS SECTION

Acc. to VDE 0276-603

APPLICATION

NYY is used as a fixed installation power and control cable indoors, outdoors, underground, in concrete and in water, for example, for power plants, industrial plants and switchgears, as well as in local networks. VDE 0298 part 1 applies to the use of NYY cables; HD-603 S.1 in the Low Voltage Directive 73/23/EEC CE applies to the current carrying capacity.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Conductor	Single or multi-cored conductors made from bare copper wires RE = round conductor, single-cored RM = round conductor, multi-cored SM = sector-shaped conductor
Cores	PVC insulation, colours according to VDE 0293, joint core covering
Arrangement	Concentrically stranded cores
Outer sheath	PVC, flame retardant according to VDE 0472 part 8004, test method B

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Temperature range	Fixed installation -40°C to +70°C
Temperature range	Moving -5°C to +50°C
Min. bending radius	15 x cable diameter (single-cored)
Min. bending radius	12 x cable diameter (multi-cored) VDE 0276 part 603/623

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NYY-J	1x10.0 RE	96.0	9.0	190	1067000010
NYY-J	1x16.0 RE	154.0	10.0	260	1067000016
NYY-J	1x25.0 RM	240.0	13.0	380	1067000025
NYY-J	1x35.0 RM	336.0	14.0	490	1067000035
NYY-J	1x50.0 RM	480.0	15.0	650	1067000050
NYY-J	1x70.0 RM	672.0	16.0	860	1067000070
NYY-J	1x95.0 RM	912.0	19.0	1150	1067000095
NYY-J	1x120.0 RM	1152.0	20.0	1400	1067001120
NYY-J	1x150.0 RM	1440.0	22.0	1700	1067001150
NYY-J	1x185.0 RM	1776.0	24.0	2100	1067001185
NYY-J	1x240.0 RM	2304.0	27.0	2650	1067001240
NYY-J	3x1.5 RE	43.0	12.0	230	1067003001
NYY-J	3x2.5 RE	72.0	13.0	280	1067003002
NYY-J	3x4.0 RE	115.0	16.0	410	1067003004
NYY-J	3x6.0 RE	173.0	16.0	460	1067003006

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NYY-J	3x10.0 RE	288.0	18.0	660	1067003010
NYY-J	3x16.0 RE	461.0	20.0	900	1067003016
NYY-J	3x25.0 RM/16	874.0	26.0	1350	1067030251
NYY-J	3x35.0 SM/16	1162.0	26.0	1750	1067030351
NYY-J	3x50.0 SM/25	1680.0	31.0	2450	1067030502
NYY-J	3x70.0 SM/35	2352.0	32.0	2900	1067030703
NYY-J	3x95.0 SM/50	3216.0	37.0	3900	1067030955
NYY-J	3x120.0 SM/70	4128.0	40.0	4900	1067031207
NYY-J	3x150.0 SM/70	4992.0	44.0	5800	1067031507
NYY-J	3x185.0 SM/95	6240.0	49.0	7300	1067031859
NYY-J	3x240.0 SM/120	8064.0	55.0	9400	1067032401
NYY-J	4x1.5 RE	58.0	13.0	260	1067004001
NYY-J	4x2.5 RE	96.0	14.0	320	1067004002
NYY-J	4x4.0 RE	154.0	17.0	480	1067004004
NYY-J	4x6.0 RE	230.0	18.0	590	1067004006
NYY-J	4x10.0 RE	384.0	20.0	790	1067004010
NYY-J	4x16.0 RE	614.0	22.0	1100	1067004016
NYY-J	4x25.0 RM	960.0	27.0	1650	1067004025
NYY-J	4x35.0 RM	1344.0	30.0	2160	1067004035
NYY-J	4x50.0 RM	1920.0	30.0	2350	1067004050
NYY-J	4x70.0 RM	2688.0	33.0	3250	1067004070
NYY-J	4x95.0 RM	3648.0	38.0	4400	1067004095
NYY-J	4x120.0 RM	4608.0	42.0	5450	1067004120
NYY-J	4x150.0 RM	5760.0	47.0	6550	1067004150
NYY-J	4x185.0 RM	7104.0	51.0	8200	1067004185
NYY-J	4x240.0 RM	9216.0	58.0	10650	1067004240
NYY-J	5x1.5 RE	72.0	14.0	300	1067005001
NYY-J	5x2.5 RE	120.0	15.0	365	1067005002
NYY-J	5x4.0 RE	192.0	18.0	550	1067005004
NYY-J	5x6.0 RE	288.0	19.0	680	1067005006
NYY-J	5x10.0 RE	480.0	21.0	930	1067005010
NYY-J	5x16.0 RE	768.0	24.0	1300	1067005016
NYY-J	5x25.0 RM	1200.0	30.0	2050	1067005025
NYY-J	5x35.0 RM	1680.0	32.0	2600	1067005035
NYY-J	7x1.5 RE	101.0	15.0	360	1067007015
NYY-J	10x1.5 RE	144.0	18.0	520	1067010015
NYY-J	12x1.5 RE	173.0	19.0	560	1067012015
NYY-J	14x1.5 RE	202.0	20.0	620	1067014015
NYY-J	16x1.5 RE	230.0	21.0	690	1067016015
NYY-J	19x1.5 RE	274.0	22.0	760	1067019015
NYY-J	21x1.5 RE	302.0	22.0	830	1067021015
NYY-J	24x1.5 RE	346.0	24.0	950	1067024015
NYY-J	30x1.5 RE	432.0	26.0	1100	1067030015
NYY-J	40x1.5 RE	576.0	28.0	1350	1067040015
NYY-J	7x2.5 RE	168.0	16.0	450	1067007025
NYY-J	10x2.5 RE	240.0	20.0	630	1067010025
NYY-J	12x2.5 RE	288.0	20.0	680	1067012025
NYY-J	14x2.5 RE	336.0	21.0	790	1067014025
NYY-J	16x2.5 RE	384.0	22.0	870	1067016025
NYY-J	19x2.5 RE	456.0	23.0	990	1067019025
NYY-J	21x2.5 RE	504.0	24.0	1050	1067021025
NYY-J	24x2.5 RE	576.0	26.0	1400	1067024025
NYY-J	30x2.5 RE	720.0	28.0	1450	1067030025
NYY-J	40x2.5 RE	960.0	31.0	1800	1067040025
NYY-O	1x16 RE	154.0	10.0	260	1067501016
NYY-O	1x25 RM	240.0	13.0	380	1067501025
NYY-O	1x35 RM	336.0	14.0	490	1067501035
NYY-O	1x50 RM	480.0	15.0	650	1067501050
NYY-O	1x70 RM	672.0	16.0	860	1067501070
NYY-O	1x95 RM	912.0	19.0	1150	1067501095
NYY-O	1x120 RM	1152.0	20.0	1400	1067501120
NYY-O	1x150 RM	1440.0	22.0	1700	1067501150
NYY-O	1x185 RM	1776.0	24.0	2100	1067501185
NYY-O	1x240 RM	2304.0	27.0	2650	1067501240
NYY-O	1x300 RM	2880.0	30.0	3300	1067501300
NYY-O	1x400 RM	3840.0	35.0	4200	1067501400
NYY-O	2x1.5 RE	29.0	12.0	170	1067502001
NYY-O	2x2.5 RE	48.0	12.0	230	1067502002

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NYY-O	2x4.0 RE	77.0	15.0	290	1067502004
NYY-O	2x6.0 RE	115.0	15.0	400	1067502006
NYY-O	4x2.5 RE	96.0	14.0	320	1067504002
NYY-O	4x4.0 RE	154.0	17.0	400	1067504004
NYY-O	4x6.0 RE	230.0	18.0	540	1067504006
NYY-O	4x10.0 RE	384.0	20.0	720	1067504010
NYY-O	4x16.0 RE	614.0	22.0	1050	1067504016
NYY-O	4x25.0 RM	960.0	27.0	1650	1067504025
NYY-O	4x35.0 RM	1344.0	30.0	1750	1067504035
NYY-O	4x50.0 RM	1920.0	30.0	2350	1067504050
NYY-O	4x70.0 RM	2688.0	33.0	3100	1067504070
NYY-O	4x95.0 RM	3648.0	38.0	4200	1067504095
NYY-O	4x120.0 RM	4608.0	42.0	5450	1067504120
NYY-O	4x150.0 RM	5760.0	47.0	6700	1067504150
NYY-O	5x4.0	192.0	18.0	500	1067505004
NYY-O	7x4.0	269.0	19.0	650	1067507004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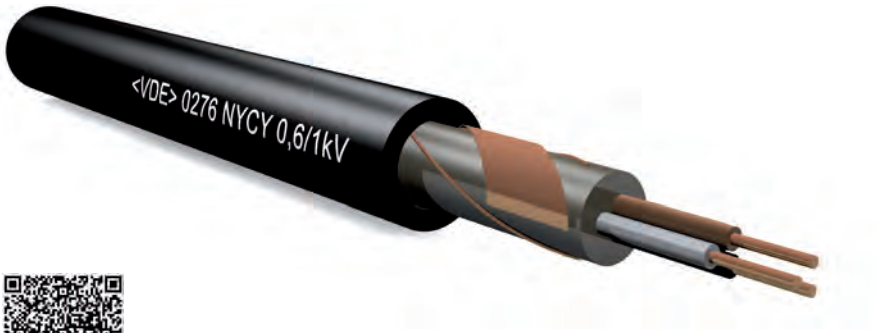
CABLE

NYCY

Power cable 0.6/1kV

RoHS



CROSS SECTION

Acc. to DIN-VDE 0276-603

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

Power supply cable for use outdoors, underground, in water, in concrete, indoors and in cable ducts for power plants, industrial plants, switchgears and local networks. Anywhere that increased electrical and mechanical protection is required. The cable is flame retardant according to DIN EN 50265-1 and DIN EN 50265-2-1.

STRUCTURE

Conductor	Single or multi-cored conductors made from bare copper wires
Cores	Colours according to VDE 0293, joint core covering
Arrangement	Concentrically stranded cores with a double helix made from copper strips below the outer sheath
Outer sheath	PVC, flame retardant

TECHNICAL DATA

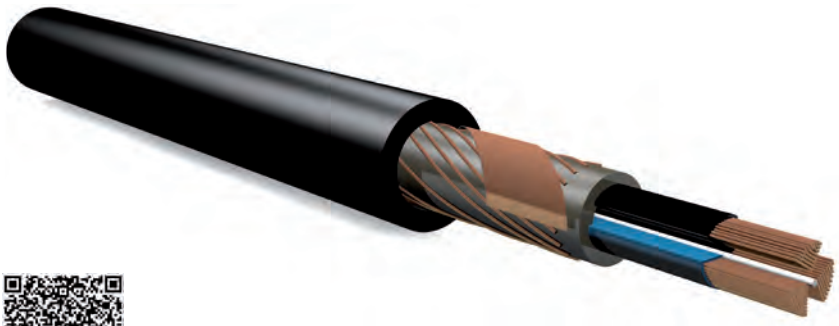
Nominal voltage	600 V/1000 V
Test voltage	1200 V
Temperature range	During installation -5°C to +50°C
Temperature range	Fixed installation -40°C to + 70°C
Minimum bending radius	12 x cable diameter

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NYCY	2x1.5 RE/ 1.5	52.0	13.0	200	1068000215
NYCY	2x2.5 RE/ 2.5	80.0	14.0	260	1068000225
NYCY	2x4.0 RE/ 4.0	123.0	16.0	400	1068000240
NYCY	2x 6.0 RE/ 6.0	182.0	18.0	650	1068000260
NYCY	3x1.5 RE/ 1.5	66.0	13.0	220	1068000315
NYCY	3x2.5 RE/ 2.5	104.0	14.0	280	1068000325
NYCY	3x4.0 RE/ 4.0	161.0	16.0	390	1068000340
NYCY	3x6.0 RE/ 6.0	240.0	18.0	500	1068000360
NYCY	4x1.5 RE/ 1.5	81.0	14.0	250	1068000415
NYCY	4x2.5 RE/ 2.5	128.0	15.0	340	1068000425
NYCY	4x4.0 RE/ 4.0	200.0	17.0	460	1068000440
NYCY	4x6.0 RE/ 6.0	297.0	19.0	580	1068000460
NYCY	7x1.5 RE/ 2.5	133.0	16.0	350	1068000715
NYCY	10x1.5 RE/ 2.5	176.0	19.0	420	1068001015
NYCY	12x1.5 RE/ 2.5	205.0	20.0	470	1068001215
NYCY	14x1.5 RE/ 6.0	234.0	21.0	520	1068001415
NYCY	24x1.5 RE/ 6.0	413.0	26.0	850	1068002415
NYCY	30x1.5 RE/ 6.0	499.0	29.0	1020	1068003015
NYCY	7x2.5 RE/ 2.5	200.0	18.0	450	1068000725
NYCY	12x2.5 RE/ 4.0	334.0	22.0	660	1068001225
NYCY	16x2.5 RE/ 6.0	451.0	25.0	800	1068001625
NYCY	19x2.5 RE/ 6.0	523.0	26.0	1000	1068001925
NYCY	24x2.5 RE/ 10.0	696.0	30.0	1150	1068002425
NYCY	30x2.5 RE/ 10.0	840.0	31.0	1800	1068003025
NYCY	7x4.0 RE/ 4.0	315.0	20.0	560	1068000704

NYCWY

Power cable 0.6/1kV

RoHS



CROSS SECTION

Acc. to VDE 0276-603

SPECIAL FEATURES

Properties
UV resistant

Sheath colour
Black

APPLICATION

Distribution, connection and installation cables in power plants, industrial plants and distribution networks. These cables fulfil the requirements established in IEC 60502-1. Power supply cables for use outdoors, underground, in water, in concrete, indoors and in cable ducts for power plants, industrial plants, switchgears and local networks. Anywhere that increased electrical and mechanical protection is required. The cable is flame retardant according to DIN EN 50265-1 and DIN EN 50265-2-1.

STRUCTURE

Conductor	Copper conductor, round, single-cored (RE) or round, multi-cored, compressed (RM) or sector-shaped, multi-cored (SM)
Concentric conductor	Round copper wires between the core covering and outer sheath, counter helix over the copper wires
Cores	Polyvinyl chloride (PVC) insulation 3-cored: brown, black, grey 4-cored: blue, brown, black, grey Extruded
Outer sheath	Polyvinyl chloride (PVC); black

TECHNICAL DATA

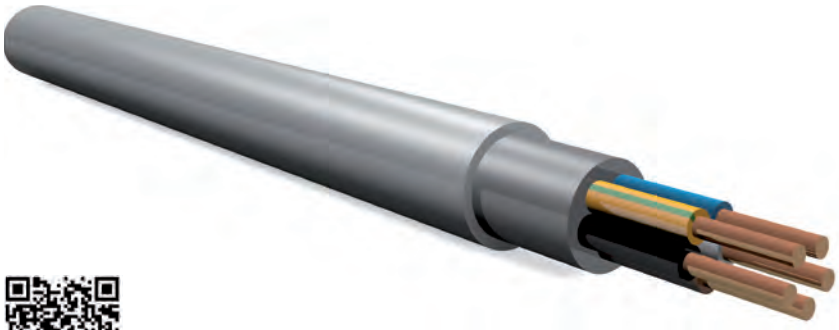
Nominal voltage	600 V/1000 V
Test voltage	4000 V
Temperature range	Lowest installation temperature -5°C
Permissible conductor temperature	During uninterrupted operation +70°C
Minimum bending radius	12 x cable diameter
During short circuits up to 5 secs at	< 300 mm² +160°C
Flame retardancy	DIN EN 60332-1, DIN EN 60332-1-2

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NYCWY	3x10 RE/10	408.0	19.0	750	106853010A
NYCWY	3x16 RE/16	643.0	22.0	1050	106853016B
NYCWY	3x25 RM/25	1003.0	28.0	1600	106853025C
NYCWY	3x35 SM/16	1190.0	29.0	1700	106853035B
NYCWY	3x50 SM/25	1723.0	31.0	2300	106853050C
NYCWY	3x70 SM/35	2410.0	34.0	2900	106853070D
NYCWY	3x95 SM/50	3296.0	40.0	4000	106853095E
NYCWY	3x35 SM/35	1402.0	30.0	1700	106853035D
NYCWY	3x50 SM/50	2000.0	32.0	2000	106853050E
NYCWY	3x70 SM/70	2796.0	35.0	2900	106853070F
NYCWY	3x95 SM/95	3791.0	42.0	4000	106853095G
NYCWY	3x120 SM/70	4236.0	42.0	5000	106853120F
NYCWY	3x150 SM/70	5100.0	47.0	6000	106853150F
NYCWY	3x185 SM/95	6383.0	52.0	7500	106853185G
NYCWY	3x240 SM/120	8242.0	60.0	10000	106853240H
NYCWY	4x10 RE/10	504.0	21.0	870	106854010A
NYCWY	4x16 RE/16	796.0	24.0	1250	106854016B
NYCWY	4x25 RM/16	1142.0	30.0	1800	106854025B
NYCWY	4x35 SM/16	1526.0	31.0	2050	106854035B
NYCWY	4x50 SM/25	2203.0	34.0	2700	106854050G
NYCWY	4x70 SM/35	3082.0	40.0	375	106854070D
NYCWY	4x95 SM/50	4208.0	45.0	5000	106854095E
NYCWY	4x120 SM/70	5388.0	49.0	6300	106854120F
NYCWY	4x150 SM/70	6540.0	53.0	7600	106854150F
NYCWY	4x185 SM/95	8159.0	60.0	9350	106854185G

NI2XY

Power cable 0.6/1kV

RoHS



CROSS SECTION

Acc. to VDE 0262

APPLICATION

For fixed installation in dry, damp and wet rooms, as well as in brickwork and for directly embedding in shake, vibrated or tamped concrete. The cables are also suitable for outdoor installation.
They must not be buried underground or in water. They are primarily used in industrial plants and the chemical industry. Flame retardant according to EN 50265-2-1

SPECIAL FEATURES

Sheath colour
Grey

STRUCTURE

Conductor	Copper conductor, bare, multi-cored class 2
Cores	VPE insulation Colour-coded
Outer sheath	PVC, grey, flame retardant according to EN 50265-2-1

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Min. bending radius	4 x outer diameter
Permissible cable sheath temperature	Moving -5°C to +70°C
Permissible max. conductor temperature	+90°C
Permissible short circuit temperature	250°C

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
NI2XY - J	3x1.5 RE	43.0	9.0	123	106200315
NI2XY - J	3x2.5 RE	72.0	10.0	160	106200325
NI2XY - J	5x1.5 RE	72.0	11.0	168	106200515
NI2XY - J	5x2.5 RE	120.0	12.0	213	106200525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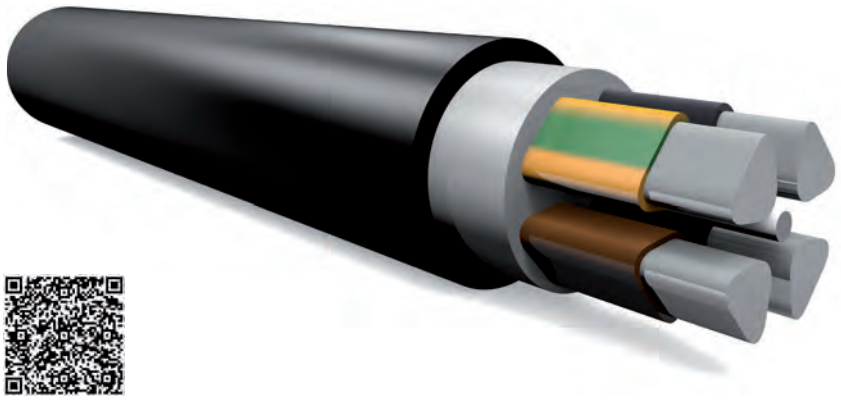
NAYY

Power cable 0.6/1kV

RoHS



CROSS SECTION

Acc. to DIN VDE 0276-603

SPECIAL FEATURES

Properties
Aluminium conductor

APPLICATION

Distribution cable for energy suppliers. For use outdoors, underground, in water, in concrete, indoors and in cable ducts for power plants, industrial plants, switchgears and local networks. This cable is flame retardant according to DIN EN 50265-1 and DIN EN 50265-2-1.

STRUCTURE

Type abbreviation	With green and yellow core: NAYY-J 4x ... .. 0.6 / 1 (1.2) kV NAYY-O 4x ... .. 0.6 / 1 (1.2) kV
Conductor	Aluminium conductor, round, single-cored (RE) or sector-shaped, single-cored (SE)
Cores	Polyvinyl chloride (PVC) insulation NAYY-J: green and yellow, brown, black, grey NAYY-O: blue, brown, black, grey Extruded
Outer sheath	Polyvinyl chloride (PVC), black

TECHNICAL DATA

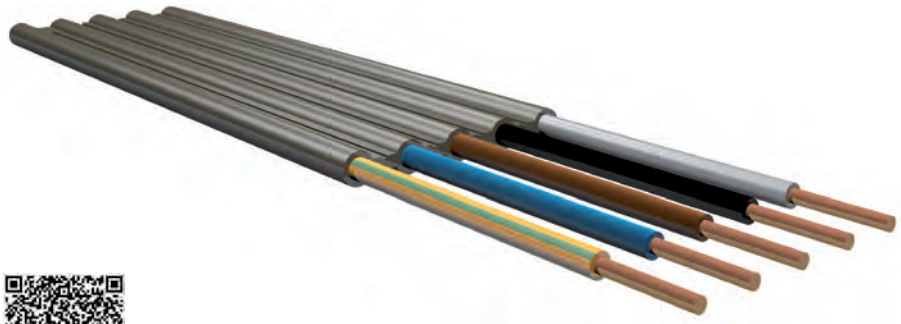
Nominal voltage	600 V/1000 V
Test voltage	4000 V
Permissible conductor temperature	During uninterrupted operation +70°C
Permissible conductor temperature	During short circuits up to 5 secs at < 300 mm² +160°C
Fire propagation	DIN EN 50265-1 DIN EN 50265-2-1
Min. bending radius	12 x cable diameter
Installation	Lowest installation temperature -5°C
Radiation resistance	Up to 20 x 106 cJ/kg (up to 20 Mrad)

Product description		Aluminium number (kg/km)	Outer Ø (mm)	Weight (kg/km)	Product number
NAYY-O	1x50 RM	145.0	16.0	350	1069101050
NAYY-O	1x70 RM	203.0	17.0	400	1069101070
NAYY-O	1x95 RM	275.5	19.0	500	1069101095
NAYY-O	1x120 RM	348.0	20.0	600	1069101120
NAYY-O	1x150 RM	435.0	22.0	750	1069101150
NAYY-O	1x185 RM	536.5	24.0	880	1069101185
NAYY-O	1x240 RM	696.0	26.0	1100	1069101240
NAYY-O	1x300 RM	870.0	29.0	1350	1069101300
NAYY-O	1x400 RM	1160.0	33.0	1700	1069101400
NAYY-O	1x500 RM	1450.0	36.0	2100	1069101500
NAYY-O	1x630 RM	1827.0	40.0	2600	1069101630
NAYY-J	4x16 RE	186.0	24.0	750	1069104016
NAYY-J	4x25 RE	290.0	25.0	950	1069104025
NAYY-J	4x35 RE	406.0	28.1	1000	1069104035
NAYY-J	4x50 SE	580.0	29.5	1200	1069104050
NAYY-J	4x70 SE	812.0	35.0	1600	1069104070
NAYY-J	4x95 SE	1102.0	39.0	2100	1069104095
NAYY-J	4x120 SE	1392.0	43.0	2400	1069104120
NAYY-J	4x150 SE	1740.0	46.0	3000	1069104150
NAYY-J	4x185 SE	2146.0	51.0	3700	1069104185
NAYY-J	4x240 SE	2784.0	56.0	5000	1069104240

NYIF

Flat-webbed cable

RoHS



CROSS SECTION

Acc. to DIN VDE 0250-201

APPLICATION

The (flat-webbed) cable NYIF is suitable for fixed installation within and under plastered surfaces in dry rooms. The entire length of the cables must be covered by the plaster. The cables may also be laid in cavities made from concrete or stone. Specific installation conditions must be observed: DIN VDE

STRUCTURE

Conductor	Copper cable, round, single cored (RE)
Cores	Polyvinyl chloride (PVC) insulation
Core colour	3-cored: NYIF-O brown, black, grey; NYIF-J green and yellow, blue, brown 4-cored: NYIF-O blue, brown, black, grey; NYIF-J green and yellow, blue, brown, black 5-cored: NYIF-J green and yellow, blue, brown, black, grey
Core colour	Rubber EPR

TECHNICAL DATA

Nominal voltage	230 V/400 V
Test voltage	2000 V
Operating temperature	On the conductor 70°C (with uninterrupted operation)
Conductor temperature	On the conductor 160°C (during short circuits up to 5 secs)
Lowest installation temperature	+5°C

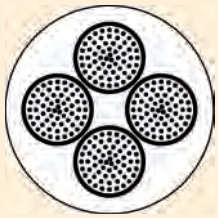
Product description		Cu weight	Max. outer Ø (mm x mm)	Weight (kg/km)	Product number
NYIF-J	3x1.5	43.0	4.4 x 19.0	115	10667100
NYIF-J	3x2.5	72.0	5.2 x 21.5	160	10667110
NYIF-J	4x1.5	58.0	4.4 x 26.0	160	10667115
NYIF-J	5x1.5	72.0	4.4 x 33.0	205	10667230
NYIF-J	5x2.5	120.0	5.2 x 37.0	290	10667235

H03 VV-F

PVC insulated cord

RoHS

CROSS SECTION



Acc. to VDE 0285-525-2-11

SPECIAL FEATURES

Sheath colour
Black or white with inscription, additional colours on request

APPLICATION

For connections subject to low mechanical loads, such as the connection of light electrical appliances (radios, lights, vacuum cleaners, kitchen appliances etc.). Not, however, suitable for heating and cooking appliances or outdoor use.

STRUCTURE

Conductor	Copper stranded wire, bare, flexible/cores concentrically stranded in layers, according to DIN VDE 0281 part 5
Cores	PVC insulation according to VDE 0207 part 4, colour-coded or labelled with imprinted digits according to VDE 0293
Outer sheath	PVC according to VDE 0207 part 5

TECHNICAL DATA

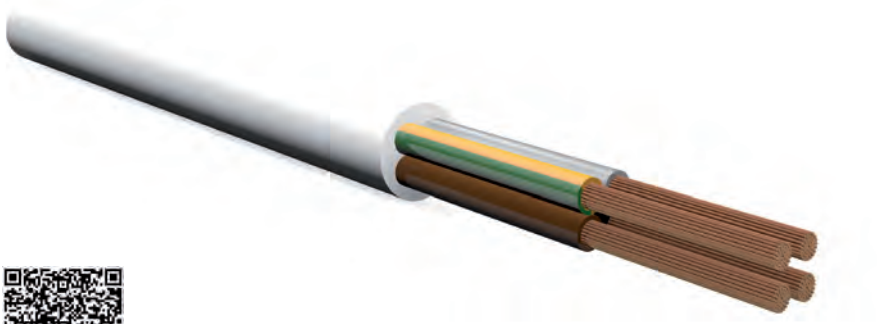
Nominal voltage	300 V/300 V
Test voltage	2000 V
Insulation resistance	20 MOhm x km at 20°C
Operating temperature	-40°C to +70°C
Max. operating temperature	+70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C
Min. bending radius	10 x cable diameter

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H03VV-F	2X0.75	White	14.4	5.6	46	1041103
H03VV-F	2X0.75	Black	14.4	5.6	46	1041106
H03VV-F	3G0.75	White	21.6	6.0	55	1041109
H03VV-F	3G0.75	Black	21.6	6.0	55	1041112
H03VV-F	4G0.75	White	29.0	6.5	69	1041115
H03VV-F	4G0.75	Black	29.0	6.5	69	1041118

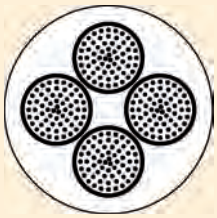
H05 VV-F

PVC insulated cord

RoHS



CROSS SECTION



Acc. to VDE 0285-525-2-11

APPLICATION

For connections subjected to medium mechanical loads, such as for connecting washing machines, spin dryers, tumble dryers and cooking and heating appliances without a major heat influence. Not suitable for outdoor use.

SPECIAL FEATURES

Sheath colour
Black, white or grey with inscription

STRUCTURE

Conductor	Copper stranded wire, bare, flexible; cores concentrically stranded in layers, according to DIN VDE 0281 part 5
Cores	PVC insulation according to VDE 0207 part 4, colour-coded or label-led with imprinted digits according to VDE 0293
Outer sheath	PVC according to VDE 0207 part 5

TECHNICAL DATA

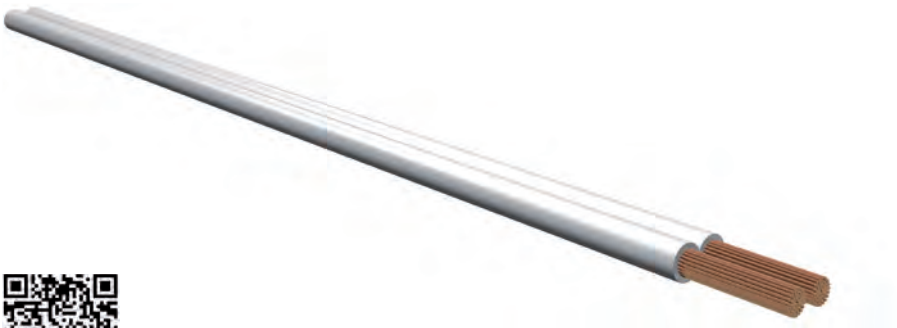
Nominal voltage	300 V/500 V
Test voltage	2000 V
Insulation resistance	20 MOhm x km at 20°C
Operating temperature	-40°C to +70°C
Max. operating temperature	+70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C
Min. bending radius	10 x cable diameter

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05VV-F	2x1	White	19.0	8.0	65	1042003
H05VV-F	2x1	Black	19.0	8.0	65	1042006
H05VV-F	2x1.5	White	29.0	8.0	90	1042009
H05VV-F	2x1.5	Black	29.0	8.0	90	1042012
H05VV-F	2x2.5	White	48.0	10.6	130	1042015
H05VV-F	2x2.5	Black	48.0	10.6	130	1042018
H05VV-F	3G0.75	White	21.6	6.6	62	1042021
H05VV-F	3G0.75	Black	21.6	6.6	62	1042025
H05VV-F	3G1	White	29.0	7.2	79	1042028
H05VV-F	3G1	Black	29.0	7.2	79	1042031
H05VV-F	3G1.5	White	43.0	8.5	115	1042034
H05VV-F	3G1.5	Black	43.0	8.5	115	1042037
H05VV-F	3G1.5	Grey	43.0	8.5	115	1042036
H05VV-F	3G2.5	White	72.0	9.7	175	1042040
H05VV-F	3G2.5	Black	72.0	9.7	175	1042043
H05VV-F	3G2.5	Grey	72.0	9.7	175	1042042
H05VV-F	4G0.75	White	29.0	8.3	75	1042046
H05VV-F	4G0.75	Black	29.0	8.3	75	1042049
H05VV-F	4G1	White	38.0	9.0	90	1042052
H05VV-F	4G1	Black	38.0	9.0	90	1042055
H05VV-F	4G1.5	White	58.0	11.0	145	1042058
H05VV-F	4G1.5	Black	58.0	11.0	145	1042061
H05VV-F	4G1.5	Grey	58.0	11.0	145	1042060
H05VV-F	4G2.5	White	96.0	12.5	198	1042064
H05VV-F	4G2.5	Black	96.0	12.5	198	1042067
H05VV-F	4G2.5	Grey	96.0	12.5	198	1042066
H05VV-F	5G0.75	White	36.0	9.3	95	1042070
H05VV-F	5G0.75	Black	36.0	9.3	95	1042073
H05VV-F	5G1	White	48.0	9.8	112	1042076
H05VV-F	5G1	Black	48.0	9.8	112	1042079
H05VV-F	5G1.5	White	72.0	10.6	173	1042082
H05VV-F	5G1.5	Black	72.0	10.6	173	1042085
H05VV-F	5G1.5	Grey	72.0	10.6	173	1042084
H05VV-F	5G2.5	White	120.0	12.7	259	1042088
H05VV-F	5G2.5	Black	120.0	12.7	259	1042091
H05VV-F	5G2.5	Grey	120.0	12.7	259	1042089

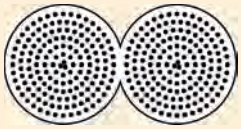
H03 VH-H

PVC twin cable

RoHS



CROSS SECTION



Acc. to VDE 0281

APPLICATION

For very low mechanical loads in households, kitchens, offices and for the connection of light electrical appliances. Not suitable for cooking and heating appliances.

SPECIAL FEATURES

Sheath colour
White, black

STRUCTURE

Conductor	Flexible copper conductor according to VDE 0295 class 6
Insulation sheath	According to VDE 0207 part 4 type Y12

TECHNICAL DATA

Nominal voltage	300 V
Test voltage	2000 V
Maximum permissible operating voltage in rotary-phase and single-phase alternating current systems	Uo/U 330/330 V
Direct current systems	Uo/U 495/495 V

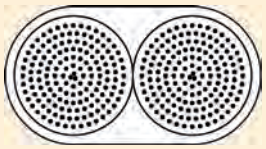
Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H03VH-H 2x0.75 PVC twin cable	14.4	3.2 x 6.4	36	1041301

H03 VVH2-F

PVC flat cable

RoHS

CROSS SECTION



Acc. to VDE 0285-525-2-11

SPECIAL FEATURES

Sheath colour
White , black

APPLICATION

For very low mechanical loads in households, kitchens, offices and for the connection of light electrical appliances. Not suitable for cooking and heating appliances.

STRUCTURE

Conductor	Flexible copper stranded wire according to VDE 0295 cl. 5
Insulation sheath	According to VDE 0207 part 4 type Y12
Core colour	Blue/brown
Outer sheath	Sheath compound according to VDE 0207 part 5 type YM2

TECHNICAL DATA

Nominal voltage	300 V
Test voltage	2000 V
Maximum permissible operating voltage in rotary-phase and single-phase alternating current systems	Uo/U 330/330 V
Direct current systems	Uo/U 495/495 V

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H03VVH2-F	2x0.5	Light PVC flat cable	14.4	3.8 x 6.3	36	1041201

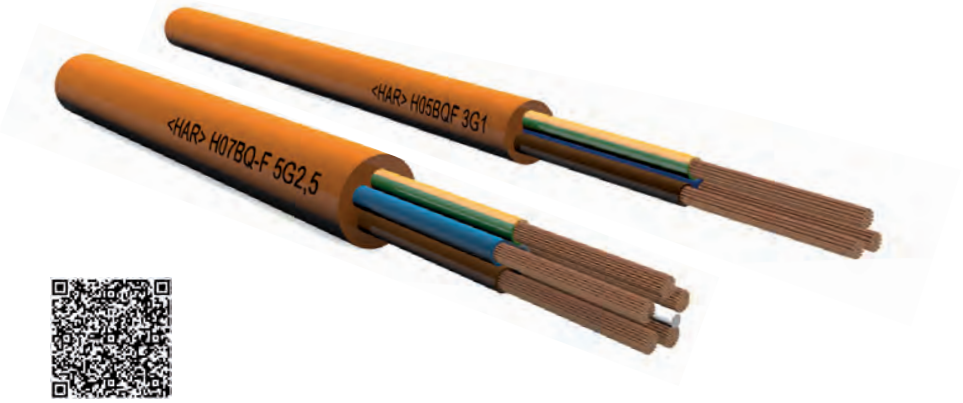
NOTES

PUR CABLES

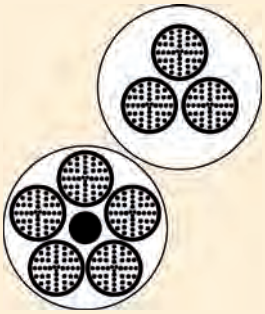
H05 BQ-F / H07 BQ-F

RoHS

PUR - insulated cable



CROSS SECTION



Acc. to VDE 0285-525-2-21

APPLICATION

For use outdoors and in dry rooms, under high mechanical loads. For agricultural and commercial appliances. Excellent abrasion and notch resistance. High radiation resistance. Ideal as a supply line for hand-held devices and drills. The combination of the flexible rubber core insulation and robust PUR sheath guarantees a long service life. PUR is resistant to microbes, hydrolysis, UV radiation, ozone, oxygen, oils, grease, petrol, water and atmospheric influences. Free from paint-coating substances.

SPECIAL FEATURES

Sheath colour
Orange with inscription:
H05 BQ-F/H07 BQ-F

STRUCTURE

Conductor	Bare copper conductor, design structure according to DIN VDE 0282 part 10 Conductor structure according to VDE 0295 and HD 383 class 5, cores stranded in layers
Cores	Rubber insulation
Outer sheath	Polyurethane according to VDE 282 part 10

TECHNICAL DATA

Nominal voltage	H05 BQ-F: 300/500 V H07 BQ-F: 450/750 V
Test voltage	H05 BQ-F: 2000 V H07 BQ-F: 2500 V
Operating temperature	-40°C to +90°C
Max. operating temperature	+90°C
Min. installation temperature	-30°C
Max. installation temperature	+80°C
Min. bending radius	Moving 12 x cable diameter

TESTS ACCORDING TO DIN VDE 0282 PART 10 AND HD 22.10.S1:

Oil resistance	According to HD 505.21
Cold resistance	According to HD 505.1.4
Hydrolysis resistance	HD 22.10
Ozone resistance	According to HD 505.2.1 and HD 22.2

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05 BQ-F	2x0.75	14.4	6.5	53	1060101
H05 BQ-F	2x1	19.0	7.0	60	1060102
H07 BQ-F	2x1.5	29.0	8.5	91	1060103
H07 BQ-F	2x2.5	48.0	9.0	101	1060104
H07 BQ-F	2x4.0	77.0	10.6	154	1060105
H07 BQ-F	2x6.0	116.0	11.8	232	1060106
H07 BQ-F	2x10.0	192.0	15.6	343	1060107
H07 BQ-F	2x16.0	308.0	17.9	554	1060108
H05 BQ-F	3G0.75	21.6	7.0	65	1060120
H05 BQ-F	3G1	29.0	7.5	72	1060121
H07 BQ-F	3G1.5	43.0	9.0	110	1060122
H07 BQ-F	3G2.5	72.0	11.0	160	1060123
H07 BQ-F	3G4.0	115.0	11.3	264	1060124
H07 BQ-F	3G6.0	173.0	12.8	346	1060125
H07 BQ-F	3G10.0	288.0	16.8	500	1060126
H07 BQ-F	3G16.0	461.0	19.5	830	1060127
H05BQ-F	4G0.75	29.0	8.0	82	1060140
H05BQ-F	4G1	38.0	8.5	91	1060141
H07BQ-F	4G1.50	58.0	11.0	143	1060142
H07BQ-F	4G2.50	96.0	12.5	200	1060143
H07BQ-F	4G4	154.0	12.7	277	1060144
H07BQ-F	4G6	230.0	14.2	414	1060145
H07BQ-F	4G10	384.0	18.6	691	1060146
H07BQ-F	4G16	614.0	21.3	1106	1060147
H05 BQ-F	5G0.75	36.0	7.6	100	1060160
H05 BQ-F	5G1	48.0	9.0	112	1060161
H07 BQ-F	5G1.5	72.0	11.0	170	1060162
H07 BQ-F	5G2.5	120.0	13.5	260	1060163
H07 BQ-F	5G4	192.0	14.1	345	1060164
H07 BQ-F	5G6	288.0	15.7	518	1060165
H07 BQ-F	5G10	480.0	20.4	864	1060166
H07 BQ-F	5G16	768.0	23.7	1382	1060167
H07 BQ-F	7G1.5	101.0	13.2	260	1060171

NOTES

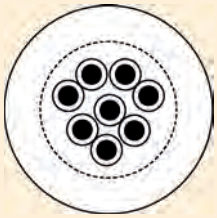
TELEPHONE CABLES

J-YY

Telecommunication cable

RoHS

CROSS SECTION



Acc. to VDE 0815

APPLICATION

The unshielded installation cables for telephone and information processing systems should preferably be used as voice lines for telephone extensions and intercom units for fixed installation in dry and damp operating sites within buildings, on and under plastered surfaces, as well as for fixed laying on buildings' external walls. These installation cables are not authorised for heavy current or underground installation. They are suitable for connecting office communication systems, telephone, fax and burglar alarm systems, operating data recording devices, door intercoms and two-way intercom systems.
Installation advice: when laid, these cables must be unwound from the coil or ring without any twists or kinks.

SPECIAL FEATURES

Properties
Stranded in bundles

Sheath colour
Grey
White on request

STRUCTURE

Conductor	Copper conductor, bare, solid, according to DIN VDE 0815
Cores	PVC insulation, identification according to VDE 0815, 4 cores to one star quad, 5 quads to one bundle, bundle stranded to cable core, core wrapping
Outer sheath	PVC according to VDE 0207 part 5

TECHNICAL DATA

Nominal voltage	300 V
Test voltage	800 V
Loop resistance	130 Ohm/km
Insulation resistance	100 MOhm x km
Operating capacity	At 800 Hz max. 100 nF/km
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Min. bending radius	Repeated bending under tension 7.5 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B acc. to VDE 0472 part 804 and IEC 332-1

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
J - YY	2x2x0.6	Grey	11.0	4.8	35	0.11	3151001
J - YY	4x2x0.6	Grey	23.0	6.5	60	0.17	3151002
J - YY	6x2x0.6	Grey	34.0	7.0	75	0.22	3151003
J - YY	10x2x0.6	Grey	57.0	8.3	100	0.28	3151005
J - YY	16x2x0.6	Grey	90.0	10.0	160	0.39	3151006
J - YY	20x2x0.6	Grey	113.0	11.0	200	0.44	3151007
J - YY	24x2x0.6	Grey	136.0	12.0	220	0.50	3151008
J - YY	30x2x0.6	Grey	170.0	13.5	285	0.67	3151009
J - YY	40x2x0.6	Grey	226.0	14.8	360	0.81	3151010
J - YY	50x2x0.6	Grey	283.0	16.1	439	0.94	3151011
J - YY	60x2x0.6	Grey	339.0	17.6	518	1.17	3151012
J - YY	80x2x0.6	Grey	452.0	20.5	685	1.42	3151013
J - YY	100x2x0.6	Grey	565.0	22.5	840	1.69	3151014

J-Y(St)Y Lg

Telecommunication cable

RoHS

CROSS SECTION

Acc. to VDE 0815

SPECIAL FEATURES

Properties
Stranded in layers

Sheath colour
Grey

APPLICATION

This cable is used as a voice line in intercom units and telephone extensions for fixed installation in dry and damp rooms, as well as on external walls, protected against direct sunlight. Also for outdoor use. Not suitable for burying underground. The static shield made from plastic-laminated metal foil protects the cable circuits against external electrical interferences to maintain the necessary capacitive coupling values and ensure accurate pulse transmission. Installation advice: when laid, these cables must be unwound from the coil or ring without any twists or kinks.

STRUCTURE

Conductor	Copper conductor, bare, solid, 2 cores stranded to form a pair, pairs stranded in concentric layers. Core wrapping
Cores	PVC insulation according to VDE 0207 part 4, colour coding according to VDE 0815
Drain wire	Copper grounding drain wire under metal foil
Shield	Aluminium-laminated foil
Outer sheath	PVC according to VDE 0207 part 5

TECHNICAL DATA

Nominal voltage	300 V
Test voltage	800 V
Loop resistance	At 0.6 m: max. 130 Ohm/km, at 0.8 m: max. 73.2 Ohm/km
Insulation resistance	100 MOhm x km
Cable attenuation	At 800 Hz: 1.12 dB/km
Max. operating temperature	+70°C
Capacitive coupling	At 800 Hz max.: 300 pF/100 m
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Bending radius	Fixed installation: 7.5 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

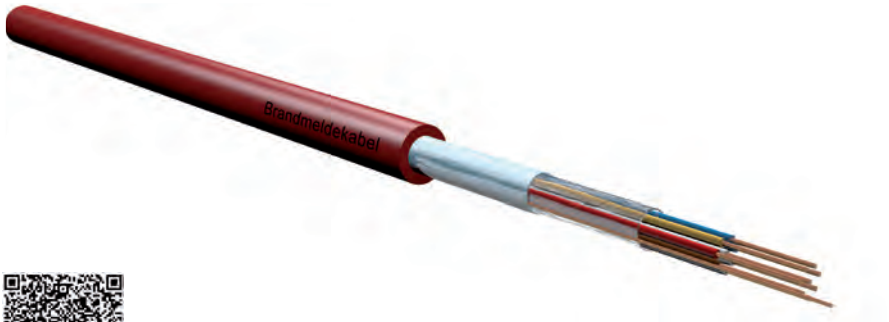
Flammability	Test method B acc. to VDE 0472 part 804 and IEC 332-1

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
J Y(St)Y 2x2x0.6	13.0	4.9	35	0.17	3161003
J Y(St)Y 3x2x0.6	18.0	6.2	49	0.20	3161006
J Y(St)Y 4x2x0.6	24.0	6.6	58	0.23	3161009
J Y(St)Y 5x2x0.6	30.0	7.1	59	0.26	3161012
J Y(St)Y 6x2x0.6	35.0	7.6	61	0.28	3161015
J Y(St)Y 8x2x0.6	46.0	8.1	90	0.29	3161018
J Y(St)Y 10x2x0.6	58.0	9.0	110	0.33	3161021
J Y(St)Y 12x2x0.6	71.0	9.5	129	0.38	3161024
J Y(St)Y 16x2x0.6	93.0	10.4	160	0.43	3161026
J Y(St)Y 20x2x0.6	116.0	10.9	190	0.47	3161029
J Y(St)Y 24x2x0.6	139.0	12.5	230	0.52	3161030
J Y(St)Y 30x2x0.6	172.0	13.5	284	0.69	3161031
J Y(St)Y 40x2x0.6	229.0	14.5	358	0.77	3161032
J Y(St)Y 50x2x0.6	286.0	16.5	438	0.92	3161033
J Y(St)Y 60x2x0.6	342.0	17.5	512	1.20	3161034
J Y(St)Y 80x2x0.6	455.0	19.6	650	1.41	3161035
J Y(St)Y 100x2x0.6	568.0	22.1	829	1.83	3161036
J Y(St)Y 2x2x0.8	21.0	6.1	54	0.25	3162003
J Y(St)Y 3x2x0.8	31.0	8.0	77	0.31	3162006
J Y(St)Y 4x2x0.8	41.0	8.7	94	0.38	3162009
J Y(St)Y 5x2x0.8	52.0	9.4	114	0.43	3162012
J Y(St)Y 6x2x0.8	62.0	10.1	135	0.50	3162015
J Y(St)Y 8x2x0.8	82.0	10.2	154	0.56	3162018
J Y(St)Y 10x2x0.8	102.0	13.1	205	0.75	3162021
J Y(St)Y 12x2x0.8	123.0	13.5	235	0.81	3162024
J Y(St)Y 16x2x0.8	164.0	14.8	299	1.00	3162032
J Y(St)Y 20x2x0.8	204.0	15.6	352	1.13	3162035
J Y(St)Y 24x2x0.8	244.0	18.9	437	1.45	3162038
J Y(St)Y 30x2x0.8	304.0	19.4	522	1.70	3162041
J Y(St)Y 40x2x0.8	405.0	20.9	663	2.08	3162042
J Y(St)Y 50x2x0.8	506.0	23.7	832	2.65	3162043
J Y(St)Y 60x2x0.8	606.0	25.8	978	2.84	3162044
J Y(St)Y 80x2x0.8	807.0	28.8	1285	3.92	3162045
J Y(St)Y 100x2x0.8	1008.0	36.0	1780	4.94	3162046

J-Y(St)Y BMK

Fire signalisation cable

RoHS



CROSS SECTION

APPLICATION

This cable is used as a voice line in intercom units and telephone extensions for fixed installation in dry and damp rooms, as well as on external walls, protected against direct sunlight. Not suitable for burying underground. The static shield (St) made from plastic-laminated metal foil protects the cable circuits against external electrical interferences to maintain the necessary capacitive coupling values and ensure accurate pulse transmission. The cable sheaths are labelled at regular intervals with the text 'fire alarm cable'. Installation advice: when laid, these cables must be unwound from the coil or ring without any twists or kinks.

SPECIAL FEATURES

Properties
Stranded in layers

Sheath colour
Red (RAL 3000)

STRUCTURE

Conductor	Copper conductor, bare, solid, 2 cores stranded to form a pair, pairs stranded in concentric layers. Core wrapping
Cores	PVC insulation according to VDE 0207 part 4, colour coding according to VDE 0815
Drain wire	Copper grounding drain wire under metal foil
Shield	Aluminium-laminated foil
Outer sheath	PVC according to VDE 0207 part 5

TECHNICAL DATA

Nominal voltage	300 V
Test voltage	800 V
Loop resistance	73.2 Ohm/km
Insulation resistance	100 MOhm x km
Cable attenuation	At 800 Hz: 1.12 dB/km
Operating temperature	+50°C
Max. operating temperature	+70°C
Capacitive coupling	At 800 Hz max.: 300 pF/100 m
Min. installation temperature	-5°C
Bending radius	Fixed installation: 7.5 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B acc. to VDE 0472 part 804 and IEC 332-1

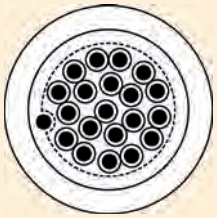
Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
J-Y(St)Y	1x2x0.8	Red	11.0	5.4	40	3200001
J-Y(St)Y	2x2x0.8	Red	21.0	6.1	54	3200004
J-Y(St)Y	4x2x0.8	Red	41.0	8.7	94	3200005
J-Y(St)Y	6x2x0.8	Red	62.0	10.1	135	3200006
J-Y(St)Y	10x2x0.8	Red	102.0	13.1	205	3200007
J-Y(St)Y	20x2x0.8	Red	204.0	15.6	352	3200008
J-Y(St)Y	30x2x0.8	Red	304.0	19.4	522	3200009
J-Y(St)Y	40x2x0.8	Red	405.0	20.9	663	3200010
J-Y(St)Y	50x2x0.8	Red	506.0	23.7	832	3200011
J-Y(St)Y	80x2x0.8	Red	807.0	28.8	1285	3200013
J-Y(St)Y	100x2x0.8	Red	1008.0	36.0	1780	3200012

J-2Y(St)Y ST III Bd

ISDN - cable

RoHS

CROSS SECTION



APPLICATION

ISDN-compatible data cable for the transmission of analogue and digital signals at up to 16 Mbits/sec. It is used, for example, to connect EDP system units or within circuits designed with the highest safety and speed requirements for airfield lighting, ISDN intercommunication systems, systems for recording operating data, access control and time recording systems, industry electronics and alarm systems.
Use in dry and damp rooms for fixed installation on and under plastered surfaces.

SPECIAL FEATURES

Sheath colour
Grey

STRUCTURE

Conductor	Copper, single-cored, bare, 0.6 mm on the basis of VDE 0815/0816, cores stranded into a star quad
Cores	Polyethylene, according to VDE 0815 for indoor telephone cables
Drain wire	Copper drain wire
Shield	Static shield made from plastic-laminated aluminium foil
Outer sheath	PVC compound

TECHNICAL DATA

Nominal voltage	300 V
Test voltage	1000 V
Loop resistance	130 Ohm/km
Insulation resistance	> 10 GOhm x km
Operating capacity	At 800 Hz 52 nF/km
Capacitive coupling	At 800 Hz for 300 m k1 < 400 pF
Capacitive coupling	At 800 Hz for 300 m k9-12 100 pF
Operating voltage	225 V
Temperature range	Resting +70°C, moving -5°C to +50°C
Bending radius	7.5 x cable diameter, fixed installation

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
J2Y(St)Y 2x2x0.6	STIIIBd	13.0	6.0	40	3220001
J2Y(St)Y 4x2x0.6	STIIIBd	24.0	8.0	70	3220002
J2Y(St)Y 6x2x0.6	STIIIBd	35.0	8.5	85	3220003
J2Y(St)Y 10x2x0.6	STIIIBd	58.0	10.5	115	3220004
J2Y(St)Y 20x2x0.6	STIIIBd	116.0	12.0	200	3220005
J2Y(St)Y 30x2x0.6	STIIIBd	172.0	15.0	283	3220006
J2Y(St)Y 50x2x0.6	STIIIBd	286.0	18.5	434	3220008
J2Y(St)Y 60x2x0.6	STIIIBd	342.0	19.7	531	3220009
J2Y(St)Y 80x2x0.6	STIIIBd	455.0	22.0	680	3220010
J2Y(St)Y 100x2x0.6	STIIIBd	568.0	24.5	821	3220011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J-2Y(St)H ST III Bd

LSOH ISDN cable

RoHS

CROSS SECTION

SPECIAL FEATURES

Properties
Halogen free

APPLICATION

ISDN-compatible data cable with halogen-free outer sheath for the transmission of analogue and digital signals at up to 16 Mbits/sec. It is used, for example, to connect EDP system units or within circuits designed with the highest safety and speed requirements for airfield lighting, ISDN intercommunication systems, systems for recording operating data, access control and time recording systems, industry electronics and alarm systems. Use in dry and damp rooms for fixed installation on and under plastered surfaces.

STRUCTURE

Conductor	Copper, single-cored, bare, 0.6 mm on the basis of VDE 0815/0816, cores stranded into a star quad
Cores	Polyethylene insulation
Shield	Static shield made from plastic-laminated aluminium foil
Drain wire	Copper drain wire
Outer sheath	Halogen-free polymer HM2

PROPERTIES

Halogen free, flame retardant according to DIN VDE 0472 part 804, test method B, halogen content (corrosiveness of the combustion gases) according to DIN VDE 0472 part 813, minimal smoke density

TECHNICAL DATA

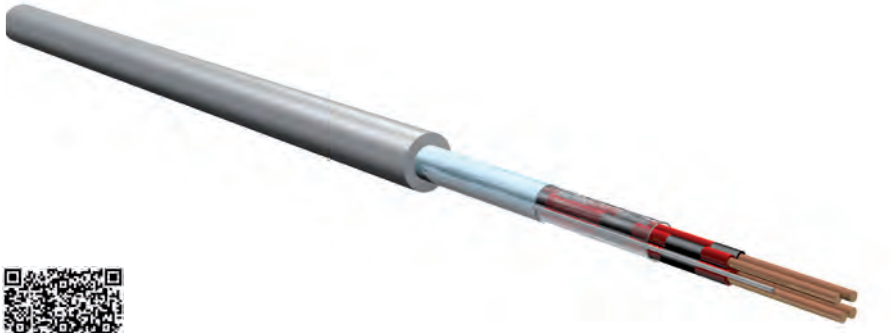
Nominal voltage	300 V
Test voltage	1000 V
Loop resistance	130 Ohm/km
Insulation resistance	> 10 GOhm x km
Operating capacity	At 800 Hz 52 nF/km
Capacitive coupling	At 800 Hz for 300 m k1 < 400 pF
Capacitive coupling	At 800 Hz for 300 m k9-12 100 pF
Operating voltage	225 V
Temperature range	Resting +70°C, moving -5°C to +50°C
Bending radius	7.5 x cable diameter, fixed installation

Product description				Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
J2Y(St)H	2x2x0.6	STIIIBd	Halogen free	13.0	6.0	40	3220101
J2Y(St)H	4x2x0.6	STIIIBd	Halogen free	24.0	8.0	70	3220102
J2Y(St)H	6x2x0.6	STIIIBd	Halogen free	35.0	8.5	85	3220103
J2Y(St)H	10x2x0.6	STIIIBd	Halogen free	58.0	10.5	115	3220104
J2Y(St)H	20x2x0.6	STIIIBd	Halogen free	116.0	12.0	215	3220105
J2Y(St)H	30x2x0.6	STIIIBd	Halogen free	172.0	15.0	200	3220106
J2Y(St)H	40x2x0.6	STIIIBd	Halogen free	229.0	16.5	283	3220107
J2Y(St)H	50x2x0.6	STIIIBd	Halogen free	286.0	18.5	434	3220108
J2Y(St)H	80x2x0.6	STIIIBd	Halogen free	455.0	22.0	680	3220110
J2Y(St)H	100x2x0.6	STIIIBd	Halogen free	568.0	24.5	821	3220111

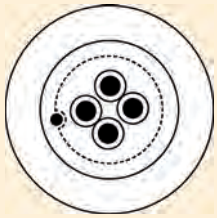
J-H(St)H

LSOH telecommunication cable

RoHS



CROSS SECTION



Acc. to DIN VDE 0815

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Grey

APPLICATION

This cable is used as a voice line in intercom units and telephone extensions for fixed installation in dry and damp rooms as well as on external walls, protected against direct sunlight. Also for outdoor use. Not suitable for burying underground. It is halogen free and highly flame retardant. The static shield made from plastic-laminated metal foil protects the cable circuits against external electrical interferences to maintain the necessary capacitive coupling values and ensure accurate pulse transmission. Installation advice: when laid, these cables must be unwound from the coil or ring without any twists or kinks.

STRUCTURE

Conductor	Copper conductor, bare, solid, design structure according to DIN VDE 0815/9.85 0.8 mm diameter, halogen-free insulation HI 2, wall thickness 0.3 mm, 5 star quads to each basic bundle and several basic bundles stranded in layers, core wrapping made from halogen-free foil, static wrapping with protective foil
Cores	Halogen-free polymer compound HI 2 according to VDE 0207 part 23 according to VDE 0815, bundle labelling using code numbers
Drain wire	Copper drain wire
Shield	Made from plastic-laminated aluminium foil with drain wire
Outer sheath	Halogen-free, flame-retardant HM 2

TECHNICAL DATA

Nominal voltage	300 V
Test voltage	800 V
Loop resistance	Max. 130 Ohm/km
Insulation resistance	Min. 100 Ohm/km
Cable attenuation	At 800 Hz approx. 1.5 dB/km
Operating capacity	Max. 120 nF/km
Operating temperature	-30°C to +70°C
Capacitive coupling	For 100 m max. 300 pF
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Flame retardancy	HM 2
Bending radius	15 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Smoke density	According to VDE 0472 part 816
Halogen-free nature	Corrosiveness of combustion gases acc. to VDE 0472 part 813 and IEC 754-1
Fire load/flame retardancy	Test method C according to VDE 0472 part 804 and IEC 332-3

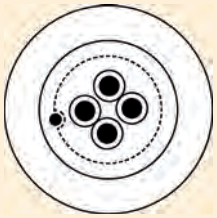
Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
J-H(St)H 2x2x0.6 Bd	14.0	5.2	65	0.25	2895001
J-H(St)H 4x2x0.6 Bd	25.0	7.5	100	0.39	2895002
J-H(St)H 6x2x0.6 Bd	37.0	8.0	117	0.44	2895003
J-H(St)H 10x2x0.6 Bd	59.0	9.8	155	0.61	2895004
J-H(St)H 20x2x0.6 Bd	116.0	12.5	270	1.14	2895006
J-H(St)H 30x2x0.6 Bd	172.0	14.9	322	1.58	2895008
J-H(St)H 40x2x0.6 Bd	229.0	17.0	408	2.03	2895009
J-H(St)H 50x2x0.6 Bd	286.0	19.1	491	2.38	2895010
J-H(St)H 60x2x0.6 Bd	342.0	20.2	573	2.83	2895011
J-H(St)H 80x2x0.6 Bd	455.0	23.6	756	3.64	2895012
J-H(St)H 100x2x0.6 Bd	568.0	25.9	917	4.48	2895013
J-H(St)H 2x2x0.8 Bd	25.0	8.5	77	0.30	2895020
J-H(St)H 4x2x0.8 Bd	45.0	10.5	135	0.47	2895021
J-H(St)H 6x2x0.8 Bd	65.0	12.0	165	0.58	2895022
J-H(St)H 10x2x0.8 Bd	106.0	15.8	250	0.89	2895023
J-H(St)H 20x2x0.8 Bd	206.0	19.0	420	1.53	2895025
J-H(St)H 30x2x0.8 Bd	307.0	22.0	620	2.22	2895027
J-H(St)H 40x2x0.8 Bd	407.0	25.5	850	2.83	2895028
J-H(St)H 50x2x0.8 Bd	508.0	27.5	1000	3.45	2895029
J-H(St)H 60x2x0.8 Bd	608.0	29.5	1150	3.95	2895030
J-H(St)H 80x2x0.8 Bd	809.0	33.5	1550	5.20	2895031
J-H(St)H 100x2x0.8 Bd	1010.0	37.5	1850	6.28	2895032

J-H(St)H BMK

LSOH fire signalisation cable

RoHS

CROSS SECTION



Acc. to VDE 0815

SPECIAL FEATURES

Sheath colour
Red

APPLICATION

This cable is used as a voice line in intercom units and telephone extensions for fixed installation in dry and damp rooms, as well as on external walls, protected against direct sunlight. Also for outdoor use. Not suitable for burying underground. It is halogen free and highly flame retardant. The static shield made from plastic-laminated metal foil protects the cable circuits against external electrical interferences to maintain the necessary capacitive coupling values and ensure accurate pulse transmission. Installation advice: when laid, these cables must be unwound from the coil or ring without any twists or kinks.

STRUCTURE

Conductor	Copper conductor, bare, solid, design structure according to DIN VDE 0815/9.85 0.8 mm diameter, halogen-free insulation HI 2, wall thickness 0.3 mm, cores stranded into pairs, 4 pairs stranded into bundles, core wrapping made from halogen-free foil, static wrapping with protective foil
Cores	Halogen-free polymer compound HI 2 according to VDE 0207 part 23 according to VDE 0815, bundle labelling using code numbers
Drain wire	Copper drain wire
Shield	Made from plastic-laminated aluminium foil with drain wire
Outer sheath	Halogen-free, flame-retardant HM 2

TECHNICAL DATA

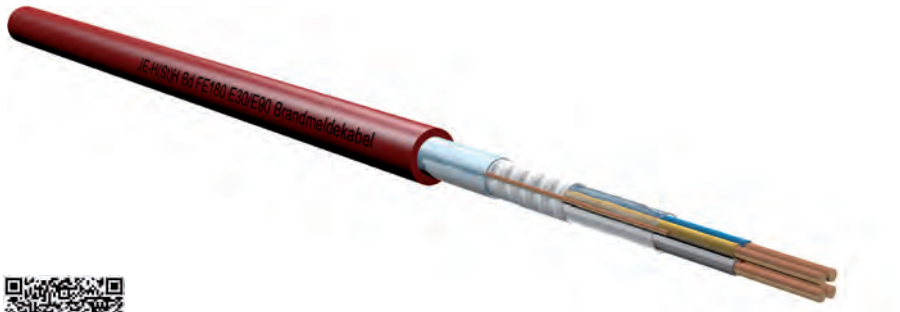
Nominal voltage	300 V
Test voltage	800 V
Loop resistance	Max. 130 Ohm/km
Insulation resistance	Min. 100 MOhm x km
Cable attenuation	At 800 Hz approx. 1.5 dB/km
Operating capacity	Max. 120 nF/km
Operating temperature	-30°C to +70°C
Capacitive coupling	For 100 m max. 300 pF
Min. installation temperature	-5°C
Max. Installation temperature	+50°C
Flame retardancy	HM 2
Bending radius	15 x cable diameter
Ozone resistance	HD 505.2.1 and 811
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 parts 1+2

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
J-H(St)H	2x2x0.8 Bd	BRAND	25.0	8.5	77	0.30	2897001
J-H(St)H	4x2x0.8 Bd	BRAND	45.0	10.5	135	0.47	2897002
J-H(St)H	6x2x0.8 Bd	BRAND	65.0	12.0	165	0.58	2897003
J-H(St)H	10x2x0.8 Bd	BRAND	106.0	15.0	250	0.89	2897004
J-H(St)H	20x2x0.8 Bd	BRAND	206.0	19.0	420	1.53	2897005
J-H(St)H	30x2x0.8 Bd	BRAND	307.0	22.0	620	2.22	2897006
J-H(St)H	40x2x0.8 Bd	BRAND	407.0	25.5	850	2.83	2897007
J-H(St)H	50x2x0.8 Bd	BRAND	508.0	27.5	1000	3.45	2897008
J-H(St)H	60x2x0.8 Bd	BRAND	608.0	29.5	1150	3.95	2896002
J-H(St)H	80x2x0.8 Bd	BRAND	809.0	33.5	1550	5.20	2897009
J-H(St)H	100x2x0.8 Bd	BRAND	1010.0	37.5	1850	6.28	2897010

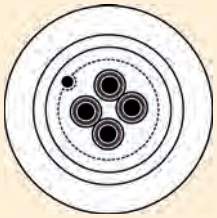
JE-H(St)H Bd FE180 E30/E90

RoHS

Fire resistant cable



CROSS SECTION



Acc. to DIN VDE 0815

APPLICATION

As an installation cable for telecommunication purposes for fixed laying in fire risk areas where particular protection against fire and fire damage is required for people and property and a system's functional integrity must be maintained for 30 or 90 minutes. The cable has an insulation integrity of at least 180 minutes. The functional integrity is guaranteed under a test voltage of 110 V. The cable should be laid within buildings. When using a tube, the cables can also be laid outdoors or underground. During installation, the general test certificates issued by the cable and carrier system manufacturer must be observed. Also suitable for use as a fire alarm cable with a red outer sheath.

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Red, imprinted with the text 'Brandmeldekabel'
or orange

STRUCTURE

Conductor	Copper conductor, bare, solid, based on DIN 4102, halogen-free dual insulation made from special mica tape and insulation material HI 2, cores stranded into pairs, 4 pairs stranded into bundles, bundles labelled using colour-coded plastic tape covering, core wrapping made from plastic-laminated aluminium foil with drain wire. Wrapped with protective foil.
Cores	Polymer compound insulation
Drain wire	Copper drain wire
Shield	Plastic-laminated metal foil with drain wire
Outer sheath	Polymer compound

TECHNICAL DATA

Nominal voltage	225 V
Test voltage	800 V
Loop resistance	73.2 Ohm/gm
Insulation resistance	100 MOhm x km
Operating capacity	120 nF/km
Operating temperature	-30°C bis +70°C
Max. operating temperature	+70°C
Capacitive coupling	For 100 m max. 300pF
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Flame retardancy	Halogen-free, flame-retardant HM2 sheath
Min. bending radius	15 x cable diameter
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 part 1+2

Product description				Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
JE-H(St)H Bd	2x2x0.8	Red	FE180 E30/E90	25.0	7.5	74	0.19	2125001
JE-H(St)H Bd	4x2x0.8	Red	FE180 E30/E90	45.0	10.9	127	0.33	2125002
JE-H(St)H Bd	8x2x0.8	Red	FE180 E30/E90	85.0	14.5	232	0.56	2125003
JE-H(St)H Bd	12x2x0.8	Red	FE180 E30/E90	126.0	17.1	318	0.77	2125004
JE-H(St)H Bd	16x2x0.8	Red	FE180 E30/E90	166.0	19.6	430	1.08	2125005
JE-H(St)H Bd	20x2x0.8	Red	FE180 E30/E90	206.0	21.5	514	1.25	2125006
JE-H(St)H Bd	32x2x0.8	Red	FE180 E30/E90	327.0	27.0	730	1.89	2125007
JE-H(St)H Bd	40x2x0.8	Red	FE180 E30/E90	407.0	28.9	962	2.30	2125008
JE-H(St)H Bd	52x2x0.8	Red	FE180 E30/E90	527.0	33.2	1.200	2.80	2125009
JE-H(St)H Bd	2x2x0.8	Orange	FE180 E30/E90	25.0	7.5	74	0.19	2126001
JE-H(St)H Bd	4x2x0.8	Orange	FE180 E30/E90	45.0	10.9	127	0.33	2126002
JE-H(St)H Bd	8x2x0.8	Orange	FE180 E30/E90	85.0	14.5	232	0.56	2126003
JE-H(St)H Bd	12x2x0.8	Orange	FE180 E30/E90	126.0	17.1	318	0.77	2126004
JE-H(St)H Bd	16x2x0.8	Orange	FE180 E30/E90	166.0	19.6	430	1.08	2126005
JE-H(St)H Bd	20x2x0.8	Orange	FE180 E30/E90	206.0	21.5	514	1.25	2126006
JE-H(St)H Bd	32x2x0.8	Orange	FE180 E30/E90	327.0	27.0	730	1.89	2126007
JE-H(St)H Bd	40x2x0.8	Orange	FE180 E30/E90	407.0	29.8	962	2.30	2126008
JE-H(St)H Bd	52x2x0.8	Orange	FE180 E30/E90	527.0	33.2	1200	2.80	2126009

JE-H(St)H Bd FE180/E30

RoHS

Fire resistant cable

CROSS SECTION

Acc. to DIN VDE 0815

APPLICATION

As an installation cable for telecommunication purposes for fixed laying in fire risk areas where particular protection against fire and fire damage is required for people and property and a system's functional integrity must be maintained for 30 minutes. The cable has an insulation integrity of at least 180 minutes.
The functional integrity is guaranteed under a test voltage of 110 V. The cable should be laid within buildings.
When using a tube, the cables can also be laid outdoors or underground. During installation, the general test certificates issued by the cable and carrier system manufacturer must be observed.
Also suitable for use as a fire alarm cable with a red outer sheath.

SPECIAL FEATURES

Properties
Flame retardant
Halogen free
Minimal smoke density

Sheath colour
Orange, red

STRUCTURE

Conductor	Copper conductor, bare, solid, based on VDE 0815, cores into 4 pairs, 4 pairs stranded into bundles, bundles stranded into layers, bundles labelled using numbers. Insulation integrity under exposure to fire > 180 min. Functional integrity according to DIN 4102
Cores	Halogen-free elastomer compound, according to VDE 0815
Drain wire	Copper drain wire
Shield	Static shield made from plastic-laminated metal foil with copper drain wire
Outer sheath	Halogen-free polymer compound

TECHNICAL DATA

Nominal voltage	225 V
Test voltage	800 V
Loop resistance	73.2 Ohm/km
Insulation resistance	> 100 MOhm x km
Operating capacity	120 nF/km at 800 Hz
Operating temperature	+30°C to +70°C
Max. operating temperature	+70°C
Capacitive coupling	Max. 200pF/100 m at 800 Hz
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Flame retardancy	Test method C acc. to VDE 0472 part 804 and IEC 332-2
Min. bending radius	With fixed installation, 6 x cable diameter
TESTS ACCORDING TO DIN VDE 0472 AND IEC:	
Smoke density	According to VDE 0472 part 816
Halogen-free nature	Corrosiveness of combustion gases according to VDE 0472 part 813 and IEC 754-1

Product description				Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (MJ/km)	Product number
JE-H(St)H Bd	1x2x0.8	Red	FE 180/E30	15.0	7.5	60	710	2122000
JE-H(St)H Bd	2x2x0.8	Red	FE 180/E30	25.0	9.0	100	702	2122001
JE-H(St)H Bd	4x2x0.8	Red	FE 180/E30	45.0	12.5	160	1054	2121002
JE-H(St)H Bd	8x2x0.8	Red	FE 180/E30	85.0	15.0	260	1508	2121003
JE-H(St)H Bd	12x2x0.8	Red	FE 180/E30	126.0	18.0	340	2116	2121004
JE-H(St)H Bd	16x2x0.8	Red	FE 180/E30	166.0	20.0	400	2644	2121005
JE-H(St)H Bd	20x2x0.8	Red	FE 180/E30	206.0	22.0	500	3109	2121006
JE-H(St)H Bd	32x2x0.8	Red	FE 180/E30	327.0	27.0	700	4661	2121007
JE-H(St)H Bd	40x2x0.8	Red	FE 180/E30	407.0	28.5	850	5495	2121008
JE-H(St)H Bd	52x2x0.8	Red	FE 180/E30	528.0	32.5	1200	7108	2121010
JE-H(St)H Bd	1x2x0.8	Orange	FE 180/E30	15.0	7.5	60	710	2121000
JE-H(St)H Bd	2x2x0.8	Orange	FE 180/E30	25.0	9.0	100	702	2122001
JE-H(St)H Bd	4x2x0.8	Orange	FE 180/E30	45.0	12.5	160	1054	2122002
JE-H(St)H Bd	8x2x0.8	Orange	FE 180/E30	85.0	15.0	260	1508	2122003
JE-H(St)H Bd	12x2x0.8	Orange	FE 180/E30	126.0	18.0	340	2116	2122004
JE-H(St)H Bd	16x2x0.8	Orange	FE 180/E30	166.0	20.0	400	2644	2122005
JE-H(St)H Bd	20x2x0.8	Orange	FE 180/E30	206.0	22.0	500	3109	2122006
JE-H(St)H Bd	32x2x0.8	Orange	FE 180/E30	327.0	27.0	700	4661	2122007
JE-H(St)H Bd	40x2x0.8	Orange	FE 180/E30	407.0	28.5	850	5425	2122008
JE-H(St)H Bd	52x2x0.8	Orange	FE 180/E30	528.0	32.5	1200	7108	2122010

JE-H(St)H Bd FE 180/E90

RoHS

Fire resistant cable

CROSS SECTION

Acc. to DIN VDE 0815

APPLICATION

As an installation cable for telecommunication purposes for fixed laying in fire risk areas where particular protection against fire and fire damage is required for people and property and a system's functional integrity must be maintained for 90 minutes. The cable has an insulation integrity of at least 180 minutes. The functional integrity is guaranteed under a test voltage of 110 V. The cable should be laid within buildings. When using a tube, the cables can also be laid outdoors or underground. During installation, the general test certificates issued by the cable and carrier system manufacturer must be observed.
Also suitable for use as a fire alarm cable with a red outer sheath.

SPECIAL FEATURES

Properties
Flame retardant
Halogen free
Minimal smoke density

Sheath colour
Red, imprinted ('Brandmeldekabel') or orange

STRUCTURE

Conductor	Copper conductor, bare, solid, based on VDE 0815, cores stranded into pairs, 4 pairs stranded into bundles, bundles stranded into layers, bundles labelled using numbers. Insulation integrity under exposure to fire > 180 min. Functional integrity according to DIN 4102
Cores	Halogen-free elastomer compound, according to VDE 0815
Drain wire	Copper drain wire
Shield	Static shield made from plastic-laminated metal foil with copper drain wire
Outer sheath	Halogen-free polymer compound

TECHNICAL DATA

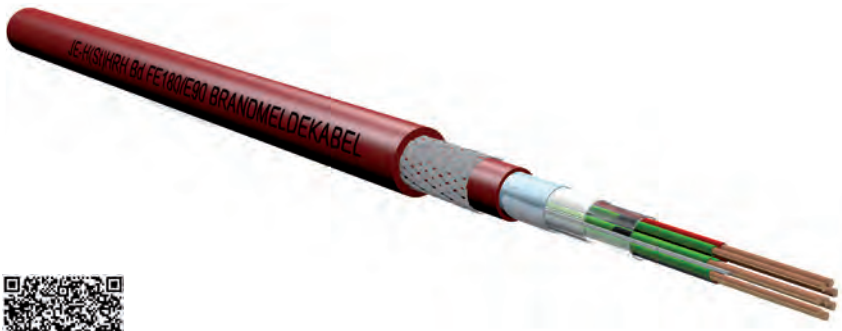
Nominal voltage	225 V
Test voltage	800 V
Loop resistance	73.2 Ohm/km
Insulation resistance	> 100 MOhm x km
Operating capacity	120 nF/km at 800 Hz
Operating temperature	-30°C to +70°C
Max. operating temperature	+70°C
Capacitive coupling	Max. 200pF/100 m at 800 Hz
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Flame retardancy	Test method C acc. to VDE 0472 part 804 and IEC 332-2
Min. bending radius	With fixed installation, 6 x cable diameter
Tests according to DIN VDE 0472 and IEC:	
Smoke density	According to VDE 0472 part 816
Halogen-free nature	Corrosiveness of combustion gases according to VDE 0472 part 813 and IEC 754-1
Fire load/flame retardancy	Test method C according to VDE 0472 part 804 and IEC 332-3
Insul. integ. under exposure to fire	According to VDE 0472 part 814 and IEC 331

Product description				Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load. (KWh/m)	Product number
JE-H(St)H Bd	2x2x0.8	Orange	FE 180/E 90	25.0	10.7	135	0.28	2090001
JE-H(St)H Bd	4x2x0.8	Orange	FE 180/E 90	45.0	15.0	210	0.39	2090002
JE-H(St)H Bd	8x2x0.8	Orange	FE 180/E 90	85.0	18.0	350	0.58	2091003
JE-H(St)H Bd	12x2x0.8	Orange	FE 180/E 90	126.0	20.0	420	0.86	2091004
JE-H(St)H Bd	16x2x0.8	Orange	FE 180/E 90	166.0	22.5	490	1.08	2091005
JE-H(St)H Bd	20x2x0.8	Orange	FE 180/E 90	206.0	25.0	560	1.17	2091006
JE-H(St)H Bd	32x2x0.8	Orange	FE 180/E 90	327.0	31.0	800	1.78	2091007
JE-H(St)H Bd	40x2x0.8	Orange	FE 180/E 90	407.0	33.0	1000	2.08	2091008
JE-H(St)H Bd	52x2x0.8	Orange	FE 180/E 90	528.0	36.0	1400	2.89	2091009
JE-H(St)H Bd	2x2x0.8	Red	FE 180/E 90	25.0	10.7	135	0.28	2091001
JE-H(St)H Bd	4x2x0.8	Red	FE 180/E 90	45.0	15.0	210	0.39	2091002
JE-H(St)H Bd	8x2x0.8	Red	FE 180/E 90	85.0	18.0	350	0.58	2091003
JE-H(St)H Bd	12x2x0.8	Red	FE 180/E 90	126.0	20.0	420	0.86	2091004
JE-H(St)H Bd	16x2x0.8	Red	FE 180/E 90	166.0	22.5	490	1.08	2091005
JE-H(St)H Bd	20x2x0.8	Red	FE 180/E 90	206.0	25.0	560	1.17	2091006
JE-H(St)H Bd	32x2x0.8	Red	FE 180/E 90	327.0	31.0	800	1.78	2091007
JE-H(St)H Bd	40x2x0.8	Red	FE 180/E 90	407.0	33.0	1000	2.08	2091008
JE-H(St)H Bd	52x2x0.8	Red	FE 180/E 90	528.0	36.0	1400	2.89	2091009

JE-H(St)HRH Bd FE180/E90

Fire resistant cable

RoHS



CROSS SECTION

Acc. to DIN VDE 0815

APPLICATION

For signal transmission in measuring, data and control technology systems and as an installation cable in fire risk areas with a high concentration of people or material assets. For setting up cable systems with an integrated functional integrity according to DIN 4102 T.12. For fixed installation in dry and damp rooms.

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Red, imprinted ('Brandmel-dekabel') or orange

STRUCTURE

Conductor	Copper conductor, bare, class 1 – single core
Cores	Halogen-free insulation compound HI1, colour and bands
Drain wire	Copper drain wire
Shield	Foil
Interior/interim material	Halogen free
Mesh	Steel wire mesh
Outer sheath	Halogen-free polymer HM2

TECHNICAL DATA

Nominal voltage	225 V
Test voltage	2000 V
Operating temperature	-30°C to +90°C
Installation temperature	-5°C to +50°C
Bending radius	On installation: 12 x outer diameter Fixed installation: 8 x outer diameter
Tests according to DIN VDE 0472 and IEC:	
Halogen free	DIN EN 50267/IEC 60754
Smoke density	DIN EN 61034/IEC 61034 Permissible cable outer temperature, fixed installation: -5°C to +50°C
Flame retardancy	VDE 0482-266-2-4

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
JE-H(St)HRH FE180/E90 2x2x0.8	25.0	11.3	174	*
JE-H(St)HRH FE180/E90 4x2x0.8	45.0	15.3	286	*
JE-H(St)HRH FE180/E90 8x2x0.8	85.0	22.1	465	*
JE-H(St)HRH FE180/E90 12x2x0.8	126.0	22.9	600	*
JE-H(St)HRH FE180/E90 20x2x0.8	206.0	28.0	777	*

* Products available on request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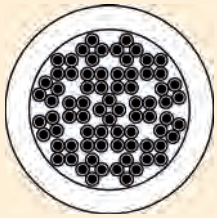
A2Y(L)2Y...ST III Bd

Telephone subscriber line cable

RoHS

CROSS SECTION



Acc. to DIN VDE 0816

SPECIAL FEATURES

Sheath colour
Black, with continuous speaker icon

APPLICATION

Local connection cables for telecommunication systems in operating and industrial facilities for direct installation underground, in cable ducts and tubes. They are not authorised for heavy current installation purposes. The PE material is halogen free but not flame retardant. The black PE sheath is resistant to UV rays. The cable is transversely waterproof.

STRUCTURE

Conductor	Copper conductor, bare, solid, according to DIN VDE 0816 part 1, star quad bundled stranding, core wrapping
Cores	Basic colours with black ring coating, 4 cores make a star quad, every 5 star quads are stranded into a basic bundle, every 5 or 10 basic bundles are stranded to form a main bundle Insulation: PE according to VDE 0207 part 2
Shield	Plastic-coated aluminium strip
Outer sheath	PE according to VDE 0207 part 2

TECHNICAL DATA

Nominal voltage	225 V
Test voltage	2000 V
Loop resistance	At 0.6 mm: 130 Ohm/km, At 0.8 mm: 73.2 Ohm/km
Operating capacity (max.)	At 0.6 mm: 52 nF/km, At 0.8 mm: 55 nF/km
Insulation resistance	5 GOhm x km
Cable attenuation	At 800 Hz: for 0.6 mm: 1.0 for 0.8 mm: 0.8 dB/km
Max. operating temperature	+70°C
Capacitive coupling	At 800 Hz < 800pF/300 m
Min. installation temperature	-20°C
Max. installation temperature	+50°C
Min. bending radius	7.5 x cable diameter, fixed installation 10 x cable diameter under tensile load

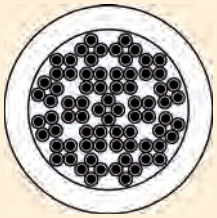
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
A-2Y(L)2Y	2x2x0.6	11.0	9.0	80	4231001
A-2Y(L)2Y	4x2x0.6	23.0	12.0	125	4231002
A-2Y(L)2Y	6x2x0.6	34.0	13.0	130	4231003
A-2Y(L)2Y	10x2x0.6	57.0	13.5	170	4231004
A-2Y(L)2Y	20x2x0.6	113.0	16.0	265	4231005
A-2Y(L)2Y	30x2x0.6	170.0	18.0	350	4231006
A-2Y(L)2Y	40x2x0.6	226.0	20.0	440	4231007
A-2Y(L)2Y	50x2x0.6	283.0	21.0	520	4231008
A-2Y(L)2Y	70x2x0.6	396.0	25.0	700	4231009
A-2Y(L)2Y	100x2x0.6	565.0	28.0	930	4237010
A-2Y(L)2Y	150x2x0.6	848.0	33.0	1360	4237011
A-2Y(L)2Y	200x2x0.6	1131.0	38.0	1780	4237012
A-2Y(L)2Y	250x2x0.6	1414.0	41.5	2150	4237014
A-2Y(L)2Y	300x2x0.6	1696.0	44.5	2530	4237015
A-2Y(L)2Y	350x2x0.6	1979.0	48.0	2930	4237016
A-2Y(L)2Y	400x2x0.6	2262.0	51.0	3300	4237017
A-2Y(L)2Y	500x2x0.6	2827.0	56.0	4050	4237018
A-2Y(L)2Y	2x2x0.8	20.0	10.0	100	4231501
A-2Y(L)2Y	4x2x0.8	40.0	13.0	160	4231502
A-2Y(L)2Y	6x2x0.8	60.0	13.5	170	4231503
A-2Y(L)2Y	10x2x0.8	101.0	15.0	240	4231504
A-2Y(L)2Y	20x2x0.8	201.0	18.5	390	4231505
A-2Y(L)2Y	30x2x0.8	302.0	21.0	540	4231506
A-2Y(L)2Y	40x2x0.8	402.0	23.0	660	4231507
A-2Y(L)2Y	50x2x0.8	503.0	26.0	830	4231508
A-2Y(L)2Y	70x2x0.8	704.0	29.0	1100	4231509
A-2Y(L)2Y	100x2x0.8	1005.0	34.0	1500	4231510
A-2Y(L)2Y	150x2x0.8	1508.0	40.0	2200	4237511
A-2Y(L)2Y	200x2x0.8	2011.0	47.0	2900	4237512
A-2Y(L)2Y	250x2x0.8	2514.0	51.0	3550	4237513
A-2Y(L)2Y	300x2x0.8	3016.0	55.0	4200	4237514
A-2Y(L)2Y	350x2x0.8	3519.0	59.0	4900	4237515
A-2Y(L)2Y	400x2x0.8	4022.0	63.0	5500	4237516
A-2Y(L)2Y	500x2x0.8	5027.0	70.0	6800	4237517

A2Y F (L)2Y...ST III Bd

Telephone subscriber line cable

RoHS

CROSS SECTION



Acc. to DIN VDE 0816

SPECIAL FEATURES

Sheath colour
Black, with continuous speaker icon

APPLICATION

Local connection cables for telecommunication systems in operating and industrial facilities for direct installation underground, in cable ducts and tubes. They are not authorised for heavy current installation purposes. The PE material is halogen free but not flame retardant. The black PE sheath is resistant to UV rays. The cable is transversally and longitudinally waterproof.

STRUCTURE

Conductor	Copper conductor, bare, solid, according to DIN VDE 0816 part 1, star quad bundled stranding, core wrapping
Cores	PE insulation according to VDE 0207 part 2, basic colours with black ring coating, 4 cores make a star quad, every 5 star quads are stranded into a basic bundle, every 5 or 10 basic bundles are stranded to form a main bundle
Filling	Petroleum jelly
Shield	Plastic-coated aluminium strip
Outer sheath	PE according to VDE 0207 part 2

TECHNICAL DATA

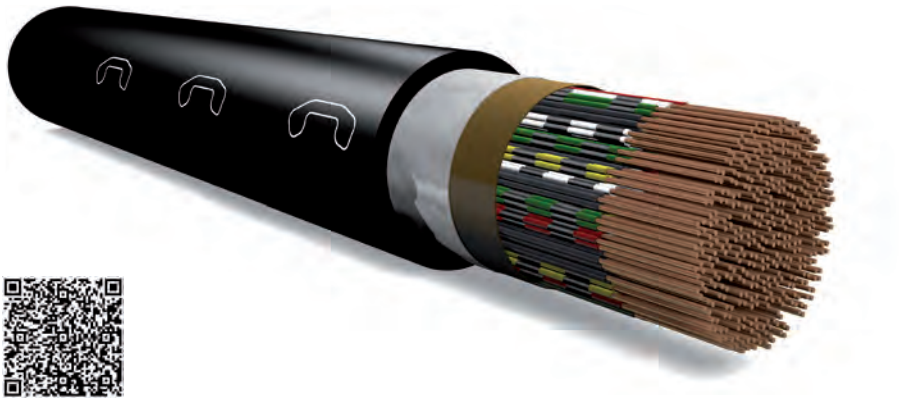
Nominal voltage	225 V
Test voltage	2000 V
Loop resistance	At 0.6 mm: 130 Ohm/km At 0.8 mm: 73.2 Ohm/km
Insulation resistance	5 GOhm x km
Cable attenuation	At 800 Hz.: for 0.6 mm: 1.0 dB/km for 0.8 mm: 0.8 dB/km
Max. operating temperature	+70°C resting -20°C to +50°C moving
Capacitive coupling	At 800 Hz < 800pF/300 m
Min. installation temperature	-20°C
Max. installation temperature	+50°C
Min. bending radius	7.5 x cable diameter, fixed installation 10 x cable diameter under tensile load

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
A-2YF(L)2Y	2x2x0.6	11.0	9.0	80	4232001
A-2YF(L)2Y	4x2x0.6	23.0	12.0	140	4232002
A-2YF(L)2Y	6x2x0.6	34.0	13.0	150	4232003
A-2YF(L)2Y	10x2x0.6	57.0	13.5	190	4232004
A-2YF(L)2Y	20x2x0.6	113.0	16.5	310	4232005
A-2YF(L)2Y	30x2x0.6	170.0	19.5	430	4232006
A-2YF(L)2Y	40x2x0.6	226.0	21.5	545	4232007
A-2YF(L)2Y	50x2x0.6	283.0	23.5	660	4232008
A-2YF(L)2Y	70x2x0.6	396.0	27.0	895	4238009
A-2YF(L)2Y	100x2x0.6	565.0	31.5	1225	4232010
A-2YF(L)2Y	150x2x0.6	848.0	37.5	1780	4238011
A-2YF(L)2Y	200x2x0.6	1131.0	42.5	2315	4238012
A-2YF(L)2Y	250x2x0.6	1414.0	47.5	2895	4238013
A-2YF(L)2Y	300x2x0.6	1696.0	52.0	3480	4238014
A-2YF(L)2Y	350x2x0.6	1979.0	56.0	4000	4238015
A-2YF(L)2Y	400x2x0.6	2262.0	60.0	4550	4238016
A-2YF(L)2Y	500x2x0.6	2827.0	67.0	5690	4238017
A-2YF(L)2Y	2x2x0.8	20.0	10.0	100	4232501
A-2YF(L)2Y	4x2x0.8	40.0	13.5	190	4232502
A-2YF(L)2Y	6x2x0.8	60.0	14.5	195	4232503
A-2YF(L)2Y	10x2x0.8	101.0	15.5	275	4232504
A-2YF(L)2Y	20x2x0.8	201.0	20.0	475	4232505
A-2YF(L)2Y	30x2x0.8	302.0	23.0	665	4232506
A-2YF(L)2Y	40x2x0.8	402.0	26.5	860	4232507
A-2YF(L)2Y	50x2x0.8	503.0	28.5	1050	4232508
A-2YF(L)2Y	70x2x0.8	704.0	33.0	1420	4232509
A-2YF(L)2Y	100x2x0.8	1005.0	38.5	1985	4232510
A-2YF(L)2Y	150x2x0.8	1508.0	47.0	2935	4238511
A-2YF(L)2Y	200x2x0.8	2011.0	52.0	3800	4238512
A-2YF(L)2Y	250x2x0.8	2514.0	58.0	4590	4238513
A-2YF(L)2Y	300x2x0.8	3016.0	62.0	5480	4238514
A-2YF(L)2Y	350x2x0.8	3519.0	66.0	6350	4238515
A-2YF(L)2Y	400x2x0.8	4022.0	72.0	7350	4238516
A-2YF(L)2Y	500x2x0.8	5027.0	79.0	8920	4238517

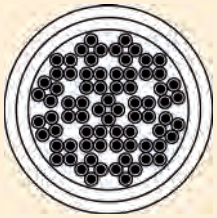
A02YS F (L)2Y...ST III Bd

RoHS

Telephone subscriber line cable



CROSS SECTION



Acc. to DIN VDE 0816

SPECIAL FEATURES

Sheath colour
Black, with continuous speaker icon

APPLICATION

Local connection cables for telecommunication systems in operating and industrial facilities for direct installation underground, in cable ducts and tubes. They are not authorised for heavy current installation purposes. The PE material is halogen free but not flame retardant. The black PE sheath is resistant to UV rays and weather conditions. This cable offers a particularly notable weight advantage in the case of high numbers of pairs.

STRUCTURE

Conductor	Copper conductor, bare, solid; star quad bundle stranding; core wrapping
Cores	Foam skin PE insulation Labelling using basic colours with black ringed coating
Filling	Petroleum jelly
Shield	Layered sheath
Outer sheath	PE layered sheath

TECHNICAL DATA

Nominal voltage	225 V
Test voltage	2000 V
Loop resistance	At 0.6 mm: 130.4 Ohm/km At 0.8 mm: 73.2 Ohm/km
Insulation resistance	Min. 1.5 GOhm x km
Damping	At 800 Hz.: for 0.6 mm: 1.0 dB/km for 0.8 mm: 0.8 dB/km
Operating capacity (at 800 Hz)	0.6 mm: max. 42 nF/km 0.8 mm: max. 42 nF/km
Min. bending radius	10 x cable diameter
Temperature range	-40°C to +70°C (fixed installation) -20°C to +50°C (moving)
Coupling	K1: 800 pF/300m K9-12: 300 pF/300m
Ozone resistance	HD 505.2.1 and 811
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 parts 1+2

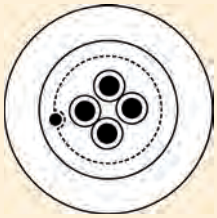
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
A-02YSF(L)2Y ST III Bd	2x2x0.6	11.0	9.0	69	4239000
A-02YSF(L)2Y ST III Bd	4x2x0.6	23.0	10.5	101	4239001
A-02YSF(L)2Y ST III Bd	6x2x0.6	34.0	12.0	135	4239002
A-02YSF(L)2Y ST III Bd	10x2x0.6	57.0	13.0	175	4239003
A-02YSF(L)2Y ST III Bd	20x2x0.6	113.0	15.0	270	4239004
A-02YSF(L)2Y ST III Bd	30x2x0.6	170.0	17.5	370	4239005
A-02YSF(L)2Y ST III Bd	40x2x0.6	226.0	20.0	470	4239006
A-02YSF(L)2Y ST III Bd	50x2x0.6	283.0	21.5	570	4239007
A-02YSF(L)2Y ST III Bd	70x2x0.6	396.0	25.0	770	4239008
A-02YSF(L)2Y ST III Bd	100x2x0.6	565.0	30.0	1060	4239009
A-02YSF(L)2Y ST III Bd	150x2x0.6	848.0	35.5	1550	4239010
A-02YSF(L)2Y ST III Bd	200x2x0.6	1131.0	36.0	1715	4239011
A-02YSF(L)2Y ST III Bd	300x2x0.6	1696.0	42.0	2490	4239012
A-02YSF(L)2Y ST III Bd	500x2x0.6	2827.0	53.0	4054	4239013
A-02YSF(L)2Y ST III Bd	2x2x0.8	20.0	8.5	74	4239021
A-02YSF(L)2Y ST III Bd	4x2x0.8	40.0	10.5	120	4239022
A-02YSF(L)2Y ST III Bd	6x2x0.8	60.0	13.0	180	4239023
A-02YSF(L)2Y ST III Bd	10x2x0.8	101.0	15.0	260	4239024
A-02YSF(L)2Y ST III Bd	20x2x0.8	201.0	19.0	430	4239025
A-02YSF(L)2Y ST III Bd	30x2x0.8	302.0	22.0	580	4239026
A-02YSF(L)2Y ST III Bd	40x2x0.8	402.0	24.0	740	4239027
A-02YSF(L)2Y ST III Bd	50x2x0.8	503.0	27.0	905	4239028
A-02YSF(L)2Y ST III Bd	70x2x0.8	704.0	31.0	1230	4239029
A-02YSF(L)2Y ST III Bd	100x2x0.8	1005.0	31.5	1690	4239030
A-02YSF(L)2Y ST III Bd	150x2x0.8	1508.0	36.5	2165	4239031
A-02YSF(L)2Y ST III Bd	200x2x0.8	2011.0	42.5	2825	4239032
A-02YSF(L)2Y ST III Bd	300x2x0.8	3016.0	52.5	4220	4239033

EIB BUS CABLE Y(St)Y

With static shield

RoHS

CROSS SECTION



Acc. to DIN VDE 0815

SPECIAL FEATURES

Sheath colour
Green

APPLICATION

The higher test voltage and labelling make this cable ideal for the transmission of BUS signals in the field of buildings system technology. This particularly applies for the European installation bus (EIB). The EIB BUS cable has been EIBA-certified to no. 1/39/92 and fulfils the requirements for bus cables established in DIN VDE 0829 and pr EN 5009-2. EIB BUS cables YCYM can be laid on, within and under plastered surfaces, in tubes and installation ducts, in dry, damp and wet rooms and outdoors – providing they are protected against direct sunlight. They can be laid alongside and touch heavy current cables. Only one core pair (red/white) is needed for the installation bus EIB, via which both the 24 V bus current and data telegrams can be transmitted. The second core pair is used as a reserve or for special purposes.

STRUCTURE

Conductor	Sheath colour: copper, blank, single core Stranding element: star quad, pairs stranded in layers Joint core covering: plastic film Tensile stress: according to the provisions of DIN VDE 0298 part 3
Cores	Insulation made from PVC compound YI1/halogen-free polymer compound Labelling of the a-core: of the 1st pair, red; of the 2nd pair, white Labelling of the b-core: of the 1st pair, black; of the 2nd pair, yellow
Drain wire	Copper, blank, single core
Shield	Plastic-laminated aluminium foil
Outer sheath	PVC compound YM1

TECHNICAL DATA

Nominal voltage	250 V
Test voltage	1000 V
Conductor resistance	73.2 Ohm/km
Insulation resistance	Min. 100 MOhm x km
Operating capacity	At 800 Hz max. 100 nF/km
Operating temperature	-40°C to +70°C
Capacitive coupling	At 800 Hz 300pF/100 m
Min. installation temperature	+5°C
Max. installation temperature	+70°C

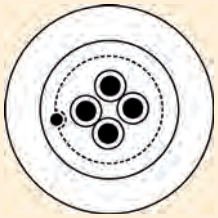
Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
EIB bus cable 2x2x0.8 Y(St)Y 250/250V 4kV Green	23.0	7.0	54	5142001

EIB-BUS cable J-H(St)H FRNC

With static shield

RoHS

CROSS SECTION



Acc. to DIN VDE 0815

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Green

APPLICATION

The higher test voltage and labelling make this cable ideal for the transmission of BUS signals in the field of buildings system technology. This particularly applies for the European installation bus (EIB). The EIB BUS cable has been EIBA-certified to no. 1/39/92 and fulfils the requirements for bus cables established in DIN VDE 0829 and pr EN 5009-2. EIB BUS cables YCYM can be laid on, within and under plastered surfaces, in tubes and installation ducts, in dry, damp and wet rooms and outdoors – providing they are protected against direct sunlight. They can be laid alongside and touch heavy current cables. Only one core pair (red/white) is needed for the installation bus EIB, via which both the 24 V bus current and data telegrams can be transmitted. The second core pair is used as a reserve or for special purposes.

STRUCTURE

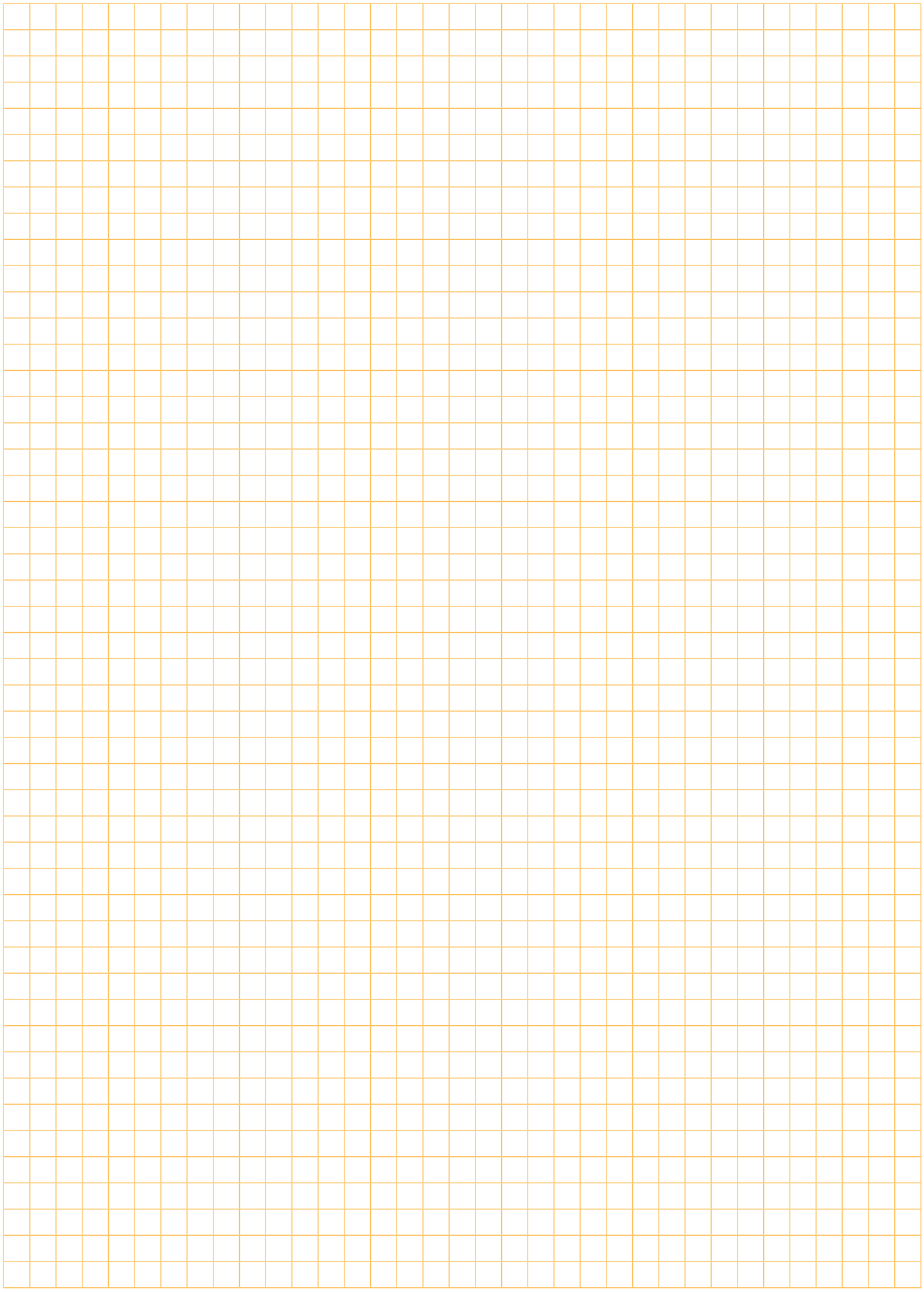
Conductor	Sheath colour: copper, blank, single core Stranding element: star quad, pairs stranded in layers Joint core covering: plastic film Tensile stress: according to the provisions of DIN VDE 0298 part 3
Core insulation	Insulation made from a halogen-free compound Labelling of the a-core: of the 1st pair, red; of the 2nd pair, white Labelling of the b-core: of the 1st pair, black; of the 2nd pair, yellow
Drain wire	Copper, blank, single core
Shield	Plastic-laminated aluminium foil
Outer sheath	Halogen-free compound

TECHNICAL DATA

Nominal voltage	250 V
Test voltage	1000 V
Conductor resistance	73.2 Ohm/km
Insulation resistance	Min. 100 MOhm x km
Operating capacity	At 800 Hz max. 100 nF/km
Operating temperature	-40°C to +70°C
Capacitive coupling	At 800 Hz 300pF/100 m
Min. installation temperature	+5°C
Max. installation temperature	+70°C

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
EIB bus cable Halogen free 2x2x0.8 J-H(St)H	23.0	7.0	54	2141001

NOTES



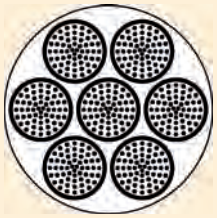
CONTROL CABLES

YSLY -OZ/-JZ/-OB/-JB

RoHS

PVC control cable

CROSS SECTION



APPLICATION

Used as a measuring and control cable on machinery, conveyor belts, in air conditioning technology, systems engineering and dry and damp rooms under low mechanical loads. Only for outdoor use in the case of shielded installation. Not suitable for use in water.
The cable is largely resistant against the effects of acids, lyes and oils.

SPECIAL FEATURES

Sheath colour
Grey

STRUCTURE

Design structure based on DIN VDE 0245, 0250 and 0281

Conductor	Copper conductor, bare, flexible, conductor structure according to VDE 0295 class 5 and IEC 228 class 5
Cores	OZ - black cores with imprinted digits, no green and yellow protective conductor JZ - black cores with imprinted digits, green and yellow protective conductor OB - coloured cores without green and yellow protective conductor JB - coloured cores with green and yellow protective conductor
Stranding method	Cores stranded in layers, with optimum lay lengths
Protective conductor	Green and yellow in the outer layer
Outer sheath	Sheath material made from special PVC compound

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	3000 V
Conductor resistance	At 20°C according to VDE 0295 class 5 and IEC 228 class 5 for flexible conductors
Conductor temperature	Max. +70°C during operation, + 150°C in the case of a short circuit
Insulation resistance	Min. 20 MOhm x km
Breakdown voltage	Min. 6000 V
Min. bending radius	Up to 12 mm Ø: 10 x cable diameter > 12 mm Ø: 15 x cable diameter
Temperature range	Moving -5°C to +70°C
Temperature range	Fixed installation -30°C to +80°C

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 60332-1
PVC properties	Self extinguishing and flame retardant

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-OZ	2x0.5	9.6	4.8	35	8111080
YSLY-JZ	3x0.5	14.4	5.1	41	8111081
YSLY-JZ	4x0.5	19.2	5.7	49	8111082
YSLY-JZ	5x0.5	24.0	6.2	60	8111083
YSLY-JZ	7x0.5	33.6	6.7	77	8111084
YSLY-JZ	10x0.5	48.0	8.6	114	8111085
YSLY-JZ	12x0.5	58.0	8.9	128	8111086
YSLY-JZ	18x0.5	86.0	10.5	185	8111087
YSLY-JZ	25x0.5	120.0	12.6	256	8111088
YSLY-JZ	50x0.5	240.0	17.2	510	8111089
YSLY-JZ	61x0.5	293.0	18.5	595	8111090
YSLY-OZ	2x0.75	14.4	6.4	50	8111101
YSLY-JZ	3x0.75	21.6	6.7	60	8111102
YSLY-JZ	4x0.75	28.8	7.2	73	8111103
YSLY-JZ	5x0.75	36.0	8.0	88	8111104
YSLY-JZ	7x0.75	50.0	7.6	109	8111105
YSLY-JZ	10x0.75	72.0	10.6	153	8111106
YSLY-JZ	12x0.75	86.0	10.6	176	8111107
YSLY-JZ	18x0.75	129.6	12.2	268	8111109
YSLY-JZ	25x0.75	180.0	16.0	374	8111110
YSLY-JZ	50x0.75	360.0	21.7	688	8111116
YSLY-OZ	2x1	19.2	6.8	57	8111120
YSLY-JZ	3x1	28.8	7.2	73	8111122
YSLY-JZ	4x1	38.4	7.8	85	8111123
YSLY-JZ	5x1	48.0	8.6	105	8111124
YSLY-JZ	7x1	67.0	8.2	131	8111125
YSLY-JZ	10x1	96.0	11.4	183	8111126
YSLY-JZ	12x1	115.0	11.4	220	8111127
YSLY-JZ	14x1	134.4	12.1	261	8111128
YSLY-JZ	18x1	172.8	13.4	315	8111129
YSLY-JZ	25x1	240.0	15.4	449	8111131
YSLY-JZ	34x1	326.0	18.9	594	8111132
YSLY-JZ	50x1	480.0	22.5	808	8111133
YSLY-OZ	2x1.5	28.8	7.7	77	8111140
YSLY-JZ	3x1.5	43.0	8.1	95	8111141
YSLY-JZ	4x1.5	58.0	9.1	117	8111142
YSLY-JZ	5x1.5	72.0	10.2	144	8111143
YSLY-JZ	7x1.5	101.0	9.7	183	8111144
YSLY-JZ	10x1.5	144.0	12.4	265	8111145
YSLY-JZ	12x1.5	173.0	13.4	307	8111146
YSLY-JZ	14x1.5	201.6	14.1	349	8111147
YSLY-JZ	18x1.5	259.2	16.2	461	8111148
YSLY-JZ	25x1.5	360.0	19.8	655	8111149
YSLY-JZ	34x1.5	489.6	21.4	850	8111150
YSLY-JZ	50x1.5	720.0	25.4	1107	8111151
YSLY-OZ	2x2.5	48.0	9.2	123	8111160
YSLY-JZ	3x2.5	72.0	9.8	152	8111161
YSLY-JZ	4x2.5	96.0	11.0	192	8111162
YSLY-JZ	5x2.5	120.0	12.2	243	8111163
YSLY-JZ	7x2.5	168.0	13.1	310	8111164
YSLY-JZ	12x2.5	288.0	15.7	488	8111165
YSLY-JZ	14x2.5	336.0	16.5	558	8111166
YSLY-JZ	25x2.5	600.0	22.9	989	8111167
YSLY-JZ	4x4	153.6	12.8	299	8111175
YSLY-JZ	5x4	192.0	14.1	363	8111176
YSLY-JZ	7x4	268.8	16.0	488	8111177
YSLY-JZ	4x6	230.4	14.7	480	8111180
YSLY-JZ	5x6	288.0	16.2	583	8111181
YSLY-JZ	7x6	403.2	18.2	782	8111182
YSLY-JZ	4x10	384.0	18.4	737	8111210
YSLY-JZ	5x10	480.0	20.4	914	8111211
YSLY-JZ	7x10	672.0	25.2	1165	8111212
YSLY-JZ	4x16	614.4	21.8	1087	8111225
YSLY-JZ	5x16	768.0	24.8	1370	8111226
YSLY-JZ	7x16	1075.0	28.2	1612	8111227

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-JZ	4x25	960.0	28.9	1713	8111235
YSLY-JZ	5x25	1200.0	31.8	2291	8111236
YSLY-JZ	4x35	1344.0	31.8	2393	8111245
YSLY-JZ	5x35	1680.0	35.0	2684	8111246
YSLY-OB	2x0.5	9.6	4.8	35	82110502
YSLY-JB	3x0.5	14.4	5.1	41	82110503
YSLY-JB	4x0.5	19.2	5.7	49	82110504
YSLY-JB	5x0.5	24.0	6.2	60	82110505
YSLY-JB	7x0.5	33.6	6.7	77	82110507
YSLY-JB	10x0.5	48.0	8.6	114	82110510
YSLY-JB	12x0.5	58.0	8.9	128	82110512
YSLY-JB	18x0.5	86.0	10.5	185	82110518
YSLY-JB	25x0.5	120.0	12.6	256	82110525
YSLY-JB	50x0.5	240.0	17.2	510	82110550
YSLY-JB	61x0.5	293.0	18.5	595	82110561
YSLY-OB	2x0.75	14.4	6.4	50	82117502
YSLY-JB	3x0.75	21.6	6.7	60	82117503
YSLY-JB	4x0.75	28.8	7.2	73	82117504
YSLY-JB	5x0.75	36.0	8.0	88	82117505
YSLY-JB	7x0.75	50.0	7.6	109	82117507
YSLY-JB	10x0.75	72.0	10.6	153	82117510
YSLY-JB	12x0.75	86.0	10.6	176	82117512
YSLY-JB	18x0.75	129.6	12.2	268	82117518
YSLY-JB	25x0.75	180.0	16.0	374	82117525
YSLY-JB	50x0.75	360.0	21.7	688	82117550
YSLY-OB	2x1	19.2	6.8	57	82111002
YSLY-JB	3x1	28.8	7.2	73	82111003
YSLY-JB	4x1	38.4	7.8	85	82111004
YSLY-JB	5x1	48.0	8.6	105	82111005
YSLY-JB	7x1	67.0	8.2	131	82111007
YSLY-JB	10x1	96.0	11.4	183	82111010
YSLY-JB	12x1	115.0	11.4	220	82111012
YSLY-JB	14x1	134.4	12.1	261	82111014
YSLY-JB	18x1	172.8	13.4	315	82111018
YSLY-JB	25x1	240.0	15.4	449	82111025
YSLY-JB	34x1	326.0	18.9	594	82111034
YSLY-JB	50x1	480.0	22.5	808	82111050
YSLY-OB	2x1.5	28.8	7.7	77	82111502
YSLY-JB	3x1.5	43.0	8.1	95	82111503
YSLY-JB	4x1.5	58.0	9.1	117	82111504
YSLY-JB	5x1.5	72.0	10.2	144	82111505
YSLY-JB	7x1.5	101.0	9.7	183	82111507
YSLY-JB	10x1.5	144.0	12.4	265	82111510
YSLY-JB	12x1.5	173.0	13.4	307	82111512
YSLY-JB	14x1.5	201.6	14.1	349	82111514
YSLY-JB	18x1.5	259.2	16.2	461	82111518
YSLY-JB	25x1.5	360.0	19.8	655	82111525
YSLY-JB	34x1.5	489.6	21.4	850	82111534
YSLY-JB	50x1.5	720.0	25.4	1107	82111550
YSLY-OB	2x2.5	48.0	9.2	123	82112502
YSLY-JB	3x2.5	72.0	9.8	152	82112503
YSLY-JB	4x2.5	96.0	11.0	192	82112504
YSLY-JB	5x2.5	120.0	12.2	243	82112505
YSLY-JB	7x2.5	168.0	13.1	310	82112507
YSLY-JB	12x2.5	288.0	15.7	488	82112512
YSLY-JB	14x2.5	336.0	16.5	558	82112514
YSLY-JB	25x2.5	600.0	22.9	989	82112525
YSLY-JB	4x4	153.6	12.8	299	82114004
YSLY-JB	5x4	192.0	14.1	363	82114005
YSLY-JB	7x4	268.8	16.0	488	82114007

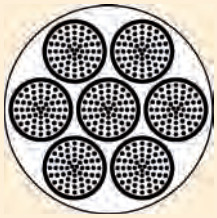
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-JB	4x6	230.4	14.7	480	82116004
YSLY-JB	5x6	288.0	16.2	583	82116005
YSLY-JB	7x6	403.2	18.2	782	82116007
YSLY-JB	4x10	384.0	18.4	737	82121004
YSLY-JB	5x10	480.0	20.4	914	82121005
YSLY-JB	7x10	672.0	25.2	1165	82121007
YSLY-JB	4x16	614.4	21.8	1087	82121604
YSLY-JB	5x16	768.0	24.8	1370	82121605
YSLY-JB	7x16	1075.0	28.2	1612	82121607
YSLY-JB	4x25	960.0	28.9	1713	82122504
YSLY-JB	5x25	1200.0	31.8	2291	82122505
YSLY-JB	4x35	1344.0	31.8	2393	82123504
YSLY-JB	5x35	1680.0	35.0	2684	82123505

YSLY -OZ/-JZ 600

PVC control cable

RoHS

CROSS SECTION



APPLICATION

Universally usable measuring and control cable for the mechanical and system engineering sectors in interior and exterior areas. The cable is largely oil resistant. Not suitable for constant movement.
For use in dry, damp and wet rooms, as well as outdoors (fixed installation). The black PVC outer sheath is UV resistant.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Conductor	Copper conductor, bare, class 5 (flexible)
Cores	PVC insulation, colour: green and yellow + digits or digits
Outer sheath	Sheath material made from special PVC compound

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Max. permissible conductor temperature	70°C
Permissible cable sheath temperature	-20 to +70°C
Permissible cable sheath temperature	-5 to +70°C (fixed installation)
Bending radius	4 x cable diameter (fixed installation)
Flame retardancy	VDE 0482-332-1-2/IEC 60332-1
Oil resistance	EN 60811-2-1

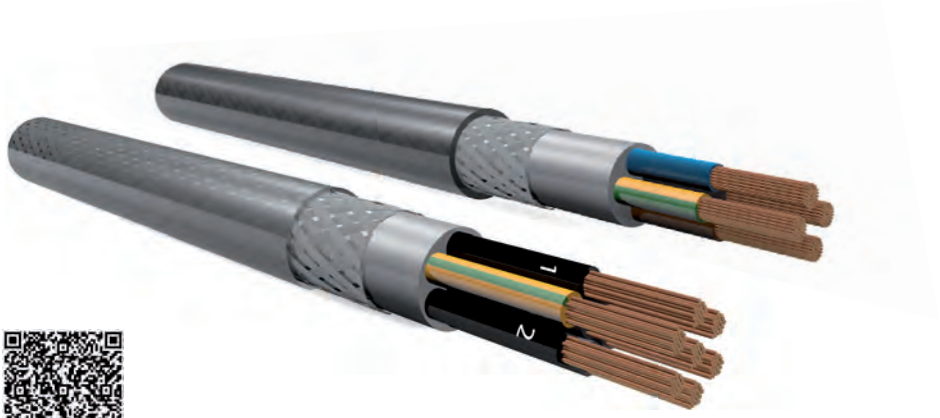
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-OZ 600	2x0.5	9.6	7.0	66	
YSLY-OZ 600	2x0.75	14.4	8.3	81	
YSLY-OZ 600	3x0.75	22.0	8.7	91	
YSLY-OZ 600	2x1	19.2	8.6	84	
YSLY-OZ 600	3x1	29.0	9.0	98	
YSLY-OZ 600	2x1.5	29.0	9.6	103	
YSLY-OZ 600	3x1.5	43.2	10.1	122	
YSLY-OZ 600	2x2.5	48.0	10.8	152	
YSLY-OZ 600	3x2.5	72.0	10.1	175	
YSLY-OZ 600	4x2.5	96.0	12.2	182	
YSLY-OZ 600	2x4	77.0	11.4	178	

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-JZ 600 3x0.75	22.0	8.7	91	
YSLY-JZ 600 4x0.75	29.0	9.2	120	
YSLY-JZ 600 5x0.75	36.0	9.9	134	
YSLY-JZ 600 7x0.75	50.4	11.1	177	
YSLY-JZ 600 12x0.75	86.4	13.4	248	
YSLY-JZ 600 18x0.75	130.0	15.6	350	
YSLY-JZ 600 25x0.75	180.0	18.9	478	
YSLY-JZ 600 3x1	29.0	9.0	98	
YSLY-JZ 600 4x1	38.4	9.6	110	
YSLY-JZ 600 5x1	48.0	10.4	136	
YSLY-JZ 600 7x1	37.2	12.1	179	
YSLY-JZ 600 12x1	115.2	14.5	287	
YSLY-JZ 600 18x1	173.0	17.3	408	
YSLY-JZ 600 25x1	240.0	21.1	567	
YSLY-JZ 600 3x1.5	43.2	10.1	122	
YSLY-JZ 600 4x1.5	58.0	10.8	150	
YSLY-JZ 600 5x1.5	72.0	11.7	176	
YSLY-JZ 600 7x1.5	101.0	13.5	192	
YSLY-JZ 600 12x1.5	173.0	16.6	363	
YSLY-JZ 600 18x1.5	259.2	19.7	520	
YSLY-JZ 600 25x1.5	360.0	23.9	740	
YSLY-JZ 600 3x2.5	72.0	11.3	176	
YSLY-JZ 600 4x2.5	96.0	12.2	209	
YSLY-JZ 600 5x2.5	120.0	13.3	252	
YSLY-JZ 600 7x2.5	168.0	15.2	335	
YSLY-JZ 600 12x2.5	288.0	18.7	544	
YSLY-JZ 600 18x2.5	432.0	22.0	788	
YSLY-JZ 600 25x2.5	600.0	26.9	1101	
YSLY-JZ 600 4x4	154.0	14.0	311	
YSLY-JZ 600 5x4	192.0	15.3	398	
YSLY-JZ 600 7x4	269.0	16.8	524	
YSLY-JZ 600 4x6	230.4	15.7	429	
YSLY-JZ 600 5x6	288.0	17.9	602	
YSLY-JZ 600 7x6	403.2	19.7	802	
YSLY-JZ 600 4x10	384.0	19.5	759	
YSLY-JZ 600 5x10	480.0	23.0	927	
YSLY-JZ 600 7x10	672.0	25.0	1293	
YSLY-JZ 600 4x16	614.4	21.9	1093	
YSLY-JZ 600 5x16	768.0	27.0	1583	
YSLY-JZ 600 7x16	1075.0	30.8	1873	
YSLY-JZ 600 4x25	960.0	30.0	1593	
YSLY-JZ 600 5x25	1200.0	33.8	2040	
YSLY-JZ 600 7x25	1680.0	49.7	2850	
YSLY-JZ 600 4x35	1344.0	33.0	2390	
YSLY-JZ 600 5x35	1680.0	36.9	2887	
YSLY-JZ 600 4x50	1920.0	40.0	3400	
YSLY-JZ 600 5x50	2400.0	42.0	4361	
YSLY-JZ 600 4x70	2736.0	46.0	4750	
YSLY-JZ 600 5x70	3360.0	47.0	5807	
YSLY-JZ 600 4x95	3648.0	41.2	6007	
YSLY-JZ 600 4x120	4608.0	65.0	7483	
YSLY-JZ 600 4x150	5760.0	67.0	8640	
YSLY-JZ 600 4x185	7104.0	68.0	10380	

YSLY-CY -OZ/-JZ/-OB/-JB

RoHS

PVC screened control cable



CROSS SECTION

APPLICATION

For measurement and control purposes requiring a high level of electromagnetic compatibility (EMC). The cable is largely oil and chemical resistant. For use in dry and damp rooms but not outdoors.

SPECIAL FEATURES

Core insulation
Core insulation made from special PVC compound

Sheath colour
Grey (RAL 7001)
Transparent

STRUCTURE

Design structure based on DIN VDE 0250

Conductor	Copper conductor, bare, flexible, conductor structure according to VDE 0295 class 5
Core identification	OZ - black cores with imprinted digits, no green and yellow protective conductor JZ - black cores with imprinted digits, green and yellow protective conductor OB - coloured cores without green and yellow protective conductor JB - coloured cores with green and yellow protective conductor
Stranding method	Cores concentrically stranded in layers, with optimum lay lengths
Inner sheath	Sheath material made from special PVC compound
Shield	Mesh of tin-plated copper wires, optical coverage approx. 85%
Outer sheath	Sheath material made from special PVC compound

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Conductor resistance	At 20°C according to VDE 0295 class 5 and IEC 228 class 5 for flexible conductors
Conductor temperature	Max. +70°C during operation, + 150°C in the case of a short circuit
Insulation resistance	Min. 20 MOhm x km
Min. bending radius	Up to 20 mm Ø: 15 x cable diameter > 20 mm Ø: 20 x cable diameter
Temperature range	Moving -5°C to +70°C
Temperature range	Fixed installation -40°C to +80°C
Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
PVC properties	Self extinguishing and flame retardant

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-CY-OZ	2x0.75	Screened - grey	46.0	7.5	92	8310001
YSLY-CY-JZ	3x0.75	Screened - grey	58.0	7.9	102	8310002
YSLY-CY-JZ	4x0.75	Screened - grey	64.0	8.5	118	8310003
YSLY-CY-JZ	5x0.75	Screened - grey	78.0	9.0	133	8310004
YSLY-CY-JZ	7x0.75	Screened - grey	102.0	10.5	190	8310005
YSLY-CY-JZ	12x0.75	Screened - grey	177.0	13.0	304	8310007
YSLY-CY-JZ	18x0.75	Screened - grey	243.0	14.7	374	8310009
YSLY-CY-JZ	25x0.75	Screened - grey	307.0	17.7	504	8310010
YSLY-CY-JZ	34x0.75	Screened - grey	413.0	18.5	822	8310011
YSLY-CY-JZ	42x0.75	Screened - grey	445.0	20.0	1002	8310012
YSLY-CY-JZ	50x0.75	Screened - grey	535.0	24.6	1080	8310013
YSLY-CY-JZ	61x0.75	Screened - grey	620.0	26.3	1190	8310014
YSLY-CY-OZ	2x1	Screened - grey	56.0	8.2	110	8310020
YSLY-CY-JZ	3x1	Screened - grey	83.0	8.5	123	8310022
YSLY-CY-JZ	4x1	Screened - grey	78.0	9.5	148	8310023
YSLY-CY-JZ	5x1	Screened - grey	89.0	10.2	172	8310024
YSLY-CY-JZ	7x1	Screened - grey	113.0	11.6	221	8310025
YSLY-CY-JZ	12x1	Screened - grey	165.0	14.5	367	8310027
YSLY-CY-JZ	18x1	Screened - grey	286.0	17.4	506	8310029
YSLY-CY-JZ	25x1	Screened - grey	389.0	18.1	672	8310031
YSLY-CY-JZ	34x1	Screened - grey	505.0	20.2	890	8310032
YSLY-CY-JZ	42x1	Screened - grey	550.7	21.5	1110	8310033
YSLY-CY-JZ	50x1	Screened - grey	662.0	28.0	1300	8310034
YSLY-CY-JZ	61x1	Screened - grey	775.0	29.2	1362	8310035
YSLY-CY-OZ	2x1.5	Screened - grey	65.0	8.6	140	8310040
YSLY-CY-JZ	3x1.5	Screened - grey	83.0	9.6	162	8310041
YSLY-CY-JZ	4x1.5	Screened - grey	100.0	9.9	178	8310042
YSLY-CY-JZ	5x1.5	Screened - grey	125.0	10.6	211	8310043
YSLY-CY-JZ	7x1.5	Screened - grey	196.0	13.3	310	8310044
YSLY-CY-JZ	12x1.5	Screened - grey	280.0	16.0	454	8310046
YSLY-CY-JZ	18x1.5	Screened - grey	389.0	19.6	628	8310048
YSLY-CY-JZ	25x1.5	Screened - grey	535.0	22.6	794	8310049
YSLY-CY-JZ	34x1.5	Screened - grey	666.6	25.9	1142	8310050
YSLY-CY-JZ	42x1.5	Screened - grey	788.8	28.9	1332	8310052
YSLY-CY-JZ	50x1.5	Screened - grey	915.0	30.0	1662	8310053
YSLY-CY-JZ	61x1.5	Screened - grey	1196.9	33.0	1785	8310054
YSLY-CY-JZ	3x2.5	Screened - grey	146.0	11.5	214	8310061
YSLY-CY-JZ	4x2.5	Screened - grey	167.0	12.3	270	8310062
YSLY-CY-JZ	5x2.5	Screened - grey	200.0	14.2	342	8310063
YSLY-CY-JZ	7x2.5	Screened - grey	288.0	14.9	426	8310064
YSLY-CY-JZ	12x2.5	Screened - grey	473.0	19.5	710	8310065
YSLY-CY-JZ	18x2.5	Screened - grey	573.0	23.2	990	8310066
YSLY-CY-JZ	4x4	Screened - grey	237.0	15.8	415	8310075
YSLY-CY-JZ	5x4	Screened - grey	280.0	17.0	480	8310077
YSLY-CY-JZ	4x6	Screened - grey	318.0	18.0	568	8310080
YSLY-CY-JZ	5x6	Screened - grey	441.0	20.3	686	8310081
YSLY-CY-JZ	4x10	Screened - grey	558.0	22.2	942	8310087
YSLY-CY-JZ	5x10	Screened - grey	714.0	25.3	1110	8310088
YSLY-CY-JZ	4x16	Screened - grey	804.0	25.5	1230	8310093
YSLY-CY-JZ	5x16	Screened - grey	1050.0	28.6	1485	8310094
YSLY-CY-OZ	2x0.75	Screened - transparent	46.0	7.5	92	8320001
YSLY-CY-JZ	3x0.75	Screened - transparent	58.0	7.9	102	8320002
YSLY-CY-JZ	4x0.75	Screened - transparent	64.0	8.5	118	8320003
YSLY-CY-JZ	5x0.75	Screened - transparent	78.0	9.0	133	8320004
YSLY-CY-JZ	7x0.75	Screened - transparent	102.0	10.5	190	8320005
YSLY-CY-JZ	12x0.75	Screened - transparent	177.0	13.0	304	8320007
YSLY-CY-JZ	18x0.75	Screened - transparent	243.0	14.7	374	8320009
YSLY-CY-JZ	25x0.75	Screened - transparent	307.0	17.7	504	8320010
YSLY-CY-JZ	34x0.75	Screened - transparent	413.0	18.5	822	8320011
YSLY-CY-OZ	2x1	Screened - transparent	56.0	8.2	110	8320020
YSLY-CY-JZ	3x1	Screened - transparent	83.0	8.5	123	8320022
YSLY-CY-JZ	4x1	Screened - transparent	78.0	9.5	148	8320023
YSLY-CY-JZ	5x1	Screened - transparent	89.0	10.2	172	8320024

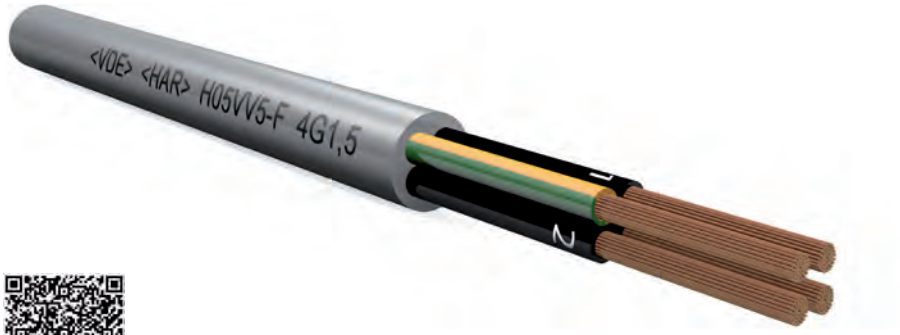
Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-CY-JZ	7x1	Screened - transparent	113.0	11.6	221	8320025
YSLY-CY-JZ	12x1	Screened - transparent	165.0	14.5	367	8320027
YSLY-CY-JZ	18x1	Screened - transparent	286.0	17.4	506	8320029
YSLY-CY-JZ	25x1	Screened - transparent	389.0	18.1	672	8320031
YSLY-CY-OZ	2x1.5	Screened - transparent	65.0	8.6	140	8320040
YSLY-CY-JZ	3x1.5	Screened - transparent	83.0	9.6	162	8320041
YSLY-CY-JZ	4x1.5	Screened - transparent	100.0	9.9	178	8320042
YSLY-CY-JZ	5x1.5	Screened - transparent	125.0	10.6	211	8320043
YSLY-CY-JZ	7x1.5	Screened - transparent	196.0	13.3	310	8320044
YSLY-CY-JZ	12x1.5	Screened - transparent	280.0	16.0	454	8320046
YSLY-CY-JZ	18x1.5	Screened - transparent	389.0	19.6	628	8320048
YSLY-CY-JZ	25x1.5	Screened - transparent	535.0	22.6	794	8320049
YSLY-CY-JZ	3x2.5	Screened - transparent	146.0	11.5	214	8320061
YSLY-CY-JZ	4x2.5	Screened - transparent	167.0	12.3	270	8320062
YSLY-CY-JZ	5x2.5	Screened - transparent	200.0	14.2	342	8320063
YSLY-CY-JZ	7x2.5	Screened - transparent	288.0	14.9	426	8320064
YSLY-CY-JZ	12x2.5	Screened - transparent	473.0	19.5	710	8320065
YSLY-CY-JZ	18x2.5	Screened - transparent	573.0	23.2	990	8320066
YSLY-CY-JZ	4x4	Screened - transparent	237.0	15.8	415	8320075
YSLY-CY-JZ	5x4	Screened - transparent	280.0	17.0	480	8320077
YSLY-CY-JZ	4x6	Screened - transparent	318.0	18.0	568	8320080
YSLY-CY-JZ	5x6	Screened - transparent	441.0	20.3	686	8320081
YSLY-CY-JZ	4x10	Screened - transparent	558.0	22.2	942	8320087
YSLY-CY-JZ	5x10	Screened - transparent	714.0	25.3	1110	8320088
YSLY-CY-JZ	4x16	Screened - transparent	804.0	25.5	1230	8320093
YSLY-CY-JZ	5x16	Screened - transparent	1050.0	28.6	1485	8320094
YSLY-CY-OB	2x0.75	Screened - grey	46.0	7.5	92	8312001
YSLY-CY-JB	3x0.75	Screened - grey	58.0	7.9	102	8312002
YSLY-CY-JB	4x0.75	Screened - grey	64.0	8.5	118	8312003
YSLY-CY-JB	5x0.75	Screened - grey	78.0	9.0	133	8312004
YSLY-CY-JB	7x0.75	Screened - grey	102.0	10.5	190	8312005
YSLY-CY-JB	12x0.75	Screened - grey	177.0	13.0	304	8312007
YSLY-CY-JB	18x0.75	Screened - grey	243.0	14.7	374	8312009
YSLY-CY-JB	25x0.75	Screened - grey	307.0	17.7	504	8312010
YSLY-CY-JB	34x0.75	Screened - grey	413.0	18.5	822	8312011
YSLY-CY-JB	42x0.75	Screened - grey	445.0	20.0	1002	8312012
YSLY-CY-JB	50x0.75	Screened - grey	535.0	24.6	1080	8312013
YSLY-CY-JB	61x0.75	Screened - grey	620.0	26.3	1190	8312014
YSLY-CY-OB	2x1	Screened - grey	56.0	8.2	110	8312020
YSLY-CY-JB	3x1	Screened - grey	83.0	8.5	123	8312022
YSLY-CY-JB	4x1	Screened - grey	78.0	9.5	148	8312023
YSLY-CY-JB	5x1	Screened - grey	89.0	10.2	172	8312024
YSLY-CY-JB	7x1	Screened - grey	113.0	11.6	221	8312025
YSLY-CY-JB	12x1	Screened - grey	165.0	14.5	367	8312027
YSLY-CY-JB	18x1	Screened - grey	286.0	17.4	506	8312029
YSLY-CY-JB	25x1	Screened - grey	389.0	18.1	672	8312031
YSLY-CY-JB	34x1	Screened - grey	505.0	20.2	890	8312032
YSLY-CY-JB	42x1	Screened - grey	550.7	21.5	1110	8312033
YSLY-CY-JB	50x1	Screened - grey	662.0	28.0	1300	8312034
YSLY-CY-JB	61x1	Screened - grey	775.0	29.2	1362	8312035
YSLY-CY-OB	2x1.5	Screened - grey	65.0	8.6	140	8312040
YSLY-CY-JB	3x1.5	Screened - grey	83.0	9.6	162	8312041
YSLY-CY-JB	4x1.5	Screened - grey	100.0	9.9	178	8312042
YSLY-CY-JB	5x1.5	Screened - grey	125.0	10.6	211	8312043
YSLY-CY-JB	7x1.5	Screened - grey	196.0	13.3	310	8312044
YSLY-CY-JB	12x1.5	Screened - grey	280.0	16.0	454	8312046
YSLY-CY-JB	18x1.5	Screened - grey	389.0	19.6	628	8312048
YSLY-CY-JB	25x1.5	Screened - grey	535.0	22.6	794	8312049
YSLY-CY-JB	34x1.5	Screened - grey	666.6	25.9	1142	8312050
YSLY-CY-JB	42x1.5	Screened - grey	788.8	28.9	1332	8312052
YSLY-CY-JB	50x1.5	Screened - grey	915.0	30.0	1662	8312053
YSLY-CY-JB	61x1.5	Screened - grey	1196.9	33.0	1785	8312054
YSLY-CY-JB	3x2.5	Screened - grey	146.0	11.5	214	8312061
YSLY-CY-JB	4x2.5	Screened - grey	167.0	12.3	270	8312062

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
YSLY-CY-JB	5x2.5	Screened - grey	200.0	14.2	342	8312063
YSLY-CY-JB	7x2.5	Screened - grey	288.0	14.9	426	8312064
YSLY-CY-JB	12x2.5	Screened - grey	473.0	19.5	710	8312065
YSLY-CY-JB	18x2.5	Screened - grey	573.0	23.2	990	8312066
YSLY-CY-JB	4x4	Screened - grey	237.0	15.8	415	8312075
YSLY-CY-JB	5x4	Screened - grey	280.0	17.0	480	8312077
YSLY-CY-JB	4x6	Screened - grey	318.0	18.0	568	8312080
YSLY-CY-JB	5x6	Screened - grey	441.0	20.3	686	8312081
YSLY-CY-JB	4x10	Screened - grey	558.0	22.2	942	8312087
YSLY-CY-JB	5x10	Screened - grey	714.0	25.3	1110	8312088
YSLY-CY-JB	4x16	Screened - grey	804.0	25.5	1230	8312093
YSLY-CY-JB	5x16	Screened - grey	1050.0	28.6	1485	8312094

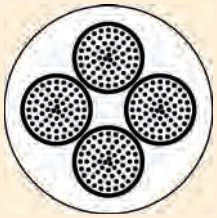
H05VV5-F

Harmonized PVC control cable

RoHS



CROSS SECTION



Acc. to VDE 0285-525-2-51

SPECIAL FEATURES

Sheath colour
Grey (RAL 7001) with imprint

APPLICATION

Suitable for use in dry and damp rooms, as well as outdoors subject to shielded installation. Not suitable for use in water. Measuring, control and connection cable for all electrical systems subject to low and medium mechanical loads, particularly in industrial areas. For fixed installation and flexible usage in the case of free movement without tension. The cable is oil resistant.

STRUCTURE

Design structure according to DIN VDE 0285-525-51

Conductor	Copper conductor, bare, flexible (class 5)
Cores	Insulation made from PVC, compound type YI2, labelling: green and yellow plus digits
Outer sheath	Sheath material made from oil-resistant PVC TM5, grey

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Conductor temperature	Max. 70°C during operation
Min. bending radius	4 x cable diameter, fixed installation
Temperature range	Moving: -5°C to +70°C Fixed installation: -40°C to +70°C
Flame retardancy	VDE 0482-332-1-2/IEC 60332-1
Oil resistance	EN 60811-2-1

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05VV5-F	3G0.5	VDE control cable	14.4	6.3	51	8350080
H05VV5-F	4G0.5	VDE control cable	19.2	6.9	62	8350081
H05VV5-F	5G0.5	VDE control cable	24.0	7.5	75	8350082
H05VV5-F	7G0.5	VDE control cable	33.6	9.2	117	8350083
H05VV5-F	12G0.5	VDE control cable	57.6	11.4	175	8350084
H05VV5-F	18G0.5	VDE control cable	86.4	13.5	250	8350085
H05VV5-F	21G0.5	VDE control cable	100.8	14.9	297	8350086
H05VV5-F	25G0.5	VDE control cable	120.0	16.4	345	8350087
H05VV5-F	3G0.75	VDE control cable	21.6	6.7	60	8350002
H05VV5-F	4G0.75	VDE control cable	28.8	7.4	74	8350003
H05VV5-F	5G0.75	VDE control cable	36.0	8.3	100	8350004
H05VV5-F	7G0.75	VDE control cable	50.4	9.8	140	8350005
H05VV5-F	9G0.75	VDE control cable	64.8	12.4	160	8350006
H05VV5-F	12G0.75	VDE control cable	86.4	13.0	217	8350007
H05VV5-F	15G0.75	VDE control cable	108.0	14.4	255	8350008
H05VV5-F	18G0.75	VDE control cable	129.6	14.5	310	8350009
H05VV5-F	25G0.75	VDE control cable	180.0	18.0	430	8350010
H05VV5-F	34G0.75	VDE control cable	244.8	14.9	297	8350012
H05VV5-F	41G0.75	VDE control cable	295.2	21.5	696	8350014
H05VV5-F	50G0.75	VDE control cable	360.0	23.9	810	8350016
H05VV5-F	3G1	VDE control cable	28.8	7.1	70	8350022
H05VV5-F	4G1	VDE control cable	38.4	8.0	90	8350023
H05VV5-F	5G1	VDE control cable	48.0	9.0	115	8350024
H05VV5-F	7G1	VDE control cable	67.2	10.5	165	8350025
H05VV5-F	9G1	VDE control cable	86.4	12.7	209	8350026
H05VV5-F	12G1	VDE control cable	115.2	13.2	250	8350027
H05VV5-F	14G1	VDE control cable	134.4	14.0	297	8350028
H05VV5-F	18G1	VDE control cable	172.8	16.0	385	8350029
H05VV5-F	25G1	VDE control cable	240.0	19.6	535	8350031
H05VV5-F	32G1	VDE control cable	307.2	21.2	658	8350033
H05VV5-F	34G1	VDE control cable	326.4	22.0	700	8350032
H05VV5-F	41G1	VDE control cable	393.6	22.7	830	8350034
H05VV5-F	50G1	VDE control cable	480.0	26.0	1000	8350035
H05VV5-F	3G1.5	VDE control cable	43.2	7.8	90	8350041
H05VV5-F	4G1.5	VDE control cable	57.6	8.8	125	8350042
H05VV5-F	5G1.5	VDE control cable	72.0	9.6	156	8350043
H05VV5-F	7G1.5	VDE control cable	100.8	11.7	228	8350044
H05VV5-F	9G1.5	VDE control cable	144.0		265	8350045
H05VV5-F	12G1.5	VDE control cable	172.8	14.0	330	8350046
H05VV5-F	14G1.5	VDE control cable	201.6	15.4	390	8350047
H05VV5-F	18G1.5	VDE control cable	259.2	17.0	500	8350048
H05VV5-F	25G1.5	VDE control cable	360.0	20.6	700	8350049
H05VV5-F	32G1.5	VDE control cable	460.8	22.5	880	8350051
H05VV5-F	34G1.5	VDE control cable	489.6	23.0	920	8350050
H05VV5-F	41G1.5	VDE control cable	604.8	26.4	1120	8350052
H05VV5-F	50G1.5	VDE control cable	720.0	27.6	1320	8350053
H05VV5-F	3G2.5	VDE control cable	72.0	9.8	145	8350061
H05VV5-F	4G2.5	VDE control cable	96.0	11.0	198	8350062
H05VV5-F	5G2.5	VDE control cable	120.0	12.0	236	8350063
H05VV5-F	7G2.5	VDE control cable	168.0	14.5	340	8350064
H05VV5-F	12G2.5	VDE control cable	288.0	18.0	535	8350065
H05VV5-F	18G2.5	VDE control cable	432.0	21.6	805	8350066
H05VV5-F	25G2.5	VDE control cable	600.0	26.2	1100	8350067
H05VV5-F	32G2.5	VDE control cable	768.0	27.9	1350	8350068
H05VV5-F	34G2.5	VDE control cable	816.0	28.5	1440	8350069
H05VV5-F	42G2.5	VDE control cable	1008.0	31.6	1753	8350070
H05VV5-F	50G2.5	VDE control cable	1200.0	34.7	2075	8350071

H05VVC4V5-K

Harmonized screened control cable

RoHS

CROSS SECTION

Acc. to VDE 0285-525-51

SPECIAL FEATURES

Sheath colour
Grey (RAL 7001) with imprint

APPLICATION

Suitable for use in dry and damp rooms, as well as outdoors subject to shielded installation. Not suitable for use in water. Measuring, control and connection cable for all electrical systems subject to low and medium mechanical loads, particularly in industrial areas. For fixed installation and flexible usage with free movement without tension. The cable is oil resistant.

STRUCTURE

Conductor	Copper conductor, bare, flexible (class 5)
Cores	Insulation made from PVC, compound type YI2, labelling: green and yellow plus digits
Inner/interim sheath	PVC
Shield	Copper mesh, tin plated
Shield covering	70%
Outer sheath	Sheath material made from oil-resistant PVC, compound type YM2, grey

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	3000 V
Conductor temperature	Max. 70°C during operation
Min. bending radius	6 x cable diameter, fixed installation 20 x cable diameter, moving
Temperature range	Moving -5°C to +70°C
Temperature range	Fixed installation -40°C to +80°C
Flame retardancy	VDE 0482-332-1-2/IEC 60332-1
Oil resistance	EN 60811-2-1

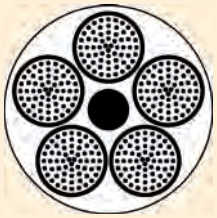
Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05VVC4V5-K	3x0.5	VDE control cable	14.4	6.3	51	86000503
H05VVC4V5-K	4x0.5	VDE control cable	19.2	6.9	62	86000504
H05VVC4V5-K	5x0.5	VDE control cable	24.0	7.5	75	86000505
H05VVC4V5-K	7x0.5	VDE control cable	33.6	9.2	117	86000507
H05VVC4V5-K	12x0.5	VDE control cable	57.6	11.4	175	86000512
H05VVC4V5-K	18x0.5	VDE control cable	86.4	13.5	250	86000518
H05VVC4V5-K	21x0.5	VDE control cable	100.8	14.9	297	86000521
H05VVC4V5-K	25x0.5	VDE control cable	120.0	16.4	345	86000525
H05VVC4V5-K	3x0.75	VDE control cable	21.6	6.7	60	86007503
H05VVC4V5-K	4x0.75	VDE control cable	28.8	7.4	74	86007504
H05VVC4V5-K	5x0.75	VDE control cable	36.0	8.3	100	86007505
H05VVC4V5-K	7x0.75	VDE control cable	50.4	9.8	140	86007507
H05VVC4V5-K	9x0.75	VDE control cable	64.8	12.4	160	86007509
H05VVC4V5-K	12x0.75	VDE control cable	86.4	13.0	217	86007512
H05VVC4V5-K	15x0.75	VDE control cable	108.0	14.4	255	86007515
H05VVC4V5-K	18x0.75	VDE control cable	129.6	14.5	310	86007518
H05VVC4V5-K	25x0.75	VDE control cable	180.0	18.0	430	86007525
H05VVC4V5-K	34x0.75	VDE control cable	244.8	14.9	297	86007534
H05VVC4V5-K	41x0.75	VDE control cable	295.2	21.5	696	86007541
H05VVC4V5-K	50x0.75	VDE control cable	360.0	23.9	810	86007550
H05VVC4V5-K	3x1	VDE control cable	28.8	7.1	70	86010003
H05VVC4V5-K	4x1	VDE control cable	38.4	8.0	90	86010004
H05VVC4V5-K	5x1	VDE control cable	48.0	9.0	115	86010005
H05VVC4V5-K	7x1	VDE control cable	67.2	10.5	165	86010007
H05VVC4V5-K	9x1	VDE control cable	86.4	12.7	209	86010009
H05VVC4V5-K	12x1	VDE control cable	115.2	13.2	250	86010012
H05VVC4V5-K	14x1	VDE control cable	134.4	14.0	297	86010014
H05VVC4V5-K	18x1	VDE control cable	172.8	16.0	385	86010018
H05VVC4V5-K	25x1	VDE control cable	240.0	19.6	535	86010025
H05VVC4V5-K	32x1	VDE control cable	307.2	21.2	658	86010032
H05VVC4V5-K	34x1	VDE control cable	326.4	22.0	700	86010034
H05VVC4V5-K	41x1	VDE control cable	393.6	22.7	830	86010041
H05VVC4V5-K	50x1	VDE control cable	480.0	26.0	1000	86010050
H05VVC4V5-K	3x1.5	VDE control cable	43.2	7.8	90	86015003
H05VVC4V5-K	4x1.5	VDE control cable	57.6	8.8	125	86015004
H05VVC4V5-K	5x1.5	VDE control cable	72.0	9.6	156	86015005
H05VVC4V5-K	7x1.5	VDE control cable	100.8	11.7	228	86015007
H05VVC4V5-K	9x1.5	VDE control cable	144.0		265	86015009
H05VVC4V5-K	12x1.5	VDE control cable	172.8	14.0	330	86015012
H05VVC4V5-K	14x1.5	VDE control cable	201.6	15.4	390	86015014
H05VVC4V5-K	18x1.5	VDE control cable	259.2	17.0	500	86015018
H05VVC4V5-K	25x1.5	VDE control cable	360.0	20.6	700	86015025
H05VVC4V5-K	32x1.5	VDE control cable	460.8	22.5	880	86015032
H05VVC4V5-K	34x1.5	VDE control cable	489.6	23.0	920	86015034
H05VVC4V5-K	41x1.5	VDE control cable	604.8	26.4	1120	86015041
H05VVC4V5-K	50x1.5	VDE control cable	720.0	27.6	1320	86015050
H05VVC4V5-K	3x2.5	VDE control cable	72.0	9.8	145	86025003
H05VVC4V5-K	4x2.5	VDE control cable	96.0	11.0	198	86025004
H05VVC4V5-K	5x2.5	VDE control cable	120.0	12.0	236	86025005
H05VVC4V5-K	7x2.5	VDE control cable	168.0	14.5	340	86025007
H05VVC4V5-K	12x2.5	VDE control cable	288.0	18.0	535	86025012
H05VVC4V5-K	18x2.5	VDE control cable	432.0	21.6	805	86025018
H05VVC4V5-K	25x2.5	VDE control cable	600.0	26.2	1100	86025025
H05VVC4V5-K	32x2.5	VDE control cable	768.0	27.9	1350	86025032
H05VVC4V5-K	34x2.5	VDE control cable	816.0	28.5	1440	86025034
H05VVC4V5-K	42x2.5	VDE control cable	1008.0	31.6	1753	86025042
H05VVC4V5-K	50x2.5	VDE control cable	1200.0	34.7	2075	86025050

HSLH

LSOH control cable

RoHS

CROSS SECTION



APPLICATION

Suitable for use as a fixed installation or flexible (freely moving without restrictive guidance) measuring and control cable for electrical equipment and power systems in industry and the systems engineering sector. For computer units, control units on machine tools, assembly lines, control units on conveyor systems and production lines, for controlling, regulating and monitoring work processes, industrial plants, as well as guided lines with occasional free, not constantly recurring movement without forced guidance. For external and internal installation in wet and damp environments but not outdoors.
With reduced fire load and low smoke and corrosive combustion gas emissions for preventing increased risks of injury to persons and damage to property in the event of a fire.

SPECIAL FEATURES

Properties
Unshielded
Halogen free
Flame retardant

Sheath colour
Grey (RAL 7001), imprint:
TYP HALOGENFREI
Company tracer thread

STRUCTURE

Conductor	Copper, bare, flexible
Cores	Halogen-free polymer insulation; Labelling: black with digits (only 2-cored); Yellow and green, remaining cores black with digits
Outer sheath	Halogen-free, flame-retardant polymer

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Flame retardancy	DIN VDE 0472-804, test method C (cable bundle set)
Halogen-free nature	DIN VDE 0472-815 corrosiveness
of combustion gases	DIN VDE 0472-813
Smoke density	DIN VDE0472-816
Installation temperature	Fixed installation -40°C to +85°C
Installation temperature	Moving -30°C to +85°C, in the event of a short circuit +160°C
Min. bending radius	Cable Ø < 12 mm fixed installation 8x cable Ø
Min. bending radius	Cable Ø < 12 mm moving 10x cable Ø
Min. bending radius	Cable Ø > 12 mm fixed installation 8x cable Ø
Min. bending radius	Cable Ø > 12 mm moving 10x cable Ø

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
HSLH-OZ	2x0.75	14.4	6.4	55	8360000
HSLH-JZ	3x0.75	21.6	6.8	65	8360001
HSLH-JZ	4x0.75	29.0	7.0	75	8360002
HSLH-JZ	5x0.75	36.0	7.9	90	8360003
HSLH-JZ	7x0.75	50.4	8.6	110	8360004
HSLH-JZ	12x0.75	86.4	11.5	170	8360008
HSLH-JZ	18x0.75	129.6	13.4	255	8360010
HSLH-JZ	25x0.75	180.0	16.5	365	8360012
HSLH-JZ	3x1	29.0	6.1	62	8360021
HSLH-JZ	4x1	38.0	6.8	79	8360022
HSLH-JZ	5x1	48.0	7.6	98	8360023
HSLH-JZ	7x1	67.0	8.3	126	8360025
HSLH-JZ	12x1	115.0	10.8	212	8360029
HSLH-OZ	2x1.5	29.0	7.2	75	8360040
HSLH-JZ	3x1.5	43.2	7.6	90	8360041
HSLH-JZ	4x1.5	58.0	8.3	110	8360042
HSLH-JZ	5x1.5	72.0	9.0	135	8360043
HSLH-JZ	7x1.5	101.0	9.8	165	8360044
HSLH-JZ	10x1.5	144.0	12.8	235	8360047
HSLH-JZ	12x1.5	173.0	13.2	270	8360048
HSLH-JZ	18x1.5	259.0	15.4	385	8360050
HSLH-JZ	25x1.5	360.0	19.6	575	8360052
HSLH-JZ	3x2.5	72.0	8.4	127	8360061
HSLH-JZ	4x2.5	96.0	9.3	162	8360062
HSLH-JZ	5x2.5	120.0	10.3	200	8360063
HSLH-JZ	4x4.0	154.0	11.6	240	8360075
HSLH-JZ	5x4.0	192.0	12.7	285	8360076
HSLH-JZ	4x6.0	231.0	13.0	305	8360080
HSLH-JZ	5x6.0	288.0	14.3	410	8360081

2YSL(St)CY

EMC connecting cable

RoHS

CROSS SECTION

APPLICATION

As an energy, control and connection cable for frequency-converter-controlled drive systems.
For machine tools, processing and finishing machines, processing centres, industry robots, transfer lines and handling equipment. Also for drives in conjunction with pumps, fans, conveyor belts and air conditioning systems from all industrial manufacturers/processors. For internal and external installation subject to medium mechanical loads, for fixed installation and flexible use with free movement and no tensile load or forced guidance, in dry, damp or wet environments, including in potentially explosive atmospheres (zone 1, zone 2, zone 11). With dimensions of 4 x 25 mm² and above, also suitable for underground installation.

SPECIAL FEATURES

Properties
Shielded
Flame retardant
4-cored
Low operating capacity
Low transfer impedance

Sheath colour
Transparent

Imprint
2YSL(St)CY-J 0.6/1kV
Neutral tracer thread

STRUCTURE

Conductor	Copper, bare, flexible 1.5 mm² to 95 mm², cable class 5 according to DIN VDE 0295
Cores	Polyethylene insulation; colour coding: black, blue, brown, green and yellow
Shield	Aluminium-laminated plastic foil (outer metal side), mesh, tin-plated copper
Outer sheath	Polyvinyl chloride (PVC), transparent

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Temperature range	During operation with fixed installation -40°C to +70°C
Temperature range	Moving -5°C to +70°C
During installation	-5°C to +50°C
Flame retardancy	DIN VDE 0472-804, test method B
Oil resistance	DIN ISO 6722-1 (ISC1817 oil no. 1; 48 h at 90° ICEA S-82-522 (ASTM oil no. 2; 4 h at 70°)
Tensile load	50 N per conductor cross section
Min. bending radius	7 x cable outer diameter
Insulation resistance	100 MOhm x km
Three-phase system	1200 V
Single-phase system	1400 V (both outer conductors insulated)
Single-phase system	1800 V (both outer conductors insulated)
Single-phase system	700 V (one outer conductor earthed)
Alternating current peak value	1700 V
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 parts 1+2

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Brandlast	Product number
2YSL(St)CY-J	4x1.5	95.0	10.7	145	2.0	8490000
2YSL(St)CY-J	4x2.5	150.0	12.4	210	2.5	8490001
2YSL(St)CY-J	4x4.0	235.0	13.8	290	3.0	8490002
2YSL(St)CY-J	4x6.0	320.0	15.3	385	3.4	8490003
2YSL(St)CY-J	4x10.0	533.0	19.5	655	5.4	8490004
2YSL(St)CY-J	4x16.0	789.0	23.7	965	7.1	8490005
2YSL(St)CY-J	4x25.0	1236.0	28.7	1380	10.2	8490006
2YSL(St)CY-J	4x35.0	1663.0	31.8	1805	11.6	8490007
2YSL(St)CY-J	4x50.0	2345.0	37.0	2460	15.6	8490008
2YSL(St)CY-J	4x70.0	3196.0	42.0	3335	18.7	8490009
2YSL(St)CY-J	4x95.0	4316.0	48.0	4420	24.1	8490010

2YSL(St)CYK

EMC connecting cable

RoHS

CROSS SECTION

Acc. to DIN VDE 0250

APPLICATION

Shielded motor connection cable for frequency converters. The shield prevents the unauthorised influence of electromagnetic interferences. The optimum shielding enables frequency converters to be operated fault free. The areas of use include machine tools, industry robots, air conditioning systems, pump systems and handling equipment. Suitable for use in dry and wet rooms and outdoors.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Conductor	Copper wire, bare
Cores	Polyethylene (PE) insulation
Shield	Aluminium foil, 100% tin-plated copper wires
Outer sheath	PVC, black

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Insulation resistance	20 MOhm x km
Conductor resistance	According to DIN VDE 0295 class 5; IEC228 class 5
Temperature range	Moving -5°C to +70°C
Temperature range	Fixed installation -40°C to +70°C
Min. bending radius	20 x cable diameter

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
2YSL(St)CYK-J 3x1.5 + 3x0.25	86.0	12.0	215	
2YSL(St)CYK-J 3x2.5 + 3x0.5	144.0	13.0	265	
2YSL(St)CYK-J 3x4 + 3x0.75	224.0	15.0	350	
2YSL(St)CYK-J 3x6 + 3x1	298.0	16.0	430	
2YSL(St)CYK-J 3x10 + 3x1.5	491.0	21.0	695	
2YSL(St)CYK-J 3x16 + 3x2.5	723.0	24.0	925	
2YSL(St)CYK-J 3x25 + 3x4	1138.0	28.0	1350	
2YSL(St)CYK-J 3x35 + 3x6	1535.0	30.0	1760	
2YSL(St)CYK-J 3x50 + 3x10	2208.0	35.0	2550	
2YSL(St)CYK-J 3x70 + 3x10	2871.0	39.0	3210	
2YSL(St)CYK-J 3x95 + 3x16	3953.0	42.0	4110	
2YSL(St)CYK-J 3x120 + 3x16	4836.0	47.0	4925	
2YSL(St)CYK-J 3x150 + 3x25	5412.0	52.0	6200	
2YSL(St)CYK-J 3x185 + 3x35	6969.0	57.0	7500	
2YSL(St)CYK-J 3x240 + 3x50	8540.0	62.0	9610	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H05 / H07VVH6-F

PVC lift cable

RoHS

CROSS SECTION

Acc. to VDE 0281-404, HD 359 S2; IEC 60227-6; IEC 60332-1

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

For use in self-enclosed areas. For conveying and lifting equipment, as well as transport systems. Supply line for moving machine parts. PVC flat cables are mainly used as trailing cables for cranes, ground conveyors and rack feeders. Max. suspension length: 35 m.

STRUCTURE

Conductor	Copper conductor, bare, flexible according to DIN VDE 0295 cl. 5 and IEC 60228 cl. 5, HD 383
Cores	PVC YI2
Outer sheath	PVC YM2

TECHNICAL DATA

Nominal voltage	450 V/750 V
Test voltage	2500 V
Max. conductor temperature	70°C
Permissible cable sheath temperature	Fixed installation -40°C to +70°C
Permissible cable sheath temperature	Moving -5°C to +70°C
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 parts 1+2
Flame retardancy	VDE 0482-332-1-2/IEC 60332-1
UV resistance	Yes

Product description		Cu weight	Outer Dimensions (mm)	Min. bending radius	Product number
H05VVH-6F	4G0.75	29.0	4.4 x 12.2	95	8480750475
H05VVH-6F	6G0.75	43.0	4.4 x 17.6	145	8480750675
H05VVH-6F	8G0.75	58.0	4.4 x 22.5	205	8480750875
H05VVH-6F	12G0.75	86.0	4.4 x 32.5	265	8480751275
H05VVH-6F	16G0.75	115.2	4.4 x 42.9	350	8480751675
H05VVH-6F	18G0.75	129.6	4.4 x 50.0	395	8480751875
H05VVH-6F	20G0.75	144.0	4.4 x 52.6	430	8480752075
H05VVH-6F	24G0.75	172.8	4.4 x 62.7	535	8480752475
H05VVH-6F	4G1	38.0	4.6 x 12.8	118	8481100410
H05VVH-6F	5G1	48.0	4.6 x 17.8	150	8481100510
H05VVH-6F	6G1	57.6	4.6 x 18.8	178	8481100610
H05VVH-6F	12G1	116.0	4.6 x 34.8	361	8481101210
H05VVH-6F	16G1	153.6	4.6 x 45.5	564	8481101610
H05VVH-6F	18G1	173.0	4.6 x 45.5	618	8481101810
H05VVH-6F	20G1	192.0	4.6 x 56.6	652	8481102010
H05VVH-6F	24G1	230.4	4.6 x 67.4	704	8481102410
H07VVH-6F	4G1.5	58.0	5.5 x 15.6	150	8482150415
H07VVH-6F	5G1.5	72.0	5.5 x 23.0	180	8482150515
H07VVH-6F	7G1.5	101.0	5.5 x 29.0	260	8482150715
H07VVH-6F	8G1.5	115.0	5.5 x 32.0	300	8482150815
H07VVH-6F	10G1.5	144.0	5.5 x 36.5	360	8482151015
H07VVH-6F	12G1.5	173.0	5.5 x 44.0	420	8482151215
H07VVH-6F	16G1.5	231.0	5.5 x 52.8	560	8482151615
H07VVH-6F	18G1.5	259.0	5.5 x 62.5	620	8482151815
H07VVH-6F	24G1.5	346.0	5.5 x 79.0	960	8482152415
H07VVH-6F	4G2.5	96.0	6 x 20.0	210	8483250425
H07VVH-6F	5G2.5	120.0	6 x 27.5	260	8483250525
H07VVH-6F	7G2.5	168.0	6 x 34.5	380	8483250725
H07VVH-6F	8G2.5	192.0	6 x 40.0	405	8483250825
H07VVH-6F	12G2.5	288.0	6 x 69.5	620	8483251225
H07VVH-6F	4G4	154.0	7 x 21.0	300	8484400440
H07VVH-6F	5G4	192.0	7 x 25.0	380	8484400540
H07VVH-6F	7G4	269.0	7 x 37.0	550	8484400740
H07VVH-6F	4G6	230.0	7 x 25.0	390	8485600460
H07VVH-6F	5G6	288.0	7 x 28.0	480	8485600560
H07VVH-6F	7G6	403.0	7 x 41.0	700	8485600760
H07VVH-6F	4G10	384.0	9 x 29.0	620	8486100410
H07VVH-6F	5G10	480.0	9 x 35.0	780	8486100510
H07VVH-6F	4G16	614.0	11 x 37.0	990	8487160416
H07VVH-6F	5G16	768.0	11 x 43.0	1200	8487160516
H07VVH-6F	4G25	960.0	13.5 x 46.0	1550	8488250425
H07VVH-6F	4G35	1344.0	14.8 x 58.0	2030	8489350435
H07VVH-6F	4G50	1920.0	16.5 x 56.0	2650	8489550450

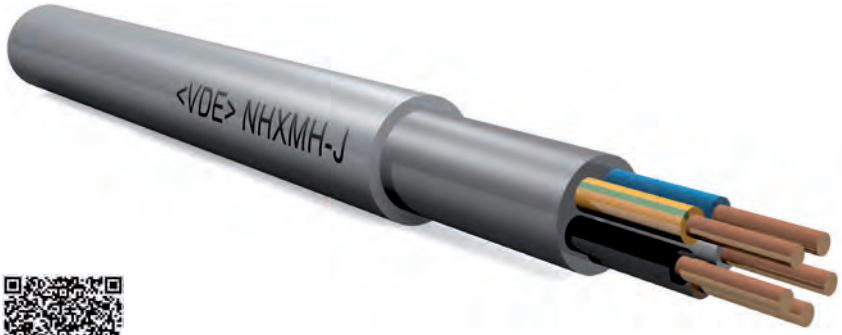
NOTES

HALOGEN FREE CABLES

NHXMH

LSOH building wire

RoHS



CROSS SECTION

Acc. to DIN 0250 part 214

APPLICATION

For laying over, on, in and under plastered surfaces, in dry, damp and wet rooms, as well as in brickwork and concrete. Not suitable for direct embedding in shake, vibrated or tamped concrete.
For installation in buildings with high concentrations of people and/or material assets. These cables have also been approved for outdoor use providing they are protected against direct sunlight.
Special features: these Halogen free cables have minimum smoke emissions. No corrosive and toxic gases are discharged. If exposed to fire, they prevent this from spreading.

SPECIAL FEATURES

Properties
Halogen free
Minimum smoke emission

Sheath colour
Grey

STRUCTURE

Conductor	Bare copper conductor, RE or RM design according to DIN VDE 0250 part 214; joint core covering, flame-retardant, Halogen free polymer compound
Cores	Insulation made from a Halogen free, cross-linked polyethylene compound
Outer sheath	Made from cross-linked polyethylene

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Operating temperature	-30°C to +70°C
Max. operating temperature	+70°C
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Min. bending radius	Single-cored 15 x, multi-cored 10 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

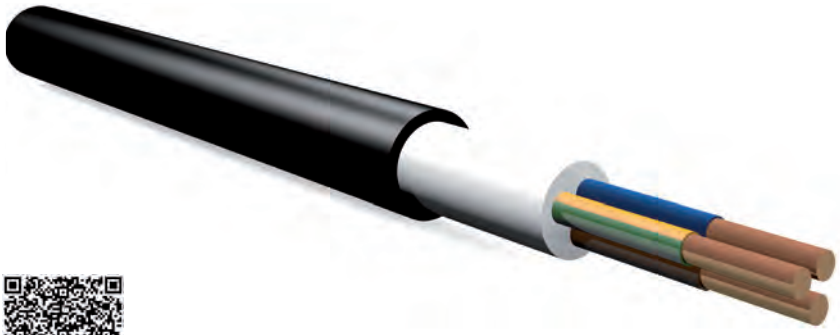
Flammability	Test method C according to VDE 0472 part 804 and IEC 332-1
Halogen free nature	According to VDE 0472 part 815
Corrosiveness of combustion gases	According to VDE 0472 part 813
Smoke density	Test method C according to VDE 0472 part 816 and IEC 1034-1
Ozone resistance	According to VDE 0472 part 805

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
NHXMH-J 1x1.5 RE	15.0	8.8	87	0.33	2575101
NHXMH-J 1x2.5 RE	24.0	9.4	105	0.36	2575102
NHXMH-J 1x4.0 RE	39.0	10.0	128	0.42	2575103
NHXMH-J 1x6.0 RE	58.0	10.5	152	0.44	2575104
NHXMH-J 1x10 RE	96.0	12.0	204	0.53	2575105
NHXMH-J 1x16 RM	154.0	13.5	280	0.64	2575106
NHXMH-J 2x1.5 RE	29.0	9.4	105	0.33	2575107
NHXMH-J 2x2.5 RE	48.0	10.5	124	0.42	2575108
NHXMH-J 3x1.5 RE	43.0	9.8	124	0.42	2575109
NHXMH-J 3x2.5 RE	72.0	11.0	157	0.47	2575110
NHXMH-J 3x4.0 RE	115.0	12.5	223	0.61	2575111
NHXMH-J 3x6.0 RE	173.0	14.0	304	0.78	2575112
NHXMH-J 3x10 RE	288.0	16.5	456	1.10	2575113
NHXMH-J 4x1.5 RE	58.0	10.5	143	0.47	2575116
NHXMH-J 4x2.5 RE	96.0	11.5	190	0.56	2575117
NHXMH-J 4x4.0 RE	154.0	14.0	285	0.78	2575118
NHXMH-J 4x6.0 RE	230.0	15.5	375	0.94	2575119
NHXMH-J 4x10 RE	384.0	18.0	565	1.30	2575120
NHXMH-J 4x16 RE	615.0	22.5	888	1.80	2575121
NHXMH-J 4x25 RM	960.0	28.0	1349	2.60	2575130
NHXMH-J 4x35 RM	1344.0	31.0	1815	3.10	2575131
NHXMH-J 5x1.5 RE	72.0	11.5	166	0.56	2575122
NHXMH-J 5x2.5 RE	120.0	12.5	223	0.64	2575123
NHXMH-J 5x4.0 RE	192.0	15.5	332	0.98	2575124
NHXMH-J 5x6.0 RE	288.0	16.5	456	1.10	2575125
NHXMH-J 5x10 RE	480.0	19.5	675	1.50	2575126
NHXMH-J 5x16 RE	768.0	25.0	1083	2.20	2575127
NHXMH-J 7x1.5 RE	101.0	12.0	200	0.64	2575128
NHXMH-J 7x2.5 RE	168.0	14.0	285	0.81	2575129

N2XH

FRNC power cable 0.6/1kV

RoHS



CROSS SECTION

Acc. to DIN 0276 part 604

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

For wherever particular protection against fire and fire damage is required for people and property and high safety requirements have to be fulfilled. Suitable for both indoor and outdoor use. For laying over, on, within and under plastered surfaces but not directly in soil or water. If exposed to fire, they prevent this from spreading and generate extremely little smoke. No corrosive and toxic gases are discharged. The cables are classed as having protective insulation.

STRUCTURE

Conductor	Copper conductor, bare, single or multi-cored, minimum smoke density, structure according to VDE 0276 part 604. In the case of two or multi-core cables, cores stranded together in layers.
Cores	Halogen free, cross-linked polyethylene insulation
Outer sheath	Made from flame-retardant polymer according to VDE 207 part 24, halogen free

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Operating temperature	-30°C to +70°C
Installation temperature	Min. -5°C/max. +50°C
Flame retardancy	According to DIN VDE 0472 part 804
Min. bending radius	Single-cored 15 x, multi-cored 12 x cable diameter
TESTS ACCORDING TO DIN VDE 0472 AND IEC:	
Flammability	Test method C acc. to VDE 0472 part 804 and IEC 332-3
Halogen free nature	According to VDE 0472 part 815
Corrosiveness of combustion gases	Acc. to VDE 0472 part 813, pH value 4.3, el. conductivity </0 100 µS cm-1
Smoke density	Test method C acc. to VDE 0472 part 816 and IEC 1034-1
Flame retardancy	According to DIN VDE 0276 part 604
Ozone resistance	According to VDE 0472 part 805

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
N2XH	1x4.0 RE	38.0	9.0	140	0.22	2071001
N2XH	1x6.0 RE	58.0	10.0	160	0.24	2071002
N2XH	1x10 RE	96.0	10.0	210	0.29	2071003
N2XH	1x16 RE	154.0	12.0	270	0.34	2071004
N2XH	1x25 RM	240.0	14.0	380	0.49	2071005
N2XH	1x35 RM	336.0	15.0	490	0.56	2071006
N2XH	1x50 RM	480.0	16.0	620	0.68	2071007
N2XH	1x70 RM	672.0	18.0	830	0.84	2071008
N2XH	1x95 RM	912.0	20.0	1200	1.00	2071009
N2XH	1x120 RM	1152.0	22.0	1500	1.18	2071010
N2XH	1x150 RM	1440.0	24.0	1.700	1.44	2071011
N2XH	1x185 RM	1776.0	26.0	2.200	1.80	2071012
N2XH	1x240 RM	2304.0	29.0	2.750	2.11	2071013
N2XH	1x300 RM	2880.0	33.0	3.300	2.50	2071014
N2XH	2x1.5 RE	29.0	12.0	180	0.44	2071015
N2XH	2x2.5 RE	48.0	12.0	210	0.51	2071016
N2XH	2x4.0 RE	77.0	13.0	270	0.60	2071017
N2XH	2x6.0 RE	115.0	14.0	340	0.70	2071018
N2XH	2x10 RE	192.0	16.0	450	0.86	2071019
N2XH	2x16 RE	307.0	18.0	600	1.10	2071020
N2XH	2x25 RM	480.0	23.0	980	1.66	2071021
N2XH	3x1.5 RE	43.0	12.0	200	0.51	2071022
N2XH	3x2.5 RE	72.0	13.0	250	0.59	2071023
N2XH	3x4.0 RE	115.0	14.0	330	0.69	2071024
N2XH	3x6.0 RE	173.0	15.0	410	0.80	2071025
N2XH	3x10 RE	288.0	16.0	550	0.99	2071026
N2XH	3x16 RE	461.0	20.0	790	1.25	2071027
N2XH	3x25 RM	720.0	24.0	1200	1.89	2071028
N2XH	3x35 RM	1008.0	27.0	1600	2.28	2071029
N2XH	3x50 RM	1440.0	29.0	1800	2.83	2071030
N2XH	3x70 RM	2016.0	33.0	2500	3.70	2071031
N2XH	3x95 RM	2736.0	37.0	3300	4.47	2071032
N2XH	3x120 RM	3456.0	41.0	4050	5.48	2071033
N2XH	3x150 RM	4320.0	45.0	4900	6.73	2071034
N2XH	3x185 RM	5328.0	50.0	5100	8.38	2071035
N2XH	3x240 RM	6912.0	56.0	7800	10.37	2071036
N2XH	3x50/ 25 RM	1680.0	28.0	2200	3.19	2071037
N2XH	3x70/ 35 RM	2352.0	32.0	2950	4.01	2071038
N2XH	3x95/ 50 RM	3216.0	36.0	3900	4.87	2071039
N2XH	3x120/ 70 RM	4128.0	40.0	4800	6.05	2071040
N2XH	3x150/ 70 RM	4992.0	49.0	5750	7.25	2071041
N2XH	3x185/ 95 RM	6240.0	55.0	7200	9.11	2071042
N2XH	3x240/ 120 RM	8064.0	62.0	9150	11.09	2071043
N2XH	4x1.5 RE	58.0	13.0	230	0.61	2071044
N2XH	4x2.5 RE	96.0	14.0	290	0.70	2071045
N2XH	4x4.0 RE	154.0	15.0	380	0.83	2071046
N2XH	4x6.0 RE	230.0	16.0	490	0.96	2071047
N2XH	4x10 RE	384.0	18.0	670	1.22	2071048
N2XH	4x16 RE	614.0	20.0	930	1.50	2071049
N2XH	4x25 RM	960.0	26.0	1450	2.34	2071050
N2XH	4x35 RM	1344.0	29.0	1900	2.74	2071051
N2XH	4x50 RM	1920.0	32.0	2300	3.48	2071052
N2XH	4x70 RM	2668.0	37.0	3200	4.55	2071053
N2XH	4x95 RM	3648.0	41.0	4200	5.47	2071054
N2XH	4x120 RM	4608.0	45.0	4300	6.60	2071055
N2XH	4x150 RM	5760.0	50.0	6350	8.36	2071056
N2XH	4x185 RM	7104.0	55.0	7800	10.42	2071057
N2XH	4x240 RM	9216.0	62.0	10300	12.69	2071058
N2XH	5x1.5 RE	72.0	14.0	270	0.71	2071059
N2XH	5x2.5 RE	120.0	15.0	340	0.83	2071060
N2XH	5x4.0 RE	192.0	16.0	450	0.98	2071061
N2XH	5x6.0 RE	288.0	17.0	560	1.14	2071062
N2XH	5x10 RE	480.0	19.0	790	1.45	2071063
N2XH	5x16 RE	768.0	22.0	1150	1.78	2071064
N2XH	7x1.5 RE	101.0	14.0	310	0.83	2071081
N2XH	7x2.5 RE	168.0	15.0	400	0.96	2071082
N2XH	7x4.0 RE	269.0	17.0	230	1.13	2071083

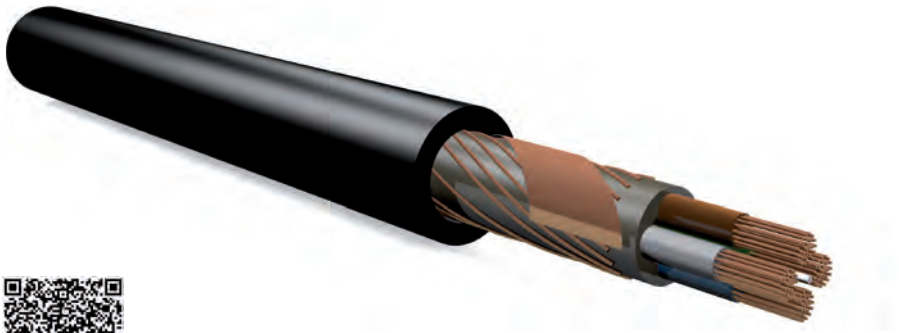
Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
N2XH 10x1.5 RE	144.0	17.0	420	1.15	2071084
N2XH 10x2.5 RE	240.0	18.0	540	1.38	2071085
N2XH 12x1.5 RE	173.0	18.0	460	1.29	2071086
N2XH 12x2.5 RE	288.0	19.0	600	1.55	2071087
N2XH 12x4.0 RE	461.0	21.0	820	1.82	2071088
N2XH 14x1.5 RE	202.0	20.0	540	1.48	2071089
N2XH 14x2.5 RE	336.0	20.0	670	1.73	2071090
N2XH 19x2.5 RE	456.0	22.0	840	2.19	2071092
N2XH 24x1.5 RE	346.0	22.0	760	2.38	2071093
N2XH 24x2.5 RE	576.0	25.0	1050	2.79	2071094
N2XH 30x1.5 RE	432.0	24.0	900	2.80	2071095
N2XH 30x2.5 RE	720.0	27.0	1230	3.29	2071096


HALO
GEN
FREE
CAB
LES

N2XCH

FRNC power cable 0.6/1kV

RoHS



CROSS SECTION

Acc. to DIN 0276 part 604

APPLICATION

For wherever particular protection against fire and fire damage is required for people and property and high safety requirements have to be fulfilled. For indoor installation over, on, in and under plastered surfaces, in dry, damp and wet rooms, as well as in brickwork and concrete. Also suitable for outdoor use. Do not bury directly in soil or lay in water. If exposed to fire, they prevent this from spreading and generate extremely little smoke. No corrosive and toxic gases are discharged. The cables are classed as having protective insulation.

SPECIAL FEATURES

Properties
Flame retardant
Halogen free
Minimal smoke density

Sheath colour
Black

STRUCTURE

Conductor	Copper conductor, bare, single or multi-cored, minimum smoke density, structure according to VDE 0276 part 604. In the case of two or multi-core cables, cores stranded together in layers. Flame retardant according to DIN VDE 0276 part 604.
Cores	Halogen free, cross-linked polyethylene insulation
Outer sheath	Made from flame-retardant polymer according to VDE 207 part 24, halogen free

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Operating temperature	-30°C to +70°C
Max. operating temperature	+70°C
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Flame retardancy	According to DIN VDE 0472 part 804
Min. bending radius	Single-cored 15 x, multi-cored 12 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

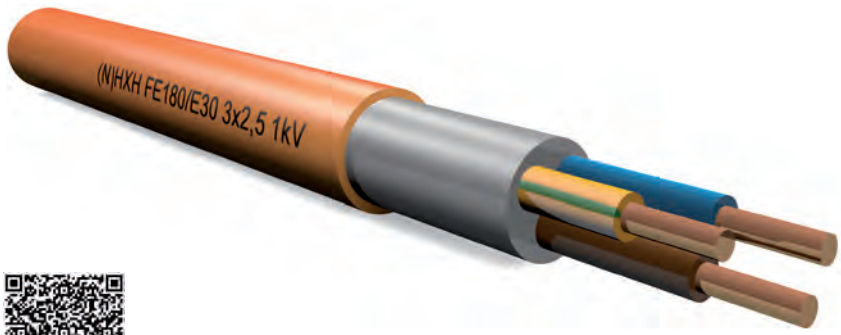
Flammability	Test method C acc. to VDE 0472 part 804 and IEC 332-3
Halogen free nature	According to VDE 0472 part 815
Corrosiveness of combustion gases	According to VDE 0472 part 813, pH value 4.3, electrical conductivity </0 100 µS cm-1
Smoke density	Test method C acc. to VDE 0472 part 816 and IEC 1034-1
Ozone resistance	According to VDE 0472 part 805

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
N2XCH 2x1.5 RE/1.5	52.0	13.0	260	0.47	2072001
N2XCH 2x2.5 RE/2.5	80.0	13.0	270	0.54	2072002
N2XCH 2x4.0 RE/4.0	123.0	14.0	320	0.63	2072003
N2XCH 2x6.0 RE/6.0	182.0	15.0	410	0.73	2072004
N2XCH 2x10 RE/10	312.0	17.0	550	0.90	2072005
N2XCH 2x16 RE/16	489.0	19.0	780	1.15	2072006
N2XCH 3x1.5 RE/1.5	66.0	13.0	240	0.54	2072007
N2XCH 3x2.5 RE/2.5	104.0	14.0	290	0.62	2072008
N2XCH 3x4.0 RE/4.0	161.0	15.0	380	0.72	2072009
N2XCH 3x6.0 RE/6.0	240.0	16.0	470	0.83	2072010
N2XCH 3x10 RE/10	408.0	18.0	640	1.03	2072011
N2XCH 3x16 RE/16	643.0	20.0	920	1.30	2072012
N2XCH 3x25 RM/25	1003.0	25.0	1430	2.00	2072013
N2XCH 3x35 RM/35	1402.0	29.0	1900	2.34	2072014
N2XCH 3x50 RM/50	2000.0	32.0	2200	2.97	2072015
N2XCH 3x70 RM/70	2796.0	36.0	3050	3.37	2072016
N2XCH 3x95 RM/95	3791.0	41.0	4200	4.58	2072017
N2XCH 3x120 RM/120	4786.0	45.0	5200	6.61	2072018
N2XCH 3x150 RM/150	5100.0	48.0	5450	6.94	2072019
N2XCH 3x185 RM/185	6383.0	53.0	6800	8.63	2072020
N2XCH 3x240 RM/240	8242.0	60.0	8900	10.66	2072021
N2XCH 4x1.5 RE/1.5	81.0	14.0	260	0.63	2072022
N2XCH 4x2.5 RE/2.5	128.0	15.0	330	0.73	2072023
N2XCH 4x4.0 RE/4.0	200.0	16.0	440	0.85	2072024
N2XCH 4x6.0 RE/6.0	297.0	17.0	550	0.99	2072025
N2XCH 4x10 RE/10	504.0	19.0	760	1.26	2072026
N2XCH 4x16 RE/16	796.0	22.0	1130	1.55	2072027
N2XCH 4x25 RM/16	1142.0	28.0	1700	2.39	2072028
N2XCH 4x35 RM/16	1526.0	31.0	2150	2.86	2072029
N2XCH 4x50 RM/25	2203.0	34.0	2600	3.54	2072030
N2XCH 4x70 RM/35	3082.0	40.0	3550	4.62	2072031
N2XCH 4x95 RM/50	4208.0	45.0	4800	5.56	2072032
N2XCH 7x1.5 RE/2.5	133.0	15.0	360	0.86	2072050
N2XCH 7x2.5 RE/2.5	200.0	17.0	450	0.99	2072051
N2XCH 7x4.0 RE/4.0	315.0	18.0	595	1.15	2072052
N2XCH 10x1.5 RE/2.5	176.0	17.0	480	1.21	2072053
N2XCH 10x2.5 RE/4.0	286.0	19.0	600	1.41	2072054
N2XCH 12x1.5 RE/2.5	205.0	19.0	530	1.35	2072055
N2XCH 12x2.5 RE/4.0	334.0	21.0	700	1.58	2072056
N2XCH 12x6.0 RE/6.0	528.0	22.0	905	2.20	2072057
N2XCH 16x1.5 RE/4.0	276.0	21.0	680	1.67	2072058
N2XCH 16x2.5 RE/6.0	451.0	23.0	850	1.95	2072059
N2XCH 21x1.5 RE/6.0	369.0	22.0	770	2.13	2072060
N2XCH 21x1.5 RE/6.0	571.0	25.0	1090	2.55	2072061
N2XCH 24x1.5 RE/6.0	413.0	24.0	850	2.41	2072062
N2XCH 24x2.5 RE/10	696.0	26.0	1180	2.83	2072063
N2XCH 30x1.5 RE/6.0	499.0	25.0	1020	2.84	2072064
N2XCH 30x2.5 RE/10	840.0	28.0	1400	3.33	2072065

(N)HXH FE180/E30

Fire resistant cable

RoHS



CROSS SECTION

Acc. to DIN VDE 0266

SPECIAL FEATURES

Sheath colour
Orange

APPLICATION

For wherever particular protection against fire and fire damage is required for people and property and high fail-safe periods have to be complied with, for example at airports, in hospitals and in schools. Suitable for both indoor and outdoor use but not for direct burying in soil or laying in water. The fire-induced smoke formation that makes it impossible to find emergency exits and the emission of toxic gases are prevented. The insulation integrity of at least 180 minutes and functional integrity of at least 30 minutes ensure that fire detection and alarm systems, safety lighting and other backup lighting remain functional.

STRUCTURE

Conductor	Copper conductor, bare, single or multi-cored according to DIN VDE 0266, flame retardant according to DIN VDE 0472 part 804, functional integrity according to DIN 4102 part 12. Cores stranded together in layers, joint core covering made from fire protection, strip wrapping or filling compound.
Cores	Mica tape wrapping and flame-retardant, cross-linked polymer insulation, core colours according to VDE 0293 NHXH, for fixed installation, 2 cores without green and yellow protective conductor, 3 or more cores with green and yellow protective conductor
Outer sheath	Made from flame-retardant polyolefin acc. to VDE 207 part 24, halogen free

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Operating temperature	-30°C to +70°C
Max. operating temperature	+90°C
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Flame retardancy	According to DIN VDE 0472 part 804
Min. bending radius	With fixed installation: 10 x cable diameter
TESTS ACCORDING TO DIN VDE 0472 AND IEC:	
Flammability	Test method C according to VDE 0472 part 804 and IEC 332-3
Insulation integrity of min. 180 min.	According to VDE 0472 part 814 and IEC 331
Smoke density	According to VDE 0472 part 804 and IEC 332-3
Functional integrity of min. 30 min.	According to VDE 0472 part 804 and IEC 332-3
Halogen free nature	According to VDE 0472 part 815
Corrosiveness of combustion gases	According to VDE 0472 part 813
Smoke density	Test method C according to VDE 0472 part 816 and IEC 1034-1

Product description				Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
NHXH	1x6 RE	FE180/E30	Halogen free	58.0	9.0	120	0.28	2073001
NHXH	1x10 RE	FE180/E30	Halogen free	96.0	9.0	165	0.28	2073002
NHXH	1x16 RE	FE180/E30	Halogen free	154.0	10.0	230	0.39	2073003
NHXH	1x25 RM	FE180/E30	Halogen free	240.0	11.0	340	0.53	2073004
NHXH	1x35 RM	FE180/E30	Halogen free	336.0	12.0	440	0.58	2073005
NHXH	1x50 RM	FE180/E30	Halogen free	480.0	14.0	620	0.69	2073006
NHXH	1x70 RM	FE180/E30	Halogen free	672.0	16.0	850	0.81	2073007
NHXH	1x95 RM	FE180/E30	Halogen free	912.0	18.0	1100	1.03	2073008
NHXH	1x120 RM	FE180/E30	Halogen free	1152.0	19.0	1350	1.14	2073009
NHXH	1x150 RM	FE180/E30	Halogen free	1440.0	22.0	1650	1.39	2073010
NHXH	1x185 RM	FE180/E30	Halogen free	1776.0	24.0	2100	1.70	2073011
NHXH	1x240 RM	FE180/E30	Halogen free	2304.0	27.0	2600	2.09	2073012
NHXH	1 x300 RM	FE180/E30	Halogen free	2880.0	30.0	3300	2.50	2073013
NHXH	2x1.5 RE	FE180/E30	Halogen free	29.0	12.0	210	0.69	2073014
NHXH	2x2.5 RE	FE180/E30	Halogen free	48.0	13.0	250	0.78	2073015
NHXH	2x4 RE	FE180/E30	Halogen free	77.0	14.0	310	0.89	2073016
NHXH	2x6 RE	FE180/E30	Halogen free	115.0	15.0	380	1.00	2073017
NHXH	2x10 RE	FE180/E30	Halogen free	192.0	17.0	510	1.19	2073018
NHXH	2x16 RM	FE180/E30	Halogen free	307.0	19.0	680	1.42	2073019
NHXH	2x25 RM	FE180/E30	Halogen free	418.0	23.0	1050	2.09	2073020
NHXH	3x1.5 RE	FE180/E30	Halogen free	43.0	13.0	210	0.78	2073021
NHXH	3x2.5 RE	FE180/E30	Halogen free	72.0	13.0	230	0.86	2073022
NHXH	3x4 RE	FE180/E30	Halogen free	115.0	15.0	300	1.00	2073023
NHXH	3x6 RE	FE180/E30	Halogen free	173.0	16.0	380	1.08	2073024
NHXH	3x10 RE	FE180/E30	Halogen free	288.0	18.0	500	1.28	2073025
NHXH	3x16 RM	FE180/E30	Halogen free	461.0	20.0	702	1.53	2073026
NHXH	3x25 RM	FE180/E30	Halogen free	720.0	24.0	1200	2.25	2073027
NHXH	3x35 RM	FE180/E30	Halogen free	1008.0	27.0	1520	2.56	2073028
NHXH	3x50 RM	FE180/E30	Halogen free	1440.0	30.0	2100	3.19	2073029
NHXH	3x70 RM	FE180/E30	Halogen free	2016.0	33.0	2700	3.94	2073030
NHXH	3x95 RM	FE180/E30	Halogen free	2736.0	38.0	3700	5.14	2073031
NHXH	3x120 RM	FE180/E30	Halogen free	3456.0	43.0	4600	5.89	2073032
NHXH	3x150 RM	FE180/E30	Halogen free	4320.0	47.0	5800	7.25	2073033
NHXH	3x185 RM	FE180/E30	Halogen free	5328.0	52.0	7200	8.81	2073034
NHXH	3x25/16 RM	FE180/E30	Halogen free	874.0	26.0	1400	2.42	2073035
NHXH	3x35/16 RM	FE180/E30	Halogen free	1162.0	27.0	1600	2.56	2073036
NHXH	3x50/25 RM	FE180/E30	Halogen free	1680.0	31.0	2400	3.19	2073037
NHXH	3x70/35 RM	FE180/E30	Halogen free	2352.0	36.0	3200	3.94	2073038
NHXH	3x95/50 RM	FE180/E30	Halogen free	3216.0	41.0	4400	5.14	2073039
NHXH	3x120/70 RM	FE180/E30	Halogen free	4128.0	46.0	5400	5.89	2073040
NHXH	3x150/70 RM	FE180/E30	Halogen free	4992.0	49.0	6600	7.25	2073041
NHXH	3x185/95 RM	FE180/E30	Halogen free	6240.0	56.0	8300	8.81	2073042
NHXH	3x240/120 RM	FE180/E30	Halogen free	8064.0	64.0	10500	11.70	2073043
NHXH	4x1.5 RE	FE180/E30	Halogen free	58.0	14.0	280	0.89	2073044
NHXH	4x2.5 RE	FE180/E30	Halogen free	96.0	15.0	350	1.00	2073045
NHXH	4x4 RE	FE180/E30	Halogen free	154.0	17.0	440	1.14	2073046
NHXH	4x6 RE	FE180/E30	Halogen free	230.0	18.0	560	1.28	2073047
NHXH	4x10 RE	FE180/E30	Halogen free	384.0	20.0	760	1.50	2073048
NHXH	4x16 RE	FE180/E30	Halogen free	614.0	23.0	1100	1.86	2073049
NHXH	4x25 RM	FE180/E30	Halogen free	960.0	26.0	1600	2.64	2073050
NHXH	4x35 RM	FE180/E30	Halogen free	1344.0	28.0	2100	3.00	2073051
NHXH	4x50 RM	FE180/E30	Halogen free	1920.0	33.0	2900	3.92	2073052
NHXH	4x70 RM	FE180/E30	Halogen free	2688.0	37.0	3900	4.81	2073053
NHXH	4x95 RM	FE180/E30	Halogen free	3648.0	43.0	5200	6.25	2073054
NHXH	4x120 RM	FE180/E30	Halogen free	4608.0	47.0	6300	7.14	2073055
NHXH	5x1.5 RE	FE180/E30	Halogen free	72.0	15.0	330	1.03	2073056
NHXH	5x2.5 RE	FE180/E30	Halogen free	120.0	17.0	410	1.14	2073057
NHXH	5x4 RE	FE180/E30	Halogen free	192.0	18.0	520	1.31	2073058
NHXH	5x6 RE	FE180/E30	Halogen free	288.0	20.0	660	1.47	2073059
NHXH	5x10 RE	FE180/E30	Halogen free	480.0	21.0	950	1.83	2073060
NHXH	5x16 RE	FE180/E30	Halogen free	768.0	23.0	1300	2.17	2073061
NHXH	5x25 RM	FE180/E30	Halogen free	1200.0	29.0	2000	3.14	2073062
NHXH	5x35 RM	FE180/E30	Halogen free	1680.0	32.0	2700	3.75	2073063
NHXH	5x50 RM	FE180/E30	Halogen free	2400.0	35.0	3700	4.75	2073064
NHXH	7x1.5 RE	FE180/E30	Halogen free	101.0	16.0	380	1.17	2073065
NHXH	7x2.5 RE	FE180/E30	Halogen free	168.0	20.0	480	1.31	2073066
NHXH	7x4.0 RE	FE180/E30	Halogen free	269.0	22.0	640	1.50	2073067
NHXH	7x6.0 RE	FE180/E30	Halogen free	403.0	23.0	800	1.70	2073068

Product description				Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
NHXH	10x1.5 RE	FE180/E30	Halogen free	144.0	20.0	520	1.53	2073069
NHXH	10x2.5 RE	FE180/E30	Halogen free	240.0	25.0	680	1.81	2073070
NHXH	10x4.0 RE	FE180/E30	Halogen free	384.0	27.0	900	2.09	2073071
NHXH	10x6.0 RE	FE180/E30	Halogen free	576.0	29.0	1150	2.36	2073072
NHXH	12x1.5 RE	FE180/E30	Halogen free	173.0	21.0	580	1.70	2073073
NHXH	12x2.5 RE	FE180/E30	Halogen free	288.0	26.0	780	2.00	2073074
NHXH	12x4.0 RE	FE180/E30	Halogen free	464.0	28.0	1050	2.31	2073075
NHXH	12x6.0 RE	FE180/E30	Halogen free	691.0	30.0	1300	2.61	2073076
NHXH	14x1.5 RE	FE180/E30	Halogen free	202.0	22.0	660	1.86	2073077
NHXH	14x2.5 RE	FE180/E30	Halogen free	336.0	27.0	900	2.22	2073078
NHXH	16x1.5 RE	FE180/E30	Halogen free	230.0	23.0	740	2.14	2073079
NHXH	16x2.5 RE	FE180/E30	Halogen free	384.0	28.0	1000	2.42	2073080
NHXH	19x1.5 RE	FE180/E30	Halogen free	274.0	25.0	850	2.36	2073081
NHXH	19x2.5 RE	FE180/E30	Halogen free	456.0	29.0	1100	2.70	2073082
NHXH	21x1.5 RE	FE180/E30	Halogen free	302.0	26.0	900	2.56	2073083
NHXH	21x2.5 RE	FE180/E30	Halogen free	504.0	30.0	1200	2.92	2073084
NHXH	24x1.5 RE	FE180/E30	Halogen free	346.0	29.0	1050	2.86	2073085
NHXH	24x2.5 RE	FE180/E30	Halogen free	576.0	34.0	1200	3.28	2073086
NHXH	27x1.5 RE	FE180/E30	Halogen free	389.0	29.0	1150	3.06	2073087
NHXH	27x2.5 RE	FE180/E30	Halogen free	648.0	34.0	1500	3.53	2073088
NHXH	30x1.5 RE	FE180/E30	Halogen free	432.0	30.0	1200	3.34	2073089
NHXH	30x2.5 RE	FE180/E30	Halogen free	720.0	36.0	1650	3.89	2073090
NHXH	40x1.5 RE	FE180/E30	Halogen free	576.0	35.0	1550	4.48	2073091
NHXH	40x2.5 RE	FE180/E30	Halogen free	960.0	40.0	2200	5.37	2073092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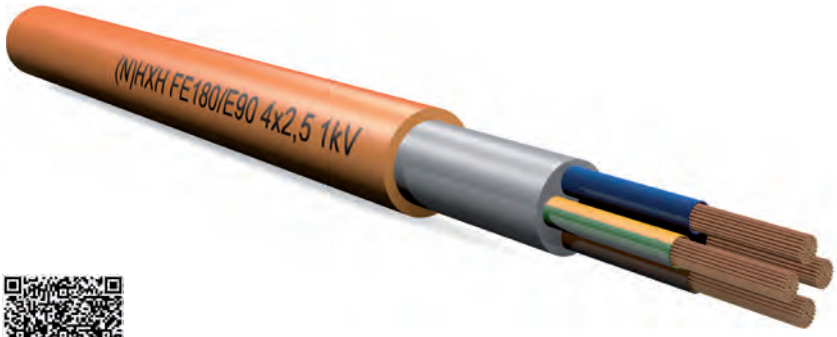
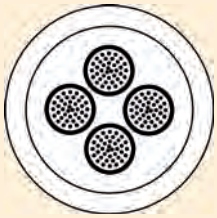
(N)HXH FE180/E90

RoHS

Fire resistant cable



CROSS SECTION



Acc. to DIN VDE 0266

SPECIAL FEATURES

Sheath colour
Orange

APPLICATION

Safety cables are used wherever particular protection against fire and fire damage is required for people and property and high fail-safe periods have to be complied with, e.g. at airports, in hospitals and in schools. Suitable for both indoor and outdoor use but not for direct burying in soil or laying in water. The fire-induced smoke formation that makes it impossible to find emergency exits and the emission of toxic gases are prevented. The insulation integrity of at least 180 minutes, functional integrity of at least 90 minutes and reliability of over 90 minutes ensure the continued functional capability of water-pressure boosting equipment for supplying fire extinguishing water, ventilation systems, smoke and heat extraction systems, fire brigade lifts etc.

STRUCTURE

Conductor	Copper conductor, bare, single or multi-cored according to DIN VDE 0266, flame retardant according to DIN VDE 0472 part 804, functional integrity according to DIN 4102 part 12. Single core wrapped in flame-retardant and temperature-resistant fabric tape, cores stranded together in layers, fire protection wrapping made from heat-resistant special tape, overlapping.
Cores	Mica tape wrapping and flame-retardant, cross-linked polymer insulation, core colours according to VDE 0293 NHXH, for fixed installation, 3 or more cores with green and yellow protective conductor
Outer sheath	Made from flame-retardant polyolefin according to VDE 0207 part 24, halogen free

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Operating temperature	-5°C to +70°C
Max. permissible conductor temperature	+90°C
Installation temperature	Min. -5°C/max. +50°C
Flame retardancy	According to DIN VDE 0472 part 804
Min. bending radius	With fixed installation, 15 x cable diameter
TESTS ACCORDING TO DIN VDE 0472 AND IEC:	
Flammability	Test method C according to VDE 0472 part 804 and IEC 332-3
Insulation integrity of min. 180 min.	According to VDE 0472 part 814 and IEC 331
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 parts 1+2
Functional integrity of min. 30 min.	According to VDE 0472 part 804 and IEC 332-3
Halogen free nature	According to VDE 0472 part 815
Corrosiveness of combustion gases	According to VDE 0472 part 813
Smoke density	Test method C according to VDE 0472 part 816 and IEC 1034-1
Functional integrity of cable systems	According to DIN 4102 part 12

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
NHXH	1 x 6 RE FE180/E90	Halogen free	58.0	10.0	120	0.28	2073100
NHXH	1 x 10 RE FE180/E90	Halogen free	96.0	10.0	165	0.28	2073101
NHXH	1 x 16 RE FE180/E90	Halogen free	154.0	11.0	230	0.39	2073102
NHXH	1 x 25 RM FE180/E90	Halogen free	240.0	13.0	340	0.53	2073103
NHXH	1 x 35 RM FE180/E90	Halogen free	336.0	14.0	440	0.58	2073104
NHXH	1 x 50 RM FE180/E90	Halogen free	480.0	16.0	620	0.69	2073105
NHXH	1 x 70 RM FE180/E90	Halogen free	672.0	18.0	850	0.81	2073106
NHXH	1 x 95 RM FE180/E90	Halogen free	912.0	20.0	1100	1.03	2073107
NHXH	1 x 120 RM FE180/E90	Halogen free	1152.0	21.0	1350	1.14	2073108
NHXH	1 x 150 RM FE180/E90	Halogen free	1440.0	24.0	1650	1.39	2073109
NHXH	1 x 185 RM FE180/E90	Halogen free	1776.0	26.0	2100	1.70	2073110
NHXH	1 x 240 RM FE180/E90	Halogen free	2304.0	29.0	2600	2.09	2073111
NHXH	1 x 300 RM FE180/E90	Halogen free	2880.0	32.0	3300	2.50	2073112
NHXH	2 x 1.5 RE FE180/E90	Halogen free	29.0	14.0	210	0.69	2074113
NHXH	2 x 2.5 RE FE180/E90	Halogen free	48.0	15.0	250	0.78	2074114
NHXH	2 x 4 RE FE180/E90	Halogen free	77.0	16.0	310	0.89	2074115
NHXH	2 x 6 RE FE180/E90	Halogen free	115.0	17.0	380	1.00	2074116
NHXH	2 x 10 RE FE180/E90	Halogen free	192.0	19.0	510	1.19	2074117
NHXH	2 x 16 RM FE180/E90	Halogen free	307.0	21.0	680	1.42	2074118
NHXH	2 x 25 RM FE180/E90	Halogen free	480.0	25.0	1050	2.09	2074119
NHXH	3 x 1.5 RE FE180/E90	Halogen free	43.0	15.0	240	0.78	2073121
NHXH	3 x 2.5 RE FE180/E90	Halogen free	72.0	15.0	290	0.86	2073122
NHXH	3 x 4 RE FE180/E90	Halogen free	115.0	17.0	360	1.00	2073123
NHXH	3 x 6 RE FE180/E90	Halogen free	173.0	18.0	450	1.08	2073124
NHXH	3 x 10 RE FE180/E90	Halogen free	288.0	20.0	620	1.28	2073125
NHXH	3 x 16 RM FE180/E90	Halogen free	461.0	22.0	850	1.53	2073126
NHXH	3 x 25 RM FE180/E90	Halogen free	720.0	26.0	1300	2.25	2073127
NHXH	3 x 35 RM FE/180/E90	Halogen free	1008.0	29.0	1650	2.56	2073128
NHXH	3 x 50 RM FE/180/E90	Halogen free	1440.0	32.0	2300	3.19	2073129
NHXH	3 x 70 RM FE/180/E90	Halogen free	2016.0	36.0	3000	3.94	2073130
NHXH	3 x 95 RM FE/180/E90	Halogen free	2736.0	41.0	4000	5.14	2073131
NHXH	3 x 120 RM FE/180/E90	Halogen free	3456.0	45.0	4900	5.89	2073132
NHXH	3 x 150 RM FE/180/E90	Halogen free	4320.0	50.0	6100	7.25	2073133
NHXH	3 x 185 RM FE/180/E90	Halogen free	5328.0	55.0	7500	8.81	2073134
NHXH	3 x 25/16 RM FE180/E90	Halogen free	874.0	28.0	1500	2.42	2073135
NHXH	3 x 35/16 RM FE180/E90	Halogen free	1162.0	30.0	1800	2.69	2073136
NHXH	3 x 50/25 RM FE180/E90	Halogen free	1680.0	35.0	2600	3.53	2073137
NHXH	3 x 70/35 RM FE180/E90	Halogen free	2352.0	39.0	3400	4.31	2073138
NHXH	3 x 95/50 RM FE180/E90	Halogen free	3216.0	44.0	4600	5.58	2073139
NHXH	3 x 120/70 RM FE180/E90	Halogen free	4128.0	49.0	5700	6.58	2073140
NHXH	3 x 150/70 RM FE180/E90	Halogen free	4992.0	52.0	6800	7.14	2073141
NHXH	3 x 185/95 RM FE180/E90	Halogen free	6240.0	59.0	8500	9.62	2073142
NHXH	3 x 240/120 RM FE180/E90	Halogen free	8064.0	68.0	11000	11.70	2073143
NHXH	4 x 1.5 RE FE180/E90	Halogen free	58.0	16.0	280	0.89	2073144
NHXH	4 x 2.5 RE FE180/E90	Halogen free	96.0	17.0	350	1.00	2073145
NHXH	4 x 4 RE FE180/E90	Halogen free	154.0	19.0	440	1.14	2073146
NHXH	4 x 6 RE FE180/E90	Halogen free	230.0	20.0	560	1.28	2073147
NHXH	4 x 10 RE FE180/E90	Halogen free	384.0	22.0	760	1.50	2073148
NHXH	4 x 16 RE FE180/E90	Halogen free	614.0	25.0	1100	1.86	2073149
NHXH	4 x 25 RM FE180/E90	Halogen free	960.0	30.0	1600	2.64	2073150
NHXH	4 x 35 RM FE180/E90	Halogen free	1344.0	32.0	2100	3.00	2073151
NHXH	4 x 50 RM FE180/E90	Halogen free	1920.0	37.0	2900	3.92	2073152
NHXH	4 x 70 RM FE180/E90	Halogen free	2688.0	41.0	3900	4.81	2073153
NHXH	4 x 95 RM FE180/E90	Halogen free	3648.0	47.0	5200	6.25	2073154
NHXH	4 x 120 RM FE180/E90	Halogen free	4608.0	51.0	6300	7.14	2073155
NHXH	5 x 1.5 RE FE180/E90	Halogen free	72.0	17.0	330	1.03	2073156
NHXH	5 x 2.5 RE FE180/E90	Halogen free	120.0	19.0	410	1.14	2073157
NHXH	5 x 4 RE FE180/E90	Halogen free	192.0	20.0	520	1.31	2073158
NHXH	5 x 6 RE FE180/E90	Halogen free	288.0	22.0	660	1.47	2073159
NHXH	5 x 10 RE FE180/E90	Halogen free	480.0	24.0	950	1.83	2073160
NHXH	5 x 16 RE FE180/E90	Halogen free	768.0	27.0	1300	2.17	2073161
NHXH	5 x 25 RM FE180/E90	Halogen free	1200.0	32.0	2000	3.14	2073162
NHXH	5 x 35 RM FE180/E90	Halogen free	1680.0	36.0	2700	3.75	2073163
NHXH	5 x 50 RM FE180/E90	Halogen free	2400.0	40.0	3700	4.75	2073164
NHXH	7 x 1.5 RE FE180/E90	Halogen free	101.0	19.0	380	1.17	2073200
NHXH	7 x 2.5 RE FE180/E90	Halogen free	168.0	20.0	480	1.31	2073201
NHXH	7 x 4.0 RE FE180/E90	Halogen free	269.0	22.0	640	1.50	2073202
NHXH	7 x 6.0 RE FE180/E90	Halogen free	403.0	23.0	800	1.70	2073203

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
NHXH	10 x 1.5 RE FE/180/E90	Halogen free	144.0	23.0	520	1.53	2073204
NHXH	10 x 2.5 RE FE/180/E90	Halogen free	240.0	25.0	680	1.81	2073205
NHXH	10 x 4.0 RE FE/180/E90	Halogen free	384.0	27.0	900	2.09	2073206
NHXH	10 x 6.0 RE FE/180/E90	Halogen free	576.0	29.0	1150	2.36	2073207
NHXH	12 x 1.5 RE FE180/E90	Halogen free	173.0	24.0	580	1.70	2073208
NHXH	12 x 2.5 RE FE180/E90	Halogen free	288.0	26.0	780	2.00	2073209
NHXH	12 x 4.0 RE FE180/E90	Halogen free	461.0	28.0	1050	2.31	2073210
NHXH	12 x 6.0 RE FE180/E90	Halogen free	691.0	30.0	1300	2.61	2073212
NHXH	14 x 1.5 RE FE180/E90	Halogen free	202.0	25.0	660	1.86	2073213
NHXH	14 x 2.5 RE FE180/E90	Halogen free	336.0	27.0	900	2.22	2073214
NHXH	16 x 1.5 RE FE180/E90	Halogen free	230.0	26.0	740	2.14	2073215
NHXH	16 x 2.5 RE FE180/E90	Halogen free	384.0	28.0	1000	2.42	2073216
NHXH	19 x 1.5 RE FE180/E90	Halogen free	274.0	27.0	850	2.36	2073217
NHXH	19 x 2.5 RE FE180/E90	Halogen free	456.0	29.0	1100	2.70	2073218
NHXH	21 x 1.5 RE FE180/E30	Halogen free	302.0	28.0	900	2.56	2073219
NHXH	21 x 2.5 RE FE180/E30	Halogen free	504.0	30.0	1200	2.92	2073220
NHXH	24 x 1.5 RE FE180/E90	Halogen free	346.0	32.0	1050	2.86	2073221
NHXH	24 x 2.5 RE FE180/E90	Halogen free	576.0	34.0	1350	3.28	2073222
NHXH	27 x 1.5 RE FE180/E90	Halogen free	389.0	32.0	1150	3.06	2073223
NHXH	27 x 2.5 RE FE180/E90	Halogen free	648.0	34.0	1500	3.53	2073224
NHXH	30 x 1.5 RE FE180/E90	Halogen free	432.0	33.0	1200	3.34	2073225
NHXH	30 x 2.5 RE FE180/E90	Halogen free	720.0	36.0	1650	3.89	2073226
NHXH	40 x 1.5 RE FE180/E90	Halogen free	576.0	37.0	1550	4.48	2073227
NHXH	40 x 2.5 RE FE180/E90	Halogen free	960.0	40.0	2200	5.37	2073228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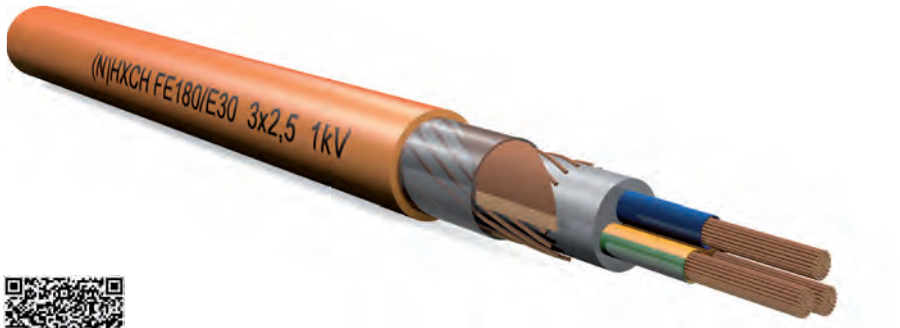
(N)HXCH FE180/E30

RoHS

Fire resistant cable



CROSS SECTION

Acc. to DIN VDE 0266

SPECIAL FEATURES

Sheath colour
Orange

APPLICATION

For wherever particular protection against fire and fire damage is required for people and property and high fail-safe periods have to be complied with, for example at airports, in hospitals and in schools. Suitable for both indoor and outdoor use but not for direct burying in soil or laying in water. No toxic gas emissions in the event of fire. Insulation integrity of at least 180 minutes and functional integrity of at least 30 minutes. Reliability of over 30 minutes ensures that fire detection and alarm systems, safety lighting and other backup lighting remain functional.

STRUCTURE

Conductor	Copper conductor, bare, single or multi-cored acc. to DIN VDE 0266, flame retardant acc. to DIN VDE 0472 part 804, functional integrity acc. to DIN 4102 part 12. Cores stranded together in layers, joint core covering made from fire protection, strip wrapping or filling compound.
Cores	Mica tape wrapping and flame-retardant, cross-linked polymer insulation, core colours according to VDE 0293 NHXCH, for fixed installation with a concentric conductor, black, blue, brown, black
Outer sheath	Made from flame-retardant polyolefin according to VDE 0207 part 24, halogen free

TECHNICAL DATA

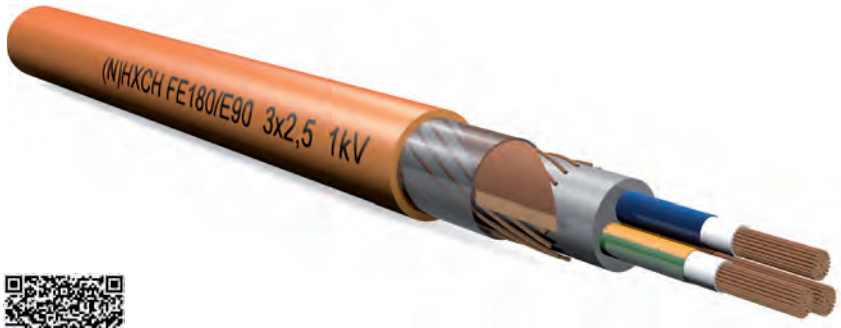
Nominal voltage	600 V/1000 V
Test voltage	4000 V
Operating temperature	-5°C to +70°C
Max. permissible conductor temperature	+90°C
Min. installation temperature	-5°C
Max. installation temperature	+50°C
Flame retardancy	According to DIN VDE 0472 part 804
Min. bending radius	With fixed installation, 10 x cable diameter
TESTS ACCORDING TO DIN VDE 0472 AND IEC:	
Flammability	Test method C according to VDE 0472 part 804 and IEC 332-3
Insulation integrity of min. 180 min.	According to VDE 0472 part 814 and IEC 331
Functional integrity of min. 30 min.	According to VDE 0472 part 804 and IEC 332-3
Halogen free nature	According to VDE 0472 part 815
Corrosiveness of combustion gases	According to VDE 0472 part 813
Smoke density	Test method C according to VDE 0472 part 816 and IEC 1034-1
Functional integrity of cable systems	According to DIN 4102 part 12

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
NHXCH 2x1.5 RE/1.5	FE180/E30	Halogen free	52.0	15.0	240	0.72	2074001
NHXCH 2x2.5 RE/2.5	FE180/E30	Halogen free	80.0	15.0	290	0.81	2074002
NHXCH 2x4.0 RE/4.0	FE180/E30	Halogen free	123.0	16.0	360	0.92	2074003
NHXCH 2x6.0 RE/6.0	FE180/E30	Halogen free	182.0	18.0	460	1.03	2074004
NHXCH 2x10 RE/10	FE180/E30	Halogen free	312.0	20.0	640	1.22	2074005
NHXCH 2x16 RE/16	FE180/E30	Halogen free	489.0	22.0	900	1.45	2074006
NHXCH 3x1.5 RE/1.5	FE180/E30	Halogen free	66.0	15.0	260	0.78	2074007
NHXCH 3x2.5 RE/2.5	FE180/E30	Halogen free	104.0	16.0	330	0.89	2074008
NHXCH 3x4 RE/4	FE180/E30	Halogen free	161.0	17.0	420	1.00	2074009
NHXCH 3x6 RE/6	FE180/E30	Halogen free	240.0	19.0	540	1.11	2074010
NHXCH 3x10 RE/10	FE180/E30	Halogen free	408.0	21.0	760	1.33	2074011
NHXCH 3x16 RE/16	FE180/E30	Halogen free	643.0	23.0	1100	1.58	2074012
NHXCH 3x25 RM/25	FE180/E30	Halogen free	1003.0	28.0	1650	2.31	2074013
NHXCH 3x35 RM/35	FE180/E30	Halogen free	1402.0	30.0	2200	2.61	2074014
NHXCH 3x50 RM/50	FE180/E30	Halogen free	2000.0	34.0	2900	3.33	2074015
NHXCH 3x70 RM/70	FE180/E30	Halogen free	2796.0	39.0	4000	4.11	2074016
NHXCH 3x95 RM/95	FE180/E30	Halogen free	3791.0	44.0	5300	5.33	2074017
NHXCH 3x120 RM/120	FE180/E30	Halogen free	4786.0	48.0	6500	6.11	2074018
NHXCH 3x25 RM/16	FE180/E30	Halogen free	902.0	28.0	1550	2.31	2074019
NHXCH 3x35 RM/16	FE180/E30	Halogen free	1190.0	30.0	1950	2.61	2074020
NHXCH 3x50 RM/25	FE180/E30	Halogen free	1723.0	34.0	2700	3.33	2074021
NHXCH 3x70 RM/35	FE180/E30	Halogen free	2410.0	38.0	3600	4.11	2074022
NHXCH 3x95 RM/50	FE180/E30	Halogen free	3296.0	44.0	4800	5.33	2074023
NHXCH 3x120 RM/70	FE180/E30	Halogen free	4236.0	47.0	6000	6.11	2074024
NHXCH 3x150 RM/70	FE180/E30	Halogen free	5100.0	52.0	7300	7.50	2074025
NHXCH 4x1.5 RE/1.5	FE180/E30	Halogen free	81.0	17.0	310	0.89	2074026
NHXCH 4x2.5 RE/2.5	FE180/E30	Halogen free	128.0	18.0	380	1.03	2074027
NHXCH 4x4 RE/4	FE180/E30	Halogen free	200.0	20.0	500	1.17	2074028
NHXCH 4x6 RE/6	FE180/E30	Halogen free	297.0	21.0	640	1.31	2074029
NHXCH 4x10 RE/10	FE180/E30	Halogen free	504.0	23.0	900	1.53	2074030
NHXCH 4x16 RE/16	FE180/E30	Halogen free	796.0	26.0	1300	1.89	2074031
NHXCH 4x25 RM/16	FE180/E30	Halogen free	1142.0	31.0	1900	2.69	2074032
NHXCH 4x35 RM/16	FE180/E30	Halogen free	1526.0	33.0	2400	3.06	2074033
NHXCH 4x50 RM/25	FE180/E30	Halogen free	2203.0	38.0	3400	4.00	2074034
NHXCH 4x70 RM/35	FE180/E30	Halogen free	3082.0	42.0	4500	4.89	2074035
NHXCH 4x95 RM/50	FE180/E30	Halogen free	4208.0	49.0	6100	6.44	2074036
NHXCH 4x120 RM/70	FE180/E30	Halogen free	5388.0	53.0	7600	7.36	2074037
NHXCH 4x150 RM/70	FE180/E30	Halogen free	6540.0	60.0	8700	8.97	2074038
NHXCH 7x1.5 RE/2.5	FE180/E30	Halogen free	134.0	19.0	420	1.19	2074060
NHXCH 7x2.5 RE/2.5	FE180/E30	Halogen free	200.0	21.0	540	1.33	2074061
NHXCH 7x4.0 RE/4.0	FE180/E30	Halogen free	315.0	22.0	700	1.53	2074062
NHXCH 10x1.5 RE/2.5	FE180/E30	Halogen free	176.0	24.0	560	1.56	2074063
NHXCH 10x2.5 RE/4.0	FE180/E30	Halogen free	286.0	25.0	760	1.83	2074064
NHXCH 12x1.5 RE/2.5	FE180/E30	Halogen free	205.0	24.0	620	1.72	2074065
NHXCH 12x2.5 RE/4	FE180/E30	Halogen free	334.0	25.0	850	2.03	2074066
NHXCH 14x1.5 RE/2.5	FE180/E30	Halogen free	234.0	25.0	700	1.89	2074067
NHXCH 14x2.5 RE/4.0	FE180/E30	Halogen free	403.0	27.0	950	2.22	2074068
NHXCH 19x1.5 RE/4.0	FE180/E30	Halogen free	320.0	28.0	950	2.39	2074069
NHXCH 19x2.5 RE/6.0	FE180/E30	Halogen free	523.0	30.0	1200	2.72	2074070
NHXCH 24x1.5 RE/6.0	FE180/E30	Halogen free	413.0	32.0	1150	2.89	2074071
NHXCH 24x2.5 RE/10	FE180/E30	Halogen free	696.0	35.0	1550	3.39	2074072
NHXCH 30x1.5 RE/6.0	FE180/E30	Halogen free	499.0	34.0	1350	3.33	2074073

(N)HXCH FE180/E90

RoHS

Fire resistant cable



CROSS SECTION

Acc. to DIN VDE 0266

SPECIAL FEATURES

Sheath colour
Orange

APPLICATION

Safety cables are used wherever particular protection against fire and fire damage is required for people and property and high fail-safe periods have to be complied with, e.g. at airports, in hospitals and in schools. Suitable for both indoor and outdoor use but not for direct burying in soil or laying in water. The fire-induced smoke formation that makes it impossible to find emergency exits and the emission of toxic gases are prevented. The insulation integrity of at least 180 minutes, functional integrity of at least 90 minutes and reliability of over 90 minutes ensure the continued functional capability of water-pressure boosting equipment for supplying fire extinguishing water, ventilation systems, smoke and heat extraction systems, fire brigade lifts etc.

STRUCTURE

Conductor	Copper conductor, bare, single or multi-cored according to DIN VDE 0266, flame retardant according to DIN VDE 0472 part 804, functional integrity according to DIN 4102 part 12. Single core wrapped in flame-retardant and temperature-resistant fabric tape, cores stranded together in layers, fire protection wrapping made from heat-resistant special tape, overlapping. Additional joint core covering made from a Halogen free compound
Cores	Mica tape wrapping and flame-retardant, cross-linked polymer insulation, core colours according to VDE 0293, for fixed installation with a concentric conductor, black, blue, brown, black
Outer sheath	Made from flame-retardant polyolefin acc. to VDE 0207 part 24, halogen free

TECHNICAL DATA

Nominal voltage	600 V/1000 V
Test voltage	4000 V
Operating temperature	-5°C to +70°C (max. +90°C)
Installation temperature	Min. -5°C/max. +50°C
Flame retardancy	According to DIN VDE 0472 part 804
Min. bending radius	With fixed installation, 15 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method C according to VDE 0472 part 804 and IEC 332-3
Smoke density	HD 606 and IEC 601034-1, 601034-2 and BS 7622 parts 1+2
Insulation integrity of min. 180 min.	According to VDE 0472 part 814 and IEC 331
Functional integrity of min. 30 min.	According to VDE 0472 part 804 and IEC 332-3
Halogen free nature	According to VDE 0472 part 815
Corrosiveness of combustion gases	According to VDE 0472 part 813
Smoke density	Test method C according to VDE 0472 part 816 and IEC 1034-1
Functional integrity of cable systems	According to DIN 4102 part 12

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (kWh/m)	Product number
NHXCH 2x1.5 RE/1.5	FE180/E90	Halogen free	52.0	15.0	240	0.72	2075201
NHXCH 2x2.5 RE/2.5	FE180/E90	Halogen free	80.0	15.0	290	0.81	2075202
NHXCH 2x4.0 RE/4.0	FE180/E90	Halogen free	123.0	16.0	360	0.92	2075203
NHXCH 2x6.0 RE/6.0	FE180/E90	Halogen free	182.0	18.0	460	1.03	2075204
NHXCH 2x10 RE/10	FE180/E90	Halogen free	312.0	20.0	640	1.22	2075205
NHXCH 2x16 RE/16	FE180/E90	Halogen free	489.0	22.0	900	1.45	2075206
NHXCH 3x1.5 RE/1.5	FE180/E90	Halogen free	66.0	15.0	260	0.78	2075207
NHXCH 3x2.5 RE/2.5	FE180/E90	Halogen free	104.0	16.0	330	0.89	2075208
NHXCH 3x4 RE/4	FE180/E90	Halogen free	161.0	17.0	420	1.00	2075209
NHXCH 3x6 RE/6	FE180/E90	Halogen free	240.0	19.0	540	1.11	2075210
NHXCH 3x10 RE/10	FE180/E90	Halogen free	408.0	21.0	760	1.33	2075211
NHXCH 3x16 RE/16	FE180/E90	Halogen free	643.0	23.0	1100	1.58	2075212
NHXCH 3x25 RM/25	FE180/E90	Halogen free	1003.0	28.0	1650	2.31	2075213
NHXCH 3x35 RM/35	FE180/E90	Halogen free	1402.0	30.0	2200	2.61	2075214
NHXCH 3x50 RM/50	FE180/E90	Halogen free	2000.0	34.0	2900	3.33	2075215
NHXCH 3x70 RM/70	FE180/E90	Halogen free	2796.0	39.0	4000	4.11	2075216
NHXCH 3x95 RM/95	FE180/E90	Halogen free	3791.0	44.0	5300	4.33	2075217
NHXCH 3x120 RM/120	FE180/E90	Halogen free	4786.0	48.0	6500	6.11	2075218
NHXCH 3x25 RM/16	FE180/E90	Halogen free	902.0	28.0	1550	2.31	2075219
NHXCH 3x35 RM/16	FE180/E90	Halogen free	1190.0	30.0	1950	2.61	2075220
NHXCH 3x50 RM/25	FE180/E90	Halogen free	1723.0	34.0	2700	3.33	2075221
NHXCH 3x70 RM/35	FE180/E90	Halogen free	2410.0	38.0	3600	4.11	2075222
NHXCH 3x95 RM/50	FE180/E90	Halogen free	3296.0	44.0	4800	5.33	2075223
NHXCH 3x120 RM/70	FE180/E90	Halogen free	4236.0	47.0	6000	6.11	2075224
NHXCH 3x150 RM/70	FE180/E90	Halogen free	5100.0	52.0	7300	7.50	2075225
NHXCH 4x1.5 RE/1.5	FE180/E90	Halogen free	81.0	17.0	310	0.89	2075226
NHXCH 4x2.5 RE/2.5	FE180/E90	Halogen free	128.0	18.0	380	1.03	2075227
NHXCH 4x4 RE/4	FE180/E90	Halogen free	200.0	20.0	500	1.17	2075228
NHXCH 4x6 RE/6	FE180/E90	Halogen free	297.0	21.0	640	1.31	2075229
NHXCH 4x10 RE/10	FE180/E90	Halogen free	504.0	23.0	900	1.53	2075230
NHXCH 4x16 RE/16	FE180/E90	Halogen free	796.0	26.0	1300	1.89	2075231
NHXCH 4x25 RM/16	FE180/E90	Halogen free	1142.0	31.0	1900	2.69	2075232
NHXCH 4x35 RM/16	FE180/E90	Halogen free	1526.0	33.0	2400	3.06	2075233
NHXCH 4x50 RM/25	FE180/E90	Halogen free	2203.0	38.0	3400	4.00	2075234
NHXCH 4x70 RM/35	FE180/E90	Halogen free	3082.0	42.0	4500	4.89	2075235
NHXCH 4x95 RM/50	FE180/E90	Halogen free	4208.0	49.0	6100	6.44	2075236
NHXCH 4x120 RM/70	FE180/E90	Halogen free	5388.0	53.0	7600	7.36	2075237
NHXCH 4x150 RM/70	FE180/E90	Halogen free	6540.0	55.0	8500	8.97	2075238
NHXCH 4x185 RM/95	FE180/E90	Halogen free	8159.0	59.0	8900	10.20	2075239
NHXCH 7x1.5 RE/2.5	FE180/E90	Halogen free	134.0	19.0	420	1.19	2075240
NHXCH 7x2.5 RE/2.5	FE180/E90	Halogen free	200.0	21.0	540	1.33	2075241
NHXCH 7x4.0 RE/4.0	FE180/E90	Halogen free	315.0	22.0	700	1.53	2075242
NHXCH 10x1.5 RE/2.5	FE180/E30	Halogen free	176.0	24.0	560	1.56	2075243
NHXCH 10x2.5 RE/4.0	FE180/E30	Halogen free	286.0	25.0	760	1.83	2075244
NHXCH 12x1.5 RE/2.5	FE180/E90	Halogen free	205.0	24.0	620	1.72	2075245
NHXCH 12x2.5 RE/4	FE180/E90	Halogen free	334.0	25.0	850	2.03	2075246
NHXCH 14x1.5 RE/2.5	FE180/E90	Halogen free	234.0	25.0	700	1.89	2075247
NHXCH 14x2.5 RE/4.0	FE180/E90	Halogen free	403.0	27.0	950	2.22	2075248
NHXCH 19x1.5 RE/4.0	FE180/E90	Halogen free	320.0	28.0	950	2.39	2075249
NHXCH 19x2.5 RE/6.0	FE180/E90	Halogen free	523.0	30.0	1200	2.72	2075250
NHXCH 24x1.5 RE/6.0	FE180/E90	Halogen free	413.0	32.0	1150	2.89	2075251
NHXCH 24x2.5 RE/10	FE180/E90	Halogen free	696.0	35.0	1550	3.39	2075252
NHXCH 30x1.5 RE/6.0	FE180/E90	Halogen free	499.0	34.0	1350	3.33	2075253

NOTES

HEAT-RESISTANT SILICONE CABLES

SIA
Solid silicone wire

RoHS

CROSS SECTION

APPLICATION

For wiring lights and switchgears. Used in areas where temperature fluctuations cause conventional PVC-insulated cables to become brittle or cracked. Single-core cables are used in smelting works, steelworks and rolling mills, in coking plants, foundries, cement, glass and ceramics factories, in the electric motor industry, in ships and aircraft and in heating appliances and light fittings. They are resistant to vegetable and animal fats, many oils and diluted acids. The insulation is protected against humidity and resistant to oxygen and ozone. One outstanding property is the high flashpoint. If the cable sets on fire, an insulating layer of silicone dioxide remains on the conductor to prevent a short circuit.

SPECIAL FEATURES

Properties
Halogen free
Tin-plated copper

STRUCTURE

Conductor	Solid copper conductor, tin plated
Cores	Insulation: silicone rubber

TECHNICAL DATA

Nominal voltage	500 V
Test voltage	2000 V
Temperature range	-60°C to + 180°C

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	No fire propagation
Halogen-free nature	According to VDE 0472

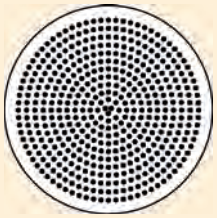
Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
SIA	0.5	Blue	4.8	2.0	7.5	7110501	-115
SIA	0.5	Brown	4.8	2.0	7.5	7110501	-105
SIA	0.5	Green/yellow	4.8	2.0	7.5	7110501	-101
SIA	0.5	Black	4.8	2.0	7.5	7110501	-100
SIA	0.5	Red	4.8	2.0	7.5	7110501	-103
SIA	0.75	Blue	7.2	2.2	10.2	7110702	-115
SIA	0.75	Brown	7.2	2.2	10.2	7110702	-105
SIA	0.75	Green/yellow	7.2	2.2	10.2	7110702	-101
SIA	0.75	Black	7.2	2.2	10.2	7110702	-100
SIA	0.75	Red	7.2	2.2	10.2	7110702	-103
SIA	1.0	Blue	9.6	2.4	12.6	7111001	-115
SIA	1.0	Brown	9.6	2.4	12.6	7111001	-105
SIA	1.0	Green/yellow	9.6	2.4	12.6	7111001	-101
SIA	1.0	Black	9.6	2.4	12.6	7111001	-100
SIA	1.0	Red	9.6	2.4	12.6	7111001	-103
SIA	1.5	Blue	14.4	2.6	18.1	7111501	-115
SIA	1.5	Brown	14.4	2.6	18.1	7111501	-105
SIA	1.5	Green/yellow	14.4	2.6	18.1	7111501	-101
SIA	1.5	Black	14.4	2.6	18.1	7111501	-100
SIA	1.5	Red	14.4	2.6	18.1	7111501	-103
SIA	2.5	Blue	24.0	3.2	28.7	7112501	-115
SIA	2.5	Brown	24.0	3.2	28.7	7112501	-105
SIA	2.5	Green/yellow	24.0	3.2	28.7	7112501	-101
SIA	2.5	Black	24.0	3.2	28.7	7112501	-100
SIA	2.5	Red	24.0	3.2	28.7	7112501	-103
SIA	4.0	Blue	38.4	3.9	45.2	7114001	-115
SIA	4.0	Brown	38.4	3.9	45.2	7114001	-105
SIA	4.0	Green/yellow	38.4	3.9	45.2	7114001	-101
SIA	4.0	Black	38.4	3.9	45.2	7114001	-100
SIA	4.0	Red	38.4	3.9	45.2	7114001	-103

SIAF

Flexible silicon wire

RoHS

CROSS SECTION



SPECIAL FEATURES

Properties
Halogen free
Tin-plated copper

APPLICATION

For wiring lights and switchgears. Used in areas where temperature fluctuations cause conventional PVC-insulated cables to become brittle or cracked. They are resistant to vegetable and animal fats, many oils and diluted acids. The insulation is protected against humidity and resistant to oxygen and ozone. One outstanding property is the high flashpoint. If the cable sets on fire, an insulating layer of silicone dioxide remains on the conductor to prevent a short circuit.

STRUCTURE

Conductor	Flexible copper conductor, tin plated, according to VDE 0295
Cores	Silicone rubber insulation

TECHNICAL DATA

Nominal voltage	500 V
Test voltage	2000 V
Temperature range	-60°C to + 180°C

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	No fire propagation
Halogen-free nature	According to VDE 0472

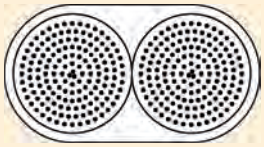
Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number	Colour code
SIAF	0.5	Black	4.8	2.1	8.5	7100501	-100
SIAF	0.5	Green/yellow	4.8	2.1	8.5	7100501	-101
SIAF	0.5	White	4.8	2.1	8.5	7100501	-102
SIAF	0.5	Red	4.8	2.1	8.5	7100501	-103
SIAF	0.5	Brown	4.8	2.1	8.5	7100501	-105
SIAF	0.5	Blue	4.8	2.1	8.5	7100501	-115
SIAF	0.75	Black	7.2	2.4	11.8	7100701	-100
SIAF	0.75	Green/yellow	7.2	2.4	11.8	7100701	-101
SIAF	0.75	White	7.2	2.4	11.8	7100701	-102
SIAF	0.75	Red	7.2	2.4	11.8	7100701	-103
SIAF	0.75	Brown	7.2	2.4	11.8	7100701	-105
SIAF	0.75	Blue	7.2	2.4	11.8	7100701	-115
SIAF	1.0	Black	9.6	2.5	13.5	7101001	-100
SIAF	1.0	Green/yellow	9.6	2.5	13.5	7101001	-101
SIAF	1.0	White	9.6	2.5	13.5	7101001	-102
SIAF	1.0	Red	9.6	2.5	13.5	7101001	-103
SIAF	1.0	Brown	9.6	2.5	13.5	7101001	-105
SIAF	1.0	Blue	9.6	2.5	13.5	7101001	-115
SIAF	1.5	Black	14.4	2.8	18.5	7101501	-100
SIAF	1.5	Green/yellow	14.4	2.8	18.5	7101501	-101
SIAF	1.5	White	14.4	2.8	18.5	7101501	-102
SIAF	1.5	Red	14.4	2.8	18.5	7101501	-103
SIAF	1.5	Brown	14.4	2.8	18.5	7101501	-105
SIAF	1.5	Blue	14.4	2.8	18.5	7101501	-115
SIAF	2.5	Black	24.0	3.4	30.0	7102501	-100
SIAF	2.5	Green/yellow	24.0	3.4	30.0	7102501	-101
SIAF	2.5	White	24.0	3.4	30.0	7102501	-102
SIAF	2.5	Red	24.0	3.4	30.0	7102501	-103
SIAF	2.5	Brown	24.0	3.4	30.0	7102501	-105
SIAF	2.5	Blue	24.0	3.4	30.0	7102501	-115
SIAF	4.0	Black	38.4	4.2	47.3	7104001	-100
SIAF	4.0	Green/yellow	38.4	4.2	47.3	7104001	-101
SIAF	4.0	White	38.4	4.2	47.3	7104001	-102
SIAF	4.0	Red	38.4	4.2	47.3	7104001	-103
SIAF	4.0	Brown	38.4	4.2	47.3	7104001	-105
SIAF	4.0	Blue	38.4	4.2	47.3	7104001	-115
SIAF	6.0	Black	57.6	5.2	71.2	7106001	-100
SIAF	6.0	Green/yellow	57.6	5.2	71.2	7106001	-101
SIAF	6.0	White	57.6	5.2	71.2	7106001	-102
SIAF	6.0	Red	57.6	5.2	71.2	7106001	-103
SIAF	6.0	Brown	57.6	5.2	71.2	7106001	-105
SIAF	6.0	Blue	57.6	5.2	71.2	7106001	-115

SIF-PV/P

Low voltage cable

RoHS

CROSS SECTION



APPLICATION

The highly heat-resistant low-voltage cable SIF-PV/P has been specially designed for the installation of low-voltage halogen bulbs. The silicone insulation (up to 180°C) is suitable for all temperatures that arise in relation to lights and lamps. The heat-resistant PVC sheath (up to 105°C) is an additional safety precaution for the event of mislaid cables, e.g. cables laid too closely to the lights.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Conductor	Bare copper stranded wire, flexible according to VDE 0295, class 5
Cores	Silicone insulation according to DIN VDE 0206 part 20
Outer sheath	Heat-resistant PVC compound according to VDE 207 part 5 YM4

TECHNICAL DATA

Nominal voltage	24 V
Test voltage	500 V
Electricity	Max. according to VDE 0100

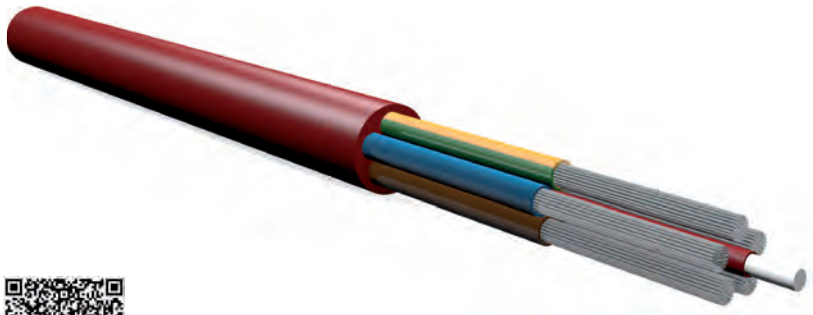
Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
SIF-PV/P 2x1.5	29.0	4.2 X 6.8	77	7130011
SIF-PV/P 2x2.5	48.0	4.7 X 7.8	123	7130021
SIF-PV/P 2x4.0	77.0	5.4 X 9.2	150	7130031


HEAT
RESI
STANT
SILIC
ONE
CAB
LES

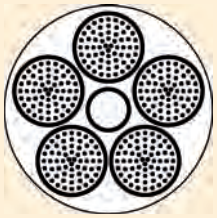
SIHF

Silicone insulated cable

RoHS



CROSS SECTION



APPLICATION

These heat and cold-resistant silicone hose cables are used as moving connection cables for devices subject to the influence of high temperatures and ambient temperatures of -60°C to +180°C. They can temporarily withstand temperatures of up to +250°C. They are suitable for headlights, heating appliances, rolling mills and thermal power plants, as well as for use as moving connection cables. They are resistant to vegetable and animal fats. The insulation is protected against humidity and resistant to ozone and oxygen. One outstanding property is the high flashpoint. If the cable sets on fire, an insulating layer of silicone dioxide remains on the conductor to help prevent a short circuit.

SPECIAL FEATURES

Properties
Halogen free
Tin-plated copper

Sheath colour
Auburn

STRUCTURE

Conductor	Tin-plated copper stranded wire, flexible, design structure according to DIN VDE 0295 class 5, cores concentrically stranded in layers
Cores	Silicone rubber, coloured up to 5-cored or black from 6-cored with imprinted digits according to VDE 0293
Outer sheath	Silicone rubber according to VDE 0207 part 21

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	50 Hz: 2.000 V
Insulation resistance	At 20°C min.: 20 MOhm x km
Operating temperature	-60°C to +180°C
Min. installation temperature	-25°C
Max. installation temperature	+180°C
Min. bending radius	7.5 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
Insulation integrity	According to VDE 0472 part 814 and IEC 331

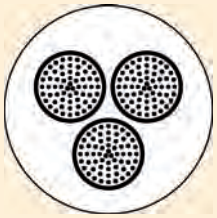
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
SIHF-O	2x0.75	14.0	6.4	53	7150200
SIHF-O	2x1	19.0	6.6	64	7150201
SIHF-O	2x1.5	28.8	7.6	77	7150202
SIHF-O	2x2.5	48.0	7.5	80	7150203
SIHF	3x0.75	21.6	6.8	64	7150300
SIHF	3x1	29.0	6.6	79	7150301
SIHF	3x1.5	43.0	8.0	98	7150302
SIHF	3x2.5	72.0	9.7	152	7150303
SIHF	4x0.75	29.0	7.8	84	7150400
SIHF	4x1	38.0	8.0	95	7150401
SIHF	4x1.5	58.0	8.8	122	7150402
SIHF	4x2.5	96.0	10.6	189	7150403
SIHF	4x4	154.0	13.1	295	7150404
SIHF	4x6	230.0	15.2	442	7150406
SIHF	4x10	385.0	20.0	707	7150410
SIHF	4x16	615.0	24.3	987	7150416
SIHF	4x25	960.0	27.7	1557	7150425
SIHF	4x35	1344.0	30.5	2025	7150435
SIHF	5x0.75	36.0	8.5	101	7150500
SIHF	5x1	48.0	8.8	116	7150501
SIHF	5x1.5	72.0	9.6	148	7150502
SIHF	5x2.5	120.0	11.6	229	7150503
SIHF	5x4	192.0	14.4	359	7150504
SIHF	5x6	288.0	17.7	535	7150506
SIHF	7x0.75	50.0	9.2	125	7150700
SIHF	7x1	67.0	9.5	144	7150701
SIHF	7x1.5	100.8	10.4	202	7150702
SIHF	7x2.5	168.0	12.6	293	7150703
SIHF	10x1.5	144.0	14.6	283	7151002
SIHF	12x1.5	173.0	13.6	320	7151202
SIHF	16x1.5	231.0	16.2	446	7151602
SIHF	18x1.5	260.0	16.8	478	7151802
SIHF	20x1.5	288.0	17.5	566	7152002
SIHF	24x1.5	346.0	19.8	722	7152402

H05 SS-F

Silicone insulated cable

RoHS

CROSS SECTION



Acc. to
VDE 0285-525-2-83

SPECIAL FEATURES

Sheath colour
Black
Red
White

APPLICATION

As a connection cable for moving appliances subject to low mechanical loads and high ambient temperatures, e.g. in smelting works and steelworks, but also for low temperatures. The core insulation is made on the basis of silicone rubber. It is resistant to vegetable and animal oils and fats, acids, lyes and oxidation agents. For fixed, mechanically protected installation. Suitable for both indoor and outdoor use. The insulation is protected against humidity and resistant to oxygen and ozone. One outstanding property is the high flashpoint. If the cable sets on fire, an insulating layer of silicone dioxide remains on the conductor to help prevent a short circuit.

STRUCTURE

Conductor	Copper stranded wire, tin plated, flexible (class 5)
Cores	Concentrically stranded in layers; silicone rubber, colour acc. to VDE 0293
Outer sheath	Silicone rubber according to VDE 0207 part 21

TECHNICAL DATA

Nominal voltage	300 V/500 V
Test voltage	2000 V
Max. permissible conductor temperature	180°C
Permissible cable sheath temperature	-60°C to +180°C (fixed installation)
Bending radius	4 x cable diameter (fixed installation)

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05SS-F	2x0.75	14.4	7.4	57	716102075
H05SS-F	3G0.75	22.0	7.2	71	716103075
H05SS-F	4G0.75	29.0	8.8	90	716104075
H05SS-F	5G0.75	36.0	9.9	109	716105075
H05SS-F	2x1	19.2	8.0	67	716202100
H05SS-F	3G1	29.0	8.5	84	716203100
H05SS-F	4G1	38.4	9.3	101	716204100
H05SS-F	5G1	48.0	10.3	125	716205100
H05SS-F	2x1.5	29.0	10.8	90	716302150
H05SS-F	3G1.5	43.2	11.4	114	716303150
H05SS-F	4G1.5	58.0	12.6	137	716304150
H05SS-F	5G1.5	72.0	13.7	163	716305150
H05SS-F	7G1.5	101.0	11.2	187	716307150
H05SS-F	2x2.5	48.0	12.6	149	716402250
H05SS-F	3G2.5	72.0	13.4	169	716403250

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
H05SS-F	4G2.5	96.0	14.8	209	716404250
H05SS-F	5G2.5	120.0	16.3	255	716405250
H05SS-F	4G4	154.0	17.2	331	716504400
H05SS-F	4G6	230.4	19.1	488	716604600

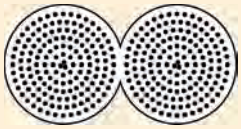
NOTES

SPEAKER CABLES

Speaker cable YFAZ
0.20 mm

RoHS

CROSS SECTION



PVC flame retardant acc. to CEI 20-22 II° and IEC 332-3C

SPECIAL FEATURES

Sheath colour
Transparent, also available in red/black

APPLICATION

Speaker cables are used to connect amplifiers and box speakers. These cables are crush resistant. As large a cross section as possible should be selected, firstly to transmit even high outputs with low losses and secondly to attenuate the counter EMF generated in the speaker via the amplifier's internal resistance.

STRUCTURE

Conductor	Copper stranded wire, bare
Insulation	PVC

TECHNICAL DATA

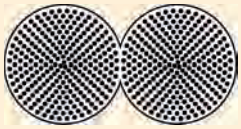
Nominal voltage	50 V
Test voltage	75 V
Temperature range	-10°C to +80°C
Sound radiation resistance	80 Mrad
Bending radius	12 x Ø
Insulation resistance	> 200 MOhm x km
Conductor resistance	< 80 Ohm/km (0.25 mm²), < 59 Ohm/km (0.35 mm²), < 38 Ohm/km (0.50 mm²), < 25 Ohm/km (0.75 mm²), < 19 Ohm/km (1.00 mm²), < 13 Ohm/km (1.50 mm²), < 10 Ohm/km (2.00 mm²), < 8 Ohm/km (2.50 mm²), < 5 Ohm/km (4.00 mm²)
Capacity	~ 130 pF/m

Product description	Core structure (mm)	Dimension (approx.)	Insulation	Cu weight	Weight (kg/km)	Product number
Speaker cable 2x0.75/0.20 transparent coils	24 x 0.20	2.35 x 4.9 mm	PVC	14.0	23	6560001
Speaker cable 2x1.5/0.20 transparent coils	48 x 0.20	2.80 x 5.8 mm	PVC	30.0	42	6560002
Speaker cable 2x2.5/0.20 transparent coils	78 x 0.20	3.60 x 7.4 mm	PVC	50.0	60	6560003
Speaker cable 2x4.0/0.20 transparent coils	126 x 0.20	4.50 x 9.7 mm	PVC	80.0	105	6560004
Speaker cable 2x6.0/0.20 transparent coils	189 x 0.20	6.10 x 12.5 mm	PVC	115.2	141	6560005
Speaker cable 2x10.0/0.20 transparent coils	564 x 0.15	7.00 x 15.0 mm	PVC	200.0	252	6560006
Speaker cable 2x0.75/0.20 black/red coils	24 x 0.20	2.35 x 4.9 mm	PVC	14.0	23	6561001
Speaker cable 2x1.5/0.20 black/red coils	48 x 0.20	2.80 x 5.8 mm	PVC	30.0	42	6561002
Speaker cable 2x2.5/0.20 black/red coils	78 x 0.20	3.60 x 7.4 mm	PVC	50.0	60	6561003

Speaker cable YFAZ
0.10 mm

RoHS

CROSS SECTION



PVC flame retardant acc. to CEI 20-22 II° and IEC 332-3C

SPECIAL FEATURES

Sheath colour
Transparent, also available in red/black

APPLICATION

Speaker cables are used to connect amplifiers and box speakers. These cables are crush resistant. As large a cross section as possible should be selected, firstly to transmit even high outputs with low losses and secondly to attenuate the counter EMF generated in the speaker via the amplifier's internal resistance.

STRUCTURE

Conductor	Copper stranded wire, bare
Insulation	PVC

TECHNICAL DATA

Nominal voltage	50 V
Test voltage	75 V
Temperature range	-10°C to +80°C
Sound radiation resistance	80 Mrad
Bending radius	12 x Ø
Insulation resistance	> 200 MOhm x km
Conductor resistance	< 80 Ohm/km (0.25mm²), < 59 Ohm/km (0.35 mm²), < 38 Ohm/km (0.50 mm²), < 25 Ohm/km (0.75 mm²), < 19 Ohm/km (1.00 mm²), < 13 Ohm/km (1.50 mm²), < 10 Ohm/km (2.00 mm²), < 8 Ohm/km (2.50 mm²), < 5 Ohm/km (4.00 mm²)
Capacity	~ 130 pF/m

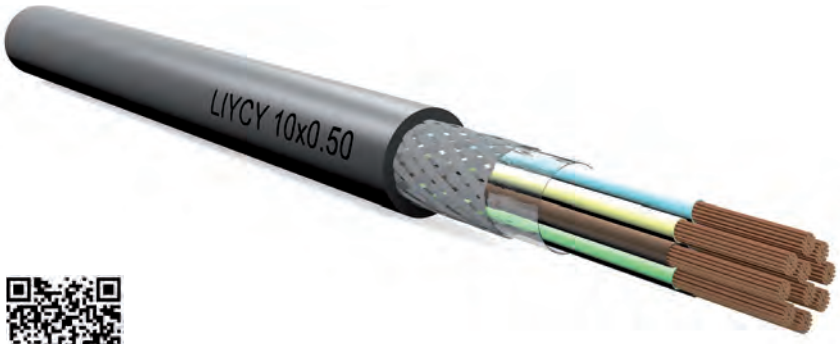
Product description	Core Structure (mm)	Dimension (approx.)	Insulation	Cu weight	Weight (kg/km)	Product number
Speaker cable 2x1.5/0.10 transparent coils HFLX	189 x 0.10	2.8 x 5.8 mm	PVC	30.0	42	6570002
Speaker cable 2x2.5/0.10 transparent coils HFLX	322 x 0.10	3.6 x 7.4 mm	PVC	50.0	60	6570003
Speaker cable 2x4.0/0.10 transparent coils HFLX	511 x 0.10	4.5 x 9.7 mm	PVC	80.0	105	6570004
Speaker cable 2x6.0/0.10 transparent coils HFLX	777 x 0.10	6.1 x 12.5 mm	PVC	120.0	141	6570005
Speaker cable 2x6.0/0.10 transparent coils HFLX	1260 x 0.10	7.0 x 15.0 mm	PVC	200.0	252	6570006

ELECTRONIC CABLES

LIYCY

Screened electronic cable

RoHS



CROSS SECTION

Acc. to DIN VDE 0282 part 9

SPECIAL FEATURES

Sheath colour
Grey

APPLICATION

As a connection cable in the fields of control, measuring and signal technology, data processing and office technology. Its design makes it best suited for portable devices. The copper mesh offers optimum protection against external high-frequency influences. For dry, damp and wet rooms, as well as outdoor use in the case of fixed installation but not suitable for underground installation.

STRUCTURE

Conductor	Copper stranded wire, bare according to VDE 0812, cl. 5 = flexible stranding in layers
Cores	PVC, based on DIN VDE 47100
Stranding method	2 cores stranded into a pair, 4 pairs into a bundle – stranded in layers to the cable core, in the case of 2 pairs: stranded to a star quad, bundle wrapped in foil
Shield	Mesh made from tin-plated copper round wires with a tin-plated drain wire
Outer sheath	PVC

TECHNICAL DATA

Nominal voltage	250 V
Test voltage	1200 V
Operating temperature	-30°C to +70°C
Max. operating temperature	+70°C
Min. installation temperature	-5°C
Max. installation temperature	+70°C
Min. bending radius	7.5 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1
PVC properties	Self extinguishing and flame retardant

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
LIYCY	2X0.14	12.0	3.6	20	8414102
LIYCY	3X0.14	13.0	4.0	24	8414103
LIYCY	4X0.14	14.3	4.5	28	8414104
LIYCY	5X0.14	15.5	4.9	34	8414105
LIYCY	7X0.14	19.0	5.2	41	8414107
LIYCY	8X0.14	21.2	5.6	52	8414108
LIYCY	10X0.14	28.5	6.3	57	8414110
LIYCY	12X0.14	30.4	6.4	72	8414112
LIYCY	14X0.14	32.0	6.8	78	8414114
LIYCY	16X0.14	48.0	7.3	97	8414116
LIYCY	18X0.14	51.5	7.5	100	8414118
LIYCY	20X0.14	58.3	7.8	116	8414120
LIYCY	21X0.14	60.2	7.9	131	8414121
LIYCY	24X0.14	74.3	9.1	158	8414124
LIYCY	25X0.14	76.2	9.2	165	8414125
LIYCY	2X0.25	16.0	4.4	25	8425102
LIYCY	3X0.25	21.0	4.9	29	8425103
LIYCY	4X0.25	24.0	5.2	36	8425104
LIYCY	5X0.25	29.0	5.6	44	8425105
LIYCY	7X0.25	37.0	6.0	53	8425107
LIYCY	8X0.25	42.0	6.1	59	8425108
LIYCY	10X0.25	46.0	7.3	84	8425110
LIYCY	12X0.25	51.0	7.8	92	8425112
LIYCY	14X0.25	64.2	8.0	120	8425114
LIYCY	15X0.25	67.5	9.4	127	8425115
LIYCY	16X0.25	70.8	9.6	135	8425116
LIYCY	18X0.25	83.0	8.9	116	8425118
LIYCY	20X0.25	88.0	10.2	157	8425120
LIYCY	21X0.25	105.0	10.5	163	8425121
LIYCY	24X0.25	110.0	10.6	168	8425124
LIYCY	25X0.25	116.7	12.1	220	8425125
LIYCY	2X0.34	21.0	4.4	34	8434102
LIYCY	3X0.34	27.0	4.9	40	8434103
LIYCY	4X0.34	33.0	5.6	49	8434104
LIYCY	5X0.34	36.0	6.0	61	8434105
LIYCY	6X0.34	45.0	6.6	62	8434106
LIYCY	7X0.34	46.0	6.5	81	8434107
LIYCY	8X0.34	45.0	7.2	90	8434108
LIYCY	10X0.34	74.0	8.2	118	8434110
LIYCY	12X0.34	80.0	8.7	131	8434112
LIYCY	14X0.34	86.0	9.5	141	8434114
LIYCY	16X0.34	94.0	10.0	155	8434116
LIYCY	18X0.34	103.0	10.0	181	8434118
LIYCY	20X0.34	115.3	10.9	195	8434120
LIYCY	21X0.34	119.0	11.2	201	8434121
LIYCY	24X0.34	131.0	11.9	223	8434124
LIYCY	36X0.34	188.3	14.3	325	8434136
LIYCY	2X0.50	29.0	5.0	36	8450102
LIYCY	3X0.50	35.0	6.0	49	8450103
LIYCY	4X0.50	43.0	6.8	60	8450104
LIYCY	5X0.50	51.0	7.1	81	8450105
LIYCY	6X0.50	58.0	6.9	76	8450106
LIYCY	7X0.50	65.0	7.0	84	8450107
LIYCY	8X0.50	75.0	7.8	99	8450108
LIYCY	10X0.50	88.0	9.6	141	8450110
LIYCY	12X0.50	99.0	10.0	157	8450112
LIYCY	18X0.50	148.0	11.0	217	8450118
LIYCY	20X0.50	165.0	11.6	239	8450120
LIYCY	21X0.50	171.0	11.7	251	8450121
LIYCY	24X0.50	236.0	13.3	300	8450124
LIYCY	25X0.50	250.0	13.4	313	8450125
LIYCY	2X0.75	38.0	6.0	49	8475102
LIYCY	3X0.75	49.0	6.5	63	8475103
LIYCY	4X0.75	58.0	7.0	85	8475104
LIYCY	5X0.75	67.0	7.6	102	8475105
LIYCY	6X0.75	87.0	9.1	128	8475106
LIYCY	7X0.75	100.0	8.3	134	8475107
LIYCY	8X0.75	110.0	9.8	151	8475108

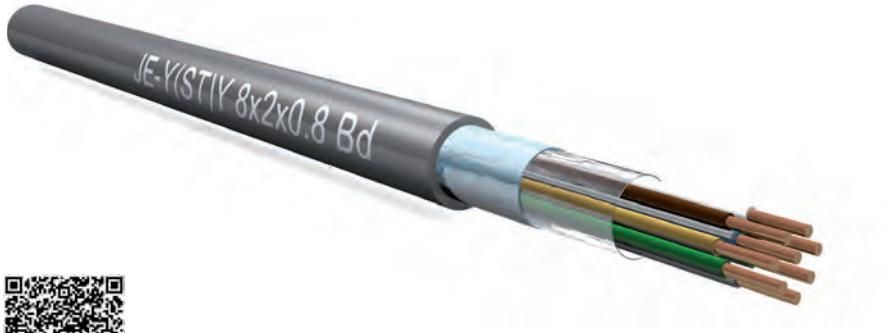
Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
LIYCY	10X0.75	131.0	10.0	150	8475110
LIYCY	12X0.75	154.0	11.1	207	8475112
LIYCY	18X0.75	195.0	12.6	298	8475118
LIYCY	20X0.75	238.0	14.9	332	8475120
LIYCY	24X0.75	195.0	12.6	298	8475124
LIYCY	25X0.75	280.8	16.6	404	8475125
LIYCY	2X1.0	51.0	6.5	55	8410102
LIYCY	3X1.0	57.0	6.8	71	8410103
LIYCY	4X1.0	68.0	7.4	86	8410104
LIYCY	5X1.0	95.0	8.2	107	8410105
LIYCY	7X1.0	118.0	8.8	133	8410107
LIYCY	10X1.0	145.0	11.5	215	8410110
LIYCY	12X1.0	168.0	12.0	254	8410112
LIYCY	24X1.0	344.0	16.2	440	8410124
LIYCY	25X1.0	335.0	16.0	478	8410125
LIYCY	2X1.5	63.0	7.7	86	8415102
LIYCY	3X1.5	76.0	8.0	115	8415103
LIYCY	4X1.5	108.0	8.7	153	8415104
LIYCY	5X1.5	125.0	9.5	176	8415105
LIYCY	7X1.5	164.0	10.8	192	8415107
LIYCY	8X1.5	172.0	12.5	219	8415108
LIYCY	10X1.5	195.0	13.0	274	8415110
LIYCY	12X1.5	254.0	14.0	315	8415112
LIYCY	18X1.5	350.0	15.5	450	8415118
LIYCY	20X1.5	375.0	17.0	500	8415120
LIYCY	25X1.5	550.0	18.5	618	8415125
LIYCY	2x2x0.14	22.5	5.0	44	8514102
LIYCY	3x2x0.14	25.7	5.6	53	8514103
LIYCY	4x2x0.14	39.3	6.1	60	8514104
LIYCY	5x2x0.14	44.5	6.5	80	8514105
LIYCY	6x2x0.14	51.4	7.2	85	8514106
LIYCY	8x2x0.14	56.9	8.3	115	8514108
LIYCY	10x2x0.14	65.3	9.0	130	8514110
LIYCY	12x2x0.14	78.4	9.4	160	8514112
LIYCY	14x2x0.14	84.3	11.0	180	8514114
LIYCY	16x2x0.14	93.4	11.0	220	8514116
LIYCY	18x2x0.14	99.4	11.9	240	8514118
LIYCY	20x2x0.14	97.0	15.7	183	8514120
LIYCY	2x2x0.25	28.0	6.8	54	8525102
LIYCY	3x2x0.25	39.6	7.3	66	8525103
LIYCY	4x2x0.25	44.9	7.9	81	8525104
LIYCY	5x2x0.25	55.0	9.4	98	8525105
LIYCY	6x2x0.25	69.5	10.2	115	8525106
LIYCY	8x2x0.25	76.9	10.5	130	8525108
LIYCY	10x2x0.25	110.0	13.3	158	8525110
LIYCY	12x2x0.25	121.5	13.7	190	8525112
LIYCY	16x2x0.25	146.5	15.1	238	8525116
LIYCY	25x2x0.25	233.0	19.4	344	8525125
LIYCY	2x2x0.34	40.5	7.4	74	8534102
LIYCY	3x2x0.34	49.8	8.0	98	8534103
LIYCY	4x2x0.34	62.9	9.5	114	8534104
LIYCY	6x2x0.34	84.1	10.6	157	8534106
LIYCY	8x2x0.34	97.5	10.9	195	8534108
LIYCY	12x2x0.34	138.3	14.3	272	8534112
LIYCY	16x2x0.34	166.2	15.4	349	8534116
LIYCY	18x2x0.34	205.6	16.6	399	8534118
LIYCY	24x2x0.34	266.1	18.6	464	8534124
LIYCY	2x2x0.50	42.5	7.3	95	8550102
LIYCY	3x2x0.50	64.0	8.4	110	8550103
LIYCY	4x2x0.50	71.0	9.4	135	8550104
LIYCY	6x2x0.50	120.0	11.2	198	8550106
LIYCY	8x2x0.50	144.0	11.5	259	8550108
LIYCY	12x2x0.50	199.0	15.1	354	8550112
LIYCY	16x2x0.50	254.0	17.3	459	8550116
LIYCY	20x2x0.50	288.3	19.5	580	8550120

Product description		Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
LIYCY	2x2x0.75	48.3	9.5	106	8575102
LIYCY	3x2x0.75	84.0	9.6	140	8575103
LIYCY	4x2x0.75	95.0	10.3	179	8575104
LIYCY	5x2x0.75	128.0	11.8	208	8575105
LIYCY	6x2x0.75	146.0	12.4	246	8575106
LIYCY	8x2x0.75	180.0	14.7	306	8575108
LIYCY	10x2x0.75	220.0	15.5	312	8575110
LIYCY	12x2x0.75	261.0	16.5	390	8575112
LIYCY	20x2x0.75	417.6	23.7	700	8575120
LIYCY	2x2x1.0	84.0	10.3	136	8510102
LIYCY	3x2x1.0	103.0	10.5	174	8510103
LIYCY	4x2x1.0	132.0	11.0	226	8510104

JE-Y(ST)Y Bd Si

Cable for industrial electronics

RoHS



CROSS SECTION

Acc. to VDE 0815

SPECIAL FEATURES

Sheath colour
Grey
Blue (RAL 5051) on request

APPLICATION

Installation cables for industrial electronics with a static shield are used for telephone and information systems in environments subject to interference, as well as in the case of increased requirements regarding the transmission of signals and measured values in control systems. They are suitable for installation in dry and damp operating sites within buildings, on and under plastered surfaces, as well as for fixed laying outdoors and on buildings' external walls.

STRUCTURE

Conductor	Copper conductor, bare, solid, design structure according to DIN VDE 0815 part 4, pairs stranded to a bundle, overlapping plastic wrapping
Cores	PVC insulation according to VDE 0207 part 4 Colour coding according to VDE 0815
Drain wire	Copper drain wire under metal foil, bare 0.8 mm
Shield	Plastic-laminated metal foil
Outer sheath	PVC according to VDE 0207 part 5

TECHNICAL DATA

Nominal voltage	225 V
Test voltage	A/A 500 V A/S 2000 V
Loop resistance	73.2 Ohm/km
Insulation resistance	100 MOhm x km
Cable attenuation	Approx. 1.1 dB/km
Operating capacity	At 800 Hz 100 nF/km
Operating temperature	30°C to + 70°C
Max. operating temperature	+ 70°C
Capacitive coupling	At 800 Hz max. 200 pF/100 m
Min. installation temperature	- 50°C
Max. installation temperature	+ 50°C
Min. bending radius	Repeated bending under tension: 7.5 x cable diameter

TESTS ACCORDING TO DIN VDE 0472 AND IEC:

Flammability	Test method B according to VDE 0472 part 804 and IEC 332-1

Product description			Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (KWh/m)	Product number
JE-Y(ST)Y	2x2x0.8 BD SI	Grey	25.0	6.5	55	0.25	5130001
JE-Y(ST)Y	4x2x0.8 BD SI	Grey	45.0	8.5	88	0.38	5130002
JE-Y(ST)Y	8x2x0.8 BD SI	Grey	85.0	10.5	144	0.56	5130003
JE-Y(ST)Y	12x2x0.8 BD SI	Grey	126.0	12.0	199	0.81	5130004
JE-Y(ST)Y	16x2x0.8 BD SI	Grey	166.0	13.5	264	1.00	5130005
JE-Y(ST)Y	20x2x0.8 BD SI	Grey	206.0	15.0	318	1.13	5130006
JE-Y(ST)Y	24x2x0.8 BD SI	Grey	244.0	16.5	374	0.86	5130011
JE-Y(ST)Y	32x2x0.8 BD SI	Grey	327.0	19.0	498	1.75	5130007
JE-Y(ST)Y	40x2x0.8 BD SI	Grey	407.0	21.0	605	2.08	5130008
JE-Y(ST)Y	80x2x0.8 BD SI	Grey	809.0	29.0	1194	3.92	5130009
JE-Y(ST)Y	100x2x0.8 BD SI	Grey	1015.0	32.0	1456	4.94	5130010

NOTES

COAX CABLES

Aerial coax cable HF 050

Miniature cable

RoHS

satline

CROSS SECTION

APPLICATION

Miniature cable for star networks and household distribution systems. The small outer diameter makes this cable particularly suitable for retrospective installation. Suitable for digital transmission.

SPECIAL FEATURES

Sheath colour
White

STRUCTURE

Inner conductor	Ø 0.65 mm, copper
Insulation	Foamed polyethylene
Shield	Inner shield in Al/Pet/Al compound, coverage: >100% Outer shield Al/Pet/Al, coverage >100%
Mesh	Tin-plated copper wires, coverage 70%
Outer sheath	Made from PVC, diameter 4.2 +/- 0.15 mm

TECHNICAL DATA

Min. bending radius (assembly)	25 mm	
Total weight	18 g/m	
Copper weight	7 g/m	
Max. tensile force	30 N	
Nom. attenuation	10 MHz 4.0 dB/100 m 50 MHz 6.6 dB/100 m 100 MHz 9.7 dB/100 m	230 MHz 14.9 dB/100 m 300 MHz 17.2 dB/100 m 470 MHz 21.7 dB/100 m
Return loss attenuation (dB)	5-470 MHz > 20 470-862 MHz > 18 862-2150 MHz > 16	
Wave resistance	75 +/- 3 Ohm	
Operating capacity	53 pF/m	
Velocity factor	0.84	
Loop resistance	90 Ohm	
Nom. attenuation at	600 MHz 24.5 dB/100 m 860 MHz 30.0 dB/100 m 1000 MHz 32.5 dB/100 m	1350 MHz 38.3 dB/100 m 1750 MHz 44.2 dB/100 m 2150 MHz 49.4 dB/100 m
Shielding attenuation (dB)	30-900 MHz > 85 900-2150 MHz > 85	
Thermal properties	Min. installation temperature: -5°C Operating and storage temperature: PVC: -30°C to +75°C	

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
SATLINE HF 050	7.0		17	6260050

Aerial coax cable HF 200

Lead-free PVC sheath, non-migrating
Satellite, shielding capability > 90 dB

RoHS

satline

CROSS SECTION

SPECIAL FEATURES

Sheath colour
White

APPLICATION

For installation in households. Particularly suited for use with sophisticated satellite systems thanks to proper attenuation values. Suitable for digital transmission.

STRUCTURE

Inner conductor	Ø 1.02 +/- 0.02 mm, bare copper wire
Insulation	Foamed polyethylene, diameter (mm) 4.60 +/- 0.10 mm
Shield	Inner shield as a compound: Al/Pet/Al, coverage >100% Outer shield: Al/Pet/Al, coverage >100%
Mesh	Tin-plated copper wires, coverage 70%
Outer sheath	Made from PVC, diameter 7.00 +/- 0.10 mm

TECHNICAL DATA

Wave resistance	75 +/- 3 Ohm	
Direct current resistance (Ohm/km)	Inner conductor <23.0 Outer conductor <40.0	
Capacity (pF/m)	54 +- 3	
NVP value	0.82	
Operating capacity	54 +-3 pF/m	
Attenuation (dB/100 m) at	50 MHz: 4.90 200 MHz: 9.20 450 MHz: 14.00 862 MHz: 20.00 1000 MHz: 21.80	1350 MHz: 25.60 1750 MHz: 29.30 2150 MHz: 33.10 2400 MHz: 35.90 3000 MHz: 40.90
Return loss attenuation (dB)	5-470 MHz > 25 470-1000 MHz > 20 862-2400 MHz > 16	
Shielding attenuation (dB)	100 MHz > 90 30-1000 MHz > 80 1000-2000 MHz > 75 2000-3000 MHz > 65	

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
SATLINE HF200 90 dB	15.0	6.9	57	6260200

Aerial coax cable HF 200 PLUS

RoHS

Class A lead-free PVC sheath, non-migrating
Satellite, shielding capability > 100 dB

satline

CROSS SECTION

APPLICATION

For installation in households. Particularly suited for use with sophisticated satellite systems thanks to proper attenuation values. Suitable for digital transmission.

SPECIAL FEATURES

Sheath colour
White

STRUCTURE

Inner conductor	Ø 1.02 +/- 0.02 mm, bare copper wire
Insulation	Foamed polyethylene, diameter (mm) 4.65 +/- 0.10 mm
Shield	Inner shield in Al/Pet/Al compound, coverage: > 100%
Mesh	Tin-plated copper wires, coverage 70%
Outer sheath	Made from PVC, diameter: 6.90 +/- 0.20 mm

TECHNICAL DATA

Wave resistance	75 +/- 3 Ohm	
Direct current resistance (Ohm/km)	Inner conductor < 23.0 Outer conductor < 24.0	
Insulation resistance	> 500 Ohm/km	
Operating capacity	52 pF/m	
Attenuation (dB/100 m) at	50 MHz: 4.95 200 MHz: 9.24 450 MHz: 14.07 862 MHz: 20.06	1000 MHz: 21.84 1350 MHz: 25.62 1750 MHz: 29.30 2150 MHz: 33.18
Return loss attenuation (dB)	5-470 MHz 470-1000 MHz 1000-2150 MHz	> 23 > 20 > 16
Shielding attenuation (dB)	100 MHz 30-470 MHz 470-1000 MHz 1000-2150 MHz	> 120 > 115 > 110 > 95
Transfer impedance (MOhm/m)	< 2.5	

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
SATLINE HF 200 plus 100dB	25.0	6.9	47	6260210

Aerial coax cable HF 200 DUOBOND PLUS

Lead-free PVC, non-migrating, class A
Satellite, shielding capability > 120 dB

RoHS

satline

CROSS SECTION

SPECIAL FEATURES

Sheath colour
White

APPLICATION

For highly shielded installation in households. Suitable for digital transmission. Particularly suited for use with sophisticated satellite systems thanks to proper attenuation values.

STRUCTURE

Inner conductor	Ø 1.02 +/- 0.02 mm, bare copper wire
Insulation	Foamed polyethylene, diameter (mm) 4.60 +/- 0.10 mm
Shield	Inner shield in Al/Pet/Al compound, coverage: >100% Outer shield Al/Pet/Al, coverage >100%
Mesh	Tin-plated copper wires, coverage 45%
Outer sheath	Made from PVC, diameter: 7.0 +/- 0.10 mm

TECHNICAL DATA

Wave resistance	75 +/- 3 Ohm	
Direct current resistance (Ohm/km)	Inner conductor < 23.0 Outer conductor < 22.0	
Capacity (pF/m)	52 +- 3	
Operating capacity	54 pF/m	
Attenuation (dB/100 m) at	50 MHz: 4.95 200 MHz: 9.24 450 MHz:14.07 862 MHz:20.06	1000 MHz: 21.84 1350 MHz: 25.62 1750 MHz: 29.3 2150 MHz: 33.18
Return loss attenuation (dB)	5-470 MHz 470-1000 MHz 1000-2150 MHz	> 23 > 20 > 16
Shielding attenuation (dB)	100 MHz 30-470 MHz 470-1000 MHz 1000-2150 MHz	> 120 > 115 > 110 > 95
Transfer impedance (MOhm/m)	< 2.5	

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
SATLINE HF200 Duobond plus 120dB	15.0	7.0	50	6260221

Aerial coax cable HF 300 underground cable

RoHS

satline

CROSS SECTION

APPLICATION

Underground cable for MATV for direct underground installation.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Inner conductor	Ø 1.50 +/- 0.02 mm, bare copper wire
Insulation	Foamed polyethylene, diameter: (mm) 6.80 +/- 0.15 mm
Shield	Inner shield in Cu/PES compound, coverage: > 100%
Mesh	Tin-plated copper wires, coverage: 70%
Outer sheath	LDPE, diameter: 10.10 +/- 0.30 mm

TECHNICAL DATA

Wave resistance	75 +/- 3 Ohm	
Direct current resistance (Ohm/km)	Inner conductor < 10.5 Outer conductor < 16	
Capacity (pF/m)	52 +- 3	
Attenuation (dB/100 m) at	10 MHz: 1.30 50 MHz: 2.90 100 MHz: 4.30 230 MHz: 6.60 300 MHz: 7.50 400 MHz: 8.80	470 MHz: 9.50 860 MHz: 13.40 1000 MHz: 14.60 1350 MHz: 17.30 1750 MHz: 20.10 2050 MHz: 22.00
Return loss attenuation (dB)	5-470 MHz > 23 470-1000 MHz > 20 1000-3000 MHz > 16	
Shielding attenuation dB class A	30-1000 MHz > 85 1000-2000 MHz > 75 2000-3000 MHz > 65	

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
SATLINE HF300 Underground cable	45.0	10.1	86	6260300

COAX 3

RoHS

CROSS SECTION

APPLICATION

For use in TV cable networks, e.g. satellite systems.

STRUCTURE

Inner conductor	3.45 mm copper, bare
Shield	Foil coverage 100% copper
Coverage	65%
Gas-injected foam dielectric	Ø 14.9 mm, PE
Mesh	Ø 15.7 mm, Cu
Outer sheath	Ø 19.6 mm, PE

TECHNICAL DATA

Min. bending radius	195 mm
Total weight	322.2 kg/km
Wave resistance	75 ± 2 Ohm
Operating capacity	52 ± 2 pF/m
Velocity factor	85%

SPECIAL FEATURES

Sheath colour
Black

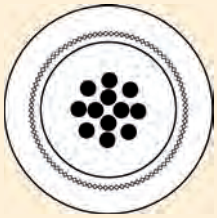
Product description	Product number
COAX 3	6261003

Coax cable RG 58 C/U

According to MIL-C-17 50 Ohm

RoHS

CROSS SECTION



APPLICATION

For installation indoors and in industrial environments in tubes and cable ducts. For the transmission of high-frequency signals and cables. Suitable for use in the fields of data, measuring and radio technology.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Conductor	Tin-plated copper conductor, flexible: Ø 19 x 0.18 mm (+/- 0.004)
Shield	Foil coverage 100% copper
Cores	Polyethylene insulation (dielectric) Ø 2.95 +/- 0.10 mm
Nominal thickness	0.80 mm
Mesh	Made from bare copper wires 16 x 7 x 0.10
Outer sheath	Cover: 83% outer sheath made from polyvinyl chloride (PVC), black Ø 4.95 +/- 0.15 mm

TECHNICAL DATA

Wave resistance	50 Ohm +/- 2
Capacity (pF/m)	100 +/- 5
Direct current resistance (Ohm/km)	Inner conductor < 41 Outer conductor < 25
Temperature range	-10°C to +80°C
Attenuation at 20°C (dB 100 m)	50 MHz - 12.00 200 MHz - 24.00 400 MHz - 34.80 600 MHz - 43.50

Product description	IZI Ohm	Outer Ø (mm)	Cu index (mm)	Weight (kg/km)	Product number
RG 58 C/U	50	4.95	20.0	38	10350110

Coax cable RG 59 B/U

According to MIL-C-17 75 Ohm

RoHS

CROSS SECTION

SPECIAL FEATURES

Sheath colour
Black

APPLICATION

For installation indoors and in industrial environments in tubes and cable ducts. For the transmission of high-frequency signals and cables.

STRUCTURE

Conductor	Copper platinised steel wire Ø 0.58 +/- 0.015 mm
Cores	Polyethylene insulation (dielectric) Ø 3.71 +/- 0.12 mm
Mesh	Made from bare copper wires 16 x 8 x 0.10
Outer sheath	Cover: 80% outer sheath made from polyvinyl chloride (PVC), black Ø 6.15 +/- 0.20 mm

In the underground version, the outer sheath is made from polyethylene (PE). In the halogen-free version, it is made from a special plastic compound without halogens.

TECHNICAL DATA

Wave resistance	75 Ohm +/- 3
Capacity (pF/m)	67 +/- 3
Direct current resistance (Ohm/km)	Inner conductor < 218
Temperature range	-10°C to +80°C
Bending radius	Fixed installation 30 mm
Bending radius	Flexible installation 60 mm
Attenuation at 20°C (dB 100 m)	50 MHz - 10.00 200 MHz - 20.00 400 MHz - 29.00 1000 MHz - 47.00

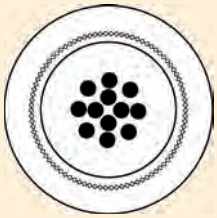
Product description	IZI Ohm	Outer Ø (mm)	Cu index (mm)	Weight (kg/km)	Product number
RG 59 B/U	75	6.14	24.0	57	10350115

Coax cable RG 213 U

RG cable according to MIL-C-17 50 Ohm

RoHS

CROSS SECTION



APPLICATION

For use in the field of radio technology; suitable for longer distances.

SPECIAL FEATURES

Sheath colour
Black with the imprint RG213U

STRUCTURE

Inner conductor	Copper stranded wire 7 x 0.75 +/- 0.05 mm
Insulation	Polyethylene Ø 7.24 +/- 0.20 mm Nominal thickness: 2.49 mm Colour: natural
Mesh	Copper mesh, bare Arrangement 24 x 8 x 0.12 Coverage: 84%
Outer sheath	PVC Ø 10.20 +/- 0.30 mm Nominal thickness: 1.15 mm

TECHNICAL DATA

Wave resistance	50 Ohm +/- 2	
Capacity (pF/m)	100 +/- 6	
Direct current resistance (Ohm/km)	Inner conductor at 20°C (Ohm/km) < 6.55 Outer conductor at 20°C (Ohm/km) < 12.3	
Insulation resistance (Ohm/km)	> 1000	
Attenuation at 20°C (dB/100 m)	50 MHz 200 MHz 800 MHz 1000 MHz	- 5.06 - 10.45 - 23.32 - 26.95
Return loss attenuation (dB)	5 ~ 470 MHz 470 ~ 1000 MHz	> 20 > 18

Product description	IZI Ohm	Outer Ø (mm)	Cu index (mm)	Weight (kg/km)	Product number
RG 213 /U	50	10.3	76.0	155	10350140

Video cable 0.6-3.7 green

RoHS

CROSS SECTION

APPLICATION

For the connection of appliances with video transmission.

SPECIAL FEATURES

Sheath colour
Green

STRUCTURE

Inner conductor	Ø 0.58 +/- 0.01 mm, bare copper wire
Insulation	Polyethylene, diameter (mm) 3.71 +/- 0.10 mm, colour: natural
Mesh	Copper mesh, bare, coverage 72%
Outer sheath	Made from PVC, diameter 6.10 +/- 0.20 mm, colour: green

TECHNICAL DATA

Wave resistance	75 +/- 3 Ohm
Direct current resistance (Ohm/km)	Inner conductor < 66.0 Outer conductor < 19.0
Capacity (pF/m)	67 +- 3
Attenuation (dB/100 m) at	50 MHz: 9.10 100 MHz: 12.40 200 MHz: 17.70 450 MHz: 27.80 860 MHz: 39.40 1000 MHz: 43.20
Return loss attenuation (dB):	5-450 MHz > 20 450-1000 MHz > 18

Product description	Ohm	Outer Ø (mm)	Cu index (mm)	Weight (kg/km)	Product number
Video green 0.6-3.7	75	6.15	24.0	45	10350230

Video cable 0.6-3.7 green

Halogen free

RoHS

CROSS SECTION

APPLICATION

For the connection of appliances with video transmission.

STRUCTURE

Inner conductor	Ø 0.58 +/- 0.01 mm, bare copper wire
Insulation	Polyethylene, diameter (mm) 3.71 +/- 0.10 mm
Mesh	Bare copper wire, coverage 72%
Outer sheath	Made from halogen-free compound, diameter 6.10 +/- 0.20 mm, colour: green

TECHNICAL DATA

Wave resistance	75 +/- 3 Ohm
Direct current resistance (Ohm/km)	Inner conductor < 66.0 Outer conductor < 19.0
Capacity (pF/m)	67 +- 3
Operating capacity	54 pF/m
Attenuation (dB/100 m) at	50 MHz: 9.10 100 MHz: 12.40 200 MHz: 17.70 450 MHz: 27.80 860 MHz: 39.40 1000 MHz: 43.20
Return loss attenuation (dB):	5-470 MHz > 20 450-1000 MHz > 18

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Green

Product description	Ohm	Outer Ø (mm)	Cu index (mm)	Weight (kg/km)	Product number
Video cable green 0.6-3.7 halogen free	75	6.15	24.0	45	10350240

Video cable 1.0/6.6

RoHS

CROSS SECTION

APPLICATION

For the connection of appliances with video transmission.

SPECIAL FEATURES

Sheath colour
Green or Black

STRUCTURE

Inner conductor	Ø 1.00 +/- 0.01 mm, bare copper wire
Insulation	Polyethylene
Diameter (mm)	6.38 +/- 0.10 mm 7.00 +/- 0.10 mm 8.80 +/- 0.20 mm
Mesh	Bare copper wire
Outer sheath	Made from PVC, green

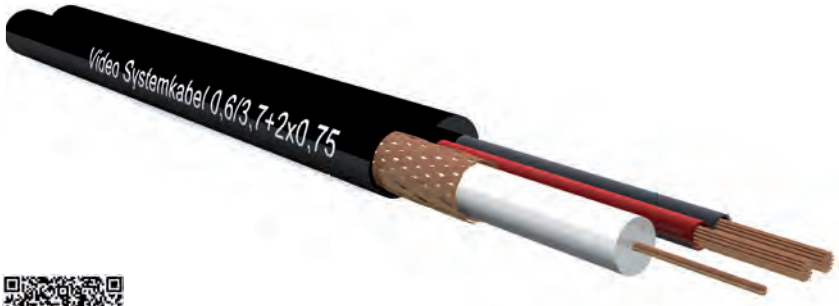
TECHNICAL DATA

Wave resistance	75 +/- 1 Ohm
Attenuation (dB/100 m) at	1 MHz: 0.6db 5 MHz: 1.4 db 10 MHz: 2.0 db
Direct current resistance (Ohm/km)	Inner conductor 24 Ohm/km Outer conductor 7.5 Ohm/km
Operating temperature	-40°C to +70°C (fixed installation)
Bending radius	Min. 45 mm

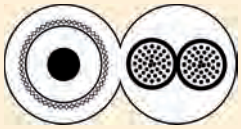
Product description	Ohm	Outer Ø (mm)	Cu index (mm)	Weight (kg/km)	Product number
Video cable green 1.0/6.6	75	9.8	39.0	140	10350210

Video system cable 0.6/3.7 + 2x0.75

RoHS



CROSS SECTION



APPLICATION

For the connection of video components in indoor areas. The system cable can be used to carry power supplies or control signals.

SPECIAL FEATURES

Sheath colour
Black

STRUCTURE

Video 0.6/3.7:

Inner conductor	Ø 0.58 +/- 0.01 mm, bare copper wire
Cores	Polyethylene insulation, diameter (mm) 3.71 +/- 0.10 mm
Mesh	Copper mesh, bare, 16x5x0.13 Coverage 68%
Outer sheath	Made from PVC, diameter 5.90 +/- 0.20 mm Colour: black

Wiring cable:

Inner conductor	Bare copper wire, cross section (mm) 2x0.75 mm2 Arrangement: 24x0.20+-0.005
Cores	PVC insulation, diameter: 2.20 +/- 0.10 mm Colour: black and red
Outer sheath	Made from PVC, diameter: 5.90 +/- 0.20 mm Colour: black

TECHNICAL DATA

Wave resistance	75 +/- 3 Ohm	
Direct current resistance (Ohm/km)	Inner conductor < 66.0 Outer conductor < 23.0	
Insulation at 20°C	> 1000 MOhm/km	
Capacity (pF/m)	67 +- 3 pF/m	
Characteristic attenuation	75 +- 3 Ohm (at 200 MHz)	
Attenuation (dB/100 m) at	50 MHz: 9.10 200 MHz: 17.70 860 MHz: 39.40	100 MHz: 12.40 450 MHz: 27.80 1000 MHz: 43.20
Return loss attenuation (dB):	5-400 MHz > 28 400-1000 MHz > 26 1000-2150 MHz > 25	

Product description	Outer Ø (mm)	Cu index (mm)	Weight (kg/km)	Product number
Video system cable (0.6-3.7 + 2x0.5)	12.1 x 6.1	36.0	96	On request
Video system cable (0.6-3.7 + 2x0.75)	12.1 x 6.1	38.0	99	10350237

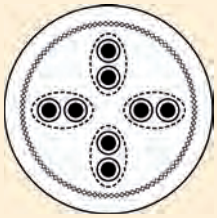
FAIRLINE DATA CABLES

S/FTP 4x2xAWG22 1500 MHz
Cat.7A

RoHS

fairline

CROSS SECTION



APPLICATION

Installation cable for use for structured building cabling in accordance with ISO/IEC 11801 and EN 50173. Ideally suited for all applications in classes D to FA multimedia (video, data, voice), > 10 GbE according to IEEE 802.3, VoIP, PoEP

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Orange

STRUCTURE

Conductor	Solid copper conductor AWG22
Cores	Foamed plastic insulation
Shield	Single shielding from plastic-laminated aluminium foil, outer conducting surface (PIMF), overall braided shield, tin-plated copper mesh
Outer sheath	Halogen-free outer sheath, outer diameter: 7.8 mm

TECHNICAL DATA

Insulation resistance	> 500 MOhm/km/500 V
Wave resistance	100 +- 5 Ohm/100 MHz
Loop resistance	< 19 Ohm/100 m
Transfer impedance	< 7mΩ/m 10MHz
NVP	78%
Delay skew	≤ 5 ns/100 m
NEXT	91 dB/1000 MHz 82 dB/1500 MHz
ACR	35 dB/1000 MHz 12 dB/1500 MHz
RL	25 dB/1000 MHz 23 dB/1500 MHz

INSTALLATION RECOMMENDATION:

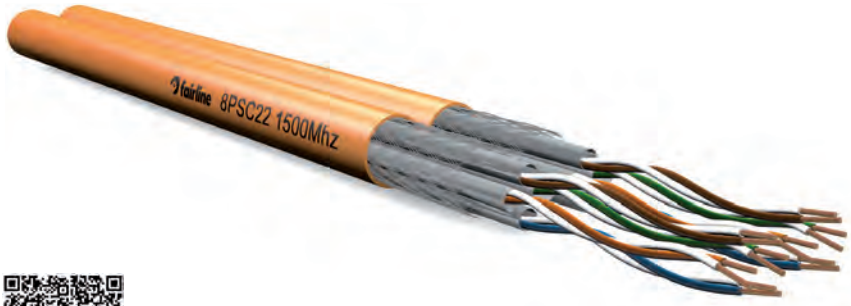
Min. bending radius	Installation: 63 mm, operation: 31 mm
Max. tensile stress	100 N
Temperature	Installation: 0°C to +50°C, operation: -20°C to +75°C
Flame retardancy	According to IEC 60332-3-24
Halogen-free nature	According to IEC 60754-2
Smoke density	According to IEC 61034
Fire load (MJ/m)	0.59
Legislative cross references	EN 50173-1; 2011-09 ISO/IEC 11801 ed2 IEC 61156-5 ed2

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
Data cable S/FTP 4x2xAWG22 1500 MHz Cat7A orange	39.0	7.8	59	11384015

S/FTP 2x(4x2xAWG22) 1500 MHz

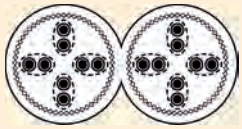
Cat.7A Duplex

RoHS



fairline

CROSS SECTION



SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Orange

APPLICATION

Installation cable for use for structured building cabling in accordance with ISO/IEC 11801 and EN 50173. Ideally suited for all applications in classes D to FA multimedia (video, data, voice), > 10 GbE according to IEEE 802.3, VoIP, PoEP

STRUCTURE

Conductor	Solid copper conductor AWG22
Cores	Foamed plastic insulation
Shield	Single shielding from plastic-laminated aluminium foil, outer conducting surface (PIMF), overall braided shield, tin-plated copper mesh
Outer sheath	Halogen-free outer sheath, outer diameter: 15.6 x 7.8 mm

TECHNICAL DATA

Insulation resistance	> 500 MOhm/km/500 V
Wave resistance	100 +- 5 Ohm/100 MHz
Loop resistance	< 19 Ohm/100 m
Transfer impedance	< 7mΩ/m 10MHz
NVP	78%
Delay skew	≤ 5 ns/100 m
NEXT	91 dB/1000 MHz 82 dB/1500 MHz
ACR	35 dB/1000 MHz 12 dB/1500 MHz
RL	25 dB/1000 MHz 23 dB/1500 MHz

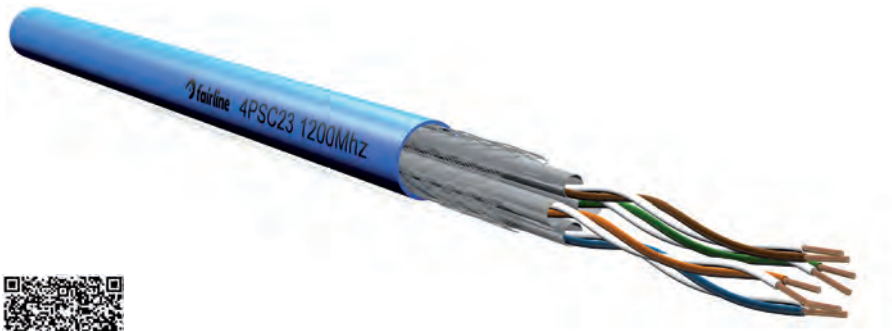
INSTALLATION RECOMMENDATION:

Min. bending radius	Installation: 63 mm, operation: 31 mm
Max. tensile stress	100 N
Temperature	Installation: 0°C to +50°C, operation: -20°C to +75°C
Flame retardancy	According to IEC 60332-3-24
Halogen-free nature	According to IEC 60754-2
Smoke density	According to IEC 61034
Fire load (MJ/m)	0.59
Legislative cross references	EN 50173-1; 2011-09 ISO/IEC 11801 ed2 IEC 61156-5 ed2

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Product number
Data cable S/FTP 2x4x2xAWG22 1500 MHz Cat7A orange	78.0	7.8x15.6	59	11384016

S/FTP 4x2xAWG23 1200 MHz
Cat.7

RoHS



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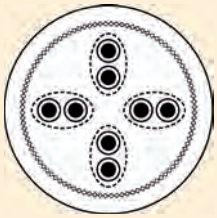
CROSS SECTION



APPLICATION

Installation cable for use for structured building cabling in accordance with ISO/IEC 11801 and EN 50173-2. Ideally suited for all applications in classes D to F multimedia (video, data, voice), > 10 GbE according to IEEE 802.3, VoIP, PoE

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Orange or blue

STRUCTURE

Conductor	Solid copper conductor AWG23
Cores	Foamed plastic insulation
Shield	Single shielding from plastic-laminated aluminium foil, outer conducting surface (PIMF), overall braided shield, tin-plated copper mesh
Outer sheath	Halogen-free outer sheath, outer diameter: 7.4 mm

TECHNICAL DATA

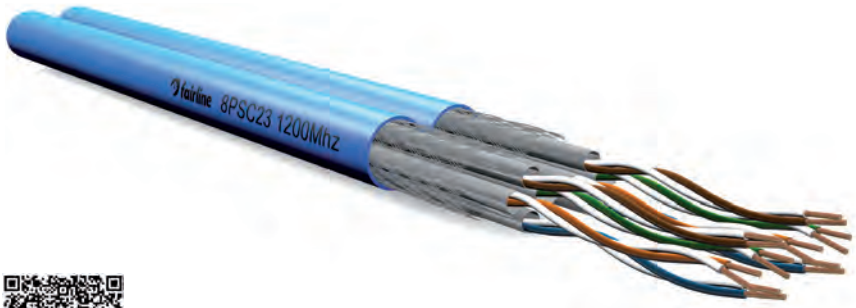
Insulation resistance	> 500 MOhm/km/500 V
Wave resistance	100 +- 5 Ohm/100MHz
Loop resistance	< 17 Ohm/100m
Transfer impedance	< 5 MOhm/m 10MHz
NVP	80%
Delay skew	≤ 5 ns/100 m
NEXT	80 dB/1000 MHz 67 dB/1200 MHz
ACR	28 dB/1000 MHz
RL	21 dB/1000 MHz 17 dB/1200 MHz
INSTALLATION RECOMMENDATION:	
Min. bending radius	Installation: 58 mm, operation: 29 mm
Max. tensile stress	110 N
Temperature	Installation: 0°C to +50°C, operation: -20°C to +60°C
Flame retardancy	According to IEC 60332-3-24
Halogen-free nature	According to IEC 60754-2
Smoke density	According to IEC 61034
Fire load (MJ/m)	0.6
Legislative cross references	EN 50173-1: 2011-09 ISO/IEC 11801 IEC 61156-5

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (MJ/m)	Product number
Data cable S/FTP 4x2xAWG23 1200 MHz Cat.7 blue	37.0	7.4	70	0.60	11384011blue
Data cable S/FTP 4x2xAWG23 1200 MHz Cat.7 orange	37.0	7.4	70	0.60	11384011orange

S/FTP 2x(4x2xAWG23) 1200 MHz

Cat.7 Duplex

RoHS



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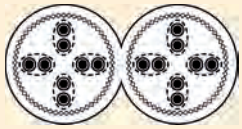
CROSS SECTION



APPLICATION

Installation cable for use for structured building cabling in accordance with ISO/IEC 11801 and EN 50173-2. Ideally suited for all applications in classes D to F multimedia (video, data, voice), > 10 GbE according to IEEE 802.3, VoIP, PoE

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Orange or blue

STRUCTURE

Conductor	Solid copper conductor AWG23
Cores	Foamed plastic insulation
Shield	Single shielding from plastic-laminated aluminium foil, outer conducting surface (PIMF), overall braided shield, tin-plated copper mesh
Outer sheath	Halogen-free outer sheath, outer diameter: 14.8 x 7.4 mm

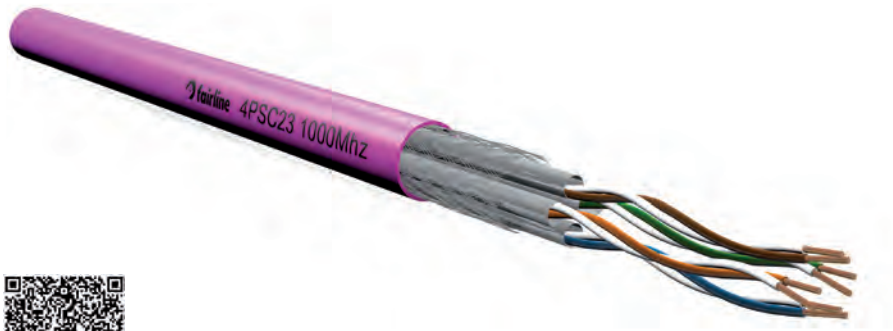
TECHNICAL DATA

Insulation resistance	> 500 MOhm/km/500 V
Wave resistance	100 +- 5 Ohm/100 MHz
Loop resistance	< 17 Ohm/100 m
Transfer impedance	< 5 MOhm/m 10 MHz
NVP	80%
Delay skew	≤ 5 ns/100 m
NEXT	80 dB/1000 MHz 67 dB/1200 MHz
ACR	28 dB/1000 MHz
RL	21 dB/1000MHz 17 dB/1200 MHz
INSTALLATION RECOMMENDATION:	
Min. bending radius	Installation: 58 mm, operation: 29 mm
Max. tensile stress	110 N
Temperature	Installation: 0°C to +50°C, operation: -20°C to +60°C
Flame retardancy	According to IEC 60332-3-24
Halogen-free nature	According to IEC 60754-2
Smoke density	According to IEC 61034
Fire load (MJ/m)	0.6
Legislative cross references	EN 50173-1: 2011-09 ISO/IEC 11801 IEC 61156-5

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (MJ/m)	Product number
Data cable S/FTP 2x4x2xAWG23 1200 MHz Cat.7 blue	74.0	14.8	134	0.60	11384012blue
Data cable S/FTP 2x4x2xAWG23 1200 MHz Cat.7 orange	74.0	14.8	134	0.60	11384012orange

S/FTP 4x2xAWG23 1000 MHz
Cat.7

RoHS



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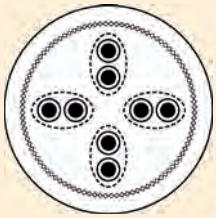
CROSS SECTION



APPLICATION

Our 1000 MHz cable types exceed the legal requirements established in the standard for category 7 cables. They are designed for transmission rates of up to 1000 MHz and can be used for all structured cabling systems up to and including class F.

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Orange or magenta

STRUCTURE

Conductor	Solid copper conductor AWG23
Cores	Foamed plastic insulation
Shield	Single shielding from plastic-laminated aluminium foil, outer conducting surface (PIMF), overall braided shield, tin-plated copper mesh
Outer sheath	Halogen-free outer sheath, outer diameter: 7.4 mm

TECHNICAL DATA

Insulation resistance	> 500 MOhm/km/500 V
Wave resistance	100 +- 5 Ohm/100 MHz
Loop resistance	< 19 Ohm/100 m
Transfer impedance	< 7mΩ/m 10 MHz
NVP	80%
Delay skew	≤ 5 ns/100 m
NEXT	81.3 dB/1000 MHz
ACR	21 dB/1000 MHz
RL	20 dB/1000 MHz

INSTALLATION RECOMMENDATION:

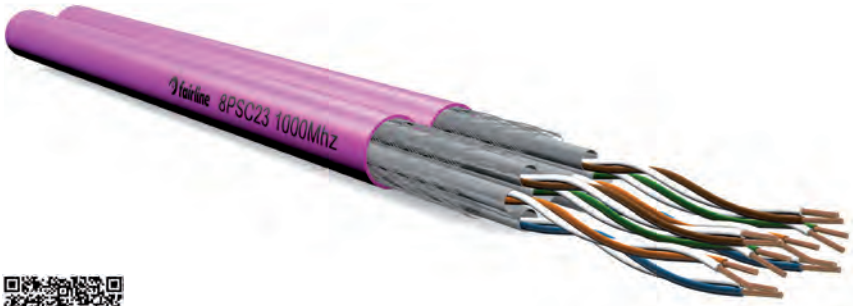
Min. bending radius	Installation: 60 mm, operation: 30 mm
Max. tensile stress	110 N
Temperature	Installation: 0°C to +50°C, operation: -20°C to +60°C
Flame retardancy	According to IEC 60332-1-2
Halogen-free nature	According to IEC 60754-2
Smoke density	According to IEC 61034
Fire load (MJ/m)	0.2
Legislative cross references	EN 50173-1: 2011-09 ISO/IEC 11801 IEC 61156-5

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (MJ/m)	Product number
Data cable S/FTP 4x2xAWG23 1000 MHz Cat.7 magenta	34.0	7.4	55	0.20	11384024
Data cable S/FTP 4x2xAWG23 1000 MHz Cat.7 orange	34.0	7.4	55	0.20	11384020

S/FTP 2x(4x2xAWG23) 1000 MHz

Cat.7 Duplex

RoHS



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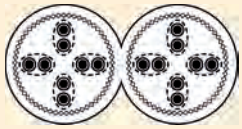
CROSS SECTION



APPLICATION

Our 1000 MHz cable types exceed the legal requirements established in the standard for category 7 cables. They are designed for transmission rates of up to 1000 MHz and can be used for all structured cabling systems up to and including class F.

SPECIAL FEATURES

Properties
Halogen free

Sheath colour
Orange or magenta

STRUCTURE

Conductor	Solid copper conductor AWG23
Cores	Foamed plastic insulation
Shield	Single shielding from plastic-laminated aluminium foil, outer conducting surface (PIMF), overall braided shield, tin-plated copper mesh
Outer sheath	Halogen-free outer sheath, outer diameter: 14.8 x 7.4 mm

TECHNICAL DATA

Insulation resistance	> 500 MOhm/km/500 V
Wave resistance	100 +- 5 Ohm/100 MHz
Loop resistance	< 19 Ohm/100 m
Transfer impedance	< 7mΩ/m 10 MHz
NVP	80%
Delay skew	≤ 5 ns/100 m
NEXT	81.3 dB/1000 MHz
ACR	21 dB/1000 MHz
RL	20 dB/1000 MHz
INSTALLATION RECOMMENDATION:	
Min. bending radius	Installation: 60 mm, operation: 30 mm
Max. tensile stress	110 N
Temperature	Installation: 0°C to +50°C, operation: -20°C to +60°C
Flame retardancy	According to IEC 60332-1-2
Halogen-free nature	According to IEC 60754-2
Smoke density	According to IEC 61034
Fire load (MJ/m)	0.4
Legislative cross references	EN 50173-1: 2011-09 ISO/IEC 11801 IEC 61156-5

Product description	Cu weight	Outer Ø (mm)	Weight (kg/km)	Fire load (MJ/m)	Product number
Data cable S/FTP 2x4x2xAWG23 1000 MHz Cat.7 magenta	68.0	14.8	110	0.20	11384025
Data cable S/FTP 2x4x2xAWG23 1000 MHz Cat.7 orange	68.0	14.8	110	0.20	11384022

NOTES

STANDARDS / TECHNICAL REGULATIONS / TABLES

CODE GLOSSARY
HEAVY CURRENT AND CABLES

The list below contains the most commonly used codes. Individual letters have different meanings depending on their position within the abbreviated cable type name. These are explained through the use of examples.

1. APPLICATION TYPES

Code	Code explanation	Example
N	Standard cable or wire	**N**SGAFÖu
(N)	Based on the standard type	**(N)**YZg2Y
S	Special types acc. to the work standard	**S**07RN-F
H	Harmonised cable	**H**07RN-F

2. STRUCTURAL FEATURE UNDER SHEATH: CONDUCTOR INSULATION

Code	Code explanation	Example
Y	Polyvinyl chloride (PVC)	(N)**Y**Zg2Y
7Y	Tefzel (ETFE)	L-SB(**7Y**)BQ
2X	Cross-linked polyethylene (VPE)	N**2X**H
B	Ethylene propylene (EPR)	H07**B**Q-F
Q	Polyurethane (PUR)	S07**Q**Q-F
R	Natural and/or styrene-butadiene rubber	H05**R**R-F

3. STRUCTURAL FEATURE UNDER SHEATH: CARRYING ELEMENT, SHIELDING ETC.

Code	Code explanation	Example
C	Concentric conductor made of copper	N2X**C**H
/3E	Protective conductor evenly distributed over the outer conductor's insulation sheaths	NSSHÖU 3x70 + 3x35**/3E**
KON	Concentric protective conductor between the inner and outer sheaths	NSSHÖU 5x2.5/2.5 **KON**
ST	Control cores inside the cable	NSSHÖU 3x70 + 3x35/3E+3x2.5 **ST**
C	Cable made from tin-plated copper wire mesh	NY**C**Yö

4. CABLE SHEATH

Code	Code explanation	Example
Y	Polyvinyl chloride (PVC) sheath	LiC**Y**F2
2Y	Polyethylene (PE) sheath	(N)YZg**2Y**
H	Halogen-free plastic sheath	N2X**H**
R	Natural and/or styrene-butadiene rubber	H05R**R**-F
N	Chloroprene rubber	H07R**N**-F

5. MISCELLANEOUS

Code	Code explanation	Example
E30	Flame-retardant, halogen-free cables with functional integrity of up to 30 min. according to DIN 4102, part 12 (system test)	NHXH....FE180/**E30**
E90	Flame-retardant, halogen-free cable with functional integrity of up to 90 min. according to DIN 4102, part 12 (system test)	NHXH....FE180/**E90**
FE180	Flame-retardant, halogen-free cable with insulation integrity of up to 180 min. (3h) according to DIN/VDE 0472 part 814	NHXH....**FE180**/E30
SL	Hose cable	(N)HX**SL**HXÖ
MH	Installation cable	NHX**MH**
Ö	Oil resistant	NSSH**Ö**U
-O	Cable without green and yellow protective conductor	N2XH-**O**
-J	Cable with green and yellow protective conductor	NHXMH-**J**
-OZ	Cable without green and yellow protective conductor and digits imprinted on the insulation sheath	NSSHÖU-**OZ**
-JZ	Cable with green and yellow protective conductor and digits imprinted on the insulation sheath	NSSHÖU-**JZ**

CODE GLOSSARY HARMONISED DESIGNS

INSULATION AND NON-METALLIC SHEATH MATERIALS

Note: the characters used for the codes cover a group of materials with similar properties to the materials listed. All details of the requirements established for a particular cable type can be found in the applicable standards.

Code	Material
B	Ethylene propylene rubber for a continuous operating temperature of 90°C
G	Ethyl vinyl acetate
J	Fibreglass braiding
M	Mineral
N	Polychloroprene rubber (or equivalent material)
N2	Special polychloroprene rubber compound for the sheaths of welding cables according to HD 22.6
N4	Chlorine-sulphonated or chlorinated polyethylene
N8	Special polychloroprene rubber compound – water resistant
Q	Polyrethane
Q4	Polyamide
R	Ethylene propylene rubber or equivalent synthetic elastomer for a continuous operating temperature of 60°C
S	Silicone rubber
T	Textile braiding over the stranded cores, tinctured or not
T6	Textile braiding over all cores in a multi-cored cable, tinctured or not
V	PVC, soft
V2	PVC, soft, for a continuous operating temperature of 90°C
V3	PVC, soft, for cables intended for use at low temperatures
V4	PVC, soft, cross-linked
V5	PVC, soft, oil resistant
Z	Cross-linked polyolefin compound for cables that produce low levels of corrosive gases and smoke in the event of fire
Z1	Thermoplastic polyolefin compound for cables that produce low levels of corrosive gases and smoke in the event of fire

METAL SHEATHS

Code	Metal sheaths, concentric conductors and shields
C	Concentric copper conductor
C4	Copper shield as mesh over the stranded cores

SPECIAL STRUCTURAL CABLE DESIGN ELEMENTS

Code	Structural design elements
D3	Textile carrier element made from one or more structural elements, positioned in the core of a round cable or distributed in a flat cable
D5	Core inlet (no carrier element, designed for lift control systems)

SPECIAL CABLE DESIGNS

Code	Conductor material
No Code	Round cable design
H	Flat design of non-apportionable cables with or without sheath
H2	Flat design of non-apportionable cables
H6	Flat design according to HD 359 or EN 50214 with 3 or more cores
H7	Cable with extruded two-layered insulation sheath
H8	Helix cable

CONDUCTOR MATERIAL

Code	Metal sheaths, concentric conductors and shields
No Code	Concentric copper conductor
-A	Copper shield as mesh over the stranded cores

CODE GLOSSARY HARMONISED DESIGNS

CONDUCTOR SHAPE

Note: when used following a hyphen (in the case of aluminium cables, this is already included in the code A-), these codes must follow the code that has been selected from the previous tables. For designs with different conductor shapes, only the code for the outer conductor shape has to be specified.

Code	Conductor shape
-D	Flexible conductor for welding cables according to HD 22.6 (flexibility deviates from HD 383 class 5)
-E	Very flexible conductor for welding cables according to HD 22.6 (flexibility deviates from HD 383 class 6)
-F	Flexible conductor of a flexible cable (flexibility according to HD 383 class 5)
-H	Flexible conductor of a flexible cable (flexibility according to HD 383 class 6)
-K	Flexible conductor of a cable for fixed installation (unless otherwise stipulated, flexibility according to HD 383 class 5)
-R	Stranded round conductor
-U	Solid round conductor
-Y	Tinsel conductor

NUMBER OF CORES AND NOMINAL CROSS SECTION OF THE CONDUCTORS

Code	Number and nominal cross section of the conductors
(Digit)	Number, n, of cores
x	Multiplication sign for versions without a green and yellow core
G	Multiplication sign for versions with a green and yellow core
(Digit)*	Nominal cross section s of the conductor in mm²
Y	Tinsel conductor for which the nominal cross section has not yet been specified
* When marking the cores with figures, countries can optionally decide to add an 'N' (after the nominal cross section).	

GENERAL EXAMPLES (NUMBER OF CORES AND NOMINAL CROSS SECTION OF THE CONDUCTORS)

Code	Conductor shape
nxs or nGs	n cores of s mm² nominal cross section
$n_1xs_1 + n_2 xs_2$	n_1 cores of s_1 mm² + n_2 cores of s_2 nominal cross section mm² nominal cross section
nxs_1 / s_2	n cores of s_1 mm² nominal cross section and concentric conductor of s mm² nominal cross section
n_1xs_1	n_1 cores of s mm² nominal cross section + n_2 cores of s_2 mm² nominal cross section
n_2xs_2x/s_3	and concentric conductor of s_3 mm² nominal cross section

SPECIFIC EXAMPLES (NUMBER OF CORES AND NOMINAL CROSS SECTION OF THE CONDUCTORS)

Code	Conductor shape
4 G 50	Four-cored cable with green and yellow core and nominal cross sections of 50 mm²
4 x 50	Four-cored cable without green and yellow core and nominal cross sections of 50 mm²
3 x 50 + 1G25	Four-cored cable with 3 conductors with nominal cross sections of 50 mm² and a green and yellow core with a reduced conductor of 25 mm² nominal cross section
3 x 70/35	Three-cored cable with nominal cross sections of 70 mm² and concentric conductors of 35 mm² nominal cross section
2 x Y	Two-cored conductor with tinsel conductors

CODE GLOSSARY
COPPER, TELECOMMUNICATION AND DATA CABLES

1. APPLICATION TYPES

Code	Code explanation	Example
A-	Outer cable	**A-**2Y(L)2Y
AB-	Outer cable with special lightning protection structure	**AB-**2YLE2YDB2Y
AJ-	Outer cable with special induction protection structure	**AJ-**2Y(L)2YDBY
AJB-	Outer cable with special induction and lightning protection structure	**AJB-**2Y(L)2YDBY
(A)-	Outer cable with special design	**(A)-**9Y(K)2Y4Y
G-	Mine cable	**G-**2YY(Z)Y
GJ-	Mine cable with special induction protection	**GJ-**YMBY
J-	Installation cable	**J-**Y(ST)Y
(J)-	Installation cable with special design	**(J)-**Y(ST)Y
JE-	Industrial electronics cable	**JE-**Y(ST)Y
(JE-)	Industrial electronics cable with special design	**(JE)-**Y(ST)Y
J-F	Flat-webbed cable	**J-F**Y
L-	Cables with tinsel conductors for greater mechanical loads (hose cables)	**L-**2YYQY
M-	Measuring cable	**M-**2YC2Y
RD-	Control technology cable	**RD-**Y(ST)Y
RE-	Computer cable	**RE-**2Y(ST)2Y
S-	Switch cable	**S-**Y(ST)Y
S	Signal cable	A-2YYBY...**S**
(S)-	Switch cable with special design	**(S)-**Y(ST)Y
T-	Segmenting cable	**T-**Y(ST)Y

2. STRUCTURAL FEATURE UNDER SHEATH: CONDUCTOR INSULATION

Code	Code explanation	Example
H	Halogen-free plastic	J-**H**(ST)H
P	Paper or paper cavity insulation	A-**P**MBC
Y	Polyvinyl chloride (PVC)	J-**Y**(ST)Y
YU	Flame-retardant PVC with LOI > 30	RD-**YU**(ST)YU
YW	Heat-resistant PVC up to 90°C	RD-**YW**(ST)YW
2Y	Full polyethylene (PE)	A-**2Y**(L)2Y
02Y	Cell polyethylene (cell PE)	A-**02Y**(L)2Y
02YS	Cell polyethylene with a full PE layer (foam skin)	A-**02YS**(L)2Y
3Y	Polystyrene (Styroflex)	S-**3Y**(ST)Y
6Y	Teflon (FEP)	RD-**6Y**C6Y
9Y	Polypropylene (PP)	A-**9Y**(L)2Y
09Y	Cell polypropylene	A-**09Y**(L)2Y
09YS	Cell PP with a layer of acellular polyolefins	A-**09YS**(L)2Y

3. STRUCTURAL FEATURE UNDER SHEATH: FILLING, SHIELDS, INNER SHEATHS ETC.

Code	Code explanation	Example
A	Covering made from aluminium wires	A2-Y(ST)**A**2Y
C	Shield made from tin-plated copper wire mesh	JE-Y**C**Y
D	Covering made from copper wires	A-2Y(ST)**D**2Y
F	Filling with petroleum jelly	A-2Y**F**(ST)2Y
0F	Filling with FÜLLNIDZ (filling material with low dielectric number due to embedded micro foam particles)	A-02YS**0F**(L)2Y
(K)	Shield made from copper tape; 0.12 mm thick (older version)	A-2Y**(K)**2Y
(ST)	Static shield made from aluminium foil laminated on one side with tin-plated copper drain wire	S-Y**(ST)**Y
TF	Dry filling made from swellable yarns/fleeces	A-02YS**TF**(L)2Y
Y	PVC inner sheath	G-2Y**Y**(Z)Y
2Y	PE inner sheath	A-2YF**2Y**(L)2Y
(Z)	High tensile strength mesh made from galvanised, flat steel wires with a defined breaking length	G-2YY**(Z)**Y

The list below contains the most commonly used codes. Individual letters have different meanings depending on their position within the abbreviated cable type name. These are explained through the use of examples.

CODE GLOSSARY
COPPER, TELECOMMUNICATION AND DATA CABLES

4. CABLE SHEATH

Code	Code explanation	Example
E	Corrosion protection coat (Mass coat with embedded plastic tape)	A-2YL**E**2Y
H	Halogen-free plastic sheath	J-H(ST)**H**
L	Aluminium sheath	A2Y**L**E2Y
(L)2Y	Layered sheath made from an aluminium strip laminated on one or both sides with plastic and a PE sheath	A-2Y**(L)2Y**
LD	Aluminium sheath, waved	A-2Y**LD**E2Y
M	Lead sheath	A-P**M**BC
MZ	Lead sheath with added hardener	A-P**MZ**BC
T2Y	Steel support cable with PE sheath ('figure of 8')	A2Y**T2Y**
W	Braided steel sheath	A-P**W**E2Y
Y	Polyvinyl chloride (PVC) sheath	J-Y(ST)**Y**
YMB	Flame-retardant PVC sheath with LOI >30	JE-Y(ST)**YMB**
YU	Flame-retardant PVC sheath with LOI > 30	RD-YU(ST)**YU**
YW	Heat-resistant PVC sheath up to 90°C	RD-YU(ST)**YW**
YV	Reinforced PVC sheath	J-Y(ST)**YV**
2Y	Polyethylene (PE) sheath	A-2Y(ST)**2Y**
2YV	Reinforced PE sheath	A-2Y(ST)**2YV**
4Y	Polyamide (PA) sheath	A-2Y(L)2Y**4Y**
6Y	Teflon (FEP) sheath	RD-6YC**6Y**
(ZG)2Y	Strain relief elements made from glass yarn in PE sheath	J-2Y2Y**(ZG)2Y**
11Y	Polyurethane (PUR) sheath	L-24n**11Y**
(ZN)2Y	Strain relief elements made from glass yarn in PE sheath or aramid roving under PE sheath	A-DQ2Y**(ZN)2Y**

5. STRUCTURAL FEATURES OVER THE SHEATH

Code	Code explanation	Example
A	Covering made from aluminium wires	A2-Y(L)2Y**A**2Y
B	Reinforcement involving one or more steel strips, galvanised or coated with a compound or a sealed layer of steel round or flat wire, galvanised	A-2Y(L)2Y**B**2Y
C	Protective sheath made from jute and a viscous substance	A-PMB**C**
D	Covering made from copper wires	A-2Y(L)2Y**D**2Y
iB	Induction protection reinforcement (older version)	A-2YLE**iB**Y
Q	Reinforcement in the form of a mesh of flat or round, galvanised steel wires	JE-LiYCY**Q**Y
R	Reinforcement in the form of a mesh of round, galvanised steel wires	JE-H(ST)H**R**H
(SR)	Reinforcement made from a grooved steel strip (ZETA BON strip)	A-DF(Z)2Y**(SR)**2Y
Y	Protective sheath made from PVC (inner)	A-PLEYB**Y**
Y	Protective sheath made from PVC (outer)	A-2YYB**Y**
YV	Reinforced protective sheath made from PVC	JE-Y(ST)Y**YV**
2Y	Protective sheath made from PE (inner)	A-PLE**2Y**B2Y
2Y	Protective sheath made from PE (outer)	A-PLEB**2Y**2Y
2YV	Reinforced protective sheath made from PE	A-2Y(L)2Y**2YV**

CODE GLOSSARY
COPPER, TELECOMMUNICATION AND DATA CABLES

6. STRANDING ELEMENTS/STRANDING METHODS

Code	Code explanation	Example
BD	Bundle stranding	...ST III **BD**
BDIMF	Bundle in metal foil	...x 2 x 0.6 **BDIMF**
(C)	Shield made from copper wire mesh over a pair	L-2Y**(C)**Y...
DM	Multiple-twin quad (2 pairs stranded together)	...x 2 x 1.2 **DM**
DIMF	Trio in metal foil	..x 3 x 0.5 **DIMF**
E	Tin-plated copper drain wire	J-02YSC**E**Y
F	Tin-plated copper drain wire	...x 2 0.9 **F**
KX	Coaxial pair	**KX** 2.6/9.5
LG	Layer stranding	...ST III **LG**
Li	Stranded wire	JE-**Li**YCY
PCM	Stranding elements for PCM exploitation (plus code modulation)	..x2x0.8ST**IPCM**
PIMF	Pair in metal foil	...x 2 x 0.6 **PIMF**
PR	Perforated test core	2 x 1 x 0.5 **PR**
ST	Star quad with phantom utilisation (general)	...x 2 x 0.9 **ST**
ST O	Star quad (800 Hz) with requirements deviating from group I to IV	...x 2 x 0.6 **ST O**
ST I	Star quad (800 Hz) without phantom utilisation for larger distances with higher requirements than for group I	... x 2 x 0.9 **ST I**
ST II	Star quad (800 Hz) with higher requirements than for group III	... x 2 x 0.6 **ST II**
ST II	Star quad with requirements at 800 Hz	... x 2 x 0.9 **ST III**
ST IV	Star quad with requirements up to 120 kHz	... x 2 x 1.2 **ST IV**
ST V	Star quad with requirements up to 500 kHz	... x 2 x 1.3 **ST V**
ST VI	Star quad with requirements up to 17 MHz	... x 2 x 0.6 **ST VI**
TF	Stranding elements for carrier frequency utilisation	... x 2 x 1.2 ST I **TF**
VIMF	Quad in metal foil	... x 2 x 0.6 **VIMF**
Y	Jumper/hook-up wire made from a bare copper conductor with PVC insulation	**Y**
YV	Jumper/hook-up wire made from a tin-plated conductor with PVC insulation	**YV**

7. MISCELLANEOUS

Code	Code explanation	Example
EIB	European Installation Bus	**EIB bus cable**
E30	Flame-retardant, halogen-free cable with functional integrity of up to 30 min. acc. to DIN 4102, part 12 (system test)	...(ST)H FE180/**E30**
E90	As E30, but up to 90 minutes	...(ST)H FE180/**E90**
FE180	Flame-retardant, halogen-free cable with insulation integrity of up to 180 minutes (3h) acc. to DIN VDE 0472, part 814	...(ST) **FE180**/E30
FRNC	Flame retardant non-corrosive	
-JB	Cable with green and yellow protective conductor and 'colourful' insulation sheaths in acc. with a colour code	LiYCY-**JB**
-JZ	Cable with green and yellow protective conductor and imprinted digits on the insulation sheath	LiYCY-**JZ**
KF	Cold-resistant cable (here: up to -40°C)	L-2YY(Z)Y**KF**40
LSOH	Low Smoke Zero Halogen	
ZHLS	Zero Halogen Low Smoke	RD-H(ST)H**ZHLS**
LOI	Limited oxygen index (used to determine the degree of flame retardancy)	
TOI	Temperature oxygen index (used to determine the degree of flame retardancy)	
-OB	Cable without green and yellow protective conductor with 'colourful' insulation sheaths in acc. with a colour code	LiYCY-**OB**
-OZ	Cable without green and yellow protective conductor with imprinted digits on the insulation sheath	LiYCY-**OZ**
SI	Cable with SIMATIC colour code	JE-Y(ST)Y **SI**
Z	Bundle with spiral digits	JE-Y(ST)Y **Z**
-F2	Flame-retardant cable (bundle test according to Belg. standard)	**-F2**

GENERAL TECHNICAL REGULATIONS

COPPER STRANDED WIRE STRUCTURE ACCORDING TO DIN VDE 0295 AND IEC 228

The stranded wire conductor structure according to DIN VDE 0295 has been determined in accordance with IEC 228 for conductor class 2 column 1, conductor class 5 column 3 and conductor class 6 column 4 - from 0.5 mm². The diameters of the individual wires for each conductor must not exceed the maximum value specified for each nominal cross section – see the table below.

Cross section mm²	Multi-cored round conductor VDE 0295 Class 2 [2] Column 1	Four-cored stranded wires, standard structure Column 2	Flexible stranded wires VDE 0295 Class 5 [1] Column 3	Very flexible stranded wires			
				VDE 0295 Class 6 [1] Column 4	Standard structure		
					Column 5	Column 6	Column 7
0.035	-	7 x 0.08	-	-	-	-	-
0.05	-	-	-	-	-	14 x 0.07	26 x 0.05
0.08	-	-	-	-	-	-	40 x 0.05
0.09	-	-	-	-	7 x 0.124	24 x 0.07*	-
0.14	-	-	18 x 0.10	18 x 0.10	18 x 0.1	36 x 0.07	72 x 0.05
0.25	-	-	14 x 0.15	32 x 0.10	32 x 0.1	65 x 0.07	128 x 0.05
0.34	-	7 x 0.25	19 x 0.15	42 x 0.10	42 x 0.1	88 x 0.07	174 x 0.05
0.38	-	7 x 0.27	12 x 0.20	21 x 0.15	48 x 0.1	100 x 0.07	194 x 0.05
0.5	7 x 0.30	7 x 0.30	16 x 0.20	28 x 0.15	64 x 0.1	131 x 0.07	256 x 0.05
0.75	7 x 0.37	7 x 0.37	24 x 0.20	42 x 0.15	96 x 0.1	195 x 0.07	384 x 0.05
1	7 x 0.43	7 x 0.43	32 x 0.20	56 x 0.15	128 x 0.1	260 x 0.07	512 x 0.05
1.5	7 x 0.52	7 x 0.52	30 x 0.25	84 x 0.15	192 x 0.1	392 x 0.07	768 x 0.05
2.5	7 x 0.67	19 x 0.41	50 x 0.25	140 x 0.15	320 x 0.1	651 x 0.07	1280 x 0.05
4	7 x 0.85	19 x 0.52	56 x 0.30	224 x 0.15	512 x 0.1	1040 x 0.07	-
6	7 x 1.05	19 x 0.64	84 x 0.30	192 x 0.20	768 x 0.1	1560 x 0.07	-
10	7 x 1.35	49 x 0.51	80 x 0.40	320 x 0.20	1280 x 0.1	2600 x 0.07	-
16	7 x 1.70	49 x 0.65	128 x 0.40	512 x 0.20	2048 x 0.1	4116 x 0.07	-
25	7 x 2.13	84 x 0.62	200 x 0.40	800 x 0.20	3200 x 0.1	6370 x 0.07	-
35	7 x 2.52	133 x 0.58	280 x 0.40	1120 x 0.20	4410 x 0.1	9100 x 0.07	-
50	19 x 1.83	133 x 0.69	400 x 0.40	705 x 0.30	-	-	-
70	19 x 2.17	189 x 0.69	356 x 0.50	990 x 0.30	-	-	-
95	19 x 2.52	259 x 0.69	485 x 0.50	1340 x 0.30	-	-	-
120	37 x 2.03	336 x 0.67	614 x 0.50	1690 x 0.30	-	-	-
150	37 x 2.27	392 x 0.69	765 x 0.50	2123 x 0.30	-	-	-
185	37 x 2.52	494 x 0.69	944 x 0.50	1470 x 0.40	-	-	-
240	61 x 2.24	627 x 0.70	1225 x 0.50	1905 x 0.40	-	-	-
300	61 x 2.50	790 x 0.70	1530 x 0.50	2385 x 0.40	-	-	-
400	61 x 2.89	-	2034 x 0.50	-	-	-	-
500	61 x 3.23	-	1768 x 0.60	-	-	-	-
630	91 x 2.97	-	2228 x 0.60	-	-	-	-

* Alternatively: 19 x 0.08

Note

1. For conductor classes 5 and 6, DIN VDE 0295 in agreement with IEC 228 solely specifies the maximum individual wire diameter. The number of wires is non-binding.

2. For conductor class 2, however, the minimum number of individual wires in the round conductor and not the individual wire diameter applies. The required maximum conductor resistance values for each conductor at 20°C are definitive. The nominal cross section of the specified maximum values must not be exceeded.

EXPLANATORY NOTES ON THE VERY FLEXIBLE STRANDED WIRE CONDUCTORS, CLASS 6

Column 4 Flexible standard structure acc. to DIN VDE

Column 5 Very flexible

Column 6 Highly flexible

Column 7 Extremely flexible

Maximum permissible largest individual wire-ø:	
Nominal wire-ø mm	Maximum individual wire-ø mm
0.20	0.21
0.25	0.26
0.30	0.31
0.40	0.41
0.50	0.51
0.60	0.61

GENERAL TECHNICAL REGULATIONS

CONDUCTOR RESISTANCE VALUES ACCORDING TO DIN VDE 0295 AND IEC 228

The conductor resistance values of cables and insulated cables for heavy current systems are listed from 0.5 mm² according to DIN VDE 0295 in compliance with IEC 228 on the basis of the conductor class. At 20°C, the resistance of each conductor must not exceed the maximum value specified for the nominal cross section. Compliance with the maximum conductor resistance values is checked by measuring the resistance of the finished cable or wire's conductor. Measurement occurs according to DIN VDE 0472 part 501. This does not apply to conductors in telephone cables and wires. Conductor resistance at 20°C, maximum value (ohm/km)

Conductor Dimensions	Heavy current cables						Welding cable	
	Copper conductor				Aluminium conductor		Copper conductor	
	Made from tin-plated wires		Made from bare wires		Made from bare wires			
Nominal cross section mm²	Class 1 Class 2 Ω/km	Class 5 Class 6 Ω/km	Class 1 Class 2 Ω/km	Class 5 Class 6 Ω/km	Class 1 Ω/km	Class 2 Ω/km	Made from bare wires Ω/km	Made from tin-plated wires Ω/km
-0-.05	-	~380	-	~360	-	-	-	-
0.08	-	~240	-	~230	-	-	-	-
0.09	-	~230	-	~215	-	-	-	-
0.14	-	~140	-	~138	-	-	-	-
0.22	-	~96.8	-	~95	-	-	-	-
0.25	-	~79.3	-	~77.8	-	-	-	-
0.34	-	~57.1	-	~56.0	-	-	-	-
0.50	36.7	40.1	36.0	39.0	-	-	-	-
0.75	24.8	26.7	24.5	26.0	-	-	-	-
1.0	18.2	20.0	18.1	19.5	-	-	-	-
1.5	12.2	13.7	12.1	13.3	-	-	-	-
2.5	7.56	8.21	7.41	7.98	-	-	-	-
4	4.70	5.09	4.61	4.95	-	-	-	-
6	3.11	3.39	3.08	3.30	-	-	-	-
10	1.84	1.95	1.83	1.91	-	-	-	-
16	1.16	1.24	1.15	1.21	-	1.91[2)]	1.16	1.19
25	0.734	0.795	0.727[1)]	0.78	1.2	1.20	0.758	0.78
35	0.529	0.565	0.524[1)]	0.554	0.868	0.868	0.536	0.552
50	0.391	0.393	0.387[1)]	0.386	0.641	0.868	0.379	0.39
70	0.270	0.277	0.268[1)]	0.272	0.443	0.443	0.268	0.276
95	0.195	0.210	0.193[1)]	0.206	0.32	0.320	0.198	0.204
120	0.154	0.164	0.153[1)]	0.161	0.253	0.253	0.155	0.159
150	0.126	0.132	0.124[1)]	0.129	0.206	0.206	0.125	0.129
185	0.100	0.108	0.0991	0.106	0.164	0.164	0.102	0.105
240	0.0762	0.0817	0.0754	0.0801	0.125	0.125	-	-
300	0.0607	0.0654	0.0601	0.0641	0.1	0.100	-	-
400	0.0475	0.0495	0.0470	0.0486	-	0.0778	-	-
500	0.0369	0.0391	0.0366	0.0384	-	0.0605	-	-
630	0.0286	0.0292	0.0283	0.0287	-	0.0469	-	-

1) Applies for class 1 mineral-insulated cables
2) Only for conductors with a reduced cross section at NAYCWY4 x 25/16

EXPLANATORY NOTES

Class 1 For solid conductors

Class 2 For stranded conductors

Class 5 For flexible conductors

Class 6 For very flexible conductors

GENERAL TECHNICAL REGULATIONS

CURRENT CAPACITIES FOR FLEXIBLE CABLES

Permissible current load of insulated heavy current cables with copper conductors at ambient temperatures of up to 25°C according to DIN VDE 0100, 0812 and 0890. The values are guidance values. The DIN VDE regulations are definitive and binding.

Nominal cross section	Group 1 One or more single-cored cables laid in a tube e.g. H07V-U		Group 2 Multi-cored cables, e.g. sheathed cables, flat-webbed cable or moving cables		Group 3 Freely suspended single-cored cables*	
mm²	Current load A	Fuse A	Current load A	Fuse A	Current load A	Fuse A
0.08	2.5	-	0.5	-	-	-
0.14	6.0	-	1.5	-	6.0	-
0.25	8.5	-	2.5	-	8.5	-
0.34	9.0	-	3.5	-	10.0	-
0.50	10.0	-	5.0	-	12.0	-
0.75	11.0	-	13.0	10	16.0	16
1.00	12.0	10	16.0	16	20.0	20
1.50	16.0	16	20.0	20	25.0	25
2.50	21.0	20	27.0	25	34.0	35
4.00	27.0	25	36.0	35	45.0	50
6.00	35.0	35	47.0	50	57.0	63
10.00	48.0	50	65.0	63	78.0	80
16.00	65.0	63	87.0	80	104.0	100
25.00	88.0	80	115.0	100	137.0	125
35.00	110.0	100	143.0	125	168.0	160
50.00	140.0	125	178.0	160	210.0	200
70.00	175.0	160	220.0	224	260.0	250
95.00	210.0	200	265.0	250	310.0	310
120.00	250.5	250	310.0	300	365.0	355
150.00	-	-	355.0	355	415.0	425
185.00	-	-	405.0	355	475.0	425
240.00	-	-	480.0	425	560.0	500
300.00	-	-	555.0	500	645.0	600
400.00	-	-	-	-	770.0	630
500.00	-	-	-	-	890.0	850

* Whereby the cables are installed with a clearance of at least the cable diameter, as well as single-cored wiring in switchgears and distribution boards

PERMISSIBLE CONTINUOUS LOAD FOR INSULATED CABLES AT AMBIENT TEMPERATURES OVER 25°C

Ambient temperature °C	Permissible permanent tensile loading capacity as % of the values shown in the table above		
	Plastic insulation %	Rubber insulation %	Cables with limit temp. 100°C %
From 25 to 30	94	92	100
> 30 to 35	88	85	100
> 35 to 40	82	75	100
> 40 to 45	75	65	100
> 45 to 50	67	53	100
> 50 to 55	58	38	100
> 55 to 65	-	-	100
> 65 to 70	-	-	92
> 70 to 75	-	-	85
> 75 to 80	-	-	75
> 80 to 85	-	-	65
> 85 to 90	-	-	53
> 90 to 95	-	-	38

GENERAL TECHNICAL REGULATIONS

COPPER CALCULATION

THE COPPER PRICE

Cables and wires are sold on the basis of daily copper prices (DEL). The DEL is the stock exchange listing for German electrolytic copper for conducting purposes, i.e. 99.5% pure copper. The DEL is quoted in euros per 100 kg.

It is published in the business section of daily newspapers under 'Warenmärkte' (commodity markets).

EXAMPLE
DEL EUR 650 means:
100 kg copper (Cu) costs EUR 650.
The day rate for cables and wires is also subject to 1% acquisition costs.

THE COPPER BASE

The list price for many cables already contains a share of the copper price. This is also specified in euros per 100 kg and published in the business section of daily newspapers under 'Warenmärkte'.

- EUR 150/100 kg for most cables
- EUR 100/100 kg for telephone cables
- EUR 0/100 kg for underground cables (e.g. the heavy current cable NYY), i.e. hollow price.

THE COPPER INDEX

The copper index is the copper weight of a cable and is specified for every catalogue product

Example
TITANEX 3G 1.5 mm2
Copper index acc. to the catalogue 43 kg/km
This means that the copper contained within a 1 km cable weights 43 kg.

FORMULA FOR CALCULATING THE COPPER SURCHARGE

$$\text{Copper index (kg/km)} \times \frac{\text{(DEL + 1\% acquisition costs) - copper base}}{100} = \text{Copper surcharge in EUR/km}$$

EXAMPLE CALCULATION

TITANEX 3G 1.5 mm
DEL: EUR 650/100 kg
Copper base: EUR 150/100 kg
Copper index: 43 kg/km

$$43 \text{ kg/km} \times \frac{(650+6.50) - 150.00}{100} = \text{EUR } 217.79/\text{km}$$

PRICES INCLUDING COPPER

The net price is calculated as follows:
Gross price
./. Discount
+ Copper surcharge

Net price including copper

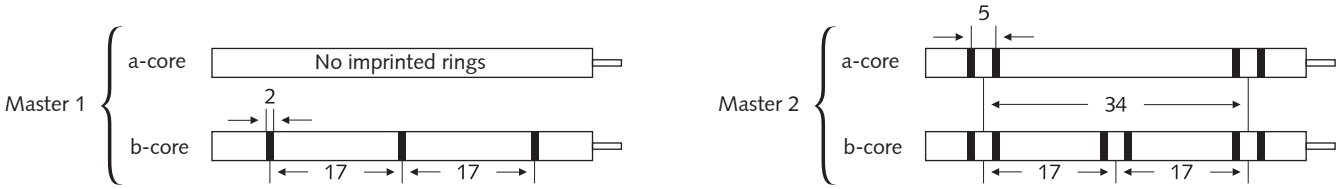
The copper surcharge is separately itemised on invoices

GENERAL TECHNICAL REGULATIONS

CORE LABELLING ACCORDING TO DIN VDE 0815

INSTALLATION CABLES J-YY...BD, J-HH...BD, J-Y(ST)Y...BD, J-H(ST)H...BD AND J-2Y(ST)Y...BD

The individual cores in a quad are labelled by means of black rings



The cores in the five star quads within a basic bundle are colour coded with the following basic colours:

Quad 1: basic colour of all cores: red
Quad 2: basic colour of all cores: green
Quad 3: basic colour of all cores: grey
Quad 4: basic colour of all cores: yellow
Quad 5: basic colour of all cores: white

The counting bundle in each layer is marked with a red plastic coil. The other bundles have white or natural-coloured coils.
The quads in a basic bundle are counted in the order of the basic colours.

In the case of cables with more than five star quads, the basic and main bundles are consecutively counted moving outwards through all layers starting from the counting bundle of the 1st inner layer.

INSTALLATION CABLE J-Y(ST)Y...LG

2-paired installation cables
1st pair: a-core red, b-core black
2nd pair: a-core white, b-core yellow

For 2-paired cables: cores stranded into a star quad

4 and more-paired installation cables
a-core: for 1st pair/layer red (counting pair), for all other pairs white
b-core: blue, yellow, green, brown, black with consistent repetition

Counting method: starting from the outer layer, moving consecutively inwards through all the layers.

INSTALLATION CABLES JE-Y(ST)Y...BD, JE-LIYCY...BD, JE-H(ST)H

Pair labelling
The core insulation sheaths are identified by the different basic colours, which are repeated in the same order in each bundle.

Basic colour of the pairs

Pair	Core	Basic colour
1	a	Blue
	b	Red
2	a	Grey
	b	Yellow
3	a	Green
	b	Brown
4	a	White
	b	Black

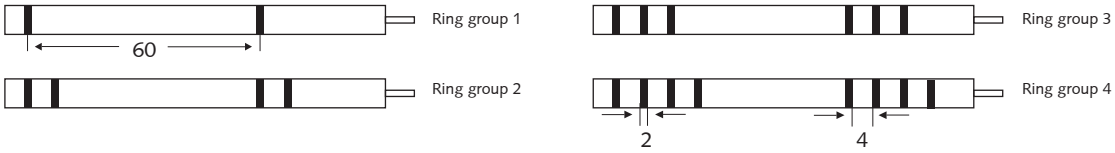
INSTALLATION CABLES JE-Y(ST)Y...BD, JE-LIYCY...BD, JE-H(ST)H

For 2-paired cables
Cores stranded into a star quad:
1st pair: a-core blue, b-core red
2nd pair: a-core grey, b-core yellow

Every bundle is assigned to a ring group. All the cores in a bundle are identified by the colours of the rings and the arrangement of the coloured rings into groups.

Bundle counting method:
Starting from the inner layer, moving consecutively outwards through all the layers.

Ring labelling and ring groups



Bundle labelling

Bundle no.	Ring colour	Ring group	Coil colour
1	Pink	I	-
2	Pink	II	-
3	Pink	III	-
4	Pink	IIII	-
5	Orange	I	-
6	Orange	II	-
7	Orange	III	-
8	Orange	IIII	-
9	Violet	I	-
10	Violet	II	-
11	Violet	III	-
12	Violet	IIII	-
13	Pink	I	Blue
14	Pink	II	Blue
15	Pink	III	Blue
16	Pink	IIII	Blue
17	Orange	I	Red
18	Orange	II	Red
19	Orange	III	Red
20	Orange	IIII	Red

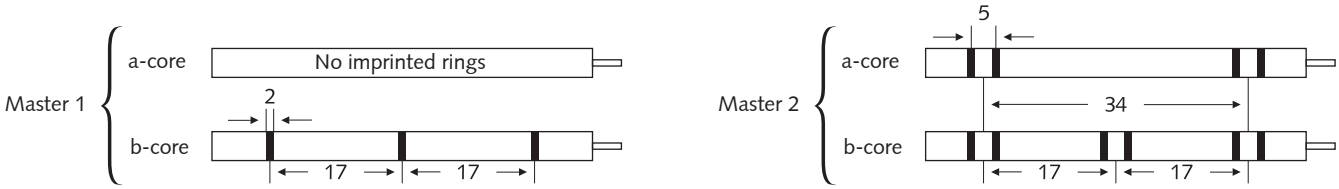
In the case of cables with more than 12 bundles, the additional bundles are not only labelled with rings but also with a coloured plastic coil.

GENERAL TECHNICAL REGULATIONS

CORE LABELLING ACCORDING TO DIN VDE 0815

EXTERNAL TELEPHONE CABLES A-2Y(L)2Y...BD, A-2YF(L)2Y...BD, A-02Y(L)2Y...BD, A-02YSF(L)2Y...BD, A-2Y0F(L)2Y...BD

The individual cores in a quad are labelled by means of black rings



The cores in the five star quads within a basic bundle are colour coded with the following basic colours:

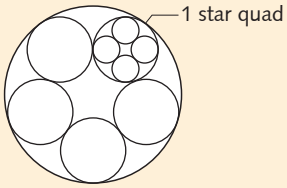
Quad 1: basic colour of all cores: red
Quad 2: basic colour of all cores: green
Quad 3: basic colour of all cores: grey
Quad 4: basic colour of all cores: yellow
Quad 5: basic colour of all cores: white

The counting bundle in each layer is marked with a red plastic coil. The other bundles have white or natural-coloured coils. The quads in a basic bundle are counted in the order of the basic colours.

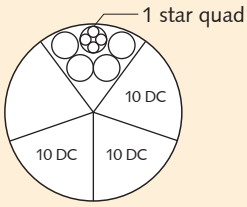
In the case of cables with more than five star quads, the basic and main bundles are consecutively counted moving outwards through all layers starting from the counting bundle of the 1st inner layer.

BUNDLE AND CABLE STRUCTURE

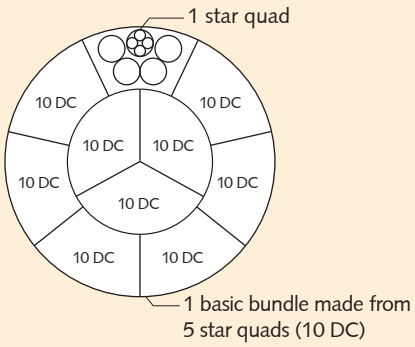
Structure of a basic bundle (BB)
Comprising 5 star quads = 10 DC



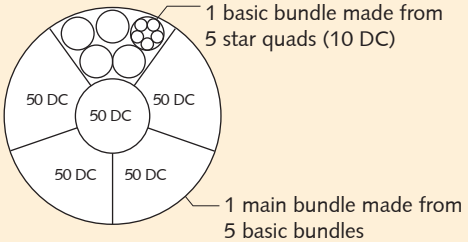
Structure of a main bundle (MB)
Comprising 5 basic bundles = 50 DC



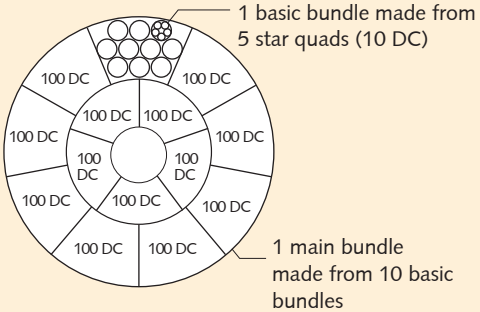
Comprising 10 basic bundles = 100 DC



Structure of a 300-paired cable
comprising 6 main bundles of 50 DC



Structure of a 1500-paired cable
comprising 15 main bundles of 100 DC



DC = double core or pair

GENERAL TECHNICAL REGULATIONS

PERMISSIBLE MINIMUM BENDING RADIUS ACCORDING TO DIN VDE

To prevent damage or destruction when laying cables, the following bending radii must be used as minimum values. On using smaller bending radii, depending on the strain levels, a reduced cable life or cable failure is to be expected unless specific measures have been agreed or stipulated for the defined bending behaviour in the individual cases..

INSTALLATION CABLES AND WIRES ACCORDING TO VDE 0815/0891 PART 5

Design	Singular bending without tension	Repeated bending under tension	On dispatch
Y	1 x d	2.5 x d	50 mm
2YY	1 x d	2.5 x d	50 mm
J-FY	1 x d	2.5 x d	50 mm
J-Y(St)Y...Lg	5 x d	7.5 x d	7.5 x d
J-Y(St)Y...Bd	2.5 x d	7.5 x d	7.5 x d
J-YY...Bd	2.5 x d	7.5 x d	7.5 x d
JE-Y(St)Y...Bd	2.5 x d	7.5 x d	7.5 x d
JE-YCY...Bd	2.5 x d	7.5 x d	7.5 x d
JE-LiYCY...Bd	2.5 x d	7.5 x d	7.5 x d
JE-LiYY...Bd	2.5 x d	7.5 x d	7.5 x d
J-HH...Bd	2.5 x d	7.5 x d	7.5 x d
J-H(St)H...Bd	2.5 x d	7.5 x d	7.5 x d
JE-H(St)H...Bd	2.5 x d	7.5 x d	7.5 x d
JE-H(St)H...Bd FE	2.5 x d	7.5 x d	7.5 x d
JE-HCH...Bd	2.5 x d	7.5 x d	7.5 x d
JE-LiHCH...Bd	2.5 x d	7.5 x d	7.5 x d
JE-LiHH...Bd	2.5 x d	7.5 x d	7.5 x d
J-2Y2Y(St) (Zg)2Y...StIIIBd	5 x d	10 x d	15 x d
J-2Y2Y(Zg)2Y...StIIIBd	5 x d	10 x d	15 x d

HEAVY CURRENT CABLES FOR FIXED INSTALLATION ACCORDING TO VDE 0298 PART 3

Performance type	Nominal voltage < 0.6/ 1 kV			Nominal voltage > 0.6/ 1 kV
	Outer diameter of the cable or thickness of the flat cable in mm			
	< 10	> 10 to 25	> 25	
With fixed installation	4 x d	4 x d	4 x d	6 x d
With moulding	1 x d	2 x d	3 x d	4 x d

HEAVY CURRENT CABLES FOR FLEXIBLE INSTALLATION ACCORDING TO VDE 0298 PART 3

Performance type	Nominal voltage < 0.6/ 1 kV				Nominal voltage > 0.6/ 1 kV
	Outer diameter of the cable or thickness of the flat cable in mm				
	< 8	> 8 to 12	> 12 to 20	> 20	
With fixed installation	3 x d	3 x d	4 x d	4 x d	6 x d
With free movement	3 x d	4 x d	5 x d	5 x d	10 x d
With introduction	3 x d	4 x d	5 x d	5 x d	10 x d
Drum driven*	5 x d	5 x d	5 x d	6 x d	12 x d
Cable trolley driven*	3 x d	4 x d	5 x d	5 x d	10 x d
Cable carrier driven*	4 x d	4 x d	5 x d	5 x d	10 x d
Roll deflection*	7.5 x d	7.5 x d	7.5 x d	7.5 x d	15 x d

PLASTIC CABLES FOR HEAVY CURRENT SYSTEMS ACCORDING TO VDE 0298 PART 1

Plastic cable	Single-core	Dual-core/multi-core
Plastic cable < 1 kV	15 x d	12 x d
Plastic cable > 1 kV	15 x d	15 x d

d = Outer diameter of the cable or thickness of the flat cable
*with mandatory guidance

GENERAL TECHNICAL REGULATIONS

PROPERTIES OF INSULATION MATERIALS

Only for the basic materials – deviations are possible depending on the intended purpose/version. See the relevant catalogue page.

Materials	Abbreviation	Code acc. to VDE	Service temperature	Dielectric constant (10)	Special contact resistance (Ω x cm)	Tensile strength N/mm²
Polyvinyl chloride	PVC	Y	-30 +70	4.0	10^{12} - 10^{15}	10 - 25
Heat-resistant polyvinyl chloride	PVC	Y	-20 +90	3.5	10^{12} - 10^{15}	10 - 25
High pressure polyethylene	LDPE	2Y	-50 +70	2.3	10^{17}	20 - 30
Low pressure polyethylene	HDPE	2Y	-50 +100	2.3	10^{17}	30
Polyurethane	PUR	11Y	-40 +90/100	4.0 - 6.0	10^{12}	30 - 45
Polyamide	PA	4Y	-40 +80	3.5 - 7.0	10^{14}	50 - 180
Polybutylene terephthalate	PBTP	-	-60 +110	3.0 - 4.0	10^{16}	50 - 100
Polytetrafluoroethylene	PTFE	5Y	-190 +260	2.1	10^{18}	14 - 40
Fluorinated ethylene propylene	FEP	6Y	-100 +200	2.1	10^{18}	20 - 25
Ethylenetetrafluoroethy-lene	ETFE	7Y	-100 +150	2.6	10^{16}	40 - 50
Perfluoroalkoxy polymer	PFA	-	-190 +260	2.1	10^{15}	30
Chloroprene rubber	CR	5G	-40 +100	6.0 - 8.0	10^{13}	25
Silicone rubber	SI	2G	-60 +180	2.8 - 3.2	10^{15}	5 - 10
Ethyl vinyl acetate	EVA	4G	-30 +125	5 - 7	10^{13}	5
Ethylene propylene rubber	EPM/EP DM	3G	-30 +120	3.2	10^{14}	5 - 25
Thermoplastic polyester elastomer	TPE-O	-	-40 +120	2.7 - 3.6	5 - 10^{14}	≥ 6
Thermoplastic polyester elastomer	TPE-E	12Y	-70 +125	3.7 - 5.1	10^{12}	3 - 25
Styrene triple-block copolymer	TPE-S	-	-75 +105/140	2.2 - 2.6	10^{16}	9 - 25

GENERAL TECHNICAL REGULATIONS

PROPERTIES OF INSULATION MATERIALS

Only for the basic materials – deviations are possible depending on the intended purpose/version. See the relevant catalogue page.

Materials	Elongation at break %	Water absorption (20 C) %	Weather resistance	Fuel resistance	Oil resistance	Flammability
Polyvinyl chloride	150 - 300	0.4	Moderate	Moderate	Good	Self extinguishing
Heat-resistant polyvinyl chloride	150 - 300	0.4	Moderate	Moderate	Good	Self extinguishing
High pressure polyethylene	500	0.1	Good	Low	Moderate	Flammable
Low pressure polyethylene	800	0.1	Moderate	Low	Moderate	Flammable
Polyurethane	300 - 600	1.5	Excellent	Good	Good	Self extinguishing
Polyamide	200 - 300	1 - 2	Good	Moderate	Good	Flammable
Polybutylene terephthalate	50 - 300	0.5	Good	Good	Good	Flammable
Polytetrafluoroethylene	240 - 400	0.01	Excellent	Excellent	Excellent	Non-flammable
Fluorinated ethylene propylene	250 - 350	0.01	Excellent	Excellent	Excellent	Non-flammable
Ethylene tetrafluoroethylene	100 - 300	0.01	Excellent	Excellent	Excellent	Non-flammable
Perfluoroalkoxy polymer	300	0.01	Excellent	Excellent	Good	Non-flammable
Chloroprene rubber	450	1	Excellent	Low	Good	Self extinguishing
Silicone rubber	200 - 350	1.0	Excellent	Low	Moderate	Non-flammable
Ethyl vinyl acetate	200	0.01	Good	Low	Low	Flammable
Ethylene propylene rubber	200 - 450	0.02	Good	Low	Low	Flammable
Thermoplastic polyester elastomer	400	1.5	Excellent	Moderate	Moderate	Flammable
Thermoplastic polyester elastomer	280 - 650	0.3 - 0.6	Excellent	Good	Excellent	Flammable
Styrene triple-block copolymer	500 - 700	1 - 2	Moderate	Good	Low	Flammable

* with flame protection

GENERAL TECHNICAL REGULATIONS

CHEMICAL RESISTANCE – OVERVIEW TABLE

Chemical	YSLY Test temperature		YSLY-CY Test temperature		PUR Test temperature		NEO Test temperature		SILIKON Test temperature	
	20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C
Acetic acid 20%	◐	◐	◐	◐			◐	○		
Alum	○	○	○	○	●	●	○		◐	
Aluminium salts	○	○	○	○						
Ammonia, aqueous	○		○		○	◐	○	○	*	
Ammonium acetate, aqueous	○		○						*	
Ammonium carbonate, aqueous	○		○		◐	●				
Ammonium chloride, aqueous	○	○	○		○		○	○		
Aniline	●		●		●					
Barium salts	○		○		○		○		○	
Benzene	●		●		●					
Boric acid	○		○		◐		○	○	○	
Brake fluid	◐		◐		●					
Calcium chloride, aqueous	○	○	○	○	◐		○			
Calcium nitrate, aqueous	○	○	○	○			○			
Carbon disulphide	◐		◐		◐		●		◐	◐
Chromium salts, aqueous	○	○	○	○						
Citric acid, aqueous	○		○		○	○	○		○	
Copper salts	○	○	○	○	○		○		○	
Cutting oil	◐		◐		○		●		○	
Diesel	●		●		●				◐	
Engine oil	◐		◐		◐				○	
Ethanol	◐		◐		◐	◐	○	○	○	
Formic acid	◐	●	◐	●	◐		○	◐		
Freon	●		●		◐				●	
Hydraulic oil	◐		◐		*					
Hydrochloric acid	◐	◐	◐	◐	◐		●	◐	◐	◐
Hydrogen peroxide, aqueous	○		○		◐	○	○		○	○
Hydrogen sulphide	○		○				○			
Isopropyl alcohol	◐		◐		*					
Magnesium salts, aqueous	○	○	○	○	◐					
Mercury	○		○		○		○	○	○	
Mercury salts, aqueous	○		○		○		○		○	
Methyl alcohol, aqueous	◐		◐		◐		◐			
Mineral oil					◐					
Nickel salts, aqueous	○	○	○	○	○		○		○	

GENERAL TECHNICAL REGULATIONS

Chemical	YSLY Test temperature		YSLY-CY Test temperature		PUR Test temperature		NEO Test temperature		SILIKON Test temperature	
	20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C
Nitric acid	◐		◐		◐		●		◐	◐
Oxalic acid, aqueous	○	◐	○	◐			◐			
Petrol	◐	○	◐		○		◐	◐	◐	◐
Phosphoric acid	○	◐	○	◐	●		◐	◐	◐	◐
Potassium carbonate, aqueous (potasch)	○		○				○		○	
Potassium chlorate, aqueous	○	◐	○	◐			○			
Potassium chloride, aqueous	○	○	○	○	◐	◐			*	
Potassium chromate, aqueous	○	◐	○	◐			○	*	○	◐
Potassium iodide, aqueous	○		○				○		○	
Potassium nitrate, aqueous	○		○		○		○		○	
Potassium permanganate, aqueous	◐		◐		◐		○		◐	◐
Potassium sulphate, aqueous	○	◐	○	◐	○	◐	○		○	
Silver salts, aqueous	○	◐	○	◐	○	◐	○		○	
Sodium bicarbonate, aqueous (natron)	○		○		◐		○		○	
Sodium chloride, aqueous (table salt)	○	○	○	○	○		○		○	
Sodium thiosulphate, aqueous (fixing salt)	○	○	○		◐		○		○	
Sodium toulphate, aqueous	○		○		○					
Succinic acid, aqueous	○		○							
Sulphur	○		○						○	○
Sulphur dioxide	○		○		◐		●		◐	
Tartaric acid, aqueous	○		◐		○		○		○	
Tin(II) chloride	○		○			○			○	
Toluene									◐	
Transmission oil	○		○		◐				◐	
Trichloroethylene	○		○						○	
Zinc salts, aqueous	○	○	○	○			○			

KEY

○ No to little effect
◐ Weak to moderate effect
● Strong effect
* To be clarified on a case-by-case basis

Note:
These details are based on empirical values, manufacturer details and raw material supplier details and should be regarded as non-binding guidance values

GENERAL TECHNICAL REGULATIONS

COMBUSTION HEAT (FIRE LOADS) OF CABLES AND WIRES WITH A NOMINAL VOLTAGE OF UP TO 1000 V

According to fire prevention requirements, limiting the amount of flammable substances is becoming increasingly important as this should restrict the amount of combustion energy in the event of a fire.

The term 'fire load' refers to the combustion energy of flammable substances within a particular area and is specified in kWh/m².

The fire loads of cables are calculated on the basis of their shape and design with different amounts on insulation substances. The following are considered:

- **Design**
- **Insulation materials, halogen free or non-halogen free**
- **Dimensions**
- **Number of cores or pairs**
- **Conductor cross section**

Cable systems' fire loads can be calculated using values from the table below.

When determining fire loads, the heating value (Hu) of the material is definitive.

Material	Heating value (Hu)
PVC general	5.70 kWh/kg*
PVC for core insulation	6.39 kWh/kg
PVC for sheath material	5.84 kWh/kg
PE general	12.20 kWh/kg

*lower limit

The permissible fire load of 7 kWh/m² of floor area can be doubled to 14 kWh/m² of floor area if only halogen-free cables are used.

The fire loads are also specified in MJ/m².

Conversion takes place as follows:
1 MJ/m² equals 0.278kWh/m²
1 kWh/m²v equals 3.6 MJ/m²

TERMS AND CONDITIONS OF DELIVERY

GENERAL TERMS AND CONDITIONS OF SALE AND DELIVERY OF ELMAT-SCHLAGHECK GMBH & CO. KG

1. General information, scope and concurrence with other terms and conditions

All legal relations between our Customer and us in conjunction with the contracting, content and implementation of delivery services shall be exclusively subject to these Terms and Conditions of Sale and Delivery. Our silence in the face of any terms and conditions provided by the Purchaser shall not be regarded as an acceptance. Their validity is hereby expressly rejected. This shall also apply if we perform orders in the knowledge of other conflicting or deviating conditions. Any exceptions must be acknowledged by us in writing. In commercial business transactions, these Terms and Conditions of Sale and Delivery shall also apply to all future business relations in which we act as Supplier. They are stored on our website at http://www.elmat.de/informationen/agb.html where they can be viewed at any time.

2. Offer and contract conclusion

2.1 Our offers are non-binding and subject to change. The contract is entered into through the placement of an order by the Purchaser and its acceptance by us. Any subsequent modifications must be made in writing.

2.2 Unless otherwise specifically agreed on a case-by-case basis, the characteristics of the goods shall be exclusively based on our product specifications. Properties of samples and specimens shall only be binding if they have been expressly agreed upon as characteristics of the goods.

2.3 Lengths of 10% longer or shorter than the agreed length are permissible; delivery of such lengths shall be deemed as contractually compliant. Such length deviations shall accordingly reduce or increase the agreed purchase price.

3. Delivery and performance periods

3.1 Delivery dates or periods shall only apply following our written confirmation.

3.2 Even in the event of agreed periods and dates of a binding nature, we shall not be liable for delivery and performance delays caused by force majeure or other incidents that make it extremely difficult or impossible for us to provide the service. This shall particularly include extraordinary traffic congestion, strikes, lockouts, official decrees and similar, including if these affect our suppliers or subcontractors. Such circumstances shall entitle us to extend the period for delivery of the product or service by the duration of the hindrance plus a reasonable lead time or rescind from the as yet unfulfilled part of the contract in full or in part.

3.3 Should the hindrance last for more than two (2) months, the Purchaser shall be entitled to rescind from the as yet unfulfilled part of the contract subject to the provision of a reasonable grace period. If the delivery period is extended or we are released from our obligations, this shall not entitle the Purchaser to make any claims for compensation. We shall only be entitled to invoke the aforementioned circumstances if we immediately notify the Purchaser.

3.4 We are entitled to make partial deliveries at any time.

3.5 We are entitled to withhold deliveries if the Purchaser defaults on payment in relation to previous business transactions.

4. Availability of supplies and raw materials

We shall be released from our delivery obligations if, through no fault of our own, our subcontractor with whom a congruent hedging transaction has been entered into before or immediately after the conclusion of the contract fails to supply us at the contract price, correctly, on time or entirely, and we immediately notify the Purchaser of this situation. In such events, we undertake to immediately refund any purchase price that has already been paid. In the case of framework agreements or successive delivery agreements, we shall also be entitled to this right to be released from performance for partial deliveries without affecting our right to fulfil the remaining order irrespective of the applicable partial delivery.

5. Retention of title

5.1 We shall retain title of the goods delivered until full payment has been received of all accounts receivables from the transaction with the Purchaser. In the case of an open account (current account), the retention of title shall act as a security for the outstanding balance.
5.2 In the event that goods delivered by us are processed by the Purchaser, we shall be regarded as the manufacturer and acquire direct ownership of the newly created goods. Should the processing occur in conjunction with other materials, we shall acquire direct co-ownership of the new goods on a proportional basis in line with the invoice value of the goods we have supplied and that of the other materials.

5.3 If the combination or mixture of the goods supplied by us with an item owned by the Purchaser occurs in such a manner that the Purchaser's item is to be regarded as the main item, it shall be agreed that the co-ownership of the item shall be proportionally transferred to us on the basis of the invoice value of the goods we supplied and the invoice value (or if no such value exists, the market value) of the main item. The Purchaser shall store the resultant co-ownership item for us without charge.

5.4 The Purchaser is entitled to sell the goods to which we hold title in the ordinary course of business providing it meets its obligations arising from the business relationship with us in due time. All accounts receivables from the sale of goods to which we hold title shall be ceded to us by the Purchaser at the time of contract conclusion with us; if we have acquired co-ownership through the processing, combination or mixing of the goods, the cession shall occur on the basis of our co-ownership share.

5.5 On our request, the Purchaser must provide us with all necessary information about the stock of goods to which we hold title and the accounts receivables ceded to us. Also upon our request, the Purchaser must identify all goods to which we hold title as such and inform its customer of the cession.

5.6 Should the Purchaser default on payment, we shall be entitled, including without rescinding from the purchase agreement and without any grace period, to demand the temporary surrender of the goods to which we hold title at the Purchaser's expense.

5.7 If the value of our securities sustainably exceeds our accounts receivables by more than 15%, we shall, at our own discretion, release the former at the Purchaser's request.

6. Place of fulfilment; transfer of risk

6.1 The place of fulfilment for delivery is the place of dispatch of the goods or the unloading location in the case of unloading transactions. The place of fulfilment for payment is Untereschbach.

6.2 We are entitled to choose the means of transport and method by which we ship the goods. The risk shall transfer to the Purchaser when the goods are passed to the initial haulier, carrier or any other person or organisation responsible for shipment, even if Purchaser makes a stipulation in this regard.

7. Prices and costs; terms of payment

7.1 All prices agreed are net plus any statutory VAT. Exceptions (e.g. discounted payments) shall be subject to our written confirmation. The Customer must provide us with all legally required information in due time before invoice issuance to enable invoices to be duly processed in line with VAT laws. The latest version of the Incoterms shall apply with regard to prices and the interpretation of trade clauses.

7.2 Payments must be made into one of our bank accounts within 14 days of the invoice date. Alternative payment periods are subject to

our written confirmation. We shall only accept bills of exchange and cheques as a means of payment following express agreement. Rebate costs shall be borne by the Purchaser.

7.3 If the Purchaser defaults on a payment of an amount of more than €1,000 by more than 15 days, we shall be entitled to request pre-payment before any further deliveries. If the defaulted payment is not remedied within a reasonable grace period, we shall be entitled to rescind from the agreement and claim compensation due to delay or non-payment. The above regulations shall in particular apply to follow-up business transactions that have been agreed but not yet conducted. Should we become aware of information that indicates a significant deterioration in the Purchaser's financial situation, we shall still be entitled to request payment before the goods are delivered even if other agreements have previously been made, as well as to demand payment of all non-time-barred outstanding obligations from the current business relations. We shall notify the Customer of such information and provide it with the opportunity to comment.

7.4 The Purchaser may only offset payments against counterclaims that are uncontested or determined to be legally valid and can only invoke the right of retention on the basis of other undisputed or legally upheld payment claims.

8. Warranty

8.1 Any goods defects that can be identified during a routine inspection must be reported to us within one week of the receipt of the goods; other defects must be reported to us within one week of their discovery. Notification of defects must be provided in writing with specific details of their type and extent.

8.2 If the goods are defective and the Purchaser has duly notified us of such in accordance with point 8.1, the Purchaser shall be entitled to its statutory rights subject to the following provisos:
a) We initially have the right, at our discretion, to either rectify the defect or supply the Purchaser with defect-free goods.
b) We reserve the right to two attempts to rectify the issue. Should the rectification attempts fail or be unreasonable to the Purchaser, the Purchaser shall be entitled to either rescind from the agreement or demand a reduction in the purchase price.
c) Claims for damages and compensation for any futile expenditure on the grounds of a defect shall be subject to the provisions established in point 9 below.

8.3 Except in cases of wilful intent, the period of limitation for defective delivery shall expire one year after delivery. This shall not affect the statutory periods of limitation for goods that have been used to create a structure in line with their standard purpose and have caused this to be defective. Improvement or replacement shall not result in the period of limitation starting afresh.

9. Liability

We are liable for damages in line with statutory regulations. In the event of the simple negligent breach of fundamental contractual obligations, our liability shall, however, be restricted to compensation for typical, foreseeable damage; in the case of the simple negligent breach of non-fundamental contractual obligations, our liability is excluded. These limitations of liability shall not apply to claims resulting from loss of life, personal injury or damage to health.

10. Final provisions, place of jurisdiction

10.1 If the Customer is a business person, the sole place of jurisdiction for all legal disputes arising directly or indirectly from the contractual relations shall be Untereschbach. German law applies.

10.2 Should one of more of these provisions be entirely or partially invalid, this shall not affect the validity of the remaining provisions.

Last updated October 2013

KEY

CABLE PROPERTIES

UV resistant
For outdoor use

Ozone resistant
Ozone resistance for both the insulation and the sheath

Flame retardant
Fire-resistant sheath

Oil resistant
Good oil resistance for industrial use

High operating temperature
For use in particularly hot environments

Low operating temperature
For use in particularly cold environments

Water resistant
For use outdoors

Silicone free
The cable does not contain silicone

Halogen free
Flame retardant. In the event of a fire, the cable sheath ensures that only low smoke and acid gas emissions are formed.

Rigid
The cable has a rigid inner conductor

Flexible
The cable has a flexible inner conductor

Outdoor installation
Suitable to be directly laid outdoors

Underground installation
Suitable to be directly buried underground

Installation in water
Suitable to be directly laid in water – waterproof

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