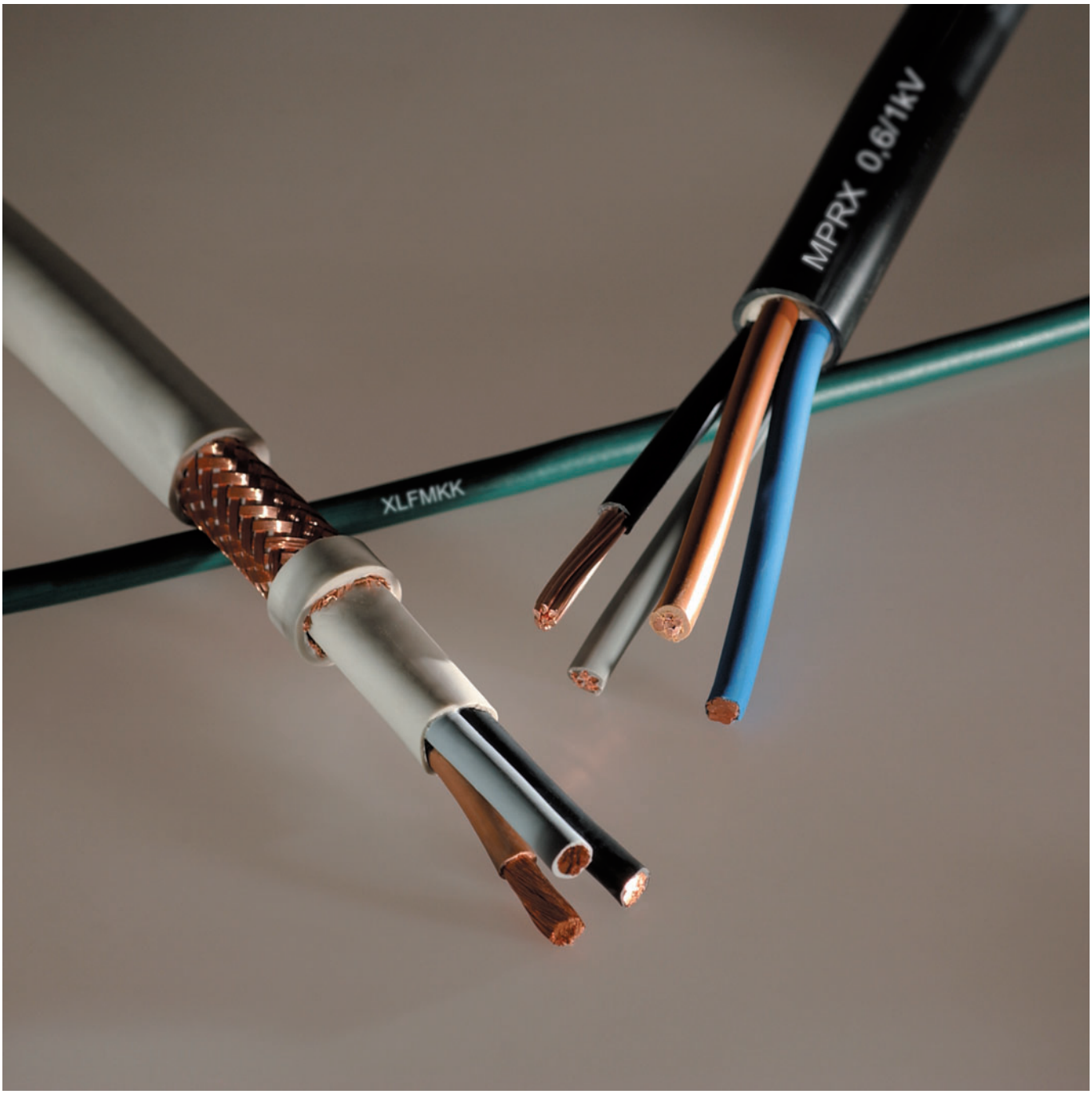
Shipwiring and Marine Cables



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Shipwiring and Marine Cables

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Shipwiring and Marine Cables

We offer shipwiring and marine cables with approvals of the Germanischer Lloyd, Lloyds Register of Shipping, American Bureau of Shipping, Det Norske Veritas, Bureau Veritas, USSR Register of Shipping and the Verband Deutscher Elektrotechniker.

Great parts of the programm are available within a short time from our stock. Cutting lengths are available for an additional charge. On request we send with each order a corresponding production or company certificate.

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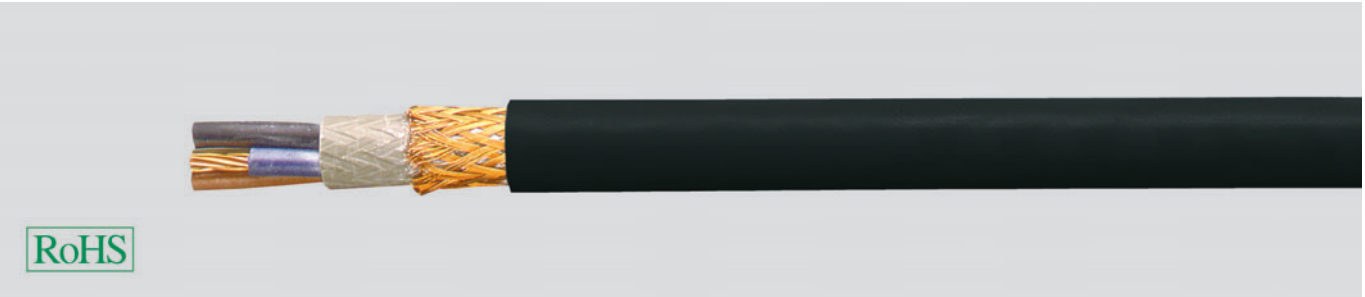
Ships Power Cables MGSGO halogen-free, copper screened



Technical data

- According to VG 95218 part 60, screened. The core insulation continues to function during a fire without the need for extra flame-proof taping
- **Conductor operating temperature** max. +85 °C
- **Nominal voltage** U_0/U 0,6/1 kV
- **Minimum bending radius** approx. 5x cable ø

Cable structure

- Stranded copper conductors
- Heat-resistant EPR-insulation 3GI3, to DIN VDE 0207 part 20
- Cores stranded in layers with optimal lay-length
- Filling compound covering all cores
- Foil screen
- Plain copper braided screen
- Polyester tape
- Chloroprene based outer sheath 5GM3, to DIN VDE 0207 part 21
- Jacket colour black

Properties

- halogen-free and flame retardant
- **Colour code**
  1 core: black
  2 cores: brown/blue
  3 cores: brown/black/grey
  4 cores: blue/brown/black/grey
- **Approved by**
  BWB (Bundesamt für Wehrtechnik und Beschaffung), i.e. German Federal Office for Defence and Procurement

Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

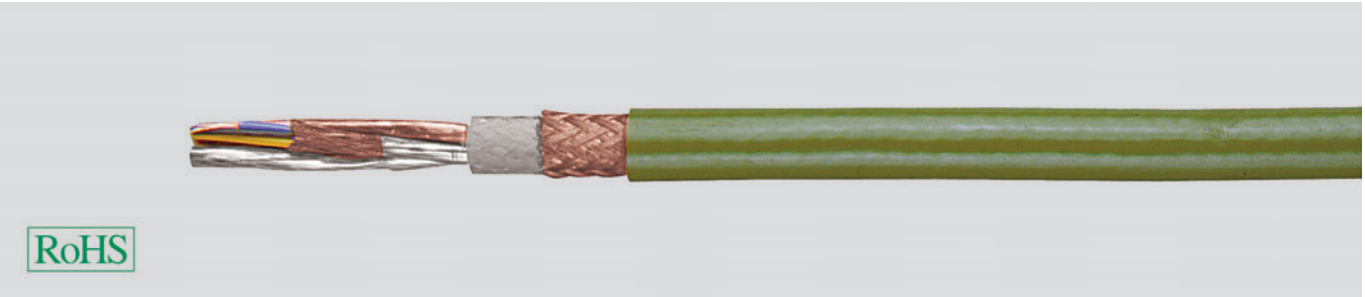
Halogen-free power cables for marine craft are used for permanent installation on ships in all rooms and open decks as control and power cables.

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59270	1 x 4	7,5	81,0	170,0	12
59271	1 x 6	8,4	104,0	200,0	10
59272	1 x 10	9,5	149,0	260,0	8
59273	1 x 16	10,0	214,0	340,0	6
59274	1 x 25	12,0	311,0	480,0	4
59275	1 x 35	13,0	416,0	590,0	2
59276	1 x 50	15,0	572,0	760,0	1
59277	1 x 70	17,0	779,0	980,0	2/0
59278	1 x 95	19,5	1034,0	1300,0	3/0
59279	1 x 120	21,0	1316,0	1550,0	4/0
59280	1 x 150	23,0	1615,0	1850,0	300 kcmil
59281	1 x 185	25,5	1968,0	2300,0	350 kcmil
59282	1 x 240	29,0	2506,0	2950,0	500 kcmil
59283	1 x 300	31,5	3345,0	3600,0	600 kcmil
59284	2 x 1,5	11,5	105,0	340,0	16
59285	2 x 2,5	12,4	132,0	400,0	14
59286	2 x 4	13,4	170,0	460,0	12
59287	2 x 6	14,7	217,0	570,0	10
59288	2 x 10	16,2	307,0	720,0	8
59289	2 x 16	19,0	471,0	940,0	6
59290	2 x 25	22,5	670,0	1300,0	4

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59291	3 x 1,5	12,0	125,0	380,0	16
59292	3 x 2,5	13,0	161,0	440,0	14
59293	3 x 4	14,0	215,0	520,0	12
59294	3 x 6	15,5	282,0	640,0	10
59295	3 x 10	17,6	417,0	840,0	8
59296	3 x 16	20,0	636,0	1110,0	6
59297	3 x 25	24,0	924,0	1610,0	4
59298	3 x 35	26,0	1233,0	2020,0	2
59299	3 x 50	30,0	1703,0	2610,0	1
59300	3 x 70	34,5	2413,0	3450,0	2/0
59301	3 x 95	39,7	3191,0	4710,0	3/0
59302	3 x 120	43,0	3975,0	5680,0	4/0
59303	4 x 4	15,2	284,0	620,0	12
59304	4 x 6	17,0	371,0	750,0	10
59305	4 x 10	19,4	545,0	1010,0	8
59306	4 x 16	22,0	796,0	1400,0	6
59307	4 x 25	26,4	1170,0	2000,0	4
59308	4 x 35	29,2	1578,0	2530,0	2
59309	4 x 50	33,5	2278,0	3280,0	1
59310	4 x 70	38,2	3090,0	4450,0	2/0
59311	4 x 95	44,2	4110,0	5930,0	3/0

Dimensions and specifications may be changed without prior notice. (RW01)

Light Marine Power Cables XLFMKK Cu-screened



Technical data

- According to VG 88778/66
- **Conductor operating temperature** max. +85 °C
- **Min. installation temperature** -10 °C
- **Nominal voltage** 250 V
- **Minimum bending radius** approx. 5x cable ø

Cable structure

- Stranded copper conductors to DIN VDE 0295 cl. 2, BS 6360 cl. 2 and IEC 60228 cl. 2
- PVC core insulation with polyamid coating
- Cores laid up in pairs
- Pairs copper screened
- Separating foil
- PVC inner sheath
- Plain copper braided screen, waterproofed
- PVC outer sheath, colour green

Properties

- **Colour code**
  All sizes are colour coded
- **Approved by**
  German ministry of defense

Application

For fixed installation on marine craft above and below deck.

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59336	2 x 2 x 0,75	16,0	160,0	370,0	18
59337	4 x 2 x 0,75	18,1	277,0	490,0	18

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59338	11 x 2 x 0,75	26,2	658,0	1080,0	18

Dimensions and specifications may be changed without prior notice. (RW01)

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Marine Power Cables LMGSGO halogen-free, Cu-screened

Technical data

- According to VG 95281 part 61 screened. No loss of insulation if directly exposed to fire.
  No special fire-proofed layer necessary
- **Conductor operating temperature** max. +85 °C
- **Nominal voltage** 500 V
- **Minimum bending radius** approx. 5x cable ø

Cable structure

- Stranded copper conductor
- Heat resistant EPR-insulation 3GI3, to DIN VDE 0207 part 20
- Core stranded in layers with optimal lay-length
- Halogen-free inner filling sheath
- Copper braided screening
- Polyester foil taping
- Chloroprene based outer sheath
- Sheath colour black

Properties

- Halogen-free and flame retardant
- **Colour code**
  2 cores: brown/blue
  3 cores: brown/schwarz/grey
  4 cores: blue/brown/black/grey
  5 cores: blue/brown/black/grey/black
  7-33 cores: all cores black, number coded, core 1 placed centrally.
- **Approved by**
  BWB (Bundesamt für Wehrtechnik und Beschaffung), i.e. German Federal Office for Defence and Procurement

Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

For fixed installation on marine craft above and below deck.

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59360	2 x 1,5	7,0	89,0	110,0	16
59361	3 x 1,5	7,2	105,0	140,0	16
59362	4 x 1,5	7,8	131,0	170,0	16
59363	5 x 1,5	8,3	146,0	180,0	16
59364	7 x 1,5	9,3	180,0	230,0	16
59365	10 x 1,5	10,8	244,0	310,0	16
59366	12 x 1,5	12,0	276,0	350,0	16
59367	14 x 1,5	12,7	310,0	400,0	16
59368	16 x 1,5	13,2	342,0	450,0	16
59369	19 x 1,5	13,9	401,0	510,0	16
59370	24 x 1,5	15,5	494,0	620,0	16
59371	27 x 1,5	16,6	539,0	680,0	16
59372	33 x 1,5	17,5	633,0	810,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59373	2 x 2,5	7,7	114,0	160,0	14
59374	3 x 2,5	8,0	144,0	190,0	14
59375	4 x 2,5	8,7	171,0	230,0	14
59376	6 x 2,5	10,3	242,0	300,0	14
59377	7 x 2,5	10,3	266,0	320,0	14

Dimensions and specifications may be changed without prior notice. (RW01)

Ships Telephone Cables FMGCH 250 V (FMGCG*)

halogen-free according to DIN 89 159/99

Technical data

- As per DIN 89159/ edition 1998 and IEC 60092-375
- **Temperature range** max. +85 °C conductor temperature
- **Nominal voltage** 250 V
- **Insulation resistance** 1400 MOhm x km
- **Minimum bending radius** approx. 5x cable ø

Cable structure

- Stranded, bare copper conductors to DIN VDE 0295 cl. 2, BS 6360 cl. 2 and IEC 60228 cl. 2
- HEPR core insulation (Hard grade EPR)
- Cores per pair, printed with numbers, starting in center with number 1
- Cores stranded in pairs with optimal lay-length
- Pairs stranded in layers with optimal lay-length
- Separator-foil
- Bare copper braided screen
- Separator-foil
- Outher sheath, Polyolefin basis-compound
- Sheath colour green

Properties

- Flame retardant according to SOLAS definition (according to IEC 60332-3 category A)
- **Approved by** Association of German Electrical Engineers Germanischer Lloyd, Lloyds Register of Shipping, American Bureau of Shipping, Det Norske Veritas, Bureau Veritas, Russian Maritime Register of Shipping and Registro Italiano Navale are in preparation

Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

For measurement, control , regulation , control and alarm systems ; radio , positioning and messaging systems . For fixed installation on ships in rooms and on open decks.

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59138	1 x 2 x 0,75	8,5	62,0	90,0	18
59139	2 x 2 x 0,75	9,0	87,0	130,0	18
59140	4 x 2 x 0,75	13,0	153,0	230,0	18
59141	7 x 2 x 0,75	15,5	230,0	340,0	18

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59142	10 x 2 x 0,75	18,5	319,0	470,0	18
59143	14 x 2 x 0,75	21,0	445,0	610,0	18
59144	19 x 2 x 0,75	24,0	525,0	770,0	18
59145	24 x 2 x 0,75	27,0	663,0	950,0	18

Dimensions and specifications may be changed without prior notice. (RW01)

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Marine Telecommunication Cables FMGSGO

halogen-free, Cu-screened

Technical data

- According to VG 95218 part 62 with screen and sustaining natural isolation in the case of fire without a flame retardant barrier
- **Conductor operating temperature** max. +85 °C
- **Nominal voltage** 250 V
- **Minimum bending radius** approx. 5x cable ø

Cable structure

- Bare copper conductor, stranded
- Heat resistant EPR-insulation 3GI3, to DIN VDE 0207 part 20
- To four wires twisted
- Filling compound covering all cores, halogen-free
- Screening of copper braid
- Sheet of polyester
- Outer sheath of elastomer compound to olefin - based copolymer
- Sheath colour black

Properties

- Halogen-free and flame retardant
- **Colour code**
  All sizes and dimensions are colour coded
- **Approved by**
  BWB (Bundesamt für Wehrtechnik und Beschaffung), i.e. German Federal Office for Defence and Procurement

Application

For fixed installation on Navy ships in locations and on open decks.

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59380	2 x 2 x 0,75	6,7	89,0	110,0	18
59381	4 x 2 x 0,75	9,6	142,0	190,0	18
59382	6 x 2 x 0,75	10,8	189,0	260,0	18
59383	8 x 2 x 0,75	11,9	225,0	310,0	18

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59384	10 x 2 x 0,75	13,7	272,0	380,0	18
59385	14 x 2 x 0,75	14,9	338,0	465,0	18
59386	16 x 2 x 0,75	16,1	373,0	520,0	18

Dimensions and specifications may be changed without prior notice. (RW01)

Marine Telecommunication Cables FMSGSGO 250 V with a single screen, higher cross-talk atttenuation, halogen-free

Technical data
- According to VG 95218 part 63
- **Conductor operating temperature** max. +85 °C
- Min. **installation temperature** -10 °C
- **Nominal voltage** 250 V
- **Minimum bending radius** approx. 3-5x cable ø

Cable structure
- Bare copper conductor, stranded
- Cross-linked polyolefin-insulation
- Cores laid up in pairs
- Separation foil
- Each pair plain copper wire screened
- Each pair with separation foil
- Pairs laid up concentrically
- Separation foil
- Overall foil wrap
- Plain, copper wire, braided screen
- Separation foil
- Elastomere based outer sheath
- Sheath colour black

Properties
- Oil resistant and flame retardant
- **Colour code for cores**
  Pair/counting pair: black/blue
  Pair/counting direction pair: black/brown
  Subsequent pairs: black/grey
- **Approved by**
  BWB (Bundesamt für Wehrtechnik und Beschaffung), i.e. German Federal Office for Defence and Procurement

Note
- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application
For fixed installation on marine craft above and below deck.

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59150	2 x 2 x 0,75	11,1	149,0	220,0	18
59151	4 x 2 x 0,75	12,9	277,0	340,0	18
59152	7 x 2 x 0,75	14,9	489,0	500,0	18
59153	11 x 2 x 0,75	19,6	658,0	780,0	18

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59154	14 x 2 x 0,75	20,8	731,0	950,0	18
59155	19 x 2 x 0,75	23,4	951,0	1300,0	18
59156	24 x 2 x 0,75	25,3	1181,0	1600,0	18

Dimensions and specifications may be changed without prior notice. (RW01)

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Light Marine Telekommunication Cables
LFMGSSGO halogen-free, 2x Cu-screened

Technical data
- According to VG 95218 part 64, 2x copper screening.
  No loss of insulation if directly exposed to open flame.
  No special flame proof layer neccessary
- **Conductor operating temperature** max. +85 °C
- Min. **installation temperature** -10 °C
- **Nominal voltage** 250 V
- **Minimum bending radius** approx. 6x cable ø

Cable structure
- Stranded (7) tinned copper conductor to DIN VDE 0295 cl. 2, BS 6360 cl. 2 and IEC 60228 cl. 2
- Cross-linked polyolefin-insulation
- Core stranded to pairs with optimal lay-length
- Overall halogen-free inner filling
- Tinned copper, braided double screening
- Polyester foil taping
- Elastomere based outer sheath
- Sheath colour black

Properties
- Oil resistant and flame retardant
- **Colour code for cores**
  Pair/counting pair: black/blue
  Pair/counting direction pair: black/brown
  Subsequent pairs: black/grey
- **Approved by**
  BWB (Bundesamt für Wehrtechnik und Beschaffung), i.e. German Federal Office for Defence and Procurement

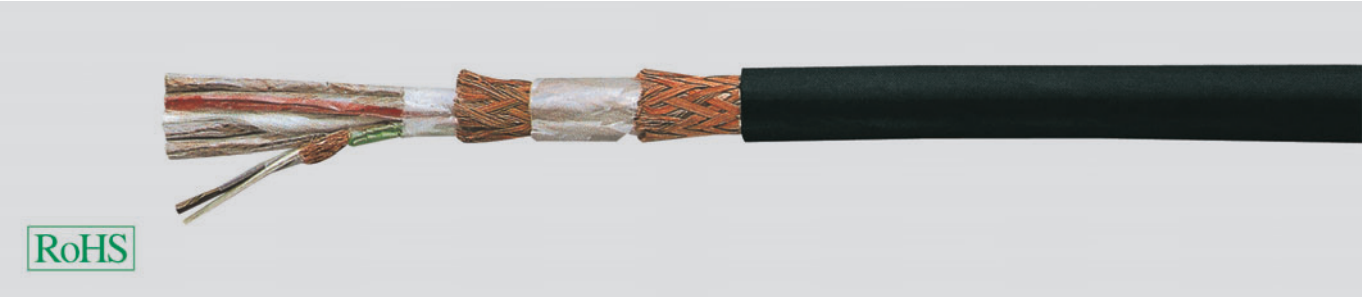
Application
For fixed installation on marine craft above and below decks.

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	
59390	2 x 2 x 0,4	8,0	60,0	95,0	-
59391	4 x 2 x 0,4	10,5	95,0	145,0	-
59392	7 x 2 x 0,4	12,5	146,0	220,0	-

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	
59393	12 x 2 x 0,4	15,5	235,0	320,0	-
59394	19 x 2 x 0,4	18,0	320,0	415,0	-
59395	27 x 2 x 0,4	20,0	414,0	540,0	-

Dimensions and specifications may be changed without prior notice. (RW01)

Light Marine Telecommunication Cables
LFMSGSSGO halogen-free, 2x Cu-screened



Technical data
- According to VG 95218 part 66,
  2x copper screening with improved cross-talk protection.
  No loss of insulation if directly exposed to open flame.
  No special flame proof layer necessary
- **Conductor operating temperature** max. +85 °C
- Min. **installation temperature** -10 °C
- **Nominal voltage** 250 V
- **Minimum bending radius** approx. 6x cable ø

Cable structure
- Stranded (7) tinned copper conductor
- Cross-linked polyolefin-insulation
- Core stranded to pairs with optimal lay-length
- Tinned copper, braided screening over each pair
- Polyester foil seperator
- Overall polyester taped inner covering
- Tinned copper, braided overall screen
- Halogen-free insulating layer
- Overall tinned copper, braided screen
- Polyester foil separator
- Elastomere based outer sheath
- Sheath colour black

Properties
- Oil resistant and flame retardant
- **Colour code**
  All sizes and dimensions are colour coded
- **Approved by**
  BWB (Bundesamt für Wehrtechnik und Beschaffung), i.e. German Federal Office for Defence and Procurement

Application
For fixed installation on marine craft above and below decks.

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	
59396	5 x 3 x 0,4	16,0	248,0	420,0	-

Part no.	No.pairs x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	
59397	12 x 3 x 0,4	23,0	500,0	740,0	-

Dimensions and specifications may be changed without prior notice. (RW01)

Ships Wiring Cables-SY single cores

Technical data

- Special PVC single cores according to DIN VDE 0250
- **Temperature range**
  flexing +5 °C to +70 °C
  fixed installation -40 °C to +70 °C
- **Nominal voltage** 250 V
- **Test voltage** 1500 V
- **Minimum bending radius**
  approx. 7,5x cable ø

Cable structure

- Fine wire stranded, plain copper conductors according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- PVC core insulation
- Tinned steel-wire braided screening
- PVC outer sheath (RAL 7001)
- Sheath colour black

Properties

- Flame resistant and self-extinguishing as per VDE 0472, part 804, test B and IEC 60332-1
- Oil resistant according DIN VDE 0250
- **Approved by**
  Germanischer Lloyd

Application

A connection and a connection cable for measuring and control devices for communication systems , production lines , conveyor systems for fixed and variable connection in humid, wet and dry areas. These PVC single cores are also suitable for use in ship building.

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59450	1 x 6	8,3	57,4	148,0	10
59451	1 x 10	10,3	95,8	221,0	8
59452	1 x 16	10,3	153,4	293,0	6
59453	1 x 25	13,7	239,5	447,0	4

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59454	1 x 35	15,2	335,0	565,0	2
59455	1 x 50	18,1	479,5	788,0	1
59456	1 x 70	21,1	671,0	1061,0	2/0
59457	1 x 95	22,8	910,0	1355,0	3/0

Dimensions and specifications may be changed without prior notice. (RW01)

Ships Wiring Cables-SY stranded type

Technical data

- Special PVC cables
- **Temperature range**
  flexing +5 °C to +70 °C
  fixed installation -40 °C to +70 °C
- **Nominal voltage** 250 V
- **Test voltage** 3000 V
- **Minimum bending radius**
  approx. 7,5x cable ø

Cable structure

- Fine stranded, plain copper conductors according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- PVC-based core insulation YI2 according to DIN VDE 0207
- Cores colour coded to DIN VDE 0293 or black cores with continuous white numbering
- Core stranded in layers with optimal lay-length
- PVC inner sheath
- Galvanized steel-wire braided overall screening
- Outer sheath according to DIN VDE 0207 part 5
- Sheath colour grey (RAL 7001)

Properties

- Extensively oil resistant.
  Chemical Resistance - see table Technical Informations
- Flame resistant and self-extinguishing as per VDE 0472, part 804, test B and IEC 60332-1
- **Approved by**
  Germanischer Lloyd

Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

Ideally suited for for fixed installation but also for the variable use of manufacturing lines, machine tools , conveyor systems and robotic assembly lines. A line that can also be used in shipbuilding. The galvanized steel braid protects against mechanical stress and simultaneously effective against electrical interference .

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59460	2 x 1,5	9,7	28,7	146,0	16
59461	3 x 1,5	10,1	43,1	166,0	16
59462	4 x 1,5	10,8	57,5	198,0	16
59463	5 x 1,5	11,6	71,9	230,0	16
59464	7 x 1,5	13,3	100,6	299,0	16
59465	3 x 2,5	11,6	72,1	231,0	14

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59466	4 x 2,5	13,3	95,8	298,0	14
59467	5 x 2,5	14,3	120,0	355,0	14
59468	4 x 4	16,2	153,5	358,0	12
59469	5 x 4	17,5	193,0	535,0	12
59470	4 x 6	18,4	230,3	595,0	10
59471	5 x 6	19,7	288,0	714,0	10

Dimensions and specifications may be changed without prior notice. (RW01)

HELUKABEL®

Ships Power Cables MPRX 0,6/1kV

according to IEC 60092-353, halogen-free

Technical data

- As per IEC 60092-353
- **Temperature range**
  max. +85 °C conductor temperature
- Min. **installation temperature**
  -10 °C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Minimum bending radius**
  approx. 4x cable ø

Cable structure

- Stranded, bare copper conductors to DIN VDE 0295 cl. 2, BS 6360 cl. 2 and IEC 60228 cl. 2
- Core insulation of cross-linked polyethylene
- Cores stranded in layers with optimal lay-length
- Outer sheath, Polyolefin basis-compound
- Jacket colour black

Properties

- **Colour code**
  1 core: black
  2 cores: brown/blue
  3 cores: brown/black/grey
  4 cores: blue/brown/black/grey
  5 to 24 core cable: all cores black coloured, printed with numbers, starting in center with number 1
- **Approved by**
  Germanischer Lloyd, Lloyds Register of Shipping, American Bureau of Shipping, Det Norske Veritas, Bureau Veritas, Russian Maritime Register of Shipping and Registro Italiano Navale
- **Tests**
  Flame-test to VDE 0472 part 804, test method C, IEC 60332-3 cat. A and IEEE 45-18.13
  Smoke density to IEC 61034 Halogen-free to 60754-1
  Corrosiveness of combustion gases to IEC 60754-2
- Flame retardant according to SOLAS definition (according to IEC 60332-3 category A and IEEE 45-18.13)

Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

For fixed installation on ships and offshore-units in all locations below the upper metallic deck.
Particularly suitable for installation on passenger ships.

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59654	1 x 4	27,5	38,0	70,0	12
59655	1 x 6	7,0	58,0	95,0	10
59656	1 x 10	8,0	96,0	140,0	8
59657	1 x 16	9,0	154,0	200,0	6
59658	1 x 25	10,0	240,0	320,0	4
59659	1 x 35	12,5	336,0	420,0	2
59660	1 x 50	14,5	480,0	560,0	1
59661	1 x 70	18,0	672,0	780,0	2/0
59662	1 x 95	8,0	912,0	1030,0	3/0
59663	1 x 120	9,0	1152,0	1290,0	4/0
59664	1 x 150	10,0	1440,0	1590,0	300 kcmil
59665	1 x 185	11,0	1776,0	1960,0	350 kcmil
59666	1 x 240	13,0	2304,0	2560,0	500 kcmil
59667	1 x 300	15,5	2880,0	3200,0	600 kcmil
59668	2 x 1,5	19,0	29,0	80,0	16
59669	2 x 2,5	20,5	48,0	105,0	14
59670	2 x 4	24,0	77,0	145,0	12
59671	2 x 6	26,5	115,0	190,0	10
59672	2 x 10	30,5	192,0	290,0	8
59673	2 x 16	33,5	307,0	430,0	6
59674	2 x 25	8,5	480,0	680,0	4
59675	3 x 1,5	10,0	43,0	100,0	16
59676	3 x 2,5	11,0	72,0	140,0	14
59677	3 x 4	12,0	115,0	190,0	12
59678	3 x 6	14,5	173,0	260,0	10
59679	3 x 10	17,0	288,0	410,0	8
59680	3 x 16	21,0	461,0	600,0	6

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59681	3 x 25	23,0	720,0	970,0	4
59682	3 x 35	27,0	1008,0	1290,0	2
59683	3 x 50	31,0	1440,0	1720,0	1
59684	3 x 70	35,5	2016,0	2450,0	2/0
59685	3 x 95	9,5	2736,0	3305,0	3/0
59686	3 x 120	10,5	3456,0	4140,0	4/0
59687	4 x 1,5	10,5	58,0	130,0	16
59688	4 x 2,5	13,5	96,0	180,0	14
59689	4 x 4	14,0	154,0	245,0	12
59690	4 x 6	14,5	230,0	345,0	10
59691	4 x 10	16,5	384,0	535,0	8
59692	4 x 16	16,5	614,0	795,0	6
59693	4 x 25	19,5	960,0	1300,0	4
59694	4 x 35	23,9	1344,0	1725,0	2
59695	4 x 50	27,8	1920,0	2310,0	1
59696	4 x 70	32,9	2688,0	3275,0	2/0
59697	4 x 95	36,1	3648,0	4445,0	3/0
59698	5 x 1,5	10,1	72,0	165,0	16
59699	5 x 2,5	11,2	120,0	225,0	14
59700	7 x 1,5	11,0	101,0	205,0	16
59701	10 x 1,5	14,1	144,0	290,0	16
59702	12 x 1,5	14,7	173,0	330,0	16
59703	14 x 1,5	15,5	202,0	375,0	16
59704	16 x 1,5	16,3	230,0	440,0	16
59705	19 x 1,5	17,4	274,0	500,0	16
59706	24 x 1,5	20,5	346,0	630,0	16

Dimensions and specifications may be changed without prior notice. (RW01)

Ships Power Cables MPRXCX 0,6/1kV

according to IEC 60092-353, halogen-free

Technical data

- As per IEC 60092-353
- **Temperature range**
  max. +85 °C conductor temperature
- Min. **installation temperature**
  -10 °C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Minimum bending radius**
  approx. 4x cable ø
- **Tests**
  Flame-test to VDE 0472 part 804, test method C, IEC 60332-3 cat. A and IEEE 45-18.13
  Smoke density to IEC 61034
  Halogen-free to 60754-1
  Corrosiveness of combustion gases to IEC 60754-2

Cable structure

- Stranded, bare copper conductors to DIN VDE 0295 cl. 2, BS 6360 cl. 2 and IEC 60228 cl. 2
- Core insulation of cross-linked polyethylene
- Cores stranded in layers with optimal lay-length
- Cores wrapping with fail
- Copper screened braiding
- Outer sheath, Polyolefin basis-compound
- Jacket colour black

Properties

- **Colour code**
  1 core: black
  2 cores: brown/blue
  3 cores: brown/black/grey
  4 cores: blue/brown/black/grey
  5- to 24 core cable: all cores black coloured, printed with numbers, starting in center with number 1
- **Approved by**
  Germanischer Lloyd, Lloyds Register of Shipping, American Bureau of Shipping, Det Norske Veritas, Bureau Veritas,Russian Maritime Register of Shipping and Registro Italiano Navale
- Flame retardant according to SOLAS definition (according to IEC 60332-3 category A and IEEE 45-18.13)

Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm².
- 3-core cables with green-yellow marked core and/or as MPRXCX 331 (insulation integrity to IEC 60331) also available.

Application

For fixed installation on ships and offshore-units in all locations below the upper metallic deck. Particularly suitable for installation on passenger ships. The good screening qualities of the copper braid also reduce radio interferences and electrical influences to electronic installations.

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59707	1 x 4	7,3	81,0	105,0	12
59708	1 x 6	7,8	104,0	130,0	10
59709	1 x 10	8,9	149,0	180,0	8
59710	1 x 16	9,8	214,0	250,0	6
59711	1 x 25	11,7	311,0	380,0	4
59712	1 x 35	12,7	416,0	480,0	2
59713	1 x 50	14,8	572,0	660,0	1
59714	1 x 70	16,9	779,0	900,0	2/0
59715	1 x 95	18,7	1034,0	1170,0	3/0
59716	1 x 120	20,6	1316,0	1410,0	4/0
59717	1 x 150	22,7	1615,0	1750,0	300 kcmil
59718	1 x 185	24,9	1968,0	2160,0	350 kcmil
59719	1 x 240	27,2	2506,0	2770,0	500 kcmil
59720	1 x 300	30,4	3345,0	3440,0	600 kcmil
59721	2 x 1,5	3,9	105,0	130,0	16
59722	2 x 2,5	10,2	132,0	160,0	14
59723	2 x 4	11,4	170,0	205,0	12
59724	2 x 6	12,6	217,0	290,0	10
59725	2 x 10	14,8	400,0	307,0	8
59726	2 x 16	16,9	471,0	560,0	6
59727	2 x 25	20,4	670,0	840,0	4
59728	3 x 1,5	9,9	125,0	160,0	16
59729	3 x 2,5	10,8	161,0	200,0	14
59730	3 x 4	12,0	215,0	250,0	12
59731	3 x 6	13,2	282,0	360,0	10
59732	3 x 10	15,7	417,0	520,0	8
59733	3 x 16	18,0	636,0	750,0	6

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
59734	3 x 25	21,7	924,0	950,0	4
59735	3 x 35	23,1	1233,0	1470,0	2
59736	3 x 50	26,5	1703,0	1870,0	1
59737	3 x 70	29,1	2413,0	2650,0	2/0
59738	3 x 95	32,9	3192,0	3500,0	3/0
59739	3 x 120	36,7	3975,0	4300,0	4/0
59740	4 x 1,5	10,6	147,0	200,0	16
59741	4 x 2,5	11,9	190,0	240,0	14
59742	4 x 4	13,0	284,0	350,0	12
59743	4 x 6	14,6	371,0	450,0	10
59744	4 x 10	17,3	545,0	670,0	8
59745	4 x 16	19,8	796,0	950,0	6
59746	4 x 25	23,9	1170,0	1470,0	4
59747	4 x 35	25,7	1578,0	1930,0	2
59748	4 x 50	29,6	2278,0	2500,0	1
59749	4 x 70	33,7	3090,0	3550,0	2/0
59750	4 x 95	38,3	4110,0	4600,0	3/0
59751	5 x 1,5	11,7	171,0	225,0	16
59752	5 x 2,5	12,8	220,0	330,0	14
59753	7 x 1,5	12,5	209,0	310,0	16
59754	10 x 1,5	16,0	318,0	400,0	16
59755	12 x 1,5	16,6	353,0	440,0	16
59756	14 x 1,5	17,4	394,0	500,0	16
59757	16 x 1,5	18,2	432,0	550,0	16
59758	19 x 1,5	19,3	486,0	620,0	16
59759	24 x 1,5	22,4	601,0	770,0	16

Dimensions and specifications may be changed without prior notice. (RW01)

HELUKABEL®

SHIPFLEX 512
SHIPFLEX 330
SHIPFLEX 340
SHIPFLEX 109
SHIPFLEX 109
SHIPFLEX 113
SHIPFLEX 121

Photo: fotolia.com

Lloyd`s Register

W

SHIPFLEX 512 cable for drag chain, halogen-free, EMC prefered type, meter marking

new

Technical data

- Special screened drag chain cable
- UL-Style 20234
- **Temperature range**
  flexing -40 °C to +80 °C
  fixed -40 °C to +80 °C
- **Installation temperature**
  minimum -25 °C
- **Nominal voltage**
  UL 1000 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Minimum bending radius**
  for permanent bending
  7,5x cable ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper, ultra-fine wire conductors acc. to DIN VDE 0295 cl. 6, BS 6360 cl. 6, IEC 60228 cl.6
- Special core insulation
- Black cores with continuous white numbering
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal selected lay-length
- Braided screening of tinned copper wires, coverage approx. 85 %, optional aluminium foil under the braid
- **Full polyurethane** outer sheat to UL std. 1581 Tab. 50227
- Sheath colour grey (RAL 7001)
- with meter marking

Properties

- Flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- Halogen free to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (conforms to DIN VDE 0472 part 815)
- Oil resistant to IEC 60092-350, appendix F
- Behaviour at low temperature at -40 °C to IEC 60092-350, appendix E
- Weather, ozon and UV-resistant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

HELUKABEL® SHIPFLEX 512 is a new developed and successfully tested screened special drag chain cable which meets the requirements of the strict standards for application in offshore-areas. For this two - line standard there is a **Lloyds Register approval** .
The outer sheath insulation of non-adhesive Polyurethan allows the application in extremely oily and rough environmental conditions.
For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for drag chains.
Before installation in cable drag chains please read the installation instructions.
EMC = Electromagnetic compatibility
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.
CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19864	2 x 0,5	20	6,3	35,0	50,0
19865	3 G 0,5	20	6,5	42,0	60,0
19866	4 G 0,5	20	7,0	47,0	64,0
19867	5 G 0,5	20	7,5	56,0	79,0
19868	7 G 0,5	20	8,5	69,0	101,0
19869	12 G 0,5	20	10,0	108,0	164,0
19870	18 G 0,5	20	11,5	145,0	227,0
19871	25 G 0,5	20	13,5	240,0	331,0
19872	36 G 0,5	20	15,2	318,0	457,0
19873	2 x 0,75	19	7,0	40,0	65,0
19874	3 G 0,75	19	7,2	52,0	71,0
19875	4 G 0,75	19	7,8	60,0	82,0
19876	5 G 0,75	19	8,5	71,0	97,0
19877	7 G 0,75	19	9,6	91,0	141,0
19878	12 G 0,75	19	11,5	142,0	217,0
19879	18 G 0,75	19	13,0	212,0	304,0
19880	25 G 0,75	19	15,8	281,0	420,0
19881	36 G 0,75	19	17,5	350,0	535,0
19882	2 x 1	18	7,4	50,0	69,0
19883	3 G 1	18	7,7	60,0	84,0
19884	4 G 1	18	8,5	71,0	104,0
19885	5 G 1	18	9,0	88,0	130,0
19886	7 G 1	18	10,4	111,0	160,0
19887	12 G 1	18	12,4	184,0	270,0
19888	18 G 1	18	14,3	260,0	391,0
19889	25 G 1	18	17,0	349,0	547,0
19890	36 G 1	18	19,0	510,0	790,0
19891	2 x 1,5	16	8,0	63,0	90,0
19892	3 G 1,5	16	8,3	80,0	109,0
19893	4 G 1,5	16	9,2	97,0	132,0
19894	5 G 1,5	16	10,0	119,0	169,0
19895	7 G 1,5	16	11,6	147,0	219,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19896	12 G 1,5	16	13,8	267,0	363,0
19897	18 G 1,5	16	16,2	374,0	496,0
19898	25 G 1,5	16	19,0	526,0	724,0
19899	36 G 1,5	16	21,5	702,0	1190,0
19900	2 x 2,5	14	9,5	96,0	136,0
19901	3 G 2,5	14	10,3	144,0	179,0
19902	4 G 2,5	14	11,3	149,0	201,0
19903	5 G 2,5	14	12,4	181,0	232,0
19904	7 G 2,5	14	14,4	255,0	357,0
19905	12 G 2,5	14	17,5	441,0	586,0
19906	18 G 2,5	14	20,3	604,0	1064,0
19907	25 G 2,5	14	24,2	793,0	1411,0
19908	36 G 2,5	14	27,2	1034,0	1623,0
19909	3 G 4	12	11,5	174,0	257,0
19910	4 G 4	12	12,4	230,0	324,0
19911	5 G 4	12	13,5	274,0	401,0
19912	6 G 4	12	15,2	295,0	456,0
19913	7 G 4	12	16,3	316,0	511,0
19914	3 G 6	10	13,5	240,0	343,0
19915	4 G 6	10	15,2	305,0	427,0
19916	5 G 6	10	16,5	442,0	562,0
19917	6 G 6	10	17,8	471,0	628,0
19918	7 G 6	10	19,5	505,0	692,0
19919	3 G 10	8	17,1	367,0	731,0
19920	4 G 10	8	19,0	549,0	992,0
19921	5 G 10	8	20,7	607,0	1014,0
19922	6 G 10	8	22,0	711,0	1241,0
19923	7 G 10	8	24,0	820,0	1491,0
19924	3 G 16	6	19,8	692,0	1004,0
19925	4 G 16	6	21,8	840,0	1296,0
19926	5 G 16	6	24,0	1050,0	1658,0

Dimensions and specifications may be changed without prior notice. (RC02)

SHIPFLEX 330 cable for drag chain, halogen-free, EMC prefered type, meter marking

new

Technical data

- Special screened drag chain cable
- UL-Style 20233
- **Temperature range**
  flexing -40 °C to +80 °C
  fixed -40 °C to +80 °C
- **Installation temperature**
  minimum -25 °C
- **Nominal voltage**
  VDE U_0/U 300/500 V
  UL 300 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Minimum bending radius**
  for permanent bending 7,5x cable ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper conductor, extra fine wire to DIN VDE 0295 cl. 6, BS 6360 cl. 6 and IEC 60228 cl. 6
- Special core insulation
- Colored cores to DIN 47100
- Cores stranded in layers with optimal lay-length
- Core wrapping between the layers of stranding
- Braided screening of tinned copper wires, coverage approx. 85 % optional aluminium foil under the screen
- **Full polyurethane** outer sheat to UL std. 1581 Tab. 50227
- Sheath colour grey (RAL 7001)
- with meter marking

Properties

- Flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- Halogen free to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (conforms to DIN VDE 0472 part 815)
- Oil resistant to IEC 60092-350, appendix F
- Behaviour at low temperature at -40 ° to IEC 60092-350, appendix E
- Weather, ozon and UV-resistant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

HELUKABEL® SHIPFLEX 330 is a new developed and successfully tested special drag chain cable with overall screening which meets the requirements of the strict standards for application in offshore-areas. For this two-line standard there is a **Lloyds Register approval**. The outer sheath insulation of non-adhesive Polyurethan allows the application in extremely oily and rough environmental conditions.For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for drag chains.Before installation in cable drag chains please read the installation instructions.
EMC=Electromagnetic compatibility
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.
CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19846	2 x 0,25	24	5,0	14,9	38,0
19847	3 x 0,25	24	5,2	18,8	44,0
19848	4 x 0,25	24	5,5	21,3	51,0
19849	5 x 0,25	24	5,8	31,0	68,0
19850	7 x 0,25	24	6,7	39,6	82,0
19851	12 x 0,25	24	8,0	59,1	124,0
19852	18 x 0,25	24	9,0	78,4	150,0
19853	25 x 0,25	24	10,8	101,0	204,0
19854	36 x 0,25	24	11,5	126,4	230,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19855	2 x 0,34	22	5,2	18,1	45,0
19856	3 x 0,34	22	5,5	28,7	60,0
19857	4 x 0,34	22	5,8	35,7	76,0
19858	5 x 0,34	22	6,5	39,1	82,0
19859	7 x 0,34	22	7,2	52,7	110,0
19860	12 x 0,34	22	8,5	76,4	166,0
19861	18 x 0,34	22	10,0	99,7	216,0
19862	25 x 0,34	22	12,0	155,0	305,0
19863	36 x 0,34	22	13,0	188,0	340,0

Dimensions and specifications may be changed without prior notice. (RN05)

SHIPFLEX 340 cable for drag chain, halogen-free, EMC prefered type, meter marking

new

RoHS

Technical data

- Special screened drag chain cable, stranded in pairs
- UL-Style 20233
- **Temperature range**
  flexing -40 °C to +80 °C
  fixed -40 °C to +80 °C
- **Installation temperature**
  minimum -25 °C
- **Nominal voltage**
  VDE U_0/U 300/500 V
  UL 300 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Minimum bending radius** for permanent bending
  7,5x cable ø
  Coupling resistance
  max. 250 Ohm/km
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper conductor, extra fine wire to DIN VDE 0295 cl. 6, BS 6360 cl. 6, IEC 60228 cl. 6
- Special coreinsulation
- Colour coded to DIN 47100
- Cores stranded in pairs, pairs stranded torsion-free in layers with optimal lay-length
- Core wrapping between the layers of stranding
- Braided screening of tinned copper wires, coverage approx. 85 %
  optional aluminium foil under the screen
- **Full polyurethane** outer sheat to UL std. 1581 Tab. 50227
- Sheath colour grey (RAL 7001)
- with meter marking

Properties

- Flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- Halogen free to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (conforms to DIN VDE 0472 part 815)
- Oil resistant to IEC 60092-350, appendix F
- Behaviour at low temperature at -40 °C to IEC 60092-350, appendix E
- Weather, ozon and UV-resistant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

HELUKABEL® SHIPFLEX 340 is a new developed and successfully tested special drag chain cable with overall screening which meets the requirements of the strict standards for application in offshore-areas.
For this two - line standard there is a **Lloyds Register approval** .
The outer sheath insulation of non-adhesive Polyurethan allows the application in extremely oily and rough environmental conditions.
For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for drag chains.
Before installation in cable drag chains please read the installation instructions.
EMC=Electromagnetic compatibility
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.
CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.pairs x no.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19927	2 x 2 x 0,25	24	6,8	32,0	60,0
19928	3 x 2 x 0,25	24	7,1	38,0	70,0
19929	4 x 2 x 0,25	24	7,5	43,0	82,0
19930	5 x 2 x 0,25	24	8,0	51,0	99,0
19931	6 x 2 x 0,25	24	8,5	72,0	126,0
19932	7 x 2 x 0,25	24	9,2	75,0	135,0
19933	12 x 2 x 0,25	24	11,4	117,0	189,0
19934	18 x 2 x 0,25	24	13,5	148,0	248,0
19935	25 x 2 x 0,25	24	15,0	233,0	343,0
19936	2 x 2 x 0,34	22	7,4	41,0	81,0
19937	3 x 2 x 0,34	22	7,7	52,0	100,0
19938	4 x 2 x 0,34	22	8,4	59,0	119,0
19939	5 x 2 x 0,34	22	9,1	67,0	135,0
19940	6 x 2 x 0,34	22	10,0	86,0	163,0
19941	7 x 2 x 0,34	22	10,5	94,0	170,0
19942	12 x 2 x 0,34	22	12,2	122,0	220,0
19943	18 x 2 x 0,34	22	14,4	197,0	277,0
19944	25 x 2 x 0,34	22	16,5	238,0	400,0
19945	2 x 2 x 0,5	20	8,0	53,0	100,0
19946	3 x 2 x 0,5	20	8,4	73,0	131,0
19947	4 x 2 x 0,5	20	9,0	77,0	149,0

Part no.	No.pairs x no.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19948	5 x 2 x 0,5	20	9,7	86,0	160,0
19949	6 x 2 x 0,5	20	10,6	103,0	170,0
19950	7 x 2 x 0,5	20	11,5	117,0	191,0
19951	12 x 2 x 0,5	20	13,5	199,0	361,0
19952	18 x 2 x 0,5	20	15,7	265,0	427,0
19953	25 x 2 x 0,5	20	18,2	344,0	740,0
19954	2 x 2 x 0,75	19	9,0	61,0	102,0
19955	3 x 2 x 0,75	19	9,5	87,0	144,0
19956	4 x 2 x 0,75	19	10,3	95,0	160,0
19957	5 x 2 x 0,75	19	11,2	115,0	193,0
19958	6 x 2 x 0,75	19	12,1	137,0	218,0
19959	7 x 2 x 0,75	19	13,0	153,0	298,0
19960	12 x 2 x 0,75	19	16,0	261,0	406,0
19961	18 x 2 x 0,75	19	18,0	374,0	519,0
19962	2 x 2 x 1	18	10,0	73,0	120,0
19963	3 x 2 x 1	18	10,4	94,0	161,0
19964	4 x 2 x 1	18	11,8	118,0	184,0
19965	5 x 2 x 1	18	12,6	139,0	217,0
19966	6 x 2 x 1	18	13,6	188,0	295,0
19967	7 x 2 x 1	18	14,8	204,0	311,0
19968	12 x 2 x 1	18	18,0	324,0	602,0

Dimensions and specifications may be changed without prior notice. (RN05)

SHIPFLEX 109 cable for drag chain, halogen-free, EMC prefered type (-C-Type), meter marking

new

Technical data

- Special drag chain cable
- UL-Style 20234
- **Temperature range**
  flexing -40 °C to +80 °C
  fixed -40 °C to +80 °C
- **Installation temperature**
  minimum -25 °C
- **Nominal voltage**
  to VDE U_0/U 0,6/1 kV
  UL 1000 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Minimum bending radius** for permanent bending
  7,5x cable ø
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper, ultra-fine wire acc. to DIN VDE 0295 cl. 6, BS 6360 cl. 6, IEC 60228 cl. 6
- Special core insulation
- Colour black or green-yellow
- **Full polyurethane** outer sheat to UL std. 1581 Tab. 50227
- Sheath colour orange (RAL 2003)
- **Screen Type**
  screen off tinned Cu-braid, coverage approx. 85%
- with meter marking

Properties

- Flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- Halogen free to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (conforms to DIN VDE 0472 part 815)
- Oil resistant to IEC 60092-350, appendix F
- Behaviour at low temperature at -40 °C to IEC 60092-350, appendix E
- Weather, ozon and UV-resistant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

HELUKABEL® SHIPFLEX 109 Single is a new developed and successfully tested non screened special drag chain cable which meets the requirements of the strict standards for application in offshore-areas. For this two - line standard there is a **Lloyds Register approval** . The outer sheath insulation of non-adhesive Polyurethan allows the application in extremely oily and rough environmental conditions. For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for drag chains. Before installation in cable drag chains please read the installation instructions.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

SHIPFLEX 109 unscreened

Part no.	No.cores x cross-sec. mm²	AWG-No.	Core colour	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
21388	1 x 6	10	black	6,9	58,0	108,0
21374	1 G 6	10	Green-yellow	6,9	58,0	108,0
21389	1 x 10	8	black	8,3	96,0	170,0
21375	1 G 10	8	Green-yellow	8,3	96,0	170,0
21390	1 x 16	6	black	9,5	154,0	240,0
21376	1 G 16	6	Green-yellow	9,5	154,0	240,0
21391	1 x 25	4	black	11,3	240,0	370,0
21377	1 G 25	4	Green-yellow	11,3	240,0	370,0
21392	1 x 35	2	black	12,7	336,0	490,0
21378	1 G 35	2	Green-yellow	12,7	336,0	490,0
21393	1 x 50	1	black	15,0	480,0	665,0
21379	1 G 50	1	Green-yellow	15,0	480,0	665,0
21394	1 x 70	2/0	black	16,3	672,0	910,0
21380	1 G 70	2/0	Green-yellow	16,3	672,0	910,0
21395	1 x 95	3/0	black	18,8	912,0	1190,0
21381	1 G 95	3/0	Green-yellow	18,8	912,0	1190,0
21396	1 x 120	4/0	black	20,9	1152,0	1530,0
21382	1 G 120	4/0	Green-yellow	20,9	1152,0	1530,0
21397	1 x 150	300 kcmil	black	23,2	1440,0	1720,0
21383	1 G 150	300 kcmil	Green-yellow	23,2	1440,0	1720,0
21398	1 x 185	350 kcmil	black	25,7	1776,0	2280,0
21384	1 G 185	350 kcmil	Green-yellow	25,7	1776,0	2280,0
21399	1 x 240	500 kcmil	black	28,2	2304,0	2895,0
21404	1 G 240	500 kcmil	Green-yellow	28,2	2304,0	2895,0

SHIPFLEX 109 screened

Part no.	No.cores x cross-sec. mm²	AWG-No.	Core colour	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19798	1 x 6	10	black	7,6	72,0	140,0
21330	1 G 6	10	Green-yellow	7,6	72,0	140,0
19799	1 x 10	8	black	9,1	130,0	225,0
21331	1 G 10	8	Green-yellow	9,1	130,0	225,0
19800	1 x 16	6	black	10,2	190,0	295,0
21332	1 G 16	6	Green-yellow	10,2	190,0	295,0
19801	1 x 25	4	black	12,1	260,0	415,0
21333	1 G 25	4	Green-yellow	12,1	260,0	415,0
19802	1 x 35	2	black	13,5	405,0	610,0
21334	1 G 35	2	Green-yellow	13,5	405,0	610,0
19803	1 x 50	1	black	15,9	560,0	817,0
21335	1 G 50	1	Green-yellow	15,9	560,0	817,0
19804	1 x 70	2/0	black	17,3	780,0	1065,0
21336	1 G 70	2/0	Green-yellow	17,3	780,0	1065,0
19805	1 x 95	3/0	black	19,5	1030,0	1340,0
21337	1 G 95	3/0	Green-yellow	19,5	1030,0	1340,0
19806	1 x 120	4/0	black	21,8	1285,0	1735,0
21338	1 G 120	4/0	Green-yellow	21,8	1285,0	1735,0
19807	1 x 150	300 kcmil	black	24,1	1430,0	1910,0
21339	1 G 150	300 kcmil	Green-yellow	24,1	1430,0	1910,0
19808	1 x 185	350 kcmil	black	26,5	1940,0	2610,0
21406	1 G 185	350 kcmil	Green-yellow	29,2	1940,0	2610,0
19809	1 x 240	500 kcmil	black	29,2	2530,0	3274,0
21410	1 G 240	500 kcmil	Green-yellow	29,2	2530,0	3274,0

Dimensions and specifications may be changed without prior notice. (RN07)

SHIPFLEX 109 cable for drag chain, halogen-free, EMC prefered type, meter marking

new

Technical data

- Special screened drag chain cable
- UL-Style 20234
- **Temperature range**
  flexing -40 °C to +80 °C
  fixed -40 °C to +80 °C
- **Installation temperature**
  minimum -25 °C
- **Nominal voltage**
  to VDE U_0/U 0,6/1 kV
  UL 1000 V
- **Insulation resistance**
  min. 200 MOhm x km
- **Minimum bending radius** for permanent bending
  7,5x cable ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper, ultra-fine wire acc. to DIN VDE 0295 cl. 6, BS 6360 cl. 6, IEC 60228 cl. 6
- Special core insulation
- Black cores imprinted with U1, V2, W3
- Green-yellow earth core depends on conductor cross-section may cut into thirds
- Cores stranded together with optimal lay-length
- Core wrapping between the layers of stranding
- Braided screening of tinned copper wires, coverage approx. 85%
- **Full polyurethane** outer sheat to UL std. 1581 Tab. 50227
- Sheath colour orange (RAL 2003)
- with meter marking

Properties

- Flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- Halogen free to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (conforms to DIN VDE 0472 part 815)
- Oil resistant to IEC 60092-350, appendix F
- Behaviour at low temperature at -40 °C to IEC 60092-350, appendix E
- Weather, ozon and UV-resistant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

HELUKABEL® SHIPFLEX 109 is a new developed and successfully tested special drag chain cable with overall screening which meets the requirements of the strict standards for application in offshore-areas. For this two - line standard there is a **Lloyds Register approval**. The outer sheath insulation of non-adhesive Polyurethan allows the application in extremely oily and rough environmental conditions. For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for drag chains. Before installation in cable drag chains please read the installation instructions.
EMC = Electromagnetic compatibility
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.
CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19810	4 G 1	18	9,0	84,0	124,0
19811	4 G 1,5	16	10,5	105,0	175,0
19812	4 G 2,5	14	11,7	157,0	265,0
19813	4 G 4	12	13,4	231,0	390,0
19814	4 G 6	10	15,6	332,0	570,0
19815	4 G 10	8	19,2	527,0	804,0
19816	4 G 16	6	23,9	794,0	1450,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
19817	4 G 25	4	27,6	1180,0	1660,0
19818	4 G 35	2	32,7	1600,0	2400,0
19819	4 G 50	1	37,0	2165,0	2600,0
19820	4 G 70	2/0	43,0	3196,0	4600,0
19969	3 G 95	3/0	41,0	3090,0	4480,0
19821	4 G 95	3/0	48,0	4606,0	5350,0

Dimensions and specifications may be changed without prior notice. (RN07)

SHIPFLEX 113 cable for drag chain, halogen-free, EMC prefered type, meter marking

new

Technical data

- Special screened drag chain cable
- UL-Style 20234
- **Temperature range**
  flexing -40 °C to +80 °C
  fixed -40 °C to +80 °C
- **Installation temperature**
  minimum -25 °C
  Nominal voltage
  to VDE U_0/U 0,6/1 kV
  UL 1000 V
- **Insulation resistance**
  min. 20 MOhm x km
  Minimum bending radius for permanent bending
  7,5x cable ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to $100x10^6$ cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper, ultra-fine wire conductors acc. to DIN VDE 0295 cl. 6, BS 6360 cl. 6, IEC 60228 cl.6
- Special core insulation
- Black power supply cores with imprint U1, V2, W3
- Green-yellow earth core, depends of the diameter of the conductor
- Black control cores with white numbers 5,6
- Screening of the control cores in pairs wrapped with plastic aluminium foil, and tinned copper braided screening, approx. coverage 85%
- Control cores stranded in pairs and laid up in layers together with the power supply cores with optimal lay length and stabilising filler
- Core wrapping between the layers of stranding
- Braided screening of tinned copper wires, coverage approx. 85 %
- **Full polyurethane** outer sheat to UL std. 1581 Tab. 50227
- Sheath colour orange (RAL 2003)
- with meter marking

Properties

- Flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- Halogen free to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (conforms to DIN VDE 0472 part 815)
- Oil resistant to IEC 60092-350, appendix F
- Behaviour at low temperature at -40 °C to IEC 60092-350, appendix E
- Weather, ozon and UV-resistant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

HELUKABEL® SHIPFLEX 113 is a new developed and successfully tested screened special drag chain cable which meets the requirements of the strict standards for application in offshore-areas. This kind of cable combines the feeding cores with the control cores. For this two - line standard there is a **Lloyds Register approval** .
The outer sheath insulation of non-adhesive Polyurethan allows the application in extremely oily and rough environmental conditions.
For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for drag chains.
Before installation in cable drag chains please read the installation instructions.
EMC = Electromagnetic compatibility
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.
CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
19822	(4 G 1,5 + (2 x 1,0))	11,5	138,0	254,0	-
19827	(4 G 1,5 + (2 x 1,5))	12,0	148,0	265,0	-
19823	(4 G 2,5 + (2 x 1,0))	13,0	176,0	328,0	-
19828	(4 G 2,5 + (2 x 1,5))	14,0	187,0	339,0	-
19824	(4 G 4 + (2 x 1,0))	14,5	258,0	460,0	-
19829	(4 G 4 + (2 x 1,5))	15,0	268,0	475,0	-
19825	(4 G 6 + (2 x 1,0))	17,0	348,0	596,0	-

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
19830	(4 G 6 + (2 x 1,5))	17,0	358,0	607,0	-
19826	(4 G 10 + (2 x 1,0))	20,0	574,0	912,0	-
19831	(4 G 10 + (2 x 1,5))	20,5	584,0	924,0	-
19832	(4 G 16 + (2 x 1,5))	24,0	825,0	1205,0	-
19833	(4 G 25 + (2 x 1,5))	28,5	1283,0	1510,0	-
19834	(4 G 35 + (2 x 1,5))	32,0	1850,0	2005,0	-
19835	(4 G 50 + (2 x 1,5))	37,0	2540,0	2890,0	-

Dimensions and specifications may be changed without prior notice. (RN07)

SHIPFLEX 121 cable for drag chain, halogen-free, EMC prefered type, meter marking

new

Technical data

- Special screened drag chain cable
- UL-Style 20234
- **Temperature range**
  flexing -40 °C to +80 °C
  fixed -40 °C to +80 °C
- **Installation temperature**
  minimum -25 °C
- **Nominal voltage**
  to VDE U_0/U 0,6/1 kV
  UL 1000 V
- **Insulation resistance**
  min. 200 MOhm x km
- **Minimum bending radius** for permanent bending
  7,5x cable ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper, ultra-fine wire conductors acc. to DIN VDE 0295 cl. 6, BS 6360 cl. 6, IEC 60228 cl.6
- Special core insulation
- Black power supply cores with imprint U1, V2, W3
- Green-yellow earth core, depends of the diameter of the conductor
- Black control cores with white numbers 5,6 and 7,8
- Screening of the control cores in pairs wrapped with plastic aluminium foil, and tinned copper braided screening, approx. coverage 85%
- Control cores stranded in pairs and laid up in layers together with the power supply cores with optimal lay length and stabilising filler
- Core wrapping between the layers of stranding
- Braided screening of tinned copper wires, coverage approx. 85 %
- **Full polyurethane** outer sheat to UL std. 1581 Tab. 50227
- Sheath colour orange (RAL 2003)
- with meter marking

Properties

- Flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- Halogen free to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (conforms to DIN VDE 0472 part 815)
- Oil resistant to IEC 60092-350, appendix F
- Behaviour at low temperature at -40 °C to IEC 60092-350, appendix E
- Weather, ozon and UV-resistant
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Application

HELUKABEL® SHIPFLEX 121 is a new developed and successfully tested screened special drag chain cable which meets the requirements of the strict standards for application in offshore-areas. This kind of cable combines the feeding cores with the control cores. For this two - line standard there is a **Lloyds Register Approval** .
The outer sheath insulation of non-adhesive Polyurethan allows the application in extremely oily and rough environmental conditions.
For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for drag chains.
Before installation in cable drag chains please read the installation instructions.
EMC = Electromagnetic compatibility
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.
CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
19836	(4 G 1 + 2 x (2 x 0,75))	12,5	148,0	254,0	-
19837	(4 G 1,5 + 2 x (2 x 0,75))	13,0	170,0	290,0	-
19838	(4 G 2,5 + 2 x (2 x 1,0))	15,0	229,0	336,0	-
19839	(4 G 4 + (2 x 1,5) + (2 x 1,0))	17,0	318,0	485,0	-
19840	(4 G 6 + (2 x 1,5) + (2 x 1,0))	18,5	445,0	615,0	-

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
19841	(4 G 10 + (2 x 1,5) + (2 x 1,0))	22,0	610,0	915,0	-
19842	(4 G 16 + 2 x (2 x 1,5))	25,0	904,0	1226,0	-
19843	(4 G 25 + 2 x (2 x 1,5))	29,0	1323,0	1595,0	-
19844	(4 G 35 + 2 x (2 x 1,5))	33,0	1621,0	2196,0	-
19845	(4 G 50 + 2 x (2 x 1,5))	37,0	2585,0	2995,0	-

Dimensions and specifications may be changed without prior notice. (RN07)

HELUKABEL®