

Photo: HELUKABEL®

Flat and Ribbon Cables

Flat and Ribbon Cables

Flat cables in PVC and neoprene design are used as trailing cables for cranes, open field conveyors and shelve service devices.

Flat cables offer the following advantages:

- Extremely small bending radius
- High flexibility
- Minimum wastage of space
- Packeting possibilities

An expert and proper installation is important to ensure perfect functioning. Please follow the corresponding fitting instructions.

Flat cables according to UL-standard are available on request.

Ribbon cables are ideal for use because of the excellent flexibility as connecting cable in electronics and in control engineering.

J

Contents

Description	Page
PVC-flat (H05 VVH6-F/H07 VVH6-F), 300/500V and 450/750V	J 4
NEO-Flat, (NIGFLGÖU)	J 5
PVC-flat-CY, screened, EMC-preferred type	J 6
NEO-Flat-C, (MCHÖU) screened, EMC-preferred type	J 7
Ribbon Cables, Type L, Type L AWG 28, Type D	J 8
TUBEFLEX-Y, roundshaped flat ribbon cable for IDC-technique, pitch 1,27 mm	J 9
TUBEFLEX-(St)-CY, roundshaped flat ribbon cable, screened, for IDC-technique, pitch 1,27mm, EMC-preferred type	J 10

PVC-flat (H05 VVH6-F/H07 VVH6-F) 300/500V and 450/750V



Technical data

- Special PVC-flat cable,
H05 VVH6-F to EN 50214
H07 VVH6-F to HD 359 S2
(25 mm² and above in adapted)
- **Temperature range**
flexing -5 °C to +70 °C
fixed installation -40 °C to +80 °C
- **Nominal voltage**
H05 VVH6-F = up to 1 mm²
U₀/U 300/500V
H07 VVH6-F = 1,5 mm² U₀/U 450/750 V
- **Test voltage**
H05 VVH6-F = up to 1 mm² 2000 V
H07 VVH6-F = 1,5 mm² 2500 V
- **Minimum bending radius**
10x cable thickness
- **Radiation resistance**
up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, stranded to DIN VDE 0295
cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Special PVC core insulation TI2 to
DIN VDE 0281 part 1
- Cores laying parallel
- Core identification up to 5 cores to colour
code DIN VDE 0293
7 cores and above with number printing
- Green-yellow earth core
- Special PVC outer jacket TM2 to
DIN VDE 0281 part 1
- Colour black (RAL 9005)

Properties

- Extensively oil resistant, oil-/ chemical
Resistance - see table Technical
Informations
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packeting possibility
- PVC self-extinguishing and 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)
- The materials used in manufacture are
cadmium-free and contain no silicone and
free from substances harmful to the
wetting properties of lacquers

Note

- Art.No. 27012 (6x4).
- G = with green-yellow earth core

Application

PVC type of flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units.

Installation notes: See NEO flat at page J5.

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

Part no.	No.cores x cross-sec. mm ²	Outer dimension approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
26980	4 G 0,75	4,3 x 12,6	28,8	90,0	18
26981	5 G 0,75	4,3 x 16,1	36,0	115,0	18
26982	6 G 0,75	4,3 x 19,4	43,2	141,0	18
26983	9 G 0,75	4,3 x 26,4	64,8	198,0	18
26984	10 G 0,75	4,3 x 30,1	72,0	224,0	18
26985	12 G 0,75	4,3 x 33,8	84,4	258,0	18
26986	16 G 0,75	4,3 x 44,4	115,2	340,0	18
26987	18 G 0,75	4,3 x 49,2	129,6	380,0	18
26988	20 G 0,75	4,3 x 55,0	144,0	424,0	18
26989	24 G 0,75	4,3 x 65,6	172,8	509,0	18
26990	3 G 1	4,5 x 10,8	28,8	80,0	17
26991	4 G 1	4,5 x 13,4	38,4	104,0	17
26992	5 G 1	4,5 x 16,0	48,0	134,0	17
26993	6 G 1	4,5 x 20,6	57,6	161,0	17
26994	9 G 1	4,5 x 28,4	86,4	230,0	17
26995	10 G 1	4,5 x 30,0	96,0	256,0	17
26996	12 G 1	4,5 x 36,2	115,2	298,0	17
26997	16 G 1	4,5 x 47,6	153,6	395,0	17
26998	18 G 1	4,5 x 52,8	172,8	441,0	17
26999	20 G 1	4,5 x 59,0	192,0	495,0	17
27000	24 G 1	4,5 x 70,4	230,4	590,0	17
27001	4 G 1,5	4,5 x 13,7	58,0	133,0	16
27002	5 G 1,5	4,5 x 17,9	72,0	169,0	16
27003	7 G 1,5	4,5 x 23,5	101,0	235,0	16
27004	8 G 1,5	4,5 x 26,8	115,0	265,0	16
27005	10 G 1,5	4,5 x 33,5	144,0	332,0	16
27006	12 G 1,5	4,5 x 38,9	173,0	421,0	16
27028	16 G 1,5	4,5 x 51,5	230,4	555,0	16
27030	24 G 1,5	4,5 x 83,0	346,0	820,0	16
27007	4 G 2,5	5,5 x 17,0	96,0	205,0	14
27008	5 G 2,5	5,5 x 21,5	120,0	256,0	14

Part no.	No.cores x cross-sec. mm ²	Outer dimension approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
27009	7 G 2,5	5,5 x 30,3	168,0	344,0	14
27010	8 G 2,5	5,5 x 31,9	192,0	389,0	14
27011	12 G 2,5	5,8 x 47,1	288,0	580,0	14
27029	16 G 2,5	5,8 x 55,1	384,0	674,0	14
27012	24 G 2,5	15,0 x 63,0	604,0	950,0	14
27027	24 G 2,5	5,8 x 120,0	604,0	950,0	14
27013	4 G 4	7,0 x 21,8	154,0	344,0	12
27014	5 G 4	7,0 x 27,4	192,0	428,0	12
27015	7 G 4	7,9 x 36,6	269,0	590,0	12
27016	4 G 6	8,2 x 24,8	230,0	424,0	10
27017	5 G 6	8,2 x 31,8	288,0	530,0	10
27018	7 G 6	8,2 x 42,6	403,0	760,0	10
27019	4 G 10	10,0 x 29,6	384,0	710,0	8
27020	4 G 16	11,2 x 34,4	614,0	1014,0	6
27025	5 G 16	13,0 x 46,6	768,0	1370,0	6
27021	4 G 25	13,7 x 42,6	960,0	1365,0	4
27026	5 G 25	15,5 x 55,5	1200,0	2000,0	4
27022	4 G 35	15,4 x 47,6	1344,0	2100,0	2
27023	4 G 50	18,2 x 57,0	1920,0	2940,0	1
27024	4 G 70	20,0 x 64,2	2688,0	4090,0	2/0

Dimensions and specifications may be changed without prior notice. (RJ01)

NEO-Flat (N)GFLGÖU



Technical data

- Special Neoprene-flat cable adapted to DIN VDE 0250 part 809
- **Temperature range**
flexing -25 °C to +60 °C
fixed installation -40 °C to +80 °C
- **Nominal voltage** U0/U 300/500 V
- **Test voltage** 3000 V
- **Minimum bending radius**
10x cable thickness
- **Radiation resistance**
up to 50x10⁶ cJ/kg (up to 50 Mrad)

Cable structure

- Bare or tinned copper, stranded to DIN VDE 0295, BS 6360 cl. 5 and IEC 60228, fine or extra fine wire stranded according to different cross-sections
1 to 25 mm² - class 6, col. 4
35 to 95 mm² - class 5
- Special rubber core insulation GI1, to DIN VDE 0207 part 20
- Core identification up to 5 cores, colour code to DIN VDE 0293
7 cores and above with number printing
- Cores laying parallel
- Art.No. 28007 and 28013 cable structure 6x4
- Green-yellow earth core
- Special rubber outer sheath 5GM2, to DIN VDE 0207 part 21
- Colour black

Properties

- Special rubber outer sheath, cold-resistant
- Extensively oil resistant, oil-/ chemical Resistance - see table Technical Informations
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packeting possibility
- Behaviour in fire:
Test according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Note

- G = with green-yellow earth core;
x = without green-yellow earth core (OZ).
- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

Neoprene type of flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units. These cables are also available for export with UL-approval on request.

Installation notes

Cables reels with flat cables must be transported in standing position on the flange. A bending flexibility can be achieved on a plane surface. For this purpose, the corresponding fitting instructions should be followed.

- Put the cable trolley on the guiding rail or upon carrier beam and push them together at the starting point. The distance between the bedding surface of two cable trolleys must be wider than the double thickness of a cable-packet.
- During the packeting performance, it must be started with the smaller cross-section which lays on the bedding surface and will be builded successively so that the biggest cross-section is laying on the top.
- Further, be careful of a symmetrical load distribution.
- In case of multicore flat cables with small cross-section, smaller than 2,5 mm², is very critical due to its low tensile stress. In such case, you should add 10% reserve wire for calculation.

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

Part no.	No. cores x cross-sec. mm ²	Outer dimension approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
28001	4 G 1,5	5,9 x 16,2	58,0	234,0	16
28002	5 G 1,5	5,9 x 23,7	72,0	304,0	16
28003	7 G 1,5	5,9 x 30,5	101,0	391,0	16
28004	8 G 1,5	5,9 x 34,0	115,0	441,0	16
28005	10 G 1,5	5,9 x 43,5	144,0	460,0	16
28006	12 G 1,5	6,5 x 50,4	173,0	646,0	16
28007	24 G 1,5 (6 x 4)	13,0 x 56,0	346,0	1290,0	16
28008	4 G 2,5	7,2 x 19,6	96,0	316,0	14
28009	5 G 2,5	7,2 x 27,8	120,0	391,0	14
28010	7 G 2,5	7,2 x 36,1	168,0	533,0	14
28011	8 G 2,5	7,2 x 40,2	192,0	602,0	14
28012	12 G 2,5	7,8 x 59,4	288,0	890,0	14
28013	24 G 2,5 (6 x 4)	15,5 x 66,8	576,0	1480,0	14
28014	4 G 4	8,8 x 24,2	154,0	506,0	12
28015	5 G 4	8,8 x 33,4	192,0	621,0	12
28016	7 G 4	8,8 x 42,5	269,0	851,0	12
28017	4 G 6	9,6 x 27,4	230,0	661,0	10
28018	5 G 6	9,6 x 37,4	288,0	740,0	10
28019	7 G 6	9,6 x 47,2	403,0	1004,0	10
28020	4 G 10	10,4 x 30,8	384,0	1027,0	8
28021	5 G 10	10,4 x 41,6	480,0	1171,0	8

Part no.	No. cores x cross-sec. mm ²	Outer dimension approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
28022	4 G 16	11,6 x 35,6	614,0	1430,0	6
28023	5 G 16	12,2 x 48,2	768,0	1590,0	6
28024	4 G 25	14,1 x 45,8	960,0	1890,0	4
28025	5 G 25	14,7 x 58,3	1200,0	2215,0	4
28026	7 G 25	15,3 x 78,7	1680,0	3000,0	4
28027	4 G 35	15,8 x 50,8	1344,0	2460,0	2
28028	5 G 35	16,4 x 64,4	1680,0	2880,0	2
28029	7 G 35	16,4 x 86,4	2352,0	4100,0	2
28030	4 G 50	18,6 x 60,2	1920,0	3385,0	1
28031	4 G 70	21,0 x 68,0	2688,0	4480,0	2/0
28032	4 G 95	24,1 x 78,6	3648,0	5990,0	3/0
28033	4 G 120	25,5 x 84,2	4608,0	7240,0	4/0

Dimensions and specifications may be changed without prior notice. (RJ01)

PVC-flat-CY screened, EMC-preferred type



Technical data

- Special PVC-flat cable, screened, adapted to DIN VDE 0283 part 2
- **Temperature range** flexing -5 °C to +70 °C fixed installation -40 °C to +80 °C
- **Nominal voltage** U₀/U 300/500 V
- **Test voltage** 3000 V
- **Breakdown voltage** min. 6000 V
- **Minimum bending radius** 15x cable thickness
- **Radiation resistance** up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, fine wire conductors according to DIN VDE 0295 and IEC 60228 cl. 5, BS 6360 cl. 5
- Special PVC insulation
- Core identification see below
- Cores screened individually or in bunches
- Cores laying parallel
- Copper screened braiding, approx. 85% coverage
- Special PVC outer jacket black (RAL 9005)

Properties

- Extensively oil resistant
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packeting possibility
- The high degree of screening density assures disturbance-free transmission of all signal and impulses
- PVC self-extinguishing and flameretardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Note

- G = with green-yellow earth core; x = without green-yellow earth core.
- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

PVC screened flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units.

Installation notes

Cables reels with flat cables must be transported in standing position on the flange. A bending flexibility can be achieved on a plane surface. For this purpose, the corresponding fitting instructions should be followed.

- Put the cable trolley on the guiding rail or upon carrier beam and push them together at the starting point. The distance between the bedding surface of two cable trolleys must be wider than the double thickness of a cable-packet.
- During the packeting performance, it must be started with the smaller cross-section which lays on the bedding surface and will be builded successively so that the biggest cross-section is laying on the top.
- Further, be careful of a symmetrical load distribution.
- In case of multicore flat cables with small cross-section, smaller than 2,5 mm², is very critical due to its low tensile stress. In such case, you should add 10% reserve wire for calculation.

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. mm ²	Core marking	Outer dimension approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
27100	5 G 0,5	Colour coded, DIN VDE 0293	21,0 x 3,4	64,0	140,0	20
27101	5 x 4 x 0,5	Colour coded	37,4 x 7,2	175,0	280,0	20
27102	8 x 7 x 0,5	Cont. white numbering, DIN VDE 0293	68,6 x 11,7	480,0	1180,0	20
27090	4 G 0,75	Colour coded, DIN VDE 0293	15,0 x 5,0	70,0	147,0	18
27103	4 x 4 G 1	Cont. white numbering	33,5 x 11,0	310,0	625,0	17
27091	4 G 1,5	Colour coded, DIN VDE 0293	18,7 x 5,9	116,0	210,0	16
27092	8 G 1,5	Cont. white numbering	35,6 x 5,9	217,0	400,0	16
27093	12 G 1,5	Cont. white numbering	52,1 x 5,9	266,0	610,0	16
27094	4 G 2,5	Colour coded, DIN VDE 0293	21,0 x 6,9	170,0	270,0	14
27104	6 G 2,5	Cont. white numbering, DIN VDE 0293	37,4 x 7,2	240,0	320,0	14
27095	4 G 4	Colour coded, DIN VDE 0293	24,5 x 7,7	225,0	400,0	12
27096	4 G 6	Colour coded, DIN VDE 0293	30,1 x 9,2	328,0	520,0	10
27097	4 G 10	Colour coded, DIN VDE 0293	35,8 x 10,5	525,0	840,0	8
27098	4 G 16	Colour coded, DIN VDE 0293	41,3 x 12,6	788,0	1280,0	6
27099	4 G 25	Colour coded, DIN VDE 0293	48,4 x 14,4	1170,0	1800,0	4

Dimensions and specifications may be changed without prior notice. (RJ01)

NEO-Flat-C (MCHÖU) screened, EMC-preferred type



Technical data

- Special-Neoprene-flat cable, screened, adapted to DIN VDE 0250 part 809
- **Temperature range**
flexing -25 °C to +60 °C
fixed installation -40 °C to +80 °C
- **Nominal voltage** U_0/U 300/500 V
- **Test voltage** 3000 V
- **Minimum bending radius**
approx. 15x cable thickness
- **Radiation resistance**
up to 50×10^6 cJ/kg (up to 50 Mrad)

Cable structure

- Bare or tinned copper, extra fine wire conductors according to DIN VDE 0295 Kl. 6 and IEC 60228 cl. 6, BS 6360 cl. 6
- Special rubber core insulation
- Core identification
up to 5 cores to colour code DIN VDE 0293 7 cores and above with number printing
- Cores screened individually
- Cores laying parallel
- Copper screened braiding, approx. 85% coverage
- Special Neoprene outer jacket black (RAL 9005)

Properties

- Outer jacket cold resistant
- Extensively oil resistant
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packeting possibility
- The high degree of screening density assures disturbance-free transmission of all signal and impulses
- Behaviour in fire
Test according to VDE 0482-332-1-2, DIN EN 60332-2-1/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Note

- G = with green-yellow earth core.
- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

Neoprene screened flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units. These cables are also available for export with UL-approval on request.

Installation notes

Cables reels with flat cables must be transported in standing position on the flange. A bending flexibility can be achieved on a plane surface. For this purpose, the corresponding fitting instructions should be followed.

- Put the cable trolley on the guiding rail or upon carrier beam and push them together at the starting point. The distance between the bedding surface of two cable trolleys must be wider than the double thickness of a cable-packet.
- During the packeting performance, it must be started with the smaller cross-section which lays on the bedding surface and will be builded successively so that the biggest cross-section is laying on the top.
- Further, be careful of a symmetrical load distribution.
- In case of multicore flat cables with small cross-section, smaller than 2,5 mm², is very critical due to its low tensile stress. In such case, you should add 10% reserve wire for calculation.

EMC = Electromagnetic compatibility

To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

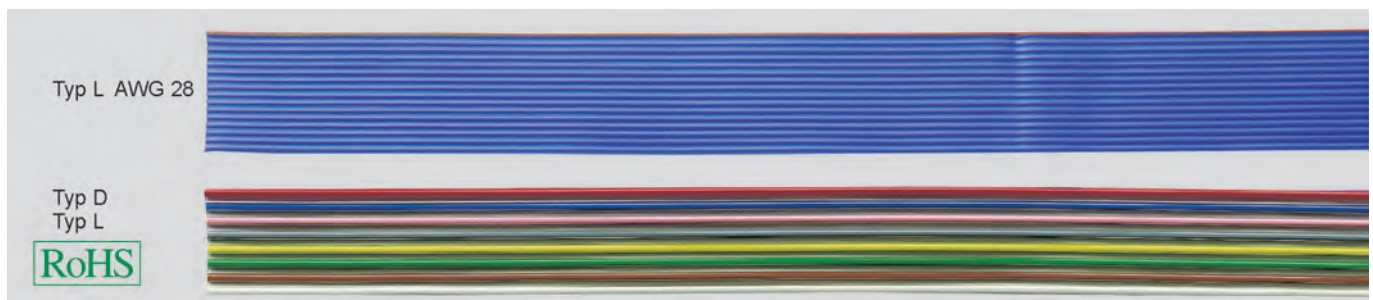
CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. cores x cross-sec. mm ²	Outer dimension approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
28100	8 G 1,5	7,9 x 42,0	231,0	520,0	16
28101	12 G 1,5	7,9 x 61,0	346,0	790,0	16
28102	4 G 2,5	8,5 x 25,5	164,0	420,0	14

Part no.	No. cores x cross-sec. mm ²	Outer dimension approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
28103	6 G 2,5	8,5 x 34,5	247,0	540,0	14
28104	12 G 2,5	8,9 x 68,0	494,0	1000,0	14
28302	4 G 25	16,0 x 51,0	1116,0	1650,0	14

Dimensions and specifications may be changed without prior notice. (RJ01)

Ribbon Cables **Type L, Type L AWG 28, Type D**



Technical data

Type L (stranded wire)

- Pitch 2,54 mm
- **Nominal voltage**
0,14 mm² = 350 V
0,25 to 0,75 mm² = 600 V
- **Test voltage**
0,14 mm² = 1200 V
0,25 to 0,75 mm² = 2000 V

Type L AWG 28 (stranded wire)

- Pitch 1,27 mm
- **Heat-resistance** up to 105 °C
- **Nominal voltage** 300 V
- **Test voltage** 2000 V

Type D (solid)

- Pitch 2,5 mm
- **Nominal voltage** 500 V
- **Test voltage** 1500 V

Cable structure

Type L (stranded wire)

- Tinned copper, fine wire stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5
- PVC core insulation, flame retardant
- Cores colour coded

Type L AWG 28 (stranded wire)

- Tinned copper 7x0,127
- PVC core insulation, flame retardant
- Cores moulded, can be separated easily
- Cores single coloured, edge marking on one side

Type D (solid)

- Cu-solid, tinned 0,5 mm ø
- PVC core insulation
- Cores moulded, can be separated easily
- Cores colour coded

Properties

Type L AWG 28 (stranded wire)

- PVC self-extinguishing and 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)

Application

Ribbon cables are used as connecting and control cables wherever there is a need to install quickly and with a minimum waste of space. These cables offer an excellent degree of flexibility.

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

Typ L (colour coded)

Part no.	No. cores x cross-sec. mm ²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
44001	2 x 0,14	3,9 x 1,4	2,7	7,0	26
44002	3 x 0,14	6,4 x 1,4	4,0	11,0	26
44003	4 x 0,14	8,9 x 1,4	5,4	14,0	26
44004	5 x 0,14	11,3 x 1,4	6,7	18,0	26
44005	6 x 0,14	13,9 x 1,4	8,1	21,0	26
44006	7 x 0,14	16,4 x 1,4	9,4	25,0	26
44007	8 x 0,14	18,9 x 1,4	10,7	28,0	26
44008	9 x 0,14	21,4 x 1,4	13,4	32,0	26
44009	10 x 0,14	23,9 x 1,4	14,4	35,0	26
44010	11 x 0,14	26,4 x 1,4	15,3	39,0	26
44011	12 x 0,14	28,9 x 1,4	16,1	42,0	26
44012	16 x 0,14	38,9 x 1,4	21,5	56,0	26
44013	20 x 0,14	48,9 x 1,4	27,0	70,0	26
44014	4 x 0,25	9,1 x 1,6	9,6	21,0	24
44015	5 x 0,25	11,6 x 1,6	12,0	26,0	24
44016	6 x 0,25	14,1 x 1,6	14,4	31,0	24
44017	7 x 0,25	16,6 x 1,6	16,8	36,0	24
44018	8 x 0,25	19,1 x 1,6	19,2	42,0	24
44019	10 x 0,25	24,1 x 1,6	24,0	52,0	24
44020	12 x 0,25	29,1 x 1,6	28,8	62,0	24
44021	16 x 0,25	39,1 x 1,6	38,4	83,0	24
44022	20 x 0,25	49,1 x 1,6	48,0	104,0	24
44023	4 x 0,5	9,0 x 2,0	19,2	38,0	20
44024	5 x 0,5	12,0 x 2,0	24,0	48,0	20
44025	6 x 0,5	15,0 x 2,0	28,8	57,0	20
44026	7 x 0,5	17,0 x 2,0	33,6	66,0	20
44027	8 x 0,5	20,0 x 2,0	38,4	76,0	20
44028	10 x 0,5	23,0 x 2,0	48,0	95,0	20
44029	12 x 0,5	30,0 x 2,0	58,0	114,0	20
44030	16 x 0,5	40,0 x 2,0	77,0	151,0	20
44031	20 x 0,5	50,0 x 2,0	101,0	190,0	20
44032	4 x 0,75	10,6 x 2,5	29,0	52,0	18
44033	5 x 0,75	13,3 x 2,5	36,0	64,0	18
44034	6 x 0,75	16,0 x 2,5	43,2	77,0	18
44035	7 x 0,75	18,7 x 2,5	50,0	90,0	18
44036	8 x 0,75	21,4 x 2,5	58,0	103,0	18
44037	10 x 0,75	26,8 x 2,5	72,0	130,0	18
44038	12 x 0,75	32,2 x 2,5	86,0	155,0	18
44039	16 x 0,75	43,0 x 2,5	112,0	206,0	18
44040	20 x 0,75	53,4 x 2,5	151,0	260,0	18

Typ L AWG 28 (single coloured, edge marking on one side)

Part no.	No. cores x cross-sec. mm ²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
44041	10 x 0,08	12,7 x 0,9	13,4	30,0	28
44042	14 x 0,08	17,8 x 0,9	18,0	50,0	28
44043	16 x 0,08	20,3 x 0,9	20,0	53,0	28
44044	20 x 0,08	25,4 x 0,9	25,0	65,0	28
44045	26 x 0,08	33,0 x 0,9	32,0	75,0	28
44046	34 x 0,08	43,2 x 0,9	43,0	90,0	28
44047	40 x 0,08	50,8 x 0,9	48,0	125,0	28
44048	48 x 0,08	61,0 x 0,9	59,0	145,0	28

Typ D (colour coded)

Part no.	No. cores x cross-sec. mm ²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
44049	2 x 0,5	3,9 x 1,4	10,0	10,0	20
44050	3 x 0,5	6,4 x 1,4	14,0	14,0	20
44051	4 x 0,5	8,9 x 1,4	19,0	17,0	20
44052	5 x 0,5	11,4 x 1,4	24,0	21,0	20
44053	6 x 0,5	13,9 x 1,4	29,0	25,0	20
44054	7 x 0,5	16,4 x 1,4	34,0	29,0	20
44055	8 x 0,5	18,9 x 1,4	38,0	33,0	20
44056	9 x 0,5	21,4 x 1,4	42,0	37,0	20
44057	10 x 0,5	23,9 x 1,4	48,0	41,0	20
44058	11 x 0,5	26,4 x 1,4	56,0	47,0	20

Standard colour-code (not to DIN 47100)

1	white	12	white-green	23	brown-blue
2	brown	13	white-yellow	24	brown-red
3	green	14	white-grey	25	brown-black
4	yellow	15	white-pink	26	green-grey
5	grey	16	white-blue	27	green-pink
6	pink	17	white-red	28	green-blue
7	blue	18	white-black	29	green-red
8	red	19	brown-green	30	green-black
9	black	20	brown-yellow	31	yellow-grey
10	violet	21	brown-grey	32	yellow-pink
11	white-brown	22	brown-pink	33	yellow-blue

Dimensions and specifications may be changed without prior notice. (RJ01)

TUBEFLEX-Y roundshaped flat ribbon cable for IDC-technique, pitch 1,27 mm



Technical data

- Roundshaped special Flat Ribbon Cable
- **Conductor resistance** at 20 °C max. 230 Ohm/km
- **Temperature range** -20 °C up to +80 °C
- **Voltage rating** max. 300 V
- **Test voltage** core/core 2000 V
- **Dielectric strength, Spark-test** 3000 V
- **Insulation resistance** min. 20 MOhm x km
- **Capacitance** (side cores) ca. 75 pF/m
- **Impedance** 115 Ohm
- **Minimum bending radius** 15x cable ø
- **Radiation resistance** up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Stranded tinned copper conductor, size AWG 28
7x0,127 mm = 0,09 mm²
- Special PVC core insulation, adapted to DIN VDE 0207 part 4
- Cores colour grey, edge marking on one side
- Cores laying parallel and adjacent, alternately spliced or separated and periodically slotted
- Roundshaped flat ribbon cable, folded
- Taping
- Special PVC outer sheath, adapted to DIN VDE 0207 part 5
- Colour grey

Properties

- PVC self-extinguishing and 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)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers
- **Very interesting for cable pre-assemblers!**

Application

TUBEFLEX-Y Flat ribbon cable, due to its roundshape offers considerable advantages compared with other flat ribbon cables during the installation and assembly. This roundshaped cable bids enormous profits by using the quick and economical possibilities under continuance with the efficient connection in IDC-technique. All conductors can be contacted at one working procedure without stripping the insulation. The accurate to size pitch-image of the ribbon cable is obtained due to an adapted backshaping before the plug installation.

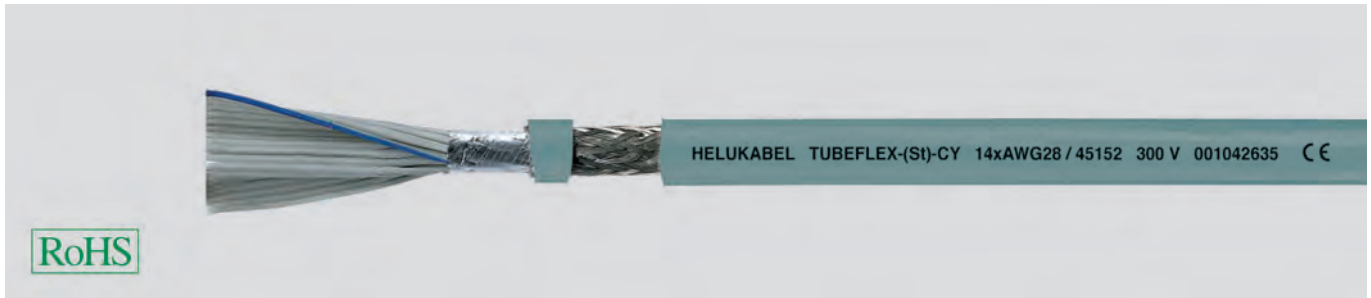
CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. cores x AWG-no.	Flat ribbon dimension Width mm	Outer jacket nominal wall-thickness mm	Outer Ø approx. mm	Cop. weight approx. kg / km	Weight approx. kg / km
45130	9 x 28	11,43	0,8	6,1	8,7	35,0
45131	10 x 28	12,70	0,8	6,2	9,7	36,0
45132	14 x 28	17,78	0,8	7,2	13,6	48,0
45133	16 x 28	20,30	0,8	7,2	15,5	51,0
45134	20 x 28	25,40	0,8	7,3	19,4	57,0
45135	24 x 28	30,48	0,8	8,6	23,2	66,0
45136	25 x 28	31,75	0,8	8,6	24,2	69,0
45137	26 x 28	33,02	0,8	8,6	25,2	70,0

Part no.	No. cores x AWG-no.	Flat ribbon dimension Width mm	Outer jacket nominal wall-thickness mm	Outer Ø approx. mm	Cop. weight approx. kg / km	Weight approx. kg / km
45138	30 x 28	38,10	0,8	9,0	29,0	81,0
45139	34 x 28	43,20	0,8	10,0	32,9	87,0
45140	36 x 28	45,72	0,8	10,2	34,9	91,0
45141	37 x 28	47,00	1,0	10,3	35,8	93,0
45142	40 x 28	50,80	1,0	10,7	38,7	101,0
45143	50 x 28	63,50	1,0	11,1	48,4	118,0
45144	60 x 28	76,20	1,0	12,5	58,1	135,0
45145	64 x 28	81,30	1,0	13,0	62,0	147,0

Dimensions and specifications may be changed without prior notice. (RJ01)

TUBEFLEX-(St)-CY roundshaped flat ribbon cable, screened, for IDC-technique, pitch 1,27mm, EMC-preferred type



Technical data

- Roundshaped special Flat Ribbon Cable, screened
- **Conductor resistance** at 20 °C max. 230 Ohm/km
- **Temperature range** -20 °C up to +80 °C
- **Voltage rating** max. 300 V
- **Test voltage** core/core 2000 V core/screen 2000 V
- **Dielectric strength, Spark-test** 3000 V
- **Insulation resistance** min. 20 MOhm x km
- **Capacitance** (side cores) ca. 75 pF/m
- **Impedance** 115 Ohm
- **Minimum bending radius** 15x cable ø
- **Radiation resistance** up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Stranded tinned copper conductor, size AWG 28 7x0,127 mm = 0,09 mm²
- Special PVC core insulation, adapted to DIN VDE 0207 part 4
- Cores colour grey, edge marking on one side
- Cores laying parallel and adjacent, alternately spliced or separated and periodically slotted
- Roundshaped flat ribbon cable, folded
- Dual shielding: (St) - plastic coated Alu-foil and C - tinned copper wire braiding with optimal surface coverage
- Special PVC outer sheath, adapted to DIN VDE 0207 part 5
- Colour grey

Properties

- PVC self-extinguishing and 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)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers
- **Very interesting for cable pre-assemblers!**
- The dual shielding with plastic coated aluminium foil (St) and the additional tinned copper wire braiding (C) protects against high frequency interference and ensures disturbance-free signal and impuls transfer.

Application

TUBEFLEX-(St)-CY Flat ribbon cable, due to its roundshape offers considerable advantages compared with other flat ribbon cables during the installation and assembly. This roundshaped cable bids enormous profits by using the quick and economical possibilities under continuance with the efficient connection in IDC-technique. All conductors can be contacted at one working procedure without stripping the insulation. The accurate to size pitch-image of the ribbon cable is obtained due to an adapted backshaping before the plug installation.

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 AWG-no.	Flat ribbon dimension Width mm	Outer jacket nominal wall-thickness mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
45150	9 x 28	11,43	0,8	6,3	30,9	56,0
45151	10 x 28	12,70	0,8	6,4	31,9	57,0
45152	14 x 28	17,78	0,8	7,2	35,6	70,0
45153	16 x 28	20,30	0,8	7,4	42,0	75,0
45154	20 x 28	25,40	0,8	7,8	45,8	83,0
45155	24 x 28	30,48	0,8	9,0	54,3	97,0
45156	25 x 28	31,75	0,8	9,0	55,2	100,0
45157	26 x 28	33,02	0,8	9,0	60,0	101,0
45158	30 x 28	38,10	0,8	9,2	60,4	113,0
45159	34 x 28	43,20	0,8	10,2	68,1	122,0
45160	36 x 28	45,72	0,8	10,4	70,1	126,0

Part no.	No. cores x AWG-no.	Flat ribbon dimension Width mm	Outer jacket nominal wall-thickness mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
45161	37 x 28	47,00	1,0	10,5	71,1	128,0
45162	40 x 28	50,80	1,0	11,3	74,1	135,0
45163	50 x 28	63,50	1,0	11,6	88,3	160,0
45164	60 x 28	76,20	1,0	12,9	98,7	172,0
45165	64 x 28	81,30	1,0	13,3	107,2	192,0

Dimensions and specifications may be changed without prior notice. (RJ01)