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.
## Contents

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVC-flat (H05 VVH6-F/H07 VVH6-F), 300/500V and 450/750V</td>
<td>J 4</td>
</tr>
<tr>
<td>NEO-Flat, INIGFGLDU</td>
<td>J 5</td>
</tr>
<tr>
<td>PVC-flat-CY, screened, EMC-preferred type</td>
<td>J 6</td>
</tr>
<tr>
<td>NEO-Flat-C, (MCH0U) screened, EMC-preferred type</td>
<td>J 7</td>
</tr>
<tr>
<td>Ribbon Cables, Type L Type L AWG 28, Type D</td>
<td>J 8</td>
</tr>
<tr>
<td>TUBEFLEX-Y, roundshaped flat ribbon cable for IDC-technique, pitch 1.27 mm</td>
<td>J 9</td>
</tr>
<tr>
<td>TUBEFLEX-(St)-CY, roundshaped flat ribbon cable, screened, for IDC-technique, pitch 1.27mm, EMC-preferred type</td>
<td>J 10</td>
</tr>
</tbody>
</table>
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
- Nominal voltage: H05 VVH6-F = up to 1 mm², H07 VVH6-F = 1.5 mm²
- Test voltage: H05 VVH6-F = up to 1 mm², H07 VVH6-F = 1.5 mm²
- Minimum bending radius: 10x cable thickness
- Radiation resistance: up to 80x106 Ohm

Cable structure
- Bare copper, stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Special PVC core insulation T12 to DIN VDE 0281 part 1
- Cores laying parallel
- Core identification up to 5 cores to colour code DIN VDE 0233
- 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- and chemical resistant - see table Technical Information
- 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 60352-1-2/ IEC 60352-1 (equivalent DIN VDE 0472 part 604 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 conveyor systems and shelf control units.

Installation notes: See NEO flat at page J5.

Compliance: The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

Note: Dimensions and specifications may be changed without prior notice. (RJ01)
### 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: 5000 V
- Cable according to different cross-sections:
  1. 1 to 25 mm² - class 6, col. 4
  2. 35 to 95 mm² - class 5
- Special rubber core insulation G1, to DIN VDE 0207 part 20
- Core identification up to 5 cores, colour code to DIN VDE 0223
- 7 cores and above with number printing
- Cores laying parallel
- Part no. 28007 and 28013 cable structure 6x4
- Green-yellow earth core
- Special rubber outer sheath 5CM2, to DIN VDE 0207 part 21
- Colour black
- Radiation resistance up to 50x10^6 cJ/kg (up to 50 Mrad)
- 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
  - Packaging 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)

### 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.

### Technical properties
![Technical properties table](image)

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

---

RoHS compliant

---

**Product**

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

---

Dimensions and specifications may be changed without prior notice. (RJD1)
**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 80x10⁸ 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
- Packing possibility
- The high degree of screening density assures disturbance-free transmission of all signal and impulses
- PVC self-extinguishing and flameretardant according to VDE 0482-352-1-2, 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.
- After 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.

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

<table>
<thead>
<tr>
<th>Part no.</th>
<th>No. cores x cross-sec. mm²</th>
<th>Core marking</th>
<th>Outer dimension approx. mm</th>
<th>COP. weight kg/km</th>
<th>Weight approx. kg/km</th>
<th>AWG-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>27100</td>
<td>5 G 0.5</td>
<td>Colour coded, DIN VDE 0293</td>
<td>21,0 x 3,4</td>
<td>64,0</td>
<td>140,0</td>
<td>20</td>
</tr>
<tr>
<td>27101</td>
<td>5 x 0.5</td>
<td>Colour coded</td>
<td>27,4 x 7,2</td>
<td>175,0</td>
<td>280,0</td>
<td>20</td>
</tr>
<tr>
<td>27102</td>
<td>8 x 0.5</td>
<td>Cont. white numbering, DIN VDE 0293</td>
<td>68,6 x 11,7</td>
<td>480,0</td>
<td>1180,0</td>
<td>20</td>
</tr>
<tr>
<td>27080</td>
<td>4 G 0.75</td>
<td>Colour coded, DIN VDE 0293</td>
<td>15,0 x 5,5</td>
<td>70,0</td>
<td>140,0</td>
<td>18</td>
</tr>
<tr>
<td>27081</td>
<td>4 × 0.75</td>
<td>Colour coded</td>
<td>35,5 x 11,0</td>
<td>510,0</td>
<td>625,0</td>
<td>17</td>
</tr>
<tr>
<td>27091</td>
<td>4 G 1.5</td>
<td>Colour coded, DIN VDE 0293</td>
<td>18,7 x 7,9</td>
<td>116,0</td>
<td>210,0</td>
<td>16</td>
</tr>
<tr>
<td>27092</td>
<td>8 G 1.5</td>
<td>Colour coded, DIN VDE 0293</td>
<td>35,6 x 5,9</td>
<td>217,0</td>
<td>400,0</td>
<td>16</td>
</tr>
<tr>
<td>27093</td>
<td>12 G 1.5</td>
<td>Colour coded, DIN VDE 0293</td>
<td>52,1 x 8,8</td>
<td>266,0</td>
<td>610,0</td>
<td>16</td>
</tr>
<tr>
<td>27094</td>
<td>4 G 2.5</td>
<td>Colour coded, DIN VDE 0293</td>
<td>210 x 6,9</td>
<td>170,0</td>
<td>270,0</td>
<td>14</td>
</tr>
<tr>
<td>27104</td>
<td>6 G 2.5</td>
<td>Colour coded, DIN VDE 0293</td>
<td>37,4 x 7,2</td>
<td>240,0</td>
<td>320,0</td>
<td>14</td>
</tr>
<tr>
<td>27095</td>
<td>4 G 4</td>
<td>Colour coded, DIN VDE 0293</td>
<td>24,5 x 7,7</td>
<td>225,0</td>
<td>400,0</td>
<td>12</td>
</tr>
<tr>
<td>27096</td>
<td>6 G 6</td>
<td>Colour coded, DIN VDE 0293</td>
<td>30,4 x 9,2</td>
<td>328,0</td>
<td>525,0</td>
<td>10</td>
</tr>
<tr>
<td>27097</td>
<td>4 G 10</td>
<td>Colour coded, DIN VDE 0293</td>
<td>55,8 x 10,5</td>
<td>525,0</td>
<td>840,0</td>
<td>8</td>
</tr>
<tr>
<td>27098</td>
<td>6 G 16</td>
<td>Colour coded, DIN VDE 0293</td>
<td>41,9 x 12,6</td>
<td>788,0</td>
<td>1280,0</td>
<td>6</td>
</tr>
<tr>
<td>27099</td>
<td>4 G 25</td>
<td>Colour coded, DIN VDE 0293</td>
<td>46,4 x 14,4</td>
<td>1170,0</td>
<td>1800,0</td>
<td>4</td>
</tr>
</tbody>
</table>

Dimensions and specifications may be changed without prior notice. (RJ01)
NEO-Flat-C (MCHOU) 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 U0/U: 300/500 V
- Test voltage: 3000 V
- Minimum bending radius: approx. 15 x cable thickness
- Radiation resistance: up to 50 x 10⁶ cl/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 0295 7 cores and above with number printing
- Cores screened individually
- Cores laying parallel
- Copper screened braiding, approx. 85% coverage
- Special Neoprene outer jacket (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 0492-332-1-2, DIN EN 60332-2-1, IEC 60332-1 equivalent
  - DIN VDE 0472 part 804 test method B1

Application
Neoprene screened flat cables are used mainly as trailing cable for crane installations, floor conveyor 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 bedd ing surface of two cable trollys 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.

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

<table>
<thead>
<tr>
<th>Part no.</th>
<th>No. cores x cross-sec. mm²</th>
<th>Outer dimension approx. mm</th>
<th>Cop. weight kg / km</th>
<th>Weight approx. kg / km</th>
<th>AWG-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>28100</td>
<td>6 G 1.5</td>
<td>7.9 x 42.0</td>
<td>251.0</td>
<td>520.0</td>
<td>16</td>
</tr>
<tr>
<td>28101</td>
<td>9 G 1.5</td>
<td>7.9 x 61.0</td>
<td>346.0</td>
<td>730.0</td>
<td>16</td>
</tr>
<tr>
<td>28102</td>
<td>4 G 2.5</td>
<td>8.5 x 25.5</td>
<td>164.0</td>
<td>420.0</td>
<td>14</td>
</tr>
<tr>
<td>28103</td>
<td>8 G 2.5</td>
<td>8.5 x 34.5</td>
<td>247.0</td>
<td>540.0</td>
<td>14</td>
</tr>
<tr>
<td>28104</td>
<td>12 G 2.5</td>
<td>8.5 x 68.0</td>
<td>484.0</td>
<td>1000.0</td>
<td>14</td>
</tr>
</tbody>
</table>

Dimensions and specifications may be changed without prior notice. (RJ01)
### 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 1.17 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/EC.

### Typ L (colour coded)

<table>
<thead>
<tr>
<th>Part no.</th>
<th>No. of cores x cross - sec. mm²</th>
<th>Outer D approx. mm</th>
<th>Cap. weight kg / km</th>
<th>Weight approx. kg / km</th>
<th>AWG-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>44041</td>
<td>1 x 0.08</td>
<td>1.2 x 1.4</td>
<td>15.4</td>
<td>50.0</td>
<td>28</td>
</tr>
<tr>
<td>44042</td>
<td>1.6 x 0.08</td>
<td>1.7 x 1.0</td>
<td>18.0</td>
<td>50.0</td>
<td>28</td>
</tr>
<tr>
<td>44043</td>
<td>1.6 x 0.08</td>
<td>2.0 x 1.0</td>
<td>20.0</td>
<td>55.0</td>
<td>28</td>
</tr>
<tr>
<td>44044</td>
<td>2.0 x 0.08</td>
<td>2.5 x 1.0</td>
<td>25.0</td>
<td>65.0</td>
<td>28</td>
</tr>
<tr>
<td>44045</td>
<td>2.6 x 0.08</td>
<td>3.0 x 1.0</td>
<td>32.0</td>
<td>75.0</td>
<td>28</td>
</tr>
<tr>
<td>44046</td>
<td>3.4 x 0.08</td>
<td>4.0 x 1.0</td>
<td>45.0</td>
<td>90.0</td>
<td>28</td>
</tr>
<tr>
<td>44047</td>
<td>4.0 x 0.08</td>
<td>5.0 x 1.0</td>
<td>48.0</td>
<td>105.0</td>
<td>28</td>
</tr>
<tr>
<td>44048</td>
<td>4.0 x 0.08</td>
<td>6.0 x 1.0</td>
<td>59.0</td>
<td>145.0</td>
<td>28</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Part no.</th>
<th>No. of cores x cross - sec. mm²</th>
<th>Outer D approx. mm</th>
<th>Cap. weight kg / km</th>
<th>Weight approx. kg / km</th>
<th>AWG-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>44049</td>
<td>2 x 0.5</td>
<td>5.5 x 1.4</td>
<td>10.0</td>
<td>10.0</td>
<td>20</td>
</tr>
<tr>
<td>44050</td>
<td>3 x 0.5</td>
<td>6.0 x 1.4</td>
<td>14.0</td>
<td>16.0</td>
<td>20</td>
</tr>
<tr>
<td>44051</td>
<td>4 x 0.5</td>
<td>9.5 x 1.4</td>
<td>19.0</td>
<td>17.0</td>
<td>20</td>
</tr>
<tr>
<td>44052</td>
<td>5 x 0.5</td>
<td>11.5 x 1.4</td>
<td>24.0</td>
<td>21.0</td>
<td>20</td>
</tr>
<tr>
<td>44053</td>
<td>6 x 0.5</td>
<td>15.5 x 1.4</td>
<td>29.0</td>
<td>25.0</td>
<td>20</td>
</tr>
<tr>
<td>44054</td>
<td>7 x 0.5</td>
<td>16.0 x 1.4</td>
<td>34.0</td>
<td>29.0</td>
<td>20</td>
</tr>
<tr>
<td>44055</td>
<td>8 x 0.5</td>
<td>16.0 x 1.4</td>
<td>38.0</td>
<td>35.0</td>
<td>20</td>
</tr>
<tr>
<td>44056</td>
<td>9 x 0.5</td>
<td>16.0 x 1.4</td>
<td>42.0</td>
<td>39.0</td>
<td>20</td>
</tr>
<tr>
<td>44057</td>
<td>10 x 0.5</td>
<td>25.0 x 1.4</td>
<td>48.0</td>
<td>41.0</td>
<td>20</td>
</tr>
<tr>
<td>44058</td>
<td>11 x 0.5</td>
<td>26.0 x 1.4</td>
<td>56.0</td>
<td>47.0</td>
<td>20</td>
</tr>
</tbody>
</table>

### Standard colour-code (not to DIN 47100)

1. white                  12. white-green
2. brown                  13. white-yellow
3. green                  14. white-grey
4. yellow                 15. white-pink
5. grey                   16. white-blue
6. pink                   17. white-red
7. blue                   18. white-black
8. red                    19. brown-green
9. black                  20. brown-yellow
10. violet                21. brown-grey
11. white-brown           22. brown-pink
12. yellow-grey           23. yellow-grey
13. brown-black           24. brown-red
14. black                 25. brown-blue
15. white                 26. green-grey
16. white-blue            27. green-blue
17. white-red             28. green-red
18. white-black           29. brown-red
19. brown-green           30. brown-yellow
20. brown-yellow          31. yellow-grey
21. brown-grey            32. yellow-pink
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 MΩm 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 mm² = 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!

---

**Part No.**

<table>
<thead>
<tr>
<th>No. cores</th>
<th>Flat ribbon Width mm</th>
<th>Outer jacket nominal wall-thickness mm</th>
<th>Cop. weight approx. kg / km</th>
<th>Weight approx. kg / km</th>
</tr>
</thead>
<tbody>
<tr>
<td>45130</td>
<td>9 x 28</td>
<td>11.45</td>
<td>0.6</td>
<td>6.1</td>
</tr>
<tr>
<td>45131</td>
<td>10 x 28</td>
<td>12.70</td>
<td>0.6</td>
<td>6.2</td>
</tr>
<tr>
<td>45132</td>
<td>14 x 28</td>
<td>17.79</td>
<td>0.8</td>
<td>7.2</td>
</tr>
<tr>
<td>45133</td>
<td>16 x 28</td>
<td>20.30</td>
<td>0.8</td>
<td>7.2</td>
</tr>
<tr>
<td>45134</td>
<td>20 x 28</td>
<td>25.40</td>
<td>0.8</td>
<td>7.3</td>
</tr>
<tr>
<td>45135</td>
<td>24 x 28</td>
<td>30.48</td>
<td>0.8</td>
<td>8.6</td>
</tr>
<tr>
<td>45136</td>
<td>25 x 28</td>
<td>31.75</td>
<td>0.8</td>
<td>8.6</td>
</tr>
<tr>
<td>45137</td>
<td>26 x 28</td>
<td>33.02</td>
<td>0.8</td>
<td>8.6</td>
</tr>
</tbody>
</table>

- 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. 250 Ohm/km
- **Temperature range** -20 °C up to +80 °C
- **Voltage rating** max. 300 V
- **Test voltage** 15x cable ø
- **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 80x10^6 cJ/kg (up to 80 Mrad)

**Cable structure**
- Stranded tinned copper conductor, size AWG 28
  - 7x0,127 mm² = 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 0482-352-1-2, 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 impulse 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.

---

<table>
<thead>
<tr>
<th>Part no.</th>
<th>No.cores</th>
<th>Flat ribbon dimension Width mm</th>
<th>Outer jacket nominal wall-thickness mm</th>
<th>Outer Ø approx. mm</th>
<th>Cop. weight approx. kg / km</th>
<th>Weight approx. kg / km</th>
</tr>
</thead>
<tbody>
<tr>
<td>45150</td>
<td>9 x 28</td>
<td>11,43</td>
<td>0,8</td>
<td>6,3</td>
<td>30,9</td>
<td>56,0</td>
</tr>
<tr>
<td>45151</td>
<td>10 x 28</td>
<td>12,70</td>
<td>0,8</td>
<td>6,4</td>
<td>31,6</td>
<td>57,0</td>
</tr>
<tr>
<td>45152</td>
<td>14 x 28</td>
<td>17,78</td>
<td>0,8</td>
<td>7,2</td>
<td>35,6</td>
<td>70,0</td>
</tr>
<tr>
<td>45153</td>
<td>16 x 28</td>
<td>20,30</td>
<td>0,8</td>
<td>7,4</td>
<td>42,0</td>
<td>75,0</td>
</tr>
<tr>
<td>45154</td>
<td>20 x 28</td>
<td>25,40</td>
<td>0,8</td>
<td>7,6</td>
<td>45,8</td>
<td>85,0</td>
</tr>
<tr>
<td>45155</td>
<td>24 x 28</td>
<td>30,48</td>
<td>0,8</td>
<td>8,0</td>
<td>54,3</td>
<td>97,0</td>
</tr>
<tr>
<td>45156</td>
<td>25 x 28</td>
<td>51,75</td>
<td>0,8</td>
<td>9,0</td>
<td>55,2</td>
<td>100,0</td>
</tr>
<tr>
<td>45157</td>
<td>26 x 28</td>
<td>55,02</td>
<td>0,8</td>
<td>9,0</td>
<td>60,0</td>
<td>101,0</td>
</tr>
<tr>
<td>45158</td>
<td>30 x 28</td>
<td>58,10</td>
<td>0,8</td>
<td>9,2</td>
<td>60,4</td>
<td>113,0</td>
</tr>
<tr>
<td>45159</td>
<td>34 x 28</td>
<td>45,20</td>
<td>0,8</td>
<td>10,2</td>
<td>68,1</td>
<td>122,0</td>
</tr>
<tr>
<td>45160</td>
<td>36 x 28</td>
<td>45,72</td>
<td>0,8</td>
<td>10,4</td>
<td>70,1</td>
<td>126,0</td>
</tr>
</tbody>
</table>

---

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