



EMC screened drag-chain cable

# PVC Shielded Drag Chain Control Cable

Inner-sheathed, tinned-copper-braided Class 6 PVC drag-chain cable



VDE 0285-525-2-51

300/500 V EMC

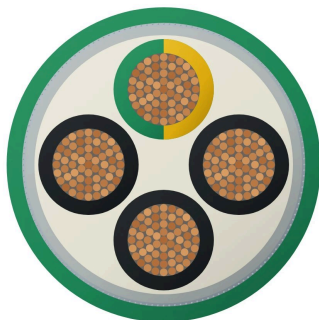
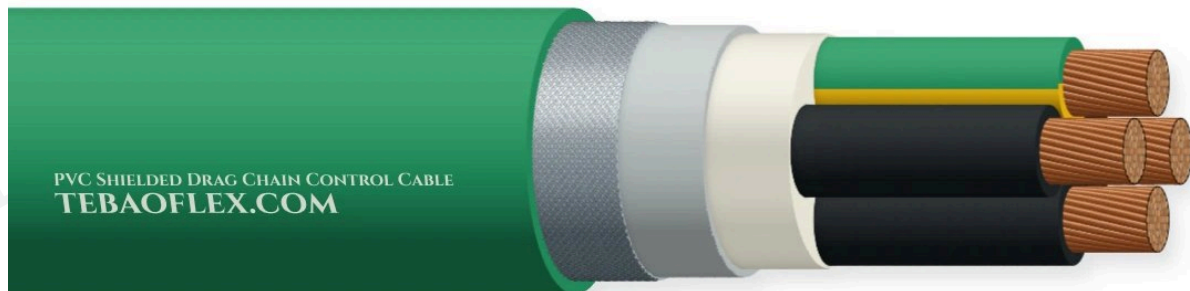
≥ 85 % Cu Braid

## Application

EMC-screened continuous-flex control cable featuring IEC 60228 Class 6 copper conductors, extruded PVC inner bedding, ≥ 85 % optical coverage tinned copper braid and oil-resistant TM5 PVC outer jacket for electrically noisy machine-tool carriers.

**Typical uses:** CNC Machining Centres, Automated Assembly & Test Cells, Gantry Loaders & Transfer Lines, Printing & Converting Machinery, PLC & Sensor Carrier Harnesses

## Construction



Cross-section, not to scale

|   |                            |                                         |
|---|----------------------------|-----------------------------------------|
| 1 | Superfine copper conductor | IEC 60228 Class 6                       |
| 2 | Core insulation            | DIN EN 50363-3 · EN 50334               |
| 3 | Core bundle sliding wrap   |                                         |
| 4 | Extruded inner sheath      |                                         |
| 5 | EMC overall braid screen   | Transfer impedance ≤ 250 mΩ/m at 30 MHz |
| 6 | Outer drag-chain sheath    | DIN EN 50363-4-1 · IEC 60332-1-2        |

## Technical data

Typical values

|                                 |                                             |                             |                                                   |
|---------------------------------|---------------------------------------------|-----------------------------|---------------------------------------------------|
| Rated voltage U0/U              | 300/500 V (UL/CSA 600 V)                    | AC test voltage             | 4000 V AC core/core · 2000 V AC core/screen       |
| Screen / Field control          | Tinned copper braid ≥ 85 % optical coverage | Mutual capacitance          | ≈ 120 pF/m (core/core) · ≈ 160 pF/m (core/screen) |
| Specific insulation resistance  | > 20 GΩ·cm at 20 °C                         | Temperature, flexing        | -5 °C to +70 °C (UL +80 °C)                       |
| Temperature, fixed installation | -40 °C to +80 °C                            | Max. conductor temperature  | +70 °C (+80 °C UL AWM)                            |
| Short-circuit temperature       | +160 °C (max. 5 s)                          | Min. bending radius, moving | 7.5 × OD (≤ 12 mm) · 10 × OD (> 12 mm)            |
| Min. bending radius, fixed      | 4 × OD                                      | Max. travel speed           | 3 m/s gliding · 4.5 m/s unsupported               |
| Max. acceleration               | 10 m/s <sup>2</sup>                         | Max. tensile load (dynamic) | 15 N/mm <sup>2</sup> of power/control copper area |
| Oil resistance                  | DIN EN 50363-4-1 TM5 (industrial oils)      | Flame retardance            | IEC 60332-1-2 · UL VW-1 · CSA FT1                 |
| EMC coupling resistance         | ≤ 250 mΩ/m up to 30 MHz                     | Silicone & LABS             | Silicone-free and paint-shop safe (VW PV 3.10.7)  |
| Standards                       | Based on DIN EN 50525-2-51 (CY execution)   |                             |                                                   |

## Sizes

19 standard constructions

Tick the sizes you need and send this page to [info@tebaoflex.com](mailto:info@tebaoflex.com) or WhatsApp +86 185 9591 3361.

| Order designation                              | Cores × mm <sup>2</sup> | Cross-section        | Outer Ø ≈ mm | Total Cu kg/km | Weight ≈ kg/km | Min. bend R chain mm |
|------------------------------------------------|-------------------------|----------------------|--------------|----------------|----------------|----------------------|
| 0.5 mm <sup>2</sup> EMC screened 6 sizes       |                         |                      |              |                |                |                      |
| <input type="checkbox"/> PVC-FD-810-CY 3G0.5   | 3G0.5                   | 0.5 mm <sup>2</sup>  | 6.5          | 35             | 64             | 49                   |
| <input type="checkbox"/> PVC-FD-810-CY 4G0.5   | 4G0.5                   | 0.5 mm <sup>2</sup>  | 7.0          | 43             | 76             | 52                   |
| <input type="checkbox"/> PVC-FD-810-CY 7G0.5   | 7G0.5                   | 0.5 mm <sup>2</sup>  | 8.4          | 65             | 112            | 63                   |
| <input type="checkbox"/> PVC-FD-810-CY 12G0.5  | 12G0.5                  | 0.5 mm <sup>2</sup>  | 10.5         | 98             | 168            | 79                   |
| <input type="checkbox"/> PVC-FD-810-CY 18G0.5  | 18G0.5                  | 0.5 mm <sup>2</sup>  | 12.3         | 138            | 232            | 92                   |
| <input type="checkbox"/> PVC-FD-810-CY 25G0.5  | 25G0.5                  | 0.5 mm <sup>2</sup>  | 14.6         | 186            | 318            | 110                  |
| 0.75 mm <sup>2</sup> EMC screened 6 sizes      |                         |                      |              |                |                |                      |
| <input type="checkbox"/> PVC-FD-810-CY 3G0.75  | 3G0.75                  | 0.75 mm <sup>2</sup> | 7.0          | 45             | 79             | 52                   |
| <input type="checkbox"/> PVC-FD-810-CY 4G0.75  | 4G0.75                  | 0.75 mm <sup>2</sup> | 7.5          | 55             | 94             | 56                   |
| <input type="checkbox"/> PVC-FD-810-CY 7G0.75  | 7G0.75                  | 0.75 mm <sup>2</sup> | 9.1          | 86             | 141            | 68                   |
| <input type="checkbox"/> PVC-FD-810-CY 12G0.75 | 12G0.75                 | 0.75 mm <sup>2</sup> | 11.5         | 135            | 214            | 86                   |
| <input type="checkbox"/> PVC-FD-810-CY 18G0.75 | 18G0.75                 | 0.75 mm <sup>2</sup> | 13.6         | 192            | 302            | 102                  |
| <input type="checkbox"/> PVC-FD-810-CY 25G0.75 | 25G0.75                 | 0.75 mm <sup>2</sup> | 16.2         | 260            | 412            | 122                  |
| 1.0 mm <sup>2</sup> EMC screened 3 sizes       |                         |                      |              |                |                |                      |
| <input type="checkbox"/> PVC-FD-810-CY 4G1.0   | 4G1.0                   | 1.0 mm <sup>2</sup>  | 8.0          | 68             | 112            | 60                   |
| <input type="checkbox"/> PVC-FD-810-CY 7G1.0   | 7G1.0                   | 1.0 mm <sup>2</sup>  | 9.7          | 108            | 169            | 73                   |
| <input type="checkbox"/> PVC-FD-810-CY 12G1.0  | 12G1.0                  | 1.0 mm <sup>2</sup>  | 12.4         | 174            | 262            | 93                   |
| 1.5 mm <sup>2</sup> EMC screened 3 sizes       |                         |                      |              |                |                |                      |
| <input type="checkbox"/> PVC-FD-810-CY 4G1.5   | 4G1.5                   | 1.5 mm <sup>2</sup>  | 9.0          | 95             | 146            | 68                   |
| <input type="checkbox"/> PVC-FD-810-CY 7G1.5   | 7G1.5                   | 1.5 mm <sup>2</sup>  | 11.0         | 149            | 224            | 82                   |
| <input type="checkbox"/> PVC-FD-810-CY 12G1.5  | 12G1.5                  | 1.5 mm <sup>2</sup>  | 14.2         | 242            | 356            | 106                  |

| Order designation                            | Cores × mm <sup>2</sup> | Cross-section       | Outer Ø ≈<br>mm | Total Cu<br>kg/km | Weight ≈<br>kg/km | Min. bend R<br>chain mm |
|----------------------------------------------|-------------------------|---------------------|-----------------|-------------------|-------------------|-------------------------|
| 2.5 mm <sup>2</sup> EMC screened 1 sizes     |                         |                     |                 |                   |                   |                         |
| <input type="checkbox"/> PVC-FD-810-CY 4G2.5 | 4G2.5                   | 2.5 mm <sup>2</sup> | 10.8            | 148               | 218               | 81                      |

– Total copper weight (kg/km) includes both the Class 6 phase/control cores and the tinned copper braid screen.

## Electrical & EMC screen parameters

5 sizes

| Cross-section        | Max. DC R @ 20 °C<br>Ω/km | Ampacity<br>3-loaded (A) | C core/core<br>pF/m≈ | C core/screen<br>pF/m≈ | Transfer Zt @ 30 MHz<br>mΩ/m≤ |
|----------------------|---------------------------|--------------------------|----------------------|------------------------|-------------------------------|
| 0.5 mm <sup>2</sup>  | 39.00                     | 9.0                      | 120                  | 160                    | 250                           |
| 0.75 mm <sup>2</sup> | 26.00                     | 12.0                     | 120                  | 165                    | 250                           |
| 1.0 mm <sup>2</sup>  | 19.50                     | 15.0                     | 125                  | 170                    | 250                           |
| 1.5 mm <sup>2</sup>  | 13.30                     | 18.0                     | 130                  | 175                    | 250                           |
| 2.5 mm <sup>2</sup>  | 7.98                      | 26.0                     | 135                  | 185                    | 250                           |

– Terminate the tinned copper braid across 360° using EMC brass cable glands or shield busbars at both cabinet entries.

## Standards and approvals

- ✓ CE (2014/35/EU LVD & 2014/30/EU EMC)
- ✓ UL AWM Style 2570 / 20886 (80 °C 600 V)
- ✓ RoHS 2 (2011/65/EU) & REACH Compliant

## Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

### Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/pvc-shielded-drag-chain-control-cable



Typical values for this cable type, based on DIN VDE 0285-525-2-51 / UL AWM 2570. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.