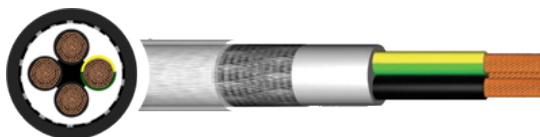


SY Control Cable - Flexible - BS EN 50525-2-11 and VDE 0250 - 0.75mm² to 95mm²



Description

SY cables are used as an interconnecting cable between fixed and mobile equipment in conveyors, assembly lines, production lines and machine tool manufacture where the galvanised steel wire braid armour gives excellent mechanical protection.

These cables are not UV resistant but can be used outdoors if adequately protected against direct sunlight in trunking etc.

Key Features



Voltage Rating
300/500 Volts



Minimum Bending Radius
Fixed: 12 x overall diameter



Flame Retardancy
BS EN 60332-1-2



Temperature Limits
Fixed: -40°C to +80°C

Core Colours

2 core - Black with White numbers

3 core and above - Black with White numbers plus Green Yellow

Also available with coloured cores as follows:

3 core - Blue Brown Green Yellow

4 core - Brown Black Grey Green Yellow

5 core - Blue Brown Black Grey Green Yellow

Standards

- Generally to BS EN 50525-2-11
- BS EN/IEC 60332-1-2
- BS EN/IEC 60228
- Generally to VDE 0250

Construction

- **Conductor:** Class 5 flexible, stranded copper
- **Insulation:** Polyvinyl Chloride (PVC)
- **Bedding:** Polyvinyl Chloride (PVC)
- **Armour:** Galvanised Steel Wire Braid (GSWB)
- **Outer Sheath:** Transparent Poly Vinyl Chloride (PVC)
- **Sheath Colour:** Sheath Neutral / Transparent

QA Lab

Cleveland Cable Test & Training Lab

Our state-of-the-art cable testing facility ensures that every cable meets the highest standards of quality and compliance through continuous, rigorous testing. Where applicable, cables are independently tested and certified by BASEC to ensure full compliance.



CPR

Cleveland Cable Company is committed to compliance with the Construction Products Regulation (CPR). Where applicable, all cables manufactured after 1st July 2017 have been assessed in accordance with CPR requirements, with full supporting documentation available.



Our Sustainability Commitment

We are committed to the journey to Net Zero as a business partner, an employer and a community member.

By thinking and acting sustainably, we deliver excellent customer service while reducing carbon emissions in collaboration with our customers and suppliers.



ecovadis

Cleveland Cable Company has been independently assessed by EcoVadis, a globally recognised provider of business sustainability ratings. Our score places us among the top 35% of companies evaluated worldwide, reflecting our strong commitment to environmental, social, and ethical performance

ecovadis

SY Control Cable - Flexible - BS EN 50525-2-11 and VDE 0250 - 0.75mm² to 95mm² - Dimensions

| Reference | Conductor Size (mm2) | No Of Cores | Stranding(mm) | Overall Diameter(mm) | Weight(Kg/Km) | Gland Size |
|-----------|----------------------|-------------|---------------|----------------------|---------------|------------|
| SY2X | 0.75 | 2 | 24/0.20 | 7.1 | 78 | 20/16 |
| SY3X/75 | 0.75 | 3 | 24/0.20 | 7.6 | 91 | 20/16 |
| SY4X/75 | 0.75 | 4 | 24/0.20 | 8.3 | 104 | 20/16 |
| SY5X/75 | 0.75 | 5 | 24/0.20 | 8.9 | 121 | 20/16 |
| SY7X/75 | 0.75 | 7 | 24/0.20 | 9.5 | 135 | 20/16 |
| SY12X/75 | 0.75 | 12 | 24/0.20 | 11.9 | 214 | 20S |
| SY18X/75 | 0.75 | 18 | 24/0.20 | 13.2 | 293 | 20S |
| SY25X/75 | 0.75 | 25 | 24/0.20 | 13.7 | 418 | 20S |
| SY34X/75 | 0.75 | 34 | 24/0.20 | 19 | 610 | 20 |
| SY2X1 | 1 | 2 | 32/0.20 | 7.7 | 85 | 20/16 |
| SY3X1 | 1 | 3 | 32/0.20 | 8.2 | 95 | 20/16 |
| SY4X1 | 1 | 4 | 32/0.20 | 9 | 120 | 20/16 |
| SY5X1 | 1 | 5 | 32/0.20 | 9.2 | 123 | 20/16 |
| SY7X1 | 1 | 7 | 32/0.20 | 10.1 | 171 | 20/16 |
| SY12X1 | 1 | 12 | 32/0.20 | 12.9 | 276 | 20S |
| SY18X1 | 1 | 18 | 32/0.20 | 15 | 382 | 20 |
| SY25X1 | 1 | 25 | 32/0.20 | 17.9 | 437 | 20 |
| SY34X1 | 1 | 34 | 32/0.20 | 20 | 556 | 20 |
| SY50X1 | 1 | 50 | 32/0.20 | 23.7 | 955 | 25 |
| SY2X1/5 | 1.5 | 2 | 30/0.25 | 8.2 | 100 | 20/16 |
| SY3X1/5 | 1.5 | 3 | 30/0.25 | 8.6 | 143 | 20/16 |
| SY4X1/5 | 1.5 | 4 | 30/0.25 | 9.3 | 170 | 20/16 |
| SY5X1/5 | 1.5 | 5 | 30/0.25 | 10 | 173 | 20/16 |
| SY7X1/5 | 1.5 | 7 | 30/0.25 | 10.7 | 198 | 20/16 |
| SY12X1/5 | 1.5 | 12 | 30/0.25 | 13.8 | 341 | 20S |
| SY18X1/5 | 1.5 | 18 | 30/0.25 | 16.4 | 490 | 20 |
| SY25X1/5 | 1.5 | 25 | 30/0.25 | 19.2 | 606 | 20 |
| SY34X1/5 | 1.5 | 34 | 30/0.25 | 21.6 | 835 | 25 |
| SY50X1/5 | 1.5 | 50 | 30/0.25 | 23.8 | 1046 | 25 |
| SY2X2/5 | 2.5 | 2 | 50/0.25 | 9.8 | 177 | 20/16 |
| SY3X2/5 | 2.5 | 3 | 50/0.25 | 9.9 | 190 | 20/16 |
| SY4X2/5 | 2.5 | 4 | 50/0.25 | 10.8 | 240 | 20/16 |
| SY5X2/5 | 2.5 | 5 | 50/0.25 | 11.5 | 247 | 20S |
| SY7X2/5 | 2.5 | 7 | 50/0.25 | 13 | 327 | 20S |
| SY12X2/5 | 2.5 | 12 | 50/0.25 | 16.9 | 502 | 20 |
| SY18X2/5 | 2.5 | 18 | 50/0.25 | 19.8 | 740 | 20 |
| SY25X2/5 | 2.5 | 25 | 50/0.25 | 23.2 | 1065 | 25 |
| SY34X2/5 | 2.5 | 34 | 50/0.25 | 24.3 | 1126 | 25 |

TABLE 4F2A

CURRENT-CARRYING CAPACITY (Amps)

Ambient temperature: 30 °C
Conductor operating temperature: 90 °C

| Conductor cross sectional area | Single-phase AC or DC | Three-phase AC | Single-phase AC or DC |
|--------------------------------|--|------------------------------------|--------------------------------|
| | 1 x 2 core cable, with or without protective conductor | 1 x 3 core, 4 core or 5 core cable | 2 single-core cables, touching |
| (mm ²) | (A) | (A) | (A) |
| 4 | 42 | 37 | - |
| 6 | 55 | 49 | - |
| 10 | 76 | 66 | - |
| 16 | 103 | 89 | - |
| 25 | 136 | 119 | - |
| 35 | - | 146 | 200 |
| 50 | - | 177 | 250 |
| 70 | - | 225 | 310 |
| 95 | - | 273 | 369 |
| 120 | - | 316 | 432 |
| 150 | - | 363 | 497 |
| 185 | - | 414 | 564 |
| 240 | - | 487 | 673 |
| 300 | - | 560 | 773 |
| 400 | - | - | 924 |
| 500 | - | - | 1062 |
| 630 | - | - | 1242 |

NOTES:

The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface. If the cable is to be wound on a drum on load the ratings should be reduced in accordance with **NOTE 2** below and for cables which may be covered, **NOTE 3** below.

2 Flexible cables wound on reeling drums

The current ratings of cables used on reeling drums are to be reduced by the following factors:

| a) Radial type drum | b) Ventilated cylindrical type drum |
|---------------------|-------------------------------------|
| ventilated: 85 % | 1 layer of cable: 85 % |
| unventilated: 75 % | 2 layers of cable: 65 % |
| | 3 layers of cable: 45 % |
| | 4 layers of cable: 35 % |

A radial type drum is one where spiral layers of cable are accommodated between closely spaced flanges; if fitted with solid flanges the ratings given above should be reduced and the drum is described as non-ventilated. If the flanges have suitable apertures the drum is described as ventilated.

A ventilated cylindrical cable drum is one where layers of cable are accommodated between widely spaced flanges and the drum and end flanges have suitable ventilating apertures.

Where cable may be covered over or coiled up whilst on load, or the air movement over the cable restricted, the current rating should be reduced.

3

It is not possible to specify the amount of reduction but the table of rating factors for reeling drums can be used as a guide.

4 For 180 °C cables, the rating factors for ambient temperature allow a conductor operating temperature up to 150 °C.

Consult the cable manufacturer for further information.

Where it is intended to connect the cables in this table to equipment or accessories designed to operate at a temperature lower than the maximum operating temperature of the cable, the cables should be rated at the maximum operating temperature of the equipment or accessory (see Regulation 512.1.5).

5

Where it is intended to group a cable in this table with other cables, the cable should be rated at the lowest of the maximum operating temperatures of any of the cables in the group (see Regulation 512.1.5).

TABLE 4F2B

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature: 90 °C

| Conductor cross-sectional area (mm ²) | Two-core cable or 2 x Single core cables DC (mV/Nm) | 2 core cable, single-phase AC (mV/Nm) | | | 1 x 3 core, 4 core or 5 core cable, three-phase AC (mV/Nm) | | | 2 single-core cables, touching Single-phase AC* (mV/Nm) | | |
|--|--|--|-------|------|---|-------|-------|---|-------|-------|
| 4 | 13.20 | 13.20 | | | 11.10 | | | - | | |
| 6 | 8.50 | 8.50 | | | 7.40 | | | - | | |
| 10 | 5.10 | 5.10 | | | 4.40 | | | - | | |
| 16 | 3.20 | 3.20 | | | 2.70 | | | - | | |
| | | r | x | z | r | x | z | r | x | z |
| 25 | 2.03 | 2.03 | 0.175 | 2.04 | 1.73 | 0.150 | 1.73 | - | - | - |
| 35 | 1.420 | - | - | - | 1.22 | 0.150 | 1.23 | 1.44 | 0.21 | 1.46 |
| 50 | 1.000 | - | - | - | 0.91 | 0.145 | 0.93 | 1.00 | 0.21 | 1.02 |
| 70 | 0.710 | - | - | - | 0.62 | 0.140 | 0.64 | 0.71 | 0.20 | 0.73 |
| 95 | 0.540 | - | - | - | 0.47 | 0.135 | 0.49 | 0.54 | 0.195 | 0.57 |
| 120 | 0.420 | - | - | - | 0.37 | 0.135 | 0.39 | 0.42 | 0.190 | 0.46 |
| 150 | 0.340 | - | - | - | 0.29 | 0.130 | 0.32 | 0.34 | 0.190 | 0.39 |
| 185 | 0.270 | - | - | - | 0.24 | 0.130 | 0.27 | 0.27 | 0.190 | 0.33 |
| 240 | 0.210 | - | - | - | 0.188 | 0.130 | 0.23 | 0.210 | 0.185 | 0.28 |
| 300 | 0.167 | - | - | - | 0.147 | 0.125 | 0.195 | 0.173 | 0.180 | 0.25 |
| 400 | 0.127 | - | - | - | - | - | - | 0.132 | 0.175 | 0.22 |
| 500 | 0.100 | - | - | - | - | - | - | 0.107 | 0.170 | 0.20 |
| 630 | 0.074 | - | - | - | - | - | - | 0.085 | 0.170 | 0.190 |

NOTES:

- 1 The voltage drop figures given above are based on a conductor operating temperature of 90 °C and are therefore not accurate when the operating temperature is in excess of 90 C. In the case of the 180 °C cables with a conductor temperature of 150 °C the above resistive values should be increased by a factor of 1.2.
- 2 *A larger voltage drop will result if the cables are spaced.

THE INFORMATION CONTAINED WITHIN THIS DATASHEET IS FOR GUIDANCE ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE OR LIABILITY. WE BELIEVE THE INFORMATION IS CORRECT AT THE TIME OF PUBLICATION. PLEASE NOTE WHEN SELECTING CABLE ACCESSORIES THAT ACTUAL CABLE DIMENSIONS MAY VARY DUE TO MANUFACTURING TOLERANCES.

