

# PVC

PVC INSULATED POWER CABLES MS,BS & IEC STANDARDS



Central Cables Berhad  
(7169-A)



## **CONTENT**

|              |  |
|--------------|--|
| <b>1</b>     | <b>Guide To the Use of PVC</b>             |
| <b>2-12</b>  | <b>PVC Armoured</b>                        |
| <b>13-21</b> | <b>PVC Unarmoured</b>                      |
| <b>22-32</b> | <b>Technical Data &amp; Current Rating</b> |
| <b>33-36</b> | <b>Technical Data</b>                      |

# GUIDE TO THE USE OF PVC - INSULATED CABLES

The cables are suitable for use where the combination ambient temperature and temperature rise due to load results in a conductor temperature not exceeding 70°C and case of a short-circuit (maximum allowance time is 5 seconds) the maximum conductor temperature does not exceed 160°C, up to and including 200 sq. mm. and 140°C for sizes above 300 sq. mm.

| CABLE TYPE AND USE  | COMMENTS   |
|---|--|
| <p>Single core, non-sheathed general purpose.</p> <p>Installation in surface mounted or embedded conduits or similar closed systems.</p>  | <p>Suitable for use in channels with cover. Suitable for fixed protected installation in or lighting fittings and inside appliances, up to 1000V ac or up to 750 V to earth, dc.</p> |
| <p>Single core, non-sheathed, for internal wiring.</p> <p>Fixed protected installation. Inside appliances and in or on lighting fittings.</p> <p>Light PVC- sheathed.</p>                                 | <p>Suitable for installation in surface mounted or embedded conduits, only for signalling or control circuits.</p> <p>Unsuitable for outdoor use or embedding in concrete.</p>       |
| <p>Fixed installation in dry or damp premises.</p> <p>Single core, flat twin and flat 3-core, PVC-sheathed, with and without protective conductor.</p> <p>Fixed installation in dry or damp premises.</p> | <p>Suitable for installation in walls, on boards and in channels, or embedded in plaster.</p>  |

# PVC ARMoured

## PVC INSULATED PVC SHEATHED ARMoured CABLE

### CONSTRUCTION

|                 |   |  |
|-----------------|---|--|
| Conductor       | : | Plain annealed copper  |
| Insulation      | : | General purpose PVC compound TI 1 70°C   |
| Colour of cores | : | Single core - red or black (or other colours are upon request)<br>2 cores - red and black<br>3 cores - red, yellow and blue<br>4 cores - red, yellow, blue and black   |
| Formation       | : | (i) Single core<br>(ii) 2, 3 or 4 cores<br><br>- Stranded together and the interstices may be filled with the sheathing compound or non-hygroscopic fillers a binder tape may be applied over the laid-up cores. |
| Bedding         | : | Black general purpose PVC compound TI 1 70°C   |
| Armour          | : | Single core - Aluminium wires<br>2, 3 or 4 cores - Galvanised steel wires  |
| Sheath          | : | Black general purpose PVC compound TM1 70°C  |

# PVC ARMoured

## PVC INSULATED, PVC SHEATHED ARMoured CABLE (1-CORE) (BS 6346, 600/1000V)

| Nominal cross-sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of bedding | Diameter of armour wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 50  | 19/1.78              | 1.4                     | 0.8                  | 1.25                    | 1.5                 | 19.4                     | 835                |
| 70  | 19/2.14              | 1.4                     | 0.8                  | 1.25                    | 1.6                 | 21.4                     | 1070               |
| 95  | 19/2.52              | 1.6                     | 0.8                  | 1.25                    | 1.6                 | 23.7                     | 1400               |
| 120                                       | 37/2.03              | 1.6                     | 1.0                  | 1.6                     | 1.7                 | 26.6                     | 1750               |
| 150                                       | 37/2.25              | 1.8                     | 1.0                  | 1.6                     | 1.7                 | 28.6                     | 2100               |
| 185                                       | 37/2.52              | 2.0                     | 1.0                  | 1.6                     | 1.8                 | 31.1                     | 2570               |
| 240                                       | 61/2.25              | 2.2                     | 1.0                  | 1.6                     | 1.9                 | 34.4                     | 3250               |
| 300                                       | 61/2.52              | 2.4                     | 1.0                  | 1.6                     | 1.9                 | 37.2                     | 3960               |
| 400                                       | 61/2.85              | 2.6                     | 1.2                  | 2.0                     | 2.1                 | 42.2                     | 5100               |
| 500                                       | 61/3.20              | 2.8                     | 1.2                  | 2.0                     | 2.1                 | 45.7                     | 5210               |
| 630                                       | 61/3.65              | 2.8                     | 1.2                  | 2.0                     | 2.2                 | 49.9                     | 7750               |

# PVC ARMoured

## PVC INSULATED, PVC SHEATHED ARMoured CABLE (2-CORE) (BS 6346, 600/1000V)

| Nominal cross-sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of bedding | Diameter of armour wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 1.5                                       | 1/1.38               | 0.6                     | 0.8                  | 0.9                     | 1.3                 | 11.9                     | 300                |
| 1.5                                       | 7/0.53               | 0.6                     | 0.8                  | 0.9                     | 1.4                 | 12.5                     | 330                |
| 2.5                                       | 1/1.78               | 0.7                     | 0.8                  | 0.9                     | 1.4                 | 13.3                     | 370                |
| 2.5                                       | 7/0.67               | 0.7                     | 0.8                  | 0.9                     | 1.4                 | 13.7                     | 400                |
| 4   | 7/0.85               | 0.8                     | 0.8                  | 0.9                     | 1.4                 | 15.2                     | 460                |
| 6   | 7/1.04               | 0.8                     | 0.8                  | 0.9                     | 1.5                 | 16.5                     | 540                |
| 10  | 7/1.35               | 1.0                     | 0.8                  | 1.25                    | 1.6                 | 20.1                     | 860                |
| 16  | 7/1.70               | 1.0                     | 0.8                  | 1.25                    | 1.6                 | 22.2                     | 1080               |
| 25  | 7/2.14               | 1.2                     | 1.0                  | 1.6                     | 1.7                 | 26.2                     | 1590               |
| 35  | 19/1.53              | 1.2                     | 1.0                  | 1.6                     | 1.8                 | 25.3                     | 1700               |
| 50  | 19/1.78              | 1.4                     | 1.0                  | 1.6                     | 1.9                 | 28.3                     | 2110               |
| 70  | 19/2.14              | 1.4                     | 1.0                  | 1.6                     | 1.9                 | 30.9                     | 2610               |
| 95  | 19/2.52              | 1.6                     | 1.2                  | 2.0                     | 2.1                 | 36.0                     | 3650               |
| 120                                       | 37/2.03              | 1.6                     | 1.2                  | 2.0                     | 2.2                 | 38.6                     | 4310               |
| 150                                       | 37/2.25              | 1.8                     | 1.2                  | 2.0                     | 2.3                 | 41.8                     | 5050               |
| 185                                       | 37/2.52              | 2.0                     | 1.4                  | 2.5                     | 2.4                 | 47.1                     | 6570               |
| 240                                       | 61/2.25              | 2.2                     | 1.4                  | 2.5                     | 2.5                 | 51.9                     | 8100               |
| 300                                       | 61/2.52              | 2.4                     | 1.6                  | 2.5                     | 2.7                 | 57.0                     | 9790               |
| 400                                       | 61/2.85              | 2.6                     | 1.6                  | 2.5                     | 2.9                 | 62.3                     | 11910              |

# PVC ARMoured

## PVC INSULATED, PVC SHEATHED ARMoured CABLE (3-CORE) (BS 6346, 600/1000V)

| Nominal cross-sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of bedding | Diameter of armour wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 1.5                                       | 1/1.38               | 0.6                     | 0.8                  | 0.9                     | 1.4                 | 12.3                     | 330                |
| 1.5                                       | 7/0.53               | 0.6                     | 0.8                  | 0.9                     | 1.4                 | 12.9                     | 350                |
| 2.5                                       | 1/1.78               | 0.7                     | 0.8                  | 0.9                     | 1.4                 | 13.5                     | 370                |
| 2.5                                       | 7/0.67               | 0.7                     | 0.8                  | 0.9                     | 1.4                 | 14.3                     | 420                |
| 4   | 7/0.85               | 0.8                     | 0.8                  | 0.9                     | 1.4                 | 15.9                     | 520                |
| 6   | 7/1.04               | 0.8                     | 0.8                  | 1.25                    | 1.5                 | 18.0                     | 750                |
| 10  | 7/1.35               | 1.0                     | 0.8                  | 1.25                    | 1.6                 | 21.1                     | 1010               |
| 16  | 7/1.70               | 1.0                     | 0.8                  | 1.25                    | 1.6                 | 23.3                     | 1310               |
| 25  | 7/2.14               | 1.2                     | 1.0                  | 1.6                     | 1.7                 | 27.5                     | 1920               |
| 35  | 19/1.53              | 1.2                     | 1.0                  | 1.6                     | 1.8                 | 28.2                     | 2200               |
| 50  | 19/1.78              | 1.4                     | 1.0                  | 1.6                     | 1.9                 | 31.7                     | 2810               |
| 70  | 19/2.14              | 1.4                     | 1.0                  | 2.0                     | 2.0                 | 36.3                     | 3890               |
| 95  | 19/2.52              | 1.6                     | 1.2                  | 2.0                     | 2.1                 | 40.7                     | 4970               |
| 120                                       | 37/2.03              | 1.6                     | 1.2                  | 2.0                     | 2.2                 | 43.7                     | 5900               |
| 150                                       | 37/2.25              | 1.8                     | 1.4                  | 2.5                     | 2.4                 | 49.1                     | 7510               |
| 185                                       | 37/2.52              | 2.0                     | 1.4                  | 2.5                     | 2.5                 | 53.7                     | 9050               |
| 240                                       | 61/2.25              | 2.2                     | 1.6                  | 2.5                     | 2.6                 | 59.8                     | 11390              |
| 300                                       | 61/2.52              | 2.4                     | 1.6                  | 2.5                     | 2.8                 | 65.4                     | 13750              |
| 400                                       | 61/2.85              | 2.6                     | 1.6                  | 2.5                     | 3.0                 | 71.8                     | 16840              |

# PVC ARMoured

## PVC INSULATED, PVC SHEATHED ARMoured CABLE (4-CORE) (BS 6346, 600/1000V)

| Nominal cross-sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of bedding | Diameter of armour wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 1.5                                       | 1/1.38               | 0.6                     | 0.8                  | 0.9                     | 1.4                 | 13.0                     | 360                |
| 1.5                                       | 7/0.53               | 0.6                     | 0.8                  | 0.9                     | 1.4                 | 13.7                     | 380                |
| 2.5                                       | 1/1.78               | 0.7                     | 0.8                  | 0.9                     | 1.4                 | 14.6                     | 450                |
| 2.5                                       | 7/0.67               | 0.7                     | 0.8                  | 0.9                     | 1.4                 | 15.2                     | 470                |
| 4   | 7/0.85               | 0.8                     | 0.8                  | 1.25                    | 1.5                 | 17.9                     | 730                |
| 6   | 7/1.04               | 0.8                     | 0.8                  | 1.25                    | 1.5                 | 19.2                     | 870                |
| 10  | 7/1.35               | 1.0                     | 0.8                  | 1.25                    | 1.6                 | 22.6                     | 1200               |
| 16  | 7/1.70               | 1.0                     | 1.0                  | 1.60                    | 1.6                 | 26.5                     | 1770               |
| 25  | 7/2.14               | 1.2                     | 1.0                  | 1.6                     | 1.8                 | 29.9                     | 2340               |
| 35  | 19/1.53              | 1.2                     | 1.0                  | 1.6                     | 1.9                 | 31.2                     | 2810               |
| 50  | 19/1.78              | 1.4                     | 1.2                  | 2.0                     | 2.0                 | 36.4                     | 3880               |
| 70  | 19/2.14              | 1.4                     | 1.2                  | 2.0                     | 2.1                 | 40.3                     | 4960               |
| 95  | 19/2.52              | 1.6                     | 1.2                  | 2.0                     | 2.2                 | 45.3                     | 6400               |
| 120                                       | 37/2.03              | 1.6                     | 1.4                  | 2.5                     | 2.4                 | 50.3                     | 8110               |
| 150                                       | 37/2.25              | 1.8                     | 1.4                  | 2.5                     | 2.5                 | 54.6                     | 9630               |
| 185                                       | 37/2.52              | 2.0                     | 1.6                  | 2.5                     | 2.6                 | 60.3                     | 11700              |
| 240                                       | 61/2.25              | 2.2                     | 1.6                  | 2.5                     | 2.8                 | 67.0                     | 14750              |
| 300                                       | 61/2.52              | 2.4                     | 1.6                  | 2.5                     | 3.0                 | 73.5                     | 17860              |
| 400                                       | 61/2.85              | 2.6                     | 1.6                  | 3.15                    | 3.3                 | 82.7                     | 23110              |



# PVC ARMoured

## PVC INSULATED PVC SHEATHED ARMoured AUXILIARY CABLE

### CONSTRUCTION

|                 |   |   |
|-----------------|---|---|
| Conductor       | : | Plain annealed copper   |
| Insulation      | : | General purpose PVC compound TI 1 70°C  |
| Colour of cores | : | White with black numbering  |
| Formation       | : | Stranded together and the interstices may be filled with filler or the sheathing compound. Binder tape may be applied over the laid-up cores. |
| Bedding         | : | Black general purpose PVC compound TM1 70°C   |
| Armour          | : | Galvanised steel wire   |
| Sheath          | : | Black general purpose PVC compound TM1 70°C   |

## PVC INSULATED, PVC SHEATHED ARMoured AUXILIARY CABLE (1.5mm<sup>2</sup>) (BS 6346, 600/1000V)

| Number of core | Nominal cross-sectional area of conductor | Construction No. / Wire diameter | Thickness of insulation | Thickness of bedding | Diameter of armour wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|----------------|---|----------------------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
|                | mm <sup>2</sup>                           | No./mm                           | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 5              | 1.5                                       | 7/0.53                           | 0.6                     | 0.8                  | 0.9                     | 1.4                 | 14.5                     | 430                |
| 7              | 1.5                                       | 7/0.53                           | 0.6                     | 0.8                  | 0.9                     | 1.4                 | 15.4                     | 500                |
| 10             | 1.5                                       | 7/0.53                           | 0.6                     | 0.8                  | 1.25                    | 1.5                 | 19.2                     | 780                |
| 12             | 1.5                                       | 7/0.53                           | 0.6                     | 0.8                  | 1.25                    | 1.5                 | 18.6                     | 830                |
| 19             | 1.5                                       | 7/0.53                           | 0.6                     | 0.8                  | 1.25                    | 1.6                 | 22.3                     | 1090               |
| 27             | 1.5                                       | 7/0.53                           | 0.6                     | 1.0                  | 1.6                     | 1.7                 | 26.9                     | 1600               |
| 37             | 1.5                                       | 7/0.53                           | 0.6                     | 1.0                  | 1.6                     | 1.8                 | 29.5                     | 1940               |
| 48             | 1.5                                       | 7/0.53                           | 0.6                     | 1.0                  | 1.6                     | 1.9                 | 33.1                     | 2360               |

# PVC ARMoured

## PVC INSULATED, PVC SHEATHED ARMoured AUXILIARY CABLE (2.5mm<sup>2</sup>) (BS 6346, 600/1000V)

| Number of core | Nominal cross-sectional area of conductor | Construction No. / Wire diameter | Thickness of insulation | Thickness of bedding | Diameter of armour wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|----------------|---|----------------------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
|                | mm <sup>2</sup>                           | No./mm                           | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 5              | 2.5                                       | 7/0.67                           | 0.7                     | 0.8                  | 0.9                     | 1.5                 | 16.4                     | 550                |
| 7              | 2.5                                       | 7/0.67                           | 0.7                     | 0.8                  | 1.25                    | 1.5                 | 18.1                     | 750                |
| 10             | 2.5                                       | 7/0.67                           | 0.7                     | 0.8                  | 1.25                    | 1.6                 | 21.8                     | 1000               |
| 12             | 2.5                                       | 7/0.67                           | 0.7                     | 0.8                  | 1.25                    | 1.6                 | 22.4                     | 1080               |
| 19             | 2.5                                       | 7/0.67                           | 0.7                     | 1.0                  | 1.6                     | 1.7                 | 26.7                     | 1640               |
| 27             | 2.5                                       | 7/0.67                           | 0.7                     | 1.0                  | 1.6                     | 1.8                 | 30.9                     | 2110               |
| 37             | 2.5                                       | 7/0.67                           | 0.7                     | 1.0                  | 1.6                     | 1.9                 | 34.1                     | 2600               |
| 48             | 2.5                                       | 7/0.67                           | 0.7                     | 1.2                  | 2.0                     | 2.1                 | 39.8                     | 3520               |

## PVC INSULATED, PVC SHEATHED ARMoured AUXILIARY CABLE (4mm<sup>2</sup>) (BS 6346, 600/1000V)

| Number of core | Nominal cross-sectional area of conductor | Construction No. / Wire diameter | Thickness of insulation | Thickness of bedding | Diameter of armour wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|----------------|---|----------------------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
|                | mm <sup>2</sup>                           | No./mm                           | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 5              | 4   | 7/0.85                           | 0.8                     | 0.8                  | 1.25                    | 1.5                 | 19.1                     | 820                |
| 7              | 4   | 7/0.85                           | 0.8                     | 0.8                  | 1.25                    | 1.6                 | 20.6                     | 970                |
| 10             | 4   | 7/0.85                           | 0.8                     | 1.0                  | 1.6                     | 1.7                 | 26.1                     | 1500               |
| 12             | 4   | 7/0.85                           | 0.8                     | 1.0                  | 1.6                     | 1.7                 | 26.8                     | 1630               |
| 19             | 4   | 7/0.85                           | 0.8                     | 1.0                  | 1.6                     | 1.8                 | 30.6                     | 2170               |
| 27             | 4   | 7/0.85                           | 0.8                     | 1.2                  | 2.0                     | 2.0                 | 37.2                     | 3170               |
| 37             | 4   | 7/0.85                           | 0.8                     | 1.2                  | 2.0                     | 2.1                 | 41.0                     | 3910               |
| 48             | 4   | 7/0.85                           | 0.8                     | 1.2                  | 2.0                     | 2.2                 | 46.1                     | 4790               |

# PVC ARMoured

## PVC INSULATED PVC SHEATHED ARMoured WITH REDUCED NEUTRAL CABLE

### CONSTRUCTION

|                 |   |   |
|-----------------|---|---|
| Conductor       | : | Plain annealed copper   |
| Insulation      | : | General purpose PVC compound TI 1 70°C  |
| Colour of cores | : | Red, yellow, blue and black (neutral)   |
| Formation       | : | Stranded together and the interstices may be filled with the sheathing compound. A non-hygroscopic filler with a binder tape may be applied over the laid-up cores. |
| Bedding         | : | Black general purpose PVC compound  |
| Armour          | : | Galvanised steel wires  |
| Sheath          | : | Black general purpose PVC compound TM1 70°C   |

## PVC INSULATED, PVC SHEATHED ARMoured WITH REDUCED NEUTRAL CABLE (4-CORE) (BS 6346 & MS 274, 600/1000V)

| Phase Conductor                           |                                     |                         | Neutral Conductor            |                                     |                         | Thickness of bedding | Diameter of armour Wire | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|-------------------------------------|-------------------------|------------------------------|-------------------------------------|-------------------------|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| Nominal cross-sectional area of conductor | Construction Number / Wire diameter | Thickness of insulation | Nominal cross-sectional area | Construction Number / Wire diameter | Thickness of insulation |                      |                         |                     |                          |                    |
| mm <sup>2</sup>                           | No/mm                               | mm                      | mm <sup>2</sup>              | No/mm                               | mm                      | mm                   | mm                      | mm                  | mm                       | kg/km              |
| 25  | 7/2.14                              | 1.2                     | 16                           | 7/1.70                              | 1.0                     | 1.0                  | 1.6                     | 1.8                 | 29.9                     | 2220               |
| 35  | 19/1.53                             | 1.2                     | 16                           | 7/1.70                              | 1.0                     | 1.0                  | 1.6                     | 1.8                 | 31.0                     | 2630               |
| 50  | 19/1.78                             | 1.4                     | 25                           | 7/2.14                              | 1.2                     | 1.0                  | 1.6                     | 1.9                 | 35.0                     | 3370               |
| 70  | 19/2.14                             | 1.4                     | 35                           | 19/1.53                             | 1.2                     | 1.2                  | 2.0                     | 2.0                 | 40.1                     | 4650               |
| 95  | 19/2.52                             | 1.6                     | 50                           | 19/1.78                             | 1.4                     | 1.2                  | 2.0                     | 2.2                 | 45.3                     | 5980               |
| 120                                       | 37/2.03                             | 1.6                     | 70                           | 19/2.14                             | 1.4                     | 1.4                  | 2.5                     | 2.3                 | 50.1                     | 7630               |
| 150                                       | 37/2.25                             | 1.8                     | 70                           | 19/2.14                             | 1.4                     | 1.4                  | 2.5                     | 2.4                 | 54.4                     | 7930               |
| 185                                       | 37/2.52                             | 2.0                     | 95                           | 19/2.52                             | 1.6                     | 1.4                  | 2.5                     | 2.5                 | 59.7                     | 10840              |
| 240                                       | 61/2.25                             | 2.2                     | 120                          | 37/2.03                             | 1.6                     | 1.6                  | 2.5                     | 2.7                 | 66.8                     | 13640              |
| 300                                       | 61/2.52                             | 2.4                     | 150                          | 37/2.25                             | 1.8                     | 1.6                  | 2.5                     | 2.9                 | 73.2                     | 16440              |
| 300                                       | 61/2.52                             | 2.4                     | 185                          | 37/2.52                             | 2.0                     | 1.6                  | 2.5                     | 2.9                 | 73.2                     | 16710              |
| 400                                       | 61/2.85                             | 2.6                     | 185                          | 37/2.52                             | 2.0                     | 1.8                  | 3.15                    | 3.1                 | 82.3                     | 21260              |

# PVC ARMoured

## TECHNICAL DATA CURRENT RATING

### Current ratings are based on the following conditions:

|  |                           |           |
|--|---------------------------|-----------|
| 1. Ambient air temperature                 |                           | 30°C      |
| 2. Ground temperature                      |                           | 15°C      |
| 3. Soil thermal resistivity                |                           | 1.2°C m/W |
| 4. Depth of laying:                        | (a) For 600/1000V cables  | 0.5m      |
|  | (b) For 1900/3300V cables | 0.8m      |
| 5. Maximum conductor operating temperature |                           | 70°C      |

### Rating factors of other temperature:

#### Cable in air

|             |      |      |      |      |      |
|-------------|------|------|------|------|------|
| Temperature | 25°C | 30°C | 35°C | 40°C | 45°C |
| Factor      | 1.06 | 1.00 | 0.94 | 0.87 | 0.79 |

#### Cables in ground

|             |      |      |      |      |      |
|-------------|------|------|------|------|------|
| Temperature | 15°C | 20°C | 25°C | 30°C | 35°C |
| Factor      | 1.00 | 0.95 | 0.90 | 0.89 | 0.80 |

## 600/1000V COPPER CONDUCTOR PVC ARMoured CABLES (SINGLE-CORE)

| Nominal cross-sectional area of conductor<br>mm <sup>2</sup> | Laid on cable tray                        |           |   |           | Laid in free air              |           |                                  |           | Laid direct in ground (15°C trefoil)<br>Current rating |
|--|---|-----------|---|-----------|-------------------------------|-----------|----------------------------------|-----------|--|
|  | 2 cables, single-phase ac flat & touching |           | 3 or 4 cables, 3-phase ac flat & touching |           | 2 cables, dc Horizontal space |           | cables, 3 phase space ac trefoil |           |  |
|  | Current rating                            | Volt drop | Current rating                            | Volt drop | Current rating                | Volt drop | Current rating                   | Volt drop | Current rating   |
| 50   | 205                                       | 0.95      | 189                                       | 0.84      | 229                           | 0.93      | 181                              | 0.82      | 228  |
| 70   | 259                                       | 0.68      | 238                                       | 0.62      | 294                           | 0.63      | 231                              | 0.58      | 279  |
| 95   | 313                                       | 0.52      | 285                                       | 0.50      | 357                           | 0.46      | 280                              | 0.45      | 334  |
| 120  | 360                                       | 0.43      | 327                                       | 0.43      | 415                           | 0.36      | 324                              | 0.37      | 381  |
| 150  | 413                                       | 0.37      | 373                                       | 0.38      | 479                           | 0.29      | 373                              | 0.32      | 427  |
| 185  | 469                                       | 0.32      | 422                                       | 0.34      | 548                           | 0.23      | 425                              | 0.27      | 482  |
| 240  | 550                                       | 0.27      | 492                                       | 0.30      | 648                           | 0.18      | 501                              | 0.23      | 558  |
| 300  | 624                                       | 0.24      | 547                                       | 0.28      | 748                           | 0.145     | 567                              | 0.21      | 629  |
| 400  | 723                                       | 0.22      | 618                                       | 0.26      | 885                           | 0.105     | 657                              | 0.195     | 716  |
| 500  | 805                                       | 0.21      | 673                                       | 0.25      | 1035                          | 0.085     | 731                              | 0.18      | 810  |
| 630  | 891                                       | 0.195     | 728                                       | 0.24      | 1218                          | 0.068     | 809                              | 0.17      | 912  |

# PVC ARMoured

## 600/1000V COPPER CONDUCTOR PVC ARMoured CABLES (MULTI-CORE)

| Nominal cross-sectional area of conductor | Laid on cable tray |           |                |           | Laid in free air |           |                |           | Laid direct in ground (15°C trefoil) |
|---|--------------------|-----------|----------------|-----------|------------------|-----------|----------------|-----------|--------------------------------------|
|   | 2 core             |           | 3 & 4 core     |           | 2 core           |           | 3 & 4 core     |           |                                      |
|   | Current rating     | Volt drop | Current rating | Volt drop | Current rating   | Volt drop | Current rating | Volt drop | Current rating                       |
| mm <sup>2</sup>                           | A                  | mV/A/m    | A              | mV/A/m    | A                | mV/A/m    | A              | mV/A/m    | A                                    |
| 1.5                                       | 21                 | 29        | 18             | 25        | 22               | 29        | 19             | 25        | 22                                   |
| 2.5                                       | 28                 | 18        | 25             | 15        | 31               | 18        | 26             | 15        | 29                                   |
| 4   | 38                 | 11        | 33             | 9.5       | 41               | 11        | 35             | 9.5       | 38                                   |
| 6   | 49                 | 7.3       | 42             | 6.4       | 53               | 7.3       | 45             | 6.4       | 48                                   |
| 10  | 67                 | 4.4       | 58             | 3.8       | 72               | 4.4       | 62             | 3.8       | 64                                   |
| 16  | 89                 | 2.8       | 77             | 2.4       | 97               | 2.8       | 83             | 2.4       | 83                                   |
| 25  | 118                | 1.75      | 102            | 1.5       | 128              | 1.75      | 110            | 1.5       | 110                                  |
| 35  | 145                | 1.25      | 125            | 1.1       | 157              | 1.25      | 135            | 1.1       | 131                                  |
| 50  | 175                | 0.94      | 151            | 0.81      | 190              | 0.94      | 163            | 0.81      | 157                                  |
| 70  | 222                | 0.65      | 192            | 0.57      | 241              | 0.65      | 207            | 0.57      | 191                                  |
| 95  | 269                | 0.50      | 231            | 0.43      | 291              | 0.5       | 251            | 0.43      | 229                                  |
| 120                                       | 310                | 0.41      | 267            | 0.35      | 336              | 0.41      | 290            | 0.35      | 263                                  |
| 150                                       | 355                | 0.34      | 306            | 0.29      | 386              | 0.34      | 332            | 0.29      | 293                                  |
| 185                                       | 405                | 0.29      | 348            | 0.25      | 439              | 0.29      | 378            | 0.25      | 331                                  |
| 240                                       | 476                | 0.24      | 409            | 0.21      | 516              | 0.24      | 445            | 0.21      | 387                                  |
| 300                                       | 547                | 0.21      | 469            | 0.185     | 592              | 0.21      | 510            | 0.185     | 433                                  |
| 400                                       | 621                | 0.185     | 540            | 0.16      | 683              | 0.185     | 590            | 0.16      | 485                                  |

# PVC ARMoured

## 600/1000V ALUMINIUM CONDUCTOR PVC ARMoured CABLES (MULTI-CORE)

| Conductor<br>Nominal<br>cross-<br>sectional<br>area of<br>conductor | Clipped Direct to a surface of on a Cable Tray, and<br>Unenclosed |              |                                      |              | Defined Conditions                      |              |                                      |              |     |      |
|---|---|--------------|--------------------------------------|--------------|---|--------------|--------------------------------------|--------------|-----|------|
|   | One Twin cable single-phase<br>ac or dc                           |              | One 3 or 4-core Cable<br>Three-Phase |              | One Twin cable single-phase<br>ac or dc |              | One 3 or 4-core Cable<br>Three-Phase |              |     |      |
|   | Current<br>rating   | Volt<br>drop | Current<br>rating                    | Volt<br>drop | Current<br>rating                       | Volt<br>drop | Current<br>rating                    | Volt<br>drop |     |      |
| mm <sup>2</sup>   | A   | mV/A/m       | A                                    | mV/A/m       | A                                       | mV/A/m       | A                                    | mV/A/m       |     |      |
| 1.5   | 14  | 28           | 13                                   | 24           | -                                       | -            | -                                    | -            |     |      |
| 2.5   | 20  | 17           | 17                                   | 15           | -                                       | -            | -                                    | -            |     |      |
| 4   | 26  | 11           | 22                                   | 9.1          | -                                       | -            | -                                    | -            |     |      |
| 6   | 32  | 7.0          | 28                                   | 6.0          | 38                                      | 7.0          | 32                                   | 6.0          |     |      |
| 10  | 45  | 4.1          | 38                                   | 3.6          | 52                                      | 4.1          | 44                                   | 3.6          |     |      |
| 16  | 58  | 2.6          | 50                                   | 2.2          | 68                                      | 2.6          | 58                                   | 2.2          |     |      |
| 25  | 76  | 1.7          | 66                                   | 1.5          | 91                                      | 1.7          | 77                                   | 1.5          |     |      |
| 35  | 93  | 1.2          | 80                                   | 1.0          | 112                                     | 1.2          | 94                                   | 1.0          |     |      |
|   |   | a.c.         | d.c                                  |              |   | a.c.         | d.c                                  |              |     |      |
| 50  | 150   | 0.92         | 0.92                                 | 125          | 0.81                                    | 180          | 0.92                                 | 0.92         | 155 | 0.81 |
| 70  | 180   | 0.65         | 0.64                                 | 155          | 0.57                                    | 220          | 0.65                                 | 0.64         | 190 | 0.57 |
| 95  | 225   | 0.48         | 0.46                                 | 190          | 0.42                                    | 270          | 0.48                                 | 0.46         | 230 | 0.42 |
| 120   | 260   | 0.40         | 0.36                                 | 220          | 0.34                                    | 310          | 0.40                                 | 0.36         | 270 | 0.34 |
| 150   | 290   | 0.32         | 0.25                                 | 250          | 0.29                                    | 355          | 0.32                                 | 0.25         | 310 | 0.29 |
| 185   | 340   | 0.29         | 0.23                                 | 290          | 0.24                                    | 410          | 0.29                                 | 0.23         | 350 | 0.24 |
| 240   | 400   | 0.25         | 0.18                                 | 350          | 0.20                                    | 485          | 0.25                                 | 0.18         | 420 | 0.20 |
| 300   | 460   | 0.23         | 0.14                                 | 400          | 0.18                                    | 550          | 0.23                                 | 0.14         | 475 | 0.18 |
| 400   | 520   | 0.22         | 0.11                                 | 460          | 0.17                                    | 620          | 0.22                                 | 0.11         | 550 | 0.17 |

\* The Voltage drop between consumer's terminals and any other point in the installation must not exceed 4% of the nominal voltage.

# PVC UNARMoured

## PVC INSULATED CABLE

### CONSTRUCTION

|                 |   |  |
|-----------------|---|--|
| Conductor       | : | Plain annealed copper                  |
| Insulation      | : | General purpose PVC compound TI 1 70°C |
| Colour of cores | : | Red, Black or other colours            |

## PVC INSULATED CABLE (BS 6004, 450/750V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter of wires | Thickness of insulation | Approx. overall diameter | Approx. net weight |
|---|-------------------------------|-------------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm                        | mm                      | mm                       | kg/km              |
| 1.5                                       | 1/1.38                        | 0.7                     | 2.9                      | 22                 |
| 1.5                                       | 7/0.58                        | 0.7                     | 3.1                      | 24                 |
| 2.5                                       | 1/1.78                        | 0.8                     | 3.5                      | 35                 |
| 2.5                                       | 7/0.67                        | 0.8                     | 3.7                      | 38                 |
| 4   | 7/0.85                        | 0.8                     | 4.3                      | 50                 |
| 6   | 7/1.04                        | 0.8                     | 4.8                      | 70                 |
| 10  | 7/1.35                        | 1.0                     | 6.2                      | 125                |
| 16  | 7/1.70                        | 1.0                     | 7.2                      | 178                |
| 25  | 7/2.14                        | 1.2                     | 8.9                      | 290                |
| 35  | 19/1.53                       | 1.2                     | 10.2                     | 300                |
| 50  | 19/1.78                       | 1.4                     | 11.9                     | 500                |
| 70  | 19/2.14                       | 1.4                     | 13.7                     | 725                |
| 95  | 19/2.52                       | 1.6                     | 16.0                     | 993                |
| 120                                       | 37/2.03                       | 1.6                     | 17.6                     | 1225               |
| 150                                       | 37/2.25                       | 1.8                     | 19.6                     | 1510               |
| 185                                       | 37/2.52                       | 2.0                     | 21.9                     | 1910               |
| 240                                       | 61/2.25                       | 2.2                     | 25.0                     | 2490               |
| 300                                       | 61/2.52                       | 2.4                     | 27.8                     | 3110               |
| 400                                       | 61/2.85                       | 2.6                     | 31.2                     | 3970               |
| 500                                       | 61/3.20                       | 2.8                     | 34.7                     | 4990               |
| 630                                       | 61/3.65                       | 2.8                     | 38.7                     | 6370               |

# PVC UNARMoured

## PVC INSULATED PVC SHEATHED UNARMoured CABLE

### CONSTRUCTION

|                 |   |   |
|-----------------|---|---|
| Conductor       | : | Plain annealed copper   |
| Insulation      | : | General purpose PVC compound TI 1 70°C  |
| Colour of cores | : | Single core - red and black ( Other colours are upon request)<br>2 cores - red and black<br>3 cores - red, yellow and blue<br>4 cores - red, yellow, blue and black   |
| Formation       | : | (i) Single core<br>(ii) 2, 3 or 4 cores<br>- stranded together and the interstices may be filled with the sheathing compound. A non-hygroscopic fillers or a binder tape may be applied over the laid-up cores. |
| Sheath          | : | Black general purpose PVC compound TM1 70°C   |

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE(1-CORE) (BS 6004, 300/500V)

| Nominal Cross-Sectional area of conductor | Number/ Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|-----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm                | mm                      | mm                  | mm                       | kg/km              |
| 1.5                                       | 1/1.38                | 0.7                     | 0.8                 | 4.7                      | 37                 |
| 2.5                                       | 1/1.78                | 0.8                     | 0.8                 | 5.3                      | 51                 |
| 4   | 7/0.85                | 0.8                     | 0.9                 | 6.3                      | 76                 |
| 6   | 7/1.04                | 0.8                     | 0.9                 | 6.8                      | 99                 |
| 10  | 7/1.35                | 1.0                     | 0.9                 | 8.2                      | 150                |
| 16  | 7/1.70                | 1.0                     | 1.0                 | 9.4                      | 220                |
| 25  | 7/2.14                | 1.2                     | 1.1                 | 11.3                     | 340                |
| 35  | 19/1.53               | 1.2                     | 1.1                 | 12.6                     | 440                |



# PVC UNARMoured

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE (2-CORE) (BS 6004, 300/500V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                  | mm                       | kg/km              |
| 1.5                                       | 1/1.38               | 0.7                     | 1.2                 | 8.5                      | 100                |
| 1.5                                       | 7/0.53               | 0.7                     | 1.2                 | 8.9                      | 110                |
| 2.5                                       | 1/1.78               | 0.8                     | 1.2                 | 9.7                      | 140                |
| 2.5                                       | 7/0.67               | 0.8                     | 1.2                 | 10.1                     | 150                |
| 4   | 7/0.85               | 0.8                     | 1.2                 | 11.2                     | 200                |
| 6   | 7/1.04               | 0.8                     | 1.2                 | 12.3                     | 260                |
| 10  | 7/1.35               | 1.0                     | 1.4                 | 15.3                     | 415                |

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE (3-CORE) (BS 6004, 300/500V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                  | mm                       | kg/km              |
| 1.5                                       | 1/1.38               | 0.7                     | 1.2                 | 8.9                      | 120                |
| 1.5                                       | 7/0.53               | 0.7                     | 1.2                 | 9.4                      | 130                |
| 2.5                                       | 1/1.78               | 0.8                     | 1.2                 | 10.2                     | 170                |
| 2.5                                       | 7/0.67               | 0.8                     | 1.2                 | 10.7                     | 180                |
| 4   | 7/0.85               | 0.8                     | 1.2                 | 11.9                     | 240                |
| 6   | 7/1.04               | 0.8                     | 1.4                 | 13.5                     | 320                |
| 10  | 7/1.35               | 1.0                     | 1.4                 | 16.3                     | 523                |

# PVC UNARMoured

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE (4-CORE) (BS 6004, 300/500V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                  | mm                       | kg/km              |
| 1.5                                       | 1/1.38               | 0.7                     | 1.2                 | 9.7                      | 150                |
| 1.5                                       | 7/0.53               | 0.7                     | 1.2                 | 10.2                     | 160                |
| 2.5                                       | 1/1.78               | 0.8                     | 1.2                 | 11.2                     | 210                |
| 2.5                                       | 7/0.67               | 0.8                     | 1.2                 | 11.7                     | 220                |
| 4   | 7/0.85               | 0.8                     | 1.4                 | 13.4                     | 310                |
| 6   | 7/1.04               | 0.8                     | 1.4                 | 14.7                     | 410                |
| 10  | 7/1.35               | 1.0                     | 1.4                 | 17.9                     | 660                |

# PVC UNARMoured

## PVC INSULATED PVC SHEATHED CABLES

### CONSTRUCTION

|                 |   |   |
|-----------------|---|---|
| Conductor       | : | Plain annealed copper                       |
| Insulation      | : | General purpose PVC compound TI 1 70°C      |
| Sheath          | : | Black general purpose PVC compound TM1 70°C |
| Colour of cores | : | White with numbering                        |

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE (MULTI CORE) AUXILIARY (BS 6004, 300/500V)

| Number of core | Nominal cross-sectional area of conductor | Number Nominal diameter of wires | Thickness of insulation | Thickness of sheath | Approx. Overall diameter | Approx. net weight |
|----------------|---|----------------------------------|-------------------------|---------------------|--------------------------|--------------------|
|                | mm <sup>2</sup>                           | mm                               | mm                      | mm                  | mm                       | kg/km              |
| 7              | 1.5                                       | 1/1.38                           | 0.7                     | 1.2                 | 11.6                     | 220                |
| 7              | 1.5                                       | 7/0.53                           | 0.7                     | 1.2                 | 12.2                     | 240                |
| 10             | 1.5                                       | 1/1.38                           | 0.7                     | 1.3                 | 15.1                     | 320                |
| 10             | 1.5                                       | 7/0.53                           | 0.7                     | 1.3                 | 15.8                     | 350                |
| 12             | 1.5                                       | 1/1.38                           | 0.7                     | 1.3                 | 15.2                     | 360                |
| 12             | 1.5                                       | 7/0.53                           | 0.7                     | 1.3                 | 16.1                     | 380                |
| 19             | 1.5                                       | 1/1.38                           | 0.7                     | 1.3                 | 18.0                     | 540                |
| 19             | 1.5                                       | 7/0.53                           | 0.7                     | 1.4                 | 19.0                     | 560                |
| 27             | 1.5                                       | 1/1.38                           | 0.7                     | 1.4                 | 21.6                     | 740                |
| 27             | 1.5                                       | 7/0.53                           | 0.7                     | 1.5                 | 22.9                     | 760                |
| 37             | 1.5                                       | 1/1.38                           | 0.7                     | 1.5                 | 24.0                     | 980                |
| 37             | 1.5                                       | 7/0.53                           | 0.7                     | 1.6                 | 25.8                     | 1010               |
| 7              | 2.5                                       | 1/1.78                           | 0.8                     | 1.3                 | 13.2                     | 320                |
| 7              | 2.5                                       | 7/0.67                           | 0.8                     | 1.3                 | 13.7                     | 330                |
| 10             | 2.5                                       | 1/1.78                           | 0.8                     | 1.4                 | 17.0                     | 430                |
| 10             | 2.5                                       | 7/0.67                           | 0.8                     | 1.4                 | 17.8                     | 450                |
| 12             | 2.5                                       | 1/1.78                           | 0.8                     | 1.4                 | 17.0                     | 490                |
| 12             | 2.5                                       | 7/0.67                           | 0.8                     | 1.4                 | 18.0                     | 520                |
| 19             | 2.5                                       | 1/1.78                           | 0.8                     | 1.5                 | 20.6                     | 770                |
| 19             | 2.5                                       | 7/0.67                           | 0.8                     | 1.5                 | 21.5                     | 810                |
| 27             | 2.5                                       | 1/1.78                           | 0.8                     | 1.6                 | 25.5                     | 1080               |
| 27             | 2.5                                       | 7/0.67                           | 0.8                     | 1.6                 | 26.0                     | 1130               |
| 37             | 2.5                                       | 1/1.78                           | 0.8                     | 1.7                 | 27.5                     | 1430               |
| 37             | 2.5                                       | 7/0.67                           | 0.8                     | 1.7                 | 28.8                     | 1490               |
| 7              | 4   | 7/0.85                           | 0.8                     | 1.4                 | 16.0                     | 520                |
| 10             | 4   | 7/0.85                           | 0.8                     | 1.5                 | 20.2                     | 670                |
| 12             | 4   | 7/0.85                           | 0.8                     | 1.5                 | 20.8                     | 780                |

# PVC UNARMoured

## PVC INSULATED PVC SHEATHED SHEATHED UNARMoured CABLE

### CONSTRUCTION

|                 |   |   |
|-----------------|---|---|
| Conductor       | : | Plain annealed copper or aluminium  |
| Insulation      | : | General purpose PVC compound TI 1 70°C  |
| Colour of cores | : | Single core - red and black<br>2 cores - red and black<br>3 cores - red, yellow and blue<br>4 cores - red, yellow, blue and black   |
| Formation       | : | (i) Single core<br>(ii) 2, 3 or 4 cores<br>- stranded together and the interstices may be filled with the sheathing compound.<br>A non-hygroscopic filler or binder tape may be applied over the laid-up cores. |
| Sheath          | : | Black general purpose PVC compound TM1 70°C   |

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE(1-CORE) (BS 6364 & MS 274, 600/1000V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                  | mm                       | kg/km              |
| 50  | 19/1.78              | 1.4                     | 1.4                 | 14.9                     | 600                |
| 70  | 19/2.14              | 1.4                     | 1.4                 | 16.9                     | 820                |
| 95  | 19/2.52              | 1.6                     | 1.5                 | 19.2                     | 1110               |
| 120                                       | 37/2.03              | 1.6                     | 1.5                 | 20.8                     | 1150               |
| 150                                       | 37/2.25              | 1.8                     | 1.6                 | 23.0                     | 1680               |
| 185                                       | 37/2.52              | 2.0                     | 1.7                 | 25.5                     | 2080               |
| 240                                       | 61/2.25              | 2.2                     | 1.8                 | 28.8                     | 2710               |
| 300                                       | 61/2.52              | 2.4                     | 1.9                 | 31.8                     | 3400               |
| 400                                       | 61/2.85              | 2.6                     | 2.0                 | 35.4                     | 4300               |
| 500                                       | 61/3.20              | 2.8                     | 2.1                 | 39.1                     | 5350               |
| 630                                       | 61/3.65              | 2.8                     | 2.2                 | 43.3                     | 6800               |
| 800                                       | 127/2.85             | 2.8                     | 2.3                 | 47.8                     | 8560               |
| 1000                                      | 127/3.20             | 3.0                     | 2.5                 | 53.1                     | 10770              |

# PVC UNARMoured

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE (2-CORE) (BS 6346, 600/1000V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                  | mm                       | kg/km              |
| 10  | 7/1.35               | 1.0                     | 1.8                 | 16.2                     | 460                |
| 16  | 7/1.70               | 1.0                     | 1.8                 | 18.3                     | 610                |
| 25  | 7/2.14               | 1.2                     | 1.8                 | 21.0                     | 880                |
| 35  | 19/1.53              | 1.2                     | 1.8                 | 19.9                     | 950                |
| 50  | 19/1.78              | 1.4                     | 1.8                 | 22.7                     | 1200               |
| 70  | 19/2.14              | 1.4                     | 1.9                 | 25.5                     | 1660               |
| 95  | 19/2.52              | 1.6                     | 2.0                 | 29.2                     | 2250               |
| 120                                       | 37/2.03              | 1.6                     | 2.1                 | 31.8                     | 2780               |
| 150                                       | 37/2.25              | 1.8                     | 2.2                 | 35.0                     | 3410               |
| 185                                       | 37/2.52              | 2.0                     | 2.4                 | 39.1                     | 4260               |
| 240                                       | 61/2.25              | 2.2                     | 2.5                 | 43.9                     | 5550               |
| 300                                       | 61/2.52              | 2.4                     | 2.7                 | 48.6                     | 6920               |
| 400                                       | 61/2.85              | 2.6                     | 2.9                 | 53.9                     | 8780               |

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE (3-CORE) (BS 6346, 600/1000V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                  | mm                       | kg/km              |
| 10  | 7/1.35               | 1.0                     | 1.8                 | 17.2                     | 510                |
| 16  | 7/1.70               | 1.0                     | 1.8                 | 19.4                     | 740                |
| 25  | 7/2.14               | 1.2                     | 1.8                 | 22.3                     | 1090               |
| 35  | 19/1.53              | 1.2                     | 1.8                 | 22.8                     | 1350               |
| 50  | 19/1.78              | 1.4                     | 1.8                 | 26.1                     | 1800               |
| 70  | 19/2.14              | 1.4                     | 1.9                 | 29.5                     | 2490               |
| 95  | 19/2.52              | 1.6                     | 2.1                 | 34.1                     | 3390               |
| 120                                       | 37/2.03              | 1.6                     | 2.2                 | 37.1                     | 4160               |
| 150                                       | 37/2.25              | 1.8                     | 2.3                 | 40.9                     | 5100               |
| 185                                       | 37/2.52              | 2.0                     | 2.5                 | 45.7                     | 6400               |
| 240                                       | 61/2.25              | 2.2                     | 2.6                 | 51.4                     | 8350               |
| 300                                       | 61/2.52              | 2.4                     | 2.8                 | 57.0                     | 10400              |
| 400                                       | 61/2.85              | 2.6                     | 3.1                 | 63.6                     | 13200              |

# PVC UNARMoured

## PVC INSULATED, PVC SHEATHED UNARMoured CABLE (4-CORE) (BS 6346, 600/1000V)

| Nominal Cross-Sectional area of conductor | Number/Wire diameter | Thickness of insulation | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|----------------------|-------------------------|---------------------|--------------------------|--------------------|
| mm <sup>2</sup>                           | No./mm               | mm                      | mm                  | mm                       | kg/km              |
| 10  | 7/1.35               | 1.0                     | 1.8                 | 18.7                     | 710                |
| 16  | 7/1.70               | 1.0                     | 1.8                 | 21.3                     | 940                |
| 25  | 7/2.14               | 1.2                     | 1.8                 | 24.5                     | 1400               |
| 35  | 19/1.53              | 1.2                     | 1.8                 | 25.6                     | 1810               |
| 50  | 19/1.78              | 1.4                     | 1.9                 | 29.6                     | 2440               |
| 70  | 19/2.14              | 1.4                     | 2.0                 | 33.5                     | 3320               |
| 95  | 19/2.52              | 1.6                     | 2.2                 | 38.7                     | 4560               |
| 120                                       | 37/2.03              | 1.6                     | 2.3                 | 42.1                     | 5600               |
| 150                                       | 37/2.25              | 1.8                     | 2.5                 | 46.6                     | 6900               |
| 185                                       | 37/2.52              | 2.0                     | 2.6                 | 51.9                     | 8610               |
| 240                                       | 61/2.25              | 2.2                     | 2.8                 | 58.6                     | 11280              |
| 300                                       | 61/2.52              | 2.4                     | 3.1                 | 65.3                     | 14100              |
| 400                                       | 61/2.85              | 2.6                     | 3.3                 | 72.6                     | 17840              |

# PVC UNARMoured

## PVC INSULATED PVC SHEATHED UNARMoured WITH REDUCED NEUTRAL CABLE

### CONSTRUCTION

|                 |   |   |
|-----------------|---|---|
| Conductor       | : | Plain annealed copper   |
| Insulation      | : | General purpose PVC compound TI 1 70°C  |
| Colour of cores | : | Red, yellow, blue and black (neutral)   |
| Formation       | : | Stranded together and the interstices may be filled with the sheathing compound. A non-hygroscopic filter or binder tape may be applied over the laid-up cores. |
| Sheath          | : | Black general purpose PVC compound TM1 70°C   |

## PVC INSULATED, PVC SHEATHED UNARMoured WITH REDUCED NEUTRAL CABLE (4-CORE)(BS 6346 & MS 274, 600/1000V)

| Phase Conductor                           |                               |                         | Neutral Conductor                         |                               |                         | Thickness of sheath | Approx. overall diameter | Approx. net weight |
|---|-------------------------------|-------------------------|---|-------------------------------|-------------------------|---------------------|--------------------------|--------------------|
| Nominal cross-sectional area of conductor | Construction No/Wire diameter | Thickness of insulation | Nominal cross-sectional area of conductor | Construction No/Wire diameter | Thickness of insulation |                     |                          |                    |
| mm <sup>2</sup>                           | No/mm                         | mm                      | mm <sup>2</sup>                           | No/mm                         | mm                      | mm                  | mm                       | kg/km              |
| 25  | 7/2.14                        | 1.2                     | 16  | 7/1.70                        | 1.0                     | 1.8                 | 24.5                     | 1290               |
| 35  | 19/1.53                       | 1.2                     | 16  | 7/1.70                        | 1.0                     | 1.8                 | 25.6                     | 1650               |
| 50  | 19/1.78                       | 1.4                     | 25  | 7/2.14                        | 1.2                     | 1.9                 | 29.6                     | 2250               |
| 70  | 19/2.14                       | 1.4                     | 35  | 19/1.53                       | 1.2                     | 2.0                 | 33.5                     | 3060               |
| 95  | 19/2.52                       | 1.6                     | 50  | 19/1.78                       | 1.4                     | 2.1                 | 38.5                     | 4150               |
| 120                                       | 37/2.03                       | 1.6                     | 70  | 19/2.14                       | 1.4                     | 2.2                 | 41.9                     | 5160               |
| 150                                       | 37/2.25                       | 1.8                     | 70  | 19/2.14                       | 1.4                     | 2.4                 | 46.4                     | 6230               |
| 185                                       | 37/2.52                       | 2.0                     | 95  | 19/2.52                       | 1.6                     | 2.5                 | 51.7                     | 7850               |
| 240                                       | 61/2.25                       | 2.2                     | 120                                       | 37/2.03                       | 1.6                     | 2.7                 | 58.4                     | 10190              |
| 300                                       | 61/2.52                       | 2.4                     | 150                                       | 37/2.25                       | 1.8                     | 2.9                 | 64.8                     | 12670              |
| 300                                       | 61/2.52                       | 2.4                     | 185                                       | 37/2.52                       | 2.0                     | 2.9                 | 64.8                     | 12940              |
| 400                                       | 61/2.85                       | 2.6                     | 185                                       | 37/2.52                       | 2.0                     | 3.2                 | 72.4                     | 16050              |

# TECHNICAL DATA & CURRENT RATING

## Current ratings are based on the following conditions:

1. Ambient air temperature 30°C
2. Ground temperature 15°C
3. Soil thermal resistivity 1.2°C m/w
4. Depth of laying: (a) For 600/1000V cables 0.5m  
(b) For 1900/3300V cables 0.8m
5. Maximum conductor operating temperature 70°C

## Rating factors of other temperature:

Cable in air :

| Temperature | 25°C | 30°C | 35°C | 40°C | 45°C |
|-------------|------|------|------|------|------|
| Factor      | 1.06 | 1.00 | 0.94 | 0.87 | 0.79 |

Cables in ground :

| Temperature | 15°C | 20°C | 25°C | 30°C | 35°C |
|-------------|------|------|------|------|------|
| Factor      | 1.00 | 0.95 | 0.90 | 0.85 | 0.80 |

## 600/1000V COPPER CONDUCTOR PVC UNARMoured CABLES (SINGLE-CORE)

| Nominal cross-sectional area of conductor | Clipped Direct                  |           |                           |           | Laid in free air   |           |                | 3 cables, 3-phase, ac trefoil |
|---|---------------------------------|-----------|---------------------------|-----------|--|-----------|----------------|-------------------------------|
|   | 2 cables, single-phase ac or dc |           | 3 or 4-cables 3-phase, ac |           | 2 cables, single-phase, 3 cables, 3-phase ac, Horizontal flat spaced |           |                |                               |
|   | Current rating                  | Volt drop | Current rating            | Volt drop | Current rating   | Volt drop | Current rating | Volt drop                     |
| mm <sup>2</sup>                           | A                               | mV/A/m    | A                         | mV/A/m    | A  | mV/A/m    | A              | mV/A/m                        |
| 50  | 182                             | 0.95      | 167                       | 0.82      | 219  | 0.97      | 167            | 0.82                          |
| 70  | 234                             | 0.66      | 214                       | 0.57      | 281  | 0.69      | 216            | 0.57                          |
| 95  | 284                             | 0.50      | 261                       | 0.43      | 341  | 0.54      | 264            | 0.43                          |
| 120                                       | 330                             | 0.41      | 303                       | 0.36      | 396  | 0.45      | 308            | 0.36                          |
| 150                                       | 381                             | 0.34      | 349                       | 0.30      | 456  | 0.39      | 356            | 0.30                          |
| 185                                       | 436                             | 0.29      | 400                       | 0.26      | 521  | 0.35      | 409            | 0.26                          |
| 240                                       | 515                             | 0.25      | 472                       | 0.22      | 615  | 0.31      | 485            | 0.22                          |
| 300                                       | 594                             | 0.22      | 545                       | 0.19      | 709  | 0.29      | 561            | 0.19                          |
| 400                                       | 694                             | 0.20      | 634                       | 0.175     | 852  | 0.27      | 656            | 0.18                          |
| 500                                       | 792                             | 0.185     | 723                       | 0.16      | 982  | 0.26      | 749            | 0.16                          |
| 630                                       | 904                             | 0.175     | 826                       | 0.15      | 1138   | 0.25      | 855            | 0.15                          |
| 800                                       | 1030                            | 0.165     | 943                       | 0.145     | 1265   | 0.25      | 971            | 0.15                          |
| 1000                                      | 1154                            | 0.160     | 1058                      | 0.14      | 1420   | 0.24      | 1079           | 0.14                          |



# TECHNICAL DATA & CURRENT RATING

## Current ratings are based on the following conditions:

1. Ambient air temperature 30°C
2. Ground temperature 15°C
3. Soil thermal resistivity 1.2°C m/w
4. Depth of laying: (a) For 600/1000V cables 0.5m  
(b) For 1900/3300V cables 0.8m
5. Maximum conductor operating temperature 70°C

## Rating factors of other temperature:

Cable in air :

| Temperature | 25°C | 30°C | 35°C | 40°C | 45°C |
|-------------|------|------|------|------|------|
| Factor      | 1.06 | 1.00 | 0.94 | 0.87 | 0.79 |

Cables in ground :

| Temperature | 15°C | 20°C | 25°C | 30°C | 35°C |
|-------------|------|------|------|------|------|
| Factor      | 1.00 | 0.95 | 0.90 | 0.85 | 0.80 |

## 600/1000V COPPER CONDUCTOR PVC UNARMoured CABLES (MULTI-CORE)

| Nominal cross-sectional area of conductor | Clipped Direct                 |           |                        |           | Laid on cable tray             |           |                | 3 & 4 core 3-phase, ac |           |       |
|---|--------------------------------|-----------|------------------------|-----------|--------------------------------|-----------|----------------|------------------------|-----------|-------|
|   | 2 core, single-phase, ac or dc |           | 3 & 4-core 3-phase, ac |           | 2 core, single-phase, ac or dc |           |                |                        |           |       |
|   | Current rating                 | Volt drop | Current rating         | Volt drop | Current rating                 | Volt drop | Current rating |                        | Volt drop |       |
| mm <sup>2</sup>                           | A                              | mV/A/m    | A                      | mV/A/m    | A                              | mV/A/m    | A              | mV/A/m                 |           |       |
| 1.5                                       | 20                             | 29        | 18                     | 25        | 22                             | 29        | 19             | 25                     |           |       |
| 2.5                                       | 27                             | 18        | 24                     | 15        | 30                             | 18        | 25             | 15                     |           |       |
| 4   | 36                             | 11        | 32                     | 9.5       | 40                             | 11        | 34             | 9.5                    |           |       |
| 6   | 46                             | 7.3       | 41                     | 6.4       | 51                             | 7.3       | 43             | 6.4                    |           |       |
| 10  | 63                             | 4.4       | 57                     | 3.8       | 70                             | 4.4       | 60             | 3.8                    |           |       |
| 16  | 85                             | 2.8       | 76                     | 2.4       | 94                             | 2.8       | 80             | 2.4                    |           |       |
| 25  | 112                            | 1.75      | 96                     | 1.5       | 119                            | 1.75      | 101            | 1.5                    |           |       |
| 35  | 138                            | 1.25      | 119                    | 1.1       | 148                            | 1.25      | 126            | 1.1                    |           |       |
|   |                                | ac        | dc                     |           |                                | ac        | dc             |                        |           |       |
| 50  | 168                            | 0.94      | 0.93                   | 144       | 0.81                           | 180       | 0.94           | 0.93                   | 153       | 0.81  |
| 70  | 213                            | 0.65      | 0.63                   | 184       | 0.57                           | 232       | 0.65           | 0.63                   | 196       | 0.57  |
| 95  | 258                            | 0.50      | 0.46                   | 223       | 0.43                           | 282       | 0.50           | 0.46                   | 238       | 0.43  |
| 120                                       | 299                            | 0.41      | 0.36                   | 259       | 0.35                           | 328       | 0.41           | 0.36                   | 276       | 0.35  |
| 150                                       | 344                            | 0.34      | 0.29                   | 299       | 0.29                           | 379       | 0.34           | 0.29                   | 319       | 0.29  |
| 185                                       | 392                            | 0.29      | 0.23                   | 341       | 0.25                           | 434       | 0.29           | 0.23                   | 364       | 0.25  |
| 240                                       | 461                            | 0.24      | 0.18                   | 403       | 0.21                           | 514       | 0.24           | 0.18                   | 430       | 0.21  |
| 300                                       | 530                            | 0.210     | 0.145                  | 464       | 0.185                          | 593       | 0.210          | 0.145                  | 497       | 0.185 |
| 400                                       | 634                            | 0.185     | 0.105                  | 557       | 0.160                          | 715       | 0.185          | 0.105                  | 597       | 0.160 |

# TECHNICAL DATA & CURRENT RATING

## Current ratings are based on the following conditions:

- |    |   |           |
|----|---|-----------|
| 1. | Ambient air temperature                   | 30°C      |
| 2. | Ground temperature                        | 15°C      |
| 3. | Soil thermal resistivity                  | 1.2°C m/w |
| 4. | Depth of laying: (a) For 600/1000V cables | 0.5m      |
|    | (b) For 1900/3300V cables                 | 0.8m      |
| 5. | Maximum conductor operating temperature   | 70°C      |

## Rating factors of other temperature:

Cable in air :

|             |      |      |      |      |      |
|-------------|------|------|------|------|------|
| Temperature | 25°C | 30°C | 35°C | 40°C | 45°C |
| Factor      | 1.06 | 1.00 | 0.94 | 0.87 | 0.79 |

Cables in ground :

|             |      |      |      |      |      |
|-------------|------|------|------|------|------|
| Temperature | 15°C | 20°C | 25°C | 30°C | 35°C |
| Factor      | 1.00 | 0.95 | 0.90 | 0.85 | 0.80 |

## 600/1000V ALUMINIUM CONDUCTOR PVC UNARMoured CABLES (SINGLE-CORE)

| Nominal cross-sectional area of conductor | Bunched and Enclosed in Conduit or Turking |           |                           |           | Clipped Direct to a Surface or on Cable Tray, Bunched and Unenclosed |           |                           |           |
|---|--|-----------|---------------------------|-----------|--|-----------|---------------------------|-----------|
|   | 2 cables, single-phase ac or dc            |           | 3 or 4 cables 3-phase, ac |           | 2 cables, single-phase ac or dc                                      |           | 3 or 4 cables 3-phase, ac |           |
|   | Current rating                             | Volt drop | Current rating            | Volt drop | Current rating   | Volt drop | Current rating            | Volt drop |
| mm <sup>2</sup>                           | A  | mV/A/m    | A                         | mV/A/m    | A  | mV/A/m    | A                         | mV/A/m    |
|   |  | ac dc     |                           |           |  | ac dc     |                           |           |
| 16  | 60   | 4.5 4.5   | 52                        | 3.9       | 72   | 4.5 4.5   | 65                        | 3.9       |
| 25  | 78   | 2.9 2.8   | 67                        | 2.5       | 94   | 2.8 2.8   | 85                        | 2.5       |
| 35  | 96   | 2.1 2.0   | 83                        | 1.8       | 115  | 2.1 2.0   | 105                       | 1.8       |
| 50  | 120  | 1.6 1.5   | 100                       | 1.4       | 140  | 1.5 1.5   | 125                       | 1.3       |
| 70  | 150  | 1.2 1.0   | 125                       | 1.0       | 175  | 1.1 1.0   | 155                       | 0.93      |
| 95  | 175  | 0.93 0.8  | 150                       | 0.80      | 210  | 0.77 0.75 | 185                       | 0.69      |
| 120                                       | 205  | 0.80 0.6  | 175                       | 0.70      | 240  | 0.62 0.60 | 215                       | 0.56      |
| 150                                       | 235  | 0.73 0.5  | 200                       | 0.64      | 275  | 0.51 0.49 | 245                       | 0.48      |
| 185                                       | -  | - -       | -                         | -         | 320  | 0.42 0.39 | 285                       | 0.40      |
| 240                                       | -  | - -       | -                         | -         | 380  | 0.34 0.29 | 340                       | 0.34      |
| 300                                       | -  | - -       | -                         | -         | 440  | 0.29 0.23 | 390                       | 0.30      |
| 400                                       | -  | - -       | -                         | -         | 530  | 0.25 0.18 | 475                       | 0.27      |
| 500                                       | -  | - -       | -                         | -         | 620  | 0.22 0.15 | 550                       | 0.25      |
| 630                                       | -  | - -       | -                         | -         | 720  | 0.20 0.11 | 640                       | 0.24      |

\* The Voltage drop between consumer's terminals and any other point in the installation must not exceed 2.5% of the nominal voltage.

# TECHNICAL DATA & CURRENT RATING

## Current ratings are based on the following conditions:

- |    |   |           |
|----|---|-----------|
| 1. | Ambient air temperature                   | 30°C      |
| 2. | Ground temperature                        | 15°C      |
| 3. | Soil thermal resistivity                  | 1.2°C m/w |
| 4. | Depth of laying: (a) For 600/1000V cables | 0.5m      |
|    | (b) For 1900/3300V cables                 | 0.8m      |
| 5. | Maximum conductor operating temperature   | 70°C      |

## Rating factors of other temperature:

Cable in air :

|             |      |      |      |      |      |
|-------------|------|------|------|------|------|
| Temperature | 25°C | 30°C | 35°C | 40°C | 45°C |
| Factor      | 1.06 | 1.00 | 0.94 | 0.87 | 0.79 |

Cables in ground :

|             |      |      |      |      |      |
|-------------|------|------|------|------|------|
| Temperature | 15°C | 20°C | 25°C | 30°C | 35°C |
| Factor      | 1.00 | 0.95 | 0.90 | 0.85 | 0.80 |

## 600/1000V ALUMINIUM CONDUCTOR PVC UNARMoured CABLES (MULTI-CORE)

| Nominal cross-sectional area of conductor | Enclosed in Conduit or Trunking        |                  |                                   |           | Clipped Direct to a Surface or on Cable Tray, Unenclosed |                  |                               |           |
|---|--|------------------|-----------------------------------|-----------|--|------------------|-------------------------------|-----------|
|   | One twin cables, single-phase ac or dc |                  | One 3 or 4-core cable 3-phase, ac |           | One twin cables, single-phase ac or dc                   |                  | 3 or 4-core cable 3-phase, ac |           |
|   | Current rating                         | Volt drop        | Current rating                    | Volt drop | Current rating   | Volt drop        | Current rating                | Volt drop |
| mm <sup>2</sup>                           | A                                      | mV/A/m           | A                                 | mV/A/m    | A  | mV/A/m           | A                             | mV/A/m    |
| 16  | 49                                     | ac 4.6<br>dc 4.6 | 43                                | 4.0       | 58   | ac 4.6<br>dc 4.6 | 52                            | 4         |
| 25  | 64                                     | 2.9 2.9          | 57                                | 2.6       | 76   | 2.9 2.9          | 67                            | 2.5       |
| 35  | 79                                     | 2.2 2.1          | 70                                | 1.9       | 92   | 2.1 2.1          | 82                            | 1.8       |
| 50  | 99                                     | 1.7 1.5          | 87                                | 1.4       | 115  | 1.6 1.5          | 100                           | 1.3       |
| 70  | -                                      | - -              | -                                 | -         | 140  | 1.1 1.1          | 120                           | 0.93      |
| 95  | -                                      | - -              | -                                 | -         | 165  | 0.79 0.77        | 150                           | 0.63      |
| 120                                       | -                                      | - -              | -                                 | -         | 195  | 0.63 0.61        | 170                           | 0.54      |
| 150                                       | -                                      | - -              | -                                 | -         | 220  | 0.52 0.50        | 195                           | 0.45      |
| 185                                       | -                                      | - -              | -                                 | -         | 250  | 0.43 0.40        | 220                           | 0.37      |
| 240                                       | -                                      | - -              | -                                 | -         | 300  | 0.34 0.31        | 260                           | 0.30      |
| 300                                       | -                                      | - -              | -                                 | -         | 340  | 0.29 0.25        | 300                           | 0.25      |

# TECHNICAL DATA & CURRENT RATING

## CURRENT RATING FACTOR

Current rating are based on the following condition:

- 1) Ambient air temperature 30°C
- 2) Max. conductor operating temperature 70°C

### Rating Factors

| For Ambient Temperature                 | 25°  | 30°  | 35°  | 40°  | 45°  | 50°  | 55°  | 60°  | 65°  |
|---|------|------|------|------|------|------|------|------|------|
| Factor (General purpose PVC Insulation) | 1.03 | 1.00 | 0.97 | 0.94 | 0.91 | 0.87 | 0.84 | 0.69 | 0.48 |

### For Groups

| Reference method of installation  | Correction factor (c)                  |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---|--|------|------|------|------|------|------|------|------|------|------|------|------|------|
|   | Number of circuits or multicore cables |      |      |      |      |      |      |      |      |      |      |      |      |      |
|   | 2                                      | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 12   | 14   | 16   | 18   | 20   |
| Enclosed bunched and clipped direct to a non-metallic surface                   | 0.80                                   | 0.70 | 0.65 | 0.60 | 0.57 | 0.54 | 0.52 | 0.50 | 0.48 | 0.45 | 0.43 | 0.41 | 0.39 | 0.38 |
| Single layer clipped to a non-metallic surface                                  | Touching                               | 0.85 | 0.79 | 0.75 | 0.73 | 0.72 | 0.72 | 0.71 | 0.70 | -    | -    | -    | -    | -    |
|   | Spaced*                                | 0.94 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Single layer multicore on a perforated metal cable tray, vertical or horizontal | Touching                               | 0.86 | 0.81 | 0.77 | 0.75 | 0.74 | 0.73 | 0.73 | 0.72 | 0.71 | 0.70 | -    | -    | -    |
|   | Spaced*                                | 0.91 | 0.89 | 0.88 | 0.87 | 0.87 | -    | -    | -    | -    | -    | -    | -    | -    |
| Single layer single core on a perforated metal cable tray, touching             | Horizontal                             | 0.90 | 0.85 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
|   | Vertical                               | 0.85 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Single layer multicore touching on ladder supports                              | 0.86                                   | 0.82 | 0.80 | 0.79 | 0.78 | 0.78 | 0.78 | 0.77 |      |      |      |      |      |      |

\* 'Space' means a clearance between adjacent surfaces of at least one cable diameter (D) where the horizontal clearances between adjacent cables exceeds 2D, no correction factor need to be applied.

#### Notes:

1. The factors in the table are applicable to groups of cables all of one sizes. The value of current derived from application of the appropriate factors is the maximum continuous current to be carried by any of the cables in the group.
2. If, due to known operating conditions, a cable is expected to carry not more than 30% of its grouped rating, it may be ignored for the purpose of obtaining the rating factor for the rest of the group.

# TECHNICAL DATA & CURRENT RATING

## PVC NON-ARMOURED MULTI-CORE (1.0mm<sup>2</sup> TO 400mm<sup>2</sup>) - Copper

The ratings tabulated apply where the cable is provided with close excess-current protection.

| Conductor                    |                            | Laid on cable tray     |                                |                |                                | Clipped direct to a non-metallic surface |                                |                |                                |
|------------------------------|----------------------------|------------------------|--------------------------------|----------------|--------------------------------|--|--------------------------------|----------------|--------------------------------|
| Nominal cross-sectional area | No. and dia. (mm) of wires | 2 core                 |                                | 3 or 4 core    |                                | 2 core                                   |                                | 3 or 4 core    |                                |
|                              |                            | single-phase, ac or dc |                                | 3-phase, ac    |                                | single-phase, ac or dc                   |                                | 3-phase, ac    |                                |
|                              |                            | Current rating         | Volt drop per ampere per metre | Current rating | Volt drop per ampere per metre | Current rating                           | Volt drop per ampere per metre | Current rating | Volt drop per ampere per metre |
| 1                            | 2                          | 3                      | 4                              | 5              | 6                              | 7  | 8                              | 9              | 10                             |
| mm <sup>2</sup>              |                            | A                      | mV/A/m                         | A              | mV/A/m                         | A  | mV/A/m                         | A              | mV/A/m                         |
| 1.0                          | 1/1.13                     | 17                     | 44                             | 15             | 38                             | 15                                       | 44                             | 14             | 38                             |
|                              | {1/1.38}                   |                        |                                |                |                                |  |                                |                |                                |
| 1.5                          | {7/0.53}                   | 22                     | 29                             | 19             | 25                             | 19.5                                     | 29                             | 18             | 25                             |
|                              | {1/1.78}                   |                        |                                |                |                                |  |                                |                |                                |
| 2.5                          | {7/0.67}                   | 30                     | 18                             | 25             | 15                             | 27                                       | 18                             | 24             | 15                             |
| 4                            | 7/0.85                     | 40                     | 11                             | 34             | 9.5                            | 36                                       | 11                             | 32             | 9.5                            |
| 6                            | 7/1.04                     | 51                     | 7.3                            | 43             | 6.4                            | 46                                       | 7.3                            | 41             | 6.4                            |
| 10                           | 7/1.35                     | 70                     | 4.4                            | 60             | 3.8                            | 63                                       | 4.4                            | 57             | 3.8                            |
| 16                           | 7/1.70                     | 76                     | 2.8                            | 68             | 2.4                            | 87                                       | 2.8                            | 79             | 2.4                            |
| 25                           | 7/2.14                     | 119                    | 1.75                           | 101            | 1.5                            | 112                                      | 1.75                           | 1.5            | 1.5                            |
| 35                           | 19/1.53                    | 148                    | 1.25                           | 126            | 1.1                            | 138                                      | 1.25                           | 119            | 1.1                            |
|                              |                            |                        | ac dc                          |                |                                |  | ac dc                          |                |                                |
| 50                           | 19/1.78                    | 180                    | 0.94 0.93                      | 153            | 0.81                           | 168                                      | 0.94 0.93                      | 144            | 0.81                           |
| 70                           | 19/2.14                    | 232                    | 0.65 0.63                      | 196            | 0.57                           | 213                                      | 0.65 0.63                      | 223            | 0.57                           |
| 95                           | 19/2.52                    | 282                    | 0.50 0.46                      | 238            | 0.43                           | 258                                      | 0.50 0.46                      | 223            | 0.43                           |
| 120                          | 37/2.03                    | 328                    | 0.41 0.36                      | 276            | 0.35                           | 299                                      | 0.41 0.36                      | 259            | 0.35                           |
| 150                          | 37/2.25                    | 379                    | 0.34 0.29                      | 319            | 0.29                           | 344                                      | 0.34 0.29                      | 299            | 0.29                           |
| 185                          | 37/2.52                    | 434                    | 0.29 0.23                      | 364            | 0.25                           | 392                                      | 0.29 0.23                      | 341            | 0.25                           |
| 240                          | 61/2.25                    | 514                    | 0.24 0.18                      | 430            | 0.21                           | 461                                      | 0.24 0.18                      | 403            | 0.21                           |
| 300                          | 61/2.52                    | 593                    | 0.21 0.145                     | 497            | 0.185                          | 530                                      | 0.21 0.145                     | 464            | 0.185                          |
| 400                          | 61/2.85                    | 715                    | 0.185 0.105                    | 597            | 0.160                          | 634                                      | 0.185 0.105                    | 557            | 0.160                          |

# TECHNICAL DATA & CURRENT RATING

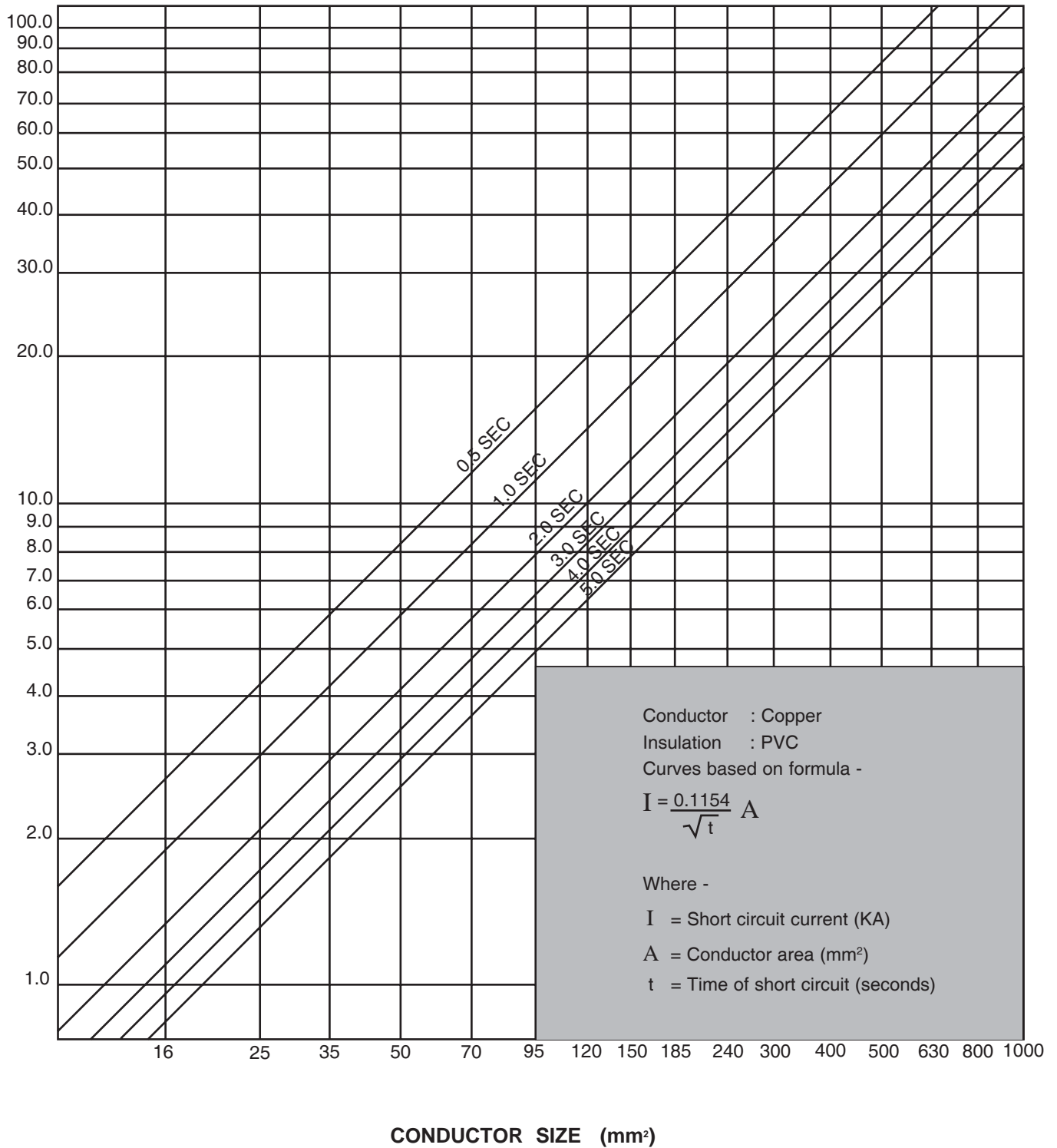
## PVC NON-ARMoured SINGLE-CORE (1.0mm<sup>2</sup> TO 630mm<sup>2</sup>) - Copper

The ratings tabulated apply where the cable is provided with close excess-current protection.

| Conductor                    |                   | Enclosed in Conduit or Trunking Cables |                                |                           |                                | Clipped direct to a non-metallic surface |                                |                           |                                |     |       |
|------------------------------|-------------------|--|--------------------------------|---------------------------|--------------------------------|--|--------------------------------|---------------------------|--------------------------------|-----|-------|
| Nominal cross-sectional area | No. and dia. (mm) | 2 Cables single-phase                  |                                | 3 or 4 Cables Three-phase |                                | 2 Cables single-phase                    |                                | 3 or 4 Cables Three-phase |                                |     |       |
|                              |                   | Current rating                         | Volt drop per ampere per metre | Current rating            | Volt drop per ampere per metre | Current rating                           | Volt drop per ampere per metre | Current rating            | Volt drop per ampere per metre |     |       |
| 1                            | 2                 | 3                                      | 4                              | 5                         | 6                              | 7  | 8                              | 9                         | 10                             |     |       |
| mm <sup>2</sup>              |                   | A                                      | mV/A/m                         | A                         | mV/A/m                         | A  | mV/A/m                         | A                         | mV/A/m                         |     |       |
| 1.0                          | 1/1.13            | 14                                     | 44                             | 12                        | 38                             | 16                                       | 44                             | 14                        | 38                             |     |       |
|                              | {1/1.38}          |  |                                |                           |                                |  |                                |                           |                                |     |       |
| 1.5                          | {7/0.53}          | 18                                     | 29                             | 15.5                      | 16                             | 20                                       | 29                             | 18                        | 25                             |     |       |
|                              | {7/0.78}          |  |                                |                           |                                |  |                                |                           |                                |     |       |
| 2.5                          | {7/0.67}          | 24                                     | 18                             | 21                        | 15                             | 27                                       | 18                             | 25                        | 15                             |     |       |
| 4                            | 7/0.85            | 32                                     | 11                             | 28                        | 9.5                            | 37                                       | 11                             | 33                        | 9.5                            |     |       |
| 6                            | 7/1.04            | 41                                     | 7.3                            | 36                        | 6.4                            | 47                                       | 7.3                            | 43                        | 6.4                            |     |       |
| 10                           | 7/1.35            | 57                                     | 4.4                            | 50                        | 3.8                            | 65                                       | 4.4                            | 59                        | 3.8                            |     |       |
| 16                           | 7/1.70            | 76                                     | 2.8                            | 68                        | 2.4                            | 87                                       | 2.8                            | 79                        | 2.4                            |     |       |
|                              |                   |  | ac                             | dc                        |                                |  |                                |                           |                                |     |       |
| 25                           | 7/2.14            | 101                                    | 1.8                            | 1.75                      | 89                             | 1.55                                     | 114                            | 1.75                      | 104                            | 1.5 |       |
| 35                           | 19/1.53           | 125                                    | 1.3                            | 1.25                      | 110                            | 1.10                                     | 141                            | 1.25                      | 129                            | 1.1 |       |
|                              |                   |  | ac                             | dc                        |                                |  |                                |                           |                                |     |       |
| 50                           | 19/1.78           | 151                                    | 1.10                           | 0.93                      | 134                            | 0.85                                     | 182                            | 0.95                      | 0.93                           | 167 | 0.82  |
| 70                           | 19/2.14           | 192                                    | 0.72                           | 0.63                      | 171                            | 0.61                                     | 234                            | 0.66                      | 0.63                           | 214 | 0.57  |
| 95                           | 19/2.52           | 232                                    | 0.56                           | 0.46                      | 207                            | 0.48                                     | 284                            | 0.50                      | 0.46                           | 261 | 0.43  |
| 120                          | 37/2.03           | 269                                    | 0.47                           | 0.36                      | 239                            | 0.41                                     | 330                            | 0.41                      | 0.36                           | 303 | 0.36  |
| 150                          | 37/2.25           | 300                                    | 0.41                           | 0.29                      | 262                            | 0.36                                     | 381                            | 0.34                      | 0.29                           | 349 | 0.30  |
| 185                          | 37/2.52           | 341                                    | 0.37                           | 0.23                      | 296                            | 0.32                                     | 436                            | 0.29                      | 0.23                           | 400 | 0.26  |
| 240                          | 61/2.25           | 400                                    | 0.33                           | 0.18                      | 346                            | 0.29                                     | 515                            | 0.25                      | 0.18                           | 472 | 0.22  |
| 300                          | 61/2.52           | 458                                    | 0.31                           | 0.145                     | 394                            | 0.27                                     | 594                            | 0.22                      | 0.145                          | 545 | 0.19  |
| 400                          | 61/2.85           | 546                                    | 0.29                           | 0.105                     | 467                            | 0.25                                     | 694                            | 0.20                      | 0.105                          | 634 | 0.175 |
| 500                          | 61/3.20           | 626                                    | 0.28                           | 0.086                     | 533                            | 0.25                                     | 792                            | 0.185                     | 0.086                          | 723 | 0.160 |
| 630                          | 61/3.65           | 720                                    | 0.27                           | 0.068                     | 611                            | 0.24                                     | 904                            | 0.175                     | 0.068                          | 826 | 0.150 |

# TECHNICAL DATA & CURRENT RATING

## ALLOWABLE SHORT CIRCUIT CURRENT FOR PVC INSULATED CABLES



# TECHNICAL DATA & CURRENT RATING

## TECHNICAL DATA MINIMUM INSULATION RESISTANCE VALUES OF 600/1000V CABLES

| CONDUCTOR<br>SIZE | INSULATION RESISTANCE AT<br>1km@20° C |
|-------------------|---------------------------------------|
| sq. mm.           | MΩ                                    |
| 1.5               | 10                                    |
| 2.5               | 9                                     |
| 4                 | 8                                     |
| 6                 | 7                                     |
| 10                | 7                                     |
| 16                | 6                                     |
| 25                | 5                                     |
| 35                | 5                                     |
| 50                | 5                                     |
| 70                | 5                                     |
| 95                | 5                                     |
| 120               | 5                                     |
| 150               | 5                                     |
| 185               | 5                                     |
| 240               | 5                                     |
| 300               | 5                                     |
| 400               | 5                                     |
| 500               | 5                                     |
| 630               | 5                                     |
| 800               | 5                                     |
| 1000              | 5                                     |



# TECHNICAL DATA & CURRENT RATING

## Maximum Resistance Of Conductor For Single Core And Multicore Cables.

| Nominal cross-sectional area |                      | Maximum DC Resistance of conductor at 20°C |                     | Nominal cross-sectional area |           | Maximum DC Resistance of conductor at 20°C |                     |
|------------------------------|----------------------|--|---------------------|------------------------------|-----------|--|---------------------|
|                              |                      | Copper Conductor                           | Aluminium Conductor |                              |           | Copper Conductor                           | Aluminium Conductor |
| mm <sup>2</sup>              | No./mm               | ohm/km                                     | ohm/km              | mm <sup>2</sup>              | No./mm    | ohm/km                                     | ohm/km              |
| 1.5                          | {1/1.38}<br>{7/0.53} | 12.1                                       | -                   | 120                          | 37/2.03   | 0.153                                      | 0.253               |
| 2.5                          | {1/1.78}<br>{7/0.67} | 7.41                                       | -                   | 150                          | 37/2.25   | 0.124                                      | 0.206               |
| 4                            | 7/0.85               | 4.61                                       | 7.41                | 185                          | {37/2.52} | 0.0991                                     | 0.164               |
| 6                            | 7/1.04               | 3.08                                       | 4.61                | 240                          | {37/2.88} | 0.0754                                     | 0.125               |
| 10                           | 7/1.35               | 1.83                                       | 3.08                |                              | {61/2.25} |  |                     |
| 16                           | 7/1.70               | 1.15                                       | 1.91                | 300                          | 61/2.52   | 0.0601                                     | 0.100               |
| 25                           | 7/2.14               | 0.727                                      | 1.20                | 400                          | 61/2.85   | 0.0470                                     | 0.0778              |
| 35                           | 19/1.53              | 0.524                                      | 0.868               | 500                          | 61/3.20   | 0.0366                                     | 0.0605              |
| 50                           | 19/1.78              | 0.387                                      | 0.641               | 630                          | 127/2.52  | 0.0283                                     | 0.0469              |
| 70                           | 19/2.14              | 0.268                                      | 0.443               | 800                          | 127/2.85  | 0.0221                                     | 0.0367              |
| 95                           | 19/2.52              | 0.193                                      | 0.320               | 1000                         | 127/3.20  | 0.0176                                     | 0.0291              |

## Properties of Conductors

| Properties                | Unit                    | Aluminium | Annealed copper |
|---------------------------|-------------------------|-----------|-----------------|
| Density                   | g/cm <sup>3</sup>       | 2.703     | 8.89            |
| Volume Resistivity        | ohm.mm <sup>3</sup> /km | 28.264    | 17.241          |
| Coefficient of Resistance | Per°C                   | 0.00403   | 0.00393         |
| Melting Point             | °C                      | 660       | 1073            |
| Coefficient of Expansion  | Per°C x 10 <sup>6</sup> | 25.5      | 16.8            |
| Ultimate Tensile Strength | N/mm <sup>2</sup>       | 205       | 275             |

## Typical Properties of Various Insulation materials

| Insulation        | Specific Gravity | Relative Permittivity | Thermal Resistivity (°C m/W) | Volume Resistivity 20°C (ohm-cm) | Max. Cond. Temp. (°C) | Max.Short Circuit Temp. (°C) |
|-------------------|------------------|-----------------------|------------------------------|----------------------------------|-----------------------|------------------------------|
| PVC               | 1.44             | 5.0 - 8.0             | 5.0 - 6.0                    | 10 <sup>14</sup>                 | 70                    | 160                          |
| PE                | 0.92             | 2.3                   | 2.3                          | 10 <sup>16</sup>                 | 70                    | 130                          |
| XLPE              | 0.92             | 2.5                   | 2.5                          | 10 <sup>16</sup>                 | 90                    | 250                          |
| EPR               | 1.2              | 3.5 - 5.0             | 3.5 - 5.0                    | 10 <sup>15</sup>                 | 90                    | 250                          |
| Impregnated paper | 1.1              | 6                     | 6                            | 10 <sup>15</sup>                 | 65 - 80               | 160 - 250                    |

# TECHNICAL DATA & CURRENT RATING

## FORMULA FOR ELECTRICAL CALCULATION

| To calculate         | Given | D.C.                                     | A.C. single phase                                  | A.C. 3 phase   |
|----------------------|-------|--|--|--|
| Current ( A )        | kW    | $A = \frac{1000 \times kW}{V}$           | $A = \frac{1000 \times kW}{V \times pf}$           | $A = \frac{1000 \times kW}{1.73 \times V \times pf}$           |
| Current ( A )        | kVA   | -  | $A = \frac{1000 \times kVA}{V}$                    | $A = \frac{1000 \times kVA}{1.73 \times V}$                    |
| Current ( A )        | hp    | $A = \frac{746 \times hp}{V \times eff}$ | $A = \frac{746 \times hp}{V \times eff \times pf}$ | $A = \frac{746 \times hp}{1.73 \times V \times eff \times pf}$ |
| Power (kW)           | VA    | $kW = \frac{A \times V}{1000}$           | $kW = \frac{A \times V \times pf}{1000}$           | $kW = \frac{1.73 \times A \times V \times pf}{1000}$           |
| Apparent Power (kVA) | VA    | -  | $kVA = \frac{A \times V}{1000}$                    | $kVA = \frac{1.73 \times A \times V}{1000}$                    |

- pf - Power factor of equipment or system under consideration  
 eff - Efficiency of motor or machinery  
 V - Line voltage

# TECHNICAL DATA

## CABLE INSTALLATION BENDING RADIUS

| <i>Cable Type</i>                         |                   | <i>.Installation bending radius OD X Factor</i> |
|---|-------------------|---|
| <b>Unarmoured cable (6.6 ~ 33 kV)</b>     |                   | <b>Factor</b>                                   |
| Single core                               |                   | 20  |
| Single core with LSHF                     |                   | 20  |
| Three core                                |                   | 15  |
| Three core with LSHF                      |                   | 15  |
| <b>Armoured cable (6.6 ~ 33 kV)</b>       |                   |   |
| Single core                               |                   | 15  |
| Single core with LSHF                     |                   | 15  |
| Three core                                |                   | 12  |
| Three core with LSHF                      |                   | 15  |
| <b>Unarmoured cable (more than 33 kV)</b> |                   |   |
| Single core                               |                   | 20  |
| Three core                                |                   | 18  |
| <b>Armoured cable (more than 33 kV)</b>   |                   |   |
| Single core                               |                   | 20  |
| Three core                                |                   | 18  |
| <b>0.6/1kV Cable</b>                      |                   |   |
| PVC insulated                             | OD ≤ 25 mm        | 6   |
| XLPE insulated                            | OD > 25 mm        | 6   |
| PVC/PVC                                   | OD ≤ 25 mm        | 6   |
| XLPE/PVC                                  | OD > 25 mm, shape | 8   |
| FR-XLPE – Flame Retardant                 |                   | 15  |
| LSHF Insulated                            |                   | 15  |
| FR-XLPE/PVC – Flame Retardant             |                   | 15  |
| FR-XLPE/LSHF – Flame Retardant            |                   | 15  |
| LSHF/LSHF                                 |                   | 15  |
| PVC/PVC/SWA/PVC                           | OD ≤ 25 mm        | 6   |
| XLPE/PVC/SWA/PVC                          | OD > 25 mm, shape | 8   |
| PVC/PVC/SWB/PVC                           | OD ≤ 25 mm        | 6   |
| XLPE/PVC/SWB/PVC                          | OD > 25 mm, shape | 8   |
| XLPE/LSHF/SWA/LSHF                        |                   | 15  |
| XLPE/LSHF/SWB/LSHF                        |                   | 15  |
| <b>300/500V Cable</b>                     |                   |   |
| PVC/PVC, PVC or XLPE/PVC/SWA or SWB/PVC   |                   | 10  |
| FR-XLPE/PVC or LSHF, LSHF/LSHF            |                   | 15  |
| XLPE/LSHF/SWA or SWB/LSHF                 |                   | 15  |

# TECHNICAL DATA

**TABLE 9A**  
**SCHEDULE METHODS FOR INSTALLATION OF CABLES (CP5: 1988)**

| Installation Method             |   | Examples | Appropriate Reference Method for determining current-carrying capacities |
|---------------------------------|---|----------|--|
| Number                          | Description   |          |  |
| 1                               | 2   | 3        | 4  |
| <b>Open and clipped direct:</b> |   |          |  |
| 1                               | Sheathed cables clipped direct to or lying on a non-metallic surface                                  |          | Method 1   |
| <b>In conduit :</b>             |   |          |  |
| 3                               | Single-core non-sheathed cables in metallic or non-metallic conduit on a wall or ceiling              |          | Method 3   |
| 5                               | Multicore cables having non-metallic sheath, in metallic or non-metallic conduit on a wall or ceiling |          | Method 3   |
| <b>In trunking :</b>            |   |          |  |
| 8                               | Cables in trunking on a wall or suspended in air  |          | Method 3   |
| 9                               | Cables in flush floor trunking  |          | Method 3   |
| 10                              | Single-core cables in skirting trunking   |          | Method 3   |

# TECHNICAL DATA

**TABLE 9A**  
**SCHEDULE METHODS FOR INSTALLATION OF CABLES (CP5: 1988)**

| Installation Method             |  | Examples | Appropriate Reference Method for determining current-carrying capacities |
|---------------------------------|--|----------|--|
| Number                          | Description  |          |  |
| 1                               | 2  | 3        | 4  |
| <b>Open and clipped direct:</b> |  |          |  |
| 11                              | Sheathed cables on a perforated cable tray, bunched and unenclosed. A perforated cable tray is considered as a tray in which the holes occupy at least 30 % of the surface area.   |          | Method 11  |
| <b>In free air</b>              |  |          |  |
| 12                              | <p>Sheathed single-core cables in free air (any supporting metal work under the cables occupying less than 10% of the plan area):</p> <ul style="list-style-type: none"> <li>- Two or three cables vertically one above the other, distance between cables equal to the overall cable diameter (<math>D_e</math>); distance from the wall not less than <math>0.5 (D_e)</math></li> <li>- Two or three cables horizontally, with spacing as above</li> <li>- Three cables in trefoll, distance between wall and surface of nearest cable <math>0.5 D_e</math> or nearest cables <math>0.75 D_e</math></li> </ul> |          | Method 12  |
| 13                              | Sheathed multicore cables in free air distance between wall and cable surface not less than $0.3 D_e$ (any supporting metalwork occupying less than 10% of the plan area)  |          | Method 13  |

# TECHNICAL DATA

## APPENDIX TECHNICAL DATA COMMON CONVERSION FACTOR

| Installation Method            |   |          | Reciprocal                 |          |
|--------------------------------|---|----------|----------------------------|----------|
| <b>Mass</b>                    |   |          |                            |          |
| 1 cwt                          | = | 50.802   | kg                         | 0.0197   |
| 1 oz                           | = | 28.349   | gm                         | 0.0352   |
| 1 lb                           | = | 0.4536   | kg                         | 2.2046   |
| 1 lb                           | = | 0.00454  | tonne (metric)             | 220.26   |
| 1 ton ( long)                  | = | 1.016    | tonne ( metric)            | 0.09842  |
| <b>Length</b>                  |   |          |                            |          |
| 1 in                           | = | 25.4     | mm                         | 0.03937  |
| 1 ft                           | = | 0.3048   | m                          | 3.2808   |
| 1 yd                           | = | 0.9144   | m                          | 1.0936   |
| 1 mile                         | = | 1.6093   | km                         | 0.6214   |
| <b>Area</b>                    |   |          |                            |          |
| 1 in <sup>2</sup>              | = | 645.16   | mm <sup>2</sup>            | 0.00155  |
| 1 ft <sup>2</sup>              | = | 0.0929   | m <sup>2</sup>             | 10.7642  |
| 1 yd <sup>2</sup>              | = | 0.8361   | m <sup>2</sup>             | 1.196    |
| <b>Volume</b>                  |   |          |                            |          |
| 1 in <sup>3</sup>              | = | 16.387   | cm <sup>3</sup> (ml or cc) | 0.061    |
| 1 ft <sup>3</sup>              | = | 0.0283   | m <sup>3</sup>             | 35.3335  |
| 1 ft <sup>3</sup>              | = | 6.229    | gal (Imp)                  | 0.1605   |
| 1 ft <sup>3</sup>              | = | 28.328   | l                          | 0.0353   |
| 1 yd <sup>3</sup>              | = | 0.7645   | m <sup>3</sup>             | 1.3079   |
| 1 gal (USA)                    | = | 0.8327   | gal (Imp)                  | 1.2009   |
| <b>Force</b>                   |   |          |                            |          |
| 1 lbf                          | = | 0.4535   | kgf                        | 2.2046   |
| 1 kgf                          | = | 9.8065   | N                          | 0.1019   |
| 1 ton ( long) f                | = | 9.964    | kN                         | 0.10036  |
| <b>Pressure and Stress</b>     |   |          |                            |          |
| 1 atm                          | = | 0.1013   | Mpa                        | 9.869    |
| 1 atm                          | = | 1.0133   | bar                        | 0.9869   |
| 1 lb/in <sup>2</sup> ( psi)    | = | 6.894    | kN/mm <sup>2</sup> (kPa)   | 0.145    |
| 1 bar                          | = | 1.0197   | kgf/cm <sup>2</sup>        | 0.09806  |
| <b>Energy ( Work and Heat)</b> |   |          |                            |          |
| 1 HP.h                         | = | 2544.5   | Btu                        | 0.000393 |
| 1 Btu                          | = | 0.000293 | kW.h                       | 3413     |
| 1 Btu                          | = | 1.0551   | kJ                         | 0.9478   |
| 1 Btu                          | = | 107.59   | kgf.m                      | 0.00929  |
| 1 cat                          | = | 4.187    | J                          | 0.239    |

1 mil = 0.001 in = 0.0254 mm

1 CM(Circular mil) = 0.7854 x 10 in<sup>2</sup> = 0.5067 x 10 mm<sup>2</sup>

## Customer details ( please type or print clearly )

Name \_\_\_\_\_ Position in company \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Post / Zip Code \_\_\_\_\_ Country \_\_\_\_\_

Telephone \_\_\_\_\_ Facsimile \_\_\_\_\_

e-mail \_\_\_\_\_ @ \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_

## Product Interested

Bare Cu / Al Conductor \_\_\_\_\_

XLPE INSULATED Cu / Al Power Armoured Cables (LV) \_\_\_\_\_

XLPE / PVC Cu / Al Cables (LV) \_\_\_\_\_

XLPE or PE Al Aerial Bundle Cables (LV&MV) \_\_\_\_\_

PVC Insulated Flexible Cords \_\_\_\_\_

PVC Insulated Cables (Non-Armoured) \_\_\_\_\_

For electric power and lighting \_\_\_\_\_

PVC Insulated Cables (Armoured) for electricity supply \_\_\_\_\_

XLPE Insulated Power Cables (MV) \_\_\_\_\_

XLPE Insulated Armoured Cables (MV) \_\_\_\_\_

Fold this flap for sealing

Affix  
stamp

**Central Cables Berhad (7169-A)**

7862. Batu Berendam, 75350 Melaka, Malaysia.

P.O. Box 313, 75760 Melaka, Malaysia.

Fold this flap for sealing

Fold this flap for sealing





**Central Cables Berhad**  
(7169-A)

Address: 7862, Batu Berendam,  
75350 Melaka, Malaysia.  
P.O.Box 313, 75760 Melaka.  
Tel : +6 (06) 2325821  
Fax : +6 (06) 2325823  
E-mail : [ccb@central-cables.com](mailto:ccb@central-cables.com)  
Website : [www.central-cables.com](http://www.central-cables.com)



CERTIFIED TO ISO 9001:2008  
CERT. NO. : AR1428

# PVC

PVC INSULATED POWER CABLES  
MS, BS & IEC STANDARDS