

## XVB

|                                   |  |
|-----------------------------------|--|
| <b>Application :</b>              | Installation in walls, on boards and in channels or embedded in plaster.<br>0.6/1 kV XLPE insulated power cables |
| <b>Type:</b>                      | Cu/XLPE/PVC  |
| <b>Conductor :</b>                | Copper   |
| <b>Insulation :</b>               | XLPE   |
| <b>Filler :</b>                   | PVC  |
| <b>Outer sheath :</b>             | PVC  |
| <b>Min. bending radius</b>        | 15 x Diameter  |
| <b>Max. operating temperature</b> | 90°C   |
| <b>Short circuit temperature:</b> | 250°C  |
| <b>CPR Class</b>                  | Cca  |
| <b>Standards</b>                  | NBN HD 604 PART 4 SECTION G  |

| Size mm <sup>2</sup> | Diameter of conductor | Max DC resistance at 20°C ohm/km | Insulation thickness mm | Outer sheath thickness mm | Overall diameter | Weight kg/km | Current carrying capacity (ground) A | Current carrying capacity (air) A | BATT Part No |
|----------------------|-----------------------|----------------------------------|-------------------------|---------------------------|------------------|--------------|--------------------------------------|-----------------------------------|--------------|
| 3x1.5                | 1.38                  | 12.1                             | 0.7                     | 1.4                       | 8.8              | 121          | 30                                   | 24                                | 30000        |
| 3x2.5                | 1.76                  | 7.41                             | 0.7                     | 1.4                       | 9.6              | 215          | 40                                   | 32                                | 30001        |
| 3x4                  | 2.22                  | 4.61                             | 0.7                     | 1.4                       | 10.6             | 214          | 52                                   | 42                                | 30016        |
| 3 x 6                |                       |                                  |                         |                           | 12.1             | 305          |                                      |                                   | 30019        |
| 4x1.5                | 1.38                  | 12.1                             | 0.7                     | 1.4                       | 9.5              | 145          | 30                                   | 24                                | 30002        |
| 4x2.5                | 1.76                  | 7.41                             | 0.7                     | 1.4                       | 10.4             | 1936         | 40                                   | 32                                | 30003        |
| 4x4                  | 2.22                  | 4.61                             | 0.7                     | 1.4                       | 11.5             | 264          | 52                                   | 42                                | 30004        |
| 4x6                  | 2.72                  | 3.08                             | 0.7                     | 1.4                       | 12.7             | 355          | 64                                   | 53                                | 30005        |
| 4x10                 | 3.52                  | 1.83                             | 0.7                     | 1.5                       | 14.9             | 545          | 86                                   | 73                                | 30015        |
| 4x16                 | 4.8                   | 1.15                             | 0.7                     | 1.5                       | 17.9             | 810          | 111                                  | 96                                | 30016        |
| 4x25                 | 5.9                   | 0.727                            | 0.9                     | 1.7                       | 22               | 1260         | 143                                  | 130                               | 30007        |
| 5x1.5                | 1.38                  | 12.1                             | 0.7                     | 1.4                       | 10.3             | 173          | 21                                   | 18                                | 30008        |
| 5x2.5                | 1.76                  | 7.41                             | 0.7                     | 1.4                       | 11.3             | 235          | 40                                   | 32                                | 30009        |
| 5x4                  | 2.22                  | 4.61                             | 0.7                     | 1.4                       | 12.6             | 323          | 52                                   | 42                                | 30010        |
| 5x6                  | 2.72                  | 3.08                             | 0.7                     | 1.4                       | 13.9             | 434          | 64                                   | 53                                | 30011        |
| 5x10                 | 3.52                  | 1.83                             | 0.7                     | 1.5                       | 16.3             | 662          | 86                                   | 73                                | 30012        |
| 5x16                 | 4.8                   | 1.15                             | 0.7                     | 1.6                       | 19.9             | 1010         | 111                                  | 96                                | 30013        |
| 5x25                 | 5.9                   | 0.727                            | 0.9                     | 1.7                       | 24.2             | 1560         | 143                                  | 130                               | 30014        |

| Nominal cross-section (mm <sup>2</sup> ) | Nominal Thickness of Insulation (mm) | Approx. Diameter under sheath | Approximate overall diameter (mm) | Max. Conductor DC resistance at 20°C (ohm/km) | Approximate net weight (kg/km) | GLAND | Cable Cleats |
|--|--------------------------------------|-------------------------------|-----------------------------------|---|--------------------------------|-------|--------------|
| 1x25                                     | 0,9                                  | 7,7                           | 10,5                              | 0,727   | 296                            | 20S   | MS5          |
| 1x35                                     | 0,9                                  | 8,7                           | 11,5                              | 0,524   | 389                            | 20S   | MS5          |
| 1x50                                     | 1                                    | 10,1                          | 12,9                              | 0,387   | 513                            | 20S   | MS6          |

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|--|--------------------------------------|-------------------------------|-----------------------------------|---|--------------------------------|-------|--------------|
| 1x70                                     | 1,1                                  | 11,9                          | 14,7                              | 0,268   | 707                            | 20    | MS6          |
| 1x95                                     | 1,1                                  | 13,6                          | 16,6                              | 0,193   | 962                            | 20    | MS7          |
| 1x120                                    | 1,2                                  | 15,3                          | 18,3                              | 0,153   | 1190                           | 25    | MS8          |
| 1x150                                    | 1,4                                  | 17,1                          | 20,3                              | 0,124   | 1480                           | 25    | MS9          |
| 1x185                                    | 1,6                                  | 19,0                          | 22,2                              | 0,0991  | 1827                           | 25    | MS9          |
| 1x240                                    | 1,7                                  | 22,0                          | 25,4                              | 0,0754  | 2366                           | 32    | MS11         |
| 1x300                                    | 1,8                                  | 24,0                          | 27,6                              | 0,0601  | 2958                           | 32    | MS11         |
| 2x1,5                                    | 0,7                                  | 6,0                           | 8,8                               | 12,1  | 120                            | 20S   | MS4          |
| 2x2,5                                    | 0,7                                  | 6,8                           | 9,6                               | 7,41  | 151                            | 20S   | MS4          |
| 2x4                                      | 0,7                                  | 7,7                           | 10,5                              | 4,61  | 196                            | 20S   | MS5          |
| 2x6                                      | 0,7                                  | 8,7                           | 11,5                              | 3,08  | 252                            | 20S   | MS5          |
| 2x10                                     | 0,7                                  | 10,3                          | 13,1                              | 1,83  | 359                            | 20S   | MS6          |
| 2x16                                     | 0,7                                  | 12,7                          | 15,5                              | 1,15  | 531                            | 20    | MS7          |
| 2x25                                     | 0,9                                  | 15,8                          | 19,0                              | 0,727   | 810                            | 25    | MS8          |
| 2x35                                     | 0,9                                  | 18,0                          | 21,2                              | 0,524   | 1062                           | 25    | MS9          |
| 3 x 1,5                                  | 0,7                                  | 6,5                           | 9,3                               | 12,1  | 137                            | 20S   | MS4          |
| 3 x 2,5                                  | 0,7                                  | 7,3                           | 10,1                              | 7,41  | 176                            | 20S   | MS4          |
| 3 x 4                                    | 0,7                                  | 8,3                           | 11,1                              | 4,61  | 234                            | 20S   | MS5          |
| 3 x 6                                    | 0,7                                  | 9,3                           | 12,1                              | 3,08  | 305                            | 20S   | MS5          |
| 3 x 10                                   | 0,7                                  | 11,0                          | 13,8                              | 1,83  | 445                            | 20S   | MS6          |
| 3 x 16                                   | 0,7                                  | 13,7                          | 16,7                              | 1,15  | 675                            | 20    | MS7          |
| 3 x 25                                   | 0,9                                  | 17,1                          | 20,3                              | 0,727   | 1024                           | 25    | MS9          |
| 3 x 35                                   | 0,9                                  | 19,3                          | 22,7                              | 0,524   | 1355                           | 25    | MS9          |
| 3x50                                     | 1                                    | 22,6                          | 26,2                              | 0,387   | 1818                           | 32    | MS11         |
| 3x70                                     | 1,1                                  | 25,9                          | 29,7                              | 0,268   | 2293                           | 32    | MS12         |
| 3x95                                     | 1,1                                  | 29,6                          | 33,6                              | 0,193   | 3095                           | 40    | MS14         |
| 3x120                                    | 1,2                                  | 32,9                          | 37,1                              | 0,153   | 3840                           | 50S   | MS16         |
| 3x150                                    | 1,4                                  | 37,0                          | 41,6                              | 0,124   | 4793                           | 50S   | MS18         |
| 3x185                                    | 1,6                                  | 40,9                          | 45,7                              | 0,0991  | 5878                           | 50    | MS18         |
| 3x240                                    | 1,7                                  | 45,9                          | 51,1                              | 0,0754  | 7598                           | 63S   | MT9          |
| 3x300                                    | 1,8                                  | 51,1                          | 56,7                              | 0,0601  | 9483                           | 63    | MT9          |
| 4x1,5                                    | 0,7                                  | 7,2                           | 10,0                              | 12,1  | 159                            | 20S   | MS4          |
| 4x2,5                                    | 0,7                                  | 8,1                           | 10,9                              | 7,41  | 207                            | 20S   | MS5          |
| 4x4                                      | 0,7                                  | 9,2                           | 12,0                              | 4,61  | 279                            | 20S   | MS5          |
| 4x6                                      | 0,7                                  | 10,4                          | 13,2                              | 3,08  | 370                            | 20S   | MS6          |
| 4 x 10                                   | 0,7                                  | 12,3                          | 15,3                              | 1,83  | 554                            | 20    | MS7          |
| 4 x 16                                   | 0,7                                  | 15,2                          | 18,2                              | 1,15  | 833                            | 25    | MS8          |
| 4x25                                     | 0,9                                  | 19,0                          | 22,4                              | 0,727   | 1282                           | 25    | MS9          |
| 4x35                                     | 0,9                                  | 21,4                          | 25,0                              | 0,524   | 1704                           | 32    | MS10         |
| 4x50                                     | 1                                    | 25,2                          | 28,8                              | 0,387   | 2271                           | 32    | MS12         |
| 4x70                                     | 1,1                                  | 30,0                          | 34,0                              | 0,268   | 3028                           | 40    | MS14         |
| 4x95                                     | 1,1                                  | 34,0                          | 38,2                              | 0,193   | 4062                           | 50S   | MS16         |
| 4x120                                    | 1,2                                  | 38,2                          | 42,8                              | 0,153   | 5123                           | 50    | MS18         |
| 4x150                                    | 1,4                                  | 42,5                          | 47,3                              | 0,124   | 6295                           | 50    | MS20         |
| 4x185                                    | 1,6                                  | 47,0                          | 52,2                              | 0,0991  | 7757                           | 63S   | MT9          |
| 4x240                                    | 1,7                                  | 53,2                          | 58,8                              | 0,0754  | 10111                          | 63    | MT10         |

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| Nominal cross-section (mm <sup>2</sup> ) | Nominal Thickness of Insulation (mm) | Approx. Diameter under sheath | Approximate overall diameter (mm) | Max. Conductor DC resistance at 20°C (ohm/km) | Approximate net weight (kg/km) | GLAND | Cable Cleats |
|--|--------------------------------------|-------------------------------|-----------------------------------|---|--------------------------------|-------|--------------|
| 4x300                                    | 1,8                                  | 58,8                          | 64,8                              | 0,0601  | 12513                          | 75S   | MT11         |
| 5x1,5                                    | 0,7                                  | 8,0                           | 10,8                              | 12,1  | 186                            | 20S   | MS5          |
| 5x2,5                                    | 0,7                                  | 9,0                           | 11,8                              | 7,41  | 244                            | 20S   | MS5          |
| 5x4                                      | 0,7                                  | 10,2                          | 13,0                              | 4,61  | 332                            | 20S   | MS6          |
| 5x6                                      | 0,7                                  | 11,5                          | 14,3                              | 3,08  | 443                            | 20S   | MS6          |
| 5 x 10                                   | 0,7                                  | 13,7                          | 16,7                              | 1,83  | 667                            | 20    | MS7          |
| 5 x 16                                   | 0,7                                  | 17,2                          | 20,4                              | 1,15  | 1035                           | 25    | MS9          |
| 5 x 25                                   | 0,9                                  | 21,4                          | 24,8                              | 0,727   | 1570                           | 32    | MS10         |

## CONDUCTORS

Class 2 Stranded Conductors for Single Core and Multi-Core Cables

| Nominal cross sectional area (mm <sup>2</sup> ) | Minimum number of wires in the conductor |    |                    |    |        |    | Maximum resistance of conductor at 20°C |                    |  |
|---|--|----|--------------------|----|--------|----|---|--------------------|--|
|   | Circular                                 |    | Circular Compacted |    | Shaped |    | Annealed copper conductor               |                    | Aluminium or aluminium alloy conductor |
|   | Cu                                       | Al | Cu                 | Al | Cu     | Al | Plain wires                             | Metal-coated wires |  |
| 1,5   | 7  | -  | 6                  | -  | -      | -  | 12,1                                    | 12,2               |  |
| 2,5   | 7  | -  | 6                  | -  | -      | -  | 7,41                                    | 7,56               |  |
| 4   | 7  | -  | 6                  | -  | -      | -  | 4,61                                    | 4,7                |  |
| 6   | 7  | -  | 6                  | -  | -      | -  | 3,08                                    | 3,11               |  |
| 10  | 7  | 7  | 6                  | 6  | -      | -  | 1,83                                    | 1,84               | 3,08                                   |
| 16  | 7  | 7  | 6                  | 6  | -      | -  | 1,15                                    | 1,16               | 1,91                                   |
| 25  | 7  | 7  | 6                  | 6  | 6      | 6  | 0,727                                   | 0,734              | 1,2                                    |
| 35  | 7  | 7  | 6                  | 6  | 6      | 6  | 0,524                                   | 0,529              | 0,868                                  |
| 50  | 19                                       | 19 | 6                  | 6  | 6      | 6  | 0,387                                   | 0,391              | 0,641                                  |
| 70  | 19                                       | 19 | 12                 | 12 | 12     | 12 | 0,268                                   | 0,27               | 0,443                                  |
| 95  | 19                                       | 19 | 15                 | 15 | 15     | 15 | 0,193                                   | 0,195              | 0,32                                   |
| 120   | 37                                       | 37 | 18                 | 15 | 18     | 15 | 0,153                                   | 0,154              | 0,253                                  |
| 150   | 37                                       | 37 | 18                 | 15 | 18     | 15 | 0,124                                   | 0,126              | 0,206                                  |
| 185   | 37                                       | 37 | 30                 | 30 | 30     | 30 | 0,0991                                  | 0,1                | 0,164                                  |
| 240   | 37                                       | 37 | 34                 | 34 | 34     | 34 | 0,0754                                  | 0,0762             | 0,125                                  |
| 300   | 61                                       | 61 | 34                 | 34 | 34     | 34 | 0,0601                                  | 0,0607             | 0,1                                    |
| 400   | 61                                       | 61 | 53                 | 53 | 53     | 53 | 0,047                                   | 0,0475             | 0,0778                                 |

The above table is in accordance with BS EN 60228

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| Current Rating                 |   |  |   |  |   |  |
|--------------------------------|---|--|---|--|---|--|
| Conductor cross-sectional area | Reference Method A                                    |  | Reference Method C                          |  | Reference Method E  |  |
|                                | Enclosed in Conduit in thermally insulating wall etc. |  | Clipped Direct,                             |  | In free air or on a perforated cable tray etc, horizontal or vertical |  |
|                                | 1 two core cable, single-phase AC or DC (A)           | Three or four core cable, three-phase AC (A) | 1 two core cable, single-phase AC or DC (A) | Three or four core cable, three-phase AC (A) | 1 two core cable, single-phase AC or DC (A)                           | Three or four core cable, three-phase AC (A) |
| 1,5                            | 18,5  | 16,5   | 24  | 22   | 26  | 23   |
| 2,5                            | 25  | 22   | 33  | 30   | 36  | 32   |
| 4                              | 33  | 30   | 45  | 40   | 49  | 42   |
| 6                              | 42  | 38   | 58  | 52   | 63  | 54   |
| 10                             | 57  | 51   | 80  | 71   | 86  | 75   |
| 16                             | 76  | 68   | 107   | 96   | 115   | 100  |
| 25                             | 99  | 89   | 138   | 119  | 149   | 127  |
| 35                             | 121   | 109  | 171   | 147  | 185   | 158  |
| 50                             | 145   | 130  | 209   | 179  | 225   | 192  |
| 70                             | 183   | 164  | 269   | 229  | 289   | 246  |
| 95                             | 220   | 197  | 328   | 278  | 352   | 298  |
| 120                            | 253   | 227  | 382   | 322  | 410   | 346  |
| 150                            | 290   | 259  | 441   | 371  | 473   | 399  |
| 185                            | 329   | 295  | 506   | 424  | 542   | 456  |
| 240                            | 386   | 346  | 599   | 500  | 641   | 538  |
| 300                            | 442   | 396  | 693   | 576  | 741   | 621  |
| 400                            | -   | -  | 803   | 667  | 865   | 741  |

The above table is in accordance with BS 7671:2018

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The above table is in accordance with BS 7671:2018

| Conductor cross-sectional area | VOLTAGE DROP                |                                      |       |       |  |       |       |   |
|--------------------------------|-----------------------------|--------------------------------------|-------|-------|--|-------|-------|---|
|                                | Two core cable DC<br>mV/A/m | Two core cable, single phase AC<br>r | x     | z     | Three or four core cable, three phase AC<br>mV/A/m | r     | x     | z |
| 1,5                            | 31                          |                                      | 31    |       |  |       | 27    |   |
| 2,5                            | 19                          |                                      | 19    |       |  |       | 16    |   |
| 4                              | 12                          |                                      | 12    |       |  |       | 10    |   |
| 6                              | 7,9                         |                                      | 7,9   |       |  |       | 6,8   |   |
| 10                             | 4,7                         |                                      | 4,7   |       |  |       | 4,0   |   |
| 16                             | 2,9                         |                                      | 2,9   |       |  |       | 2,5   |   |
|                                |                             | r                                    | x     | z     | r  | x     | z     |   |
| 25                             | 1,85                        | 1,85                                 | 0,160 | 1,90  | 1,60   | 0,140 | 1,65  |   |
| 35                             | 1,35                        | 1,35                                 | 0,155 | 1,35  | 1,15   | 0,135 | 1,15  |   |
| 50                             | 0,98                        | 0,99                                 | 0,155 | 1,00  | 0,86   | 0,135 | 0,87  |   |
| 70                             | 0,67                        | 0,67                                 | 0,150 | 0,69  | 0,59   | 0,130 | 0,60  |   |
| 95                             | 0,49                        | 0,50                                 | 0,150 | 0,52  | 0,43   | 0,130 | 0,45  |   |
| 120                            | 0,39                        | 0,40                                 | 0,145 | 0,42  | 0,34   | 0,130 | 0,37  |   |
| 150                            | 0,31                        | 0,32                                 | 0,145 | 0,35  | 0,28   | 0,125 | 0,30  |   |
| 185                            | 0,25                        | 0,26                                 | 0,145 | 0,29  | 0,22   | 0,125 | 0,26  |   |
| 240                            | 0,195                       | 0,20                                 | 0,140 | 0,24  | 0,175  | 0,125 | 0,21  |   |
| 300                            | 0,155                       | 0,16                                 | 0,140 | 0,21  | 0,140  | 0,120 | 0,185 |   |
| 400                            | 0,120                       | 0,13                                 | 0,140 | 0,190 | 0,115  | 0,120 | 0,165 |   |

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