

# FIRE RESISTANT CABLES

## N2XY 1 x (1.5-800) mm<sup>2</sup> 0.6/1 kV

### Cu / Mica / XLPE / PVC

(Copper Conductor, Mica Tape, XLPE Insulated, PVC Sheathed)

Standard Specification : SNI IEC 60502-1 : 2009 and IEC 60331

### Construction Data

| Nom. Cross Section Area | Overall Diameter | Cable Weight  |
|-------------------------|------------------|---------------|
| mm <sup>2</sup>         | approx. mm       | approx. kg/km |
| 1.5                     | 6.8              | 58            |
| 2.5                     | 7.2              | 72            |
| 4                       | 7.8              | 92            |
| 6                       | 8.4              | 115           |
| 10                      | 9.4              | 162           |
| 16                      | 10.4             | 222           |
| 25                      | 12.2             | 332           |
| 35                      | 13.3             | 427           |
| 50                      | 15.0             | 576           |
| 70                      | 16.9             | 782           |
| 95                      | 18.9             | 1,030         |
| 120                     | 21.0             | 1,274         |
| 150                     | 23.0             | 1,550         |
| 185                     | 25.5             | 1,951         |
| 240                     | 29.0             | 2,543         |
| 300                     | 31.5             | 3,080         |
| 400                     | 35.0             | 3,935         |
| 500                     | 39.5             | 5,025         |
| 630                     | 44.0             | 6,526         |
| 800                     | 49.0             | 8,181         |

#### Application :

For wiring of fire resistant safety circuits, such as fire alarm system, emergency lighting and power, public address and emergency voice communication systems in highrise building, control and instrumentation services in industrial, commercial and residential complexes.

#### Special Features on Request

- Tinned Coated Copper Conductor
- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- Nylon Coated

#### Note :

##### Conductor Shape

1.5 - 10 sqmm supplied in solid (re) or non compacted circular stranded (rm) conductor shape

16 sqmm supplied in non compacted circular stranded (rm) conductor shape

25 - 800 sqmm supplied in non compacted circular stranded (rm) or compacted circular stranded (cm) conductor shape

##### Tinned Coated Copper Conductor

Electrical properties for tinned coated copper conductor will be submitted upon request

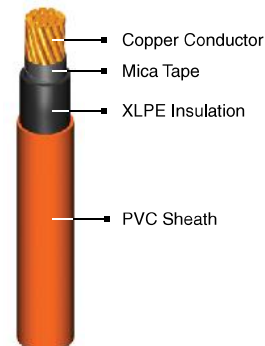
#### Standard Packing

1.5 - 10 sqmm supplied in coil @ 100 m

16 - 400 sqmm supplied in wooden drum @ 1000 m

500 - 800 sqmm supplied in wooden drum on available length

Length Tolerance per drum ± 2%



### Electrical Data

| Conductor        |                       |                       | Inductance                                                                                     |                                                                                                | Current - Carrying Capacity at 30° C *                                              |           |                                                                                      |           | Short circuit current at 1 sec |
|------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------|-----------|--------------------------------|
| Nom. Cross Sect. | DC Resistance at 20°C | AC Resistance at 90°C | Trefoil formation                                                                              | Flat formation                                                                                 |  |           |  |           |                                |
|                  |                       |                       |                                                                                                |                                                                                                | in air                                                                              | in ground | in air                                                                               | in ground |                                |
| (mm²)            | Max. (Ω/km)           | Max. (Ω/km)           | <br>(mH/km) | <br>(mH/km) | Max. (A)                                                                            | Max. (A)  | Max. (A)                                                                             | Max. (A)  | Max. (kA)                      |
| 1.5              | 12.1                  | 15.429                | 0.478                                                                                          | 0.524                                                                                          | 25                                                                                  | 33        | 26                                                                                   | 33        | 0.21                           |
| 2.5              | 7.41                  | 9.449                 | 0.441                                                                                          | 0.487                                                                                          | 34                                                                                  | 43        | 35                                                                                   | 43        | 0.36                           |
| 4                | 4.61                  | 5.878                 | 0.409                                                                                          | 0.455                                                                                          | 45                                                                                  | 56        | 46                                                                                   | 55        | 0.57                           |
| 6                | 3.08                  | 3.927                 | 0.387                                                                                          | 0.433                                                                                          | 57                                                                                  | 69        | 58                                                                                   | 68        | 0.86                           |
| 10               | 1.83                  | 2.333                 | 0.356                                                                                          | 0.402                                                                                          | 78                                                                                  | 92        | 80                                                                                   | 91        | 1.43                           |
| 16               | 1.15                  | 1.466                 | 0.333                                                                                          | 0.379                                                                                          | 104                                                                                 | 118       | 107                                                                                  | 117       | 2.29                           |
| 25               | 0.727                 | 0.927                 | 0.317                                                                                          | 0.363                                                                                          | 141                                                                                 | 152       | 145                                                                                  | 151       | 3.58                           |
| 35               | 0.524                 | 0.668                 | 0.303                                                                                          | 0.349                                                                                          | 173                                                                                 | 182       | 178                                                                                  | 180       | 5.01                           |
| 50               | 0.387                 | 0.494                 | 0.290                                                                                          | 0.336                                                                                          | 213                                                                                 | 216       | 220                                                                                  | 214       | 7.15                           |
| 70               | 0.268                 | 0.342                 | 0.280                                                                                          | 0.326                                                                                          | 271                                                                                 | 265       | 279                                                                                  | 261       | 10.01                          |
| 95               | 0.193                 | 0.247                 | 0.272                                                                                          | 0.318                                                                                          | 335                                                                                 | 316       | 346                                                                                  | 312       | 13.59                          |
| 120              | 0.153                 | 0.196                 | 0.268                                                                                          | 0.314                                                                                          | 392                                                                                 | 359       | 404                                                                                  | 355       | 17.16                          |
| 150              | 0.124                 | 0.160                 | 0.267                                                                                          | 0.313                                                                                          | 451                                                                                 | 403       | 466                                                                                  | 397       | 21.45                          |
| 185              | 0.0991                | 0.128                 | 0.265                                                                                          | 0.311                                                                                          | 526                                                                                 | 455       | 543                                                                                  | 449       | 26.46                          |
| 240              | 0.0754                | 0.099                 | 0.260                                                                                          | 0.306                                                                                          | 630                                                                                 | 527       | 650                                                                                  | 519       | 34.32                          |
| 300              | 0.0601                | 0.080                 | 0.255                                                                                          | 0.301                                                                                          | 728                                                                                 | 593       | 751                                                                                  | 584       | 42.90                          |
| 400              | 0.0470                | 0.064                 | 0.254                                                                                          | 0.300                                                                                          | 848                                                                                 | 671       | 875                                                                                  | 660       | 57.20                          |
| 500              | 0.0366                | 0.052                 | 0.251                                                                                          | 0.297                                                                                          | 985                                                                                 | 757       | 1018                                                                                 | 744       | 71.50                          |
| 630              | 0.0283                | 0.043                 | 0.247                                                                                          | 0.293                                                                                          | 1141                                                                                | 849       | 1179                                                                                 | 834       | 90.09                          |
| 800              | 0.0221                | 0.036                 | 0.244                                                                                          | 0.291                                                                                          | 1295                                                                                | 937       | 1339                                                                                 | 921       | 114.40                         |

\* Further information about rating factor for certain cable arrangement can be found on supplementary technical information

# FIRE RESISTANT CABLES

## N2XY 2 x (1.5-300) mm<sup>2</sup> 0.6/1 kV

Cu / Mica / XLPE / PVC

(Copper Conductor, Mica Tape, XLPE Insulated, PVC Sheathed)

Standard Specification : SNI IEC 60502-1 : 2009 and IEC 60331

### Construction Data

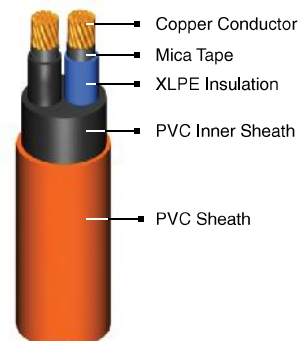
| Nom. Cross Section Area | Overall Diameter | Cable Weight |
|-------------------------|------------------|--------------|
|                         | approx.          | approx.      |
| mm <sup>2</sup>         | mm               | kg/km        |
| 1.5                     | 14.5             | 255          |
| 2.5                     | 15.5             | 301          |
| 4                       | 16.6             | 363          |
| 6                       | 18.0             | 441          |
| 10                      | 19.9             | 582          |
| 16                      | 22.0             | 758          |
| 25                      | 25.0             | 1,050        |
| 35                      | 27.5             | 1,324        |
| 50                      | 30.0             | 1,626        |
| 70                      | 34.5             | 2,248        |
| 95                      | 38.0             | 2,873        |
| 120                     | 41.5             | 3,486        |
| 150                     | 46.5             | 4,337        |
| 185                     | 51.0             | 5,256        |
| 240                     | 56.5             | 6,644        |
| 300                     | 62.5             | 8,207        |

#### Application :

For wiring of fire resistant safety circuits, such as fire alarm system, emergency lighting and power, public address and emergency voice communication systems in highrise building, control and instrumentation services in industrial, commercial and residential complexes.

#### Special Features on Request

- Tinned Coated Copper Conductor
- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- Nylon Coated



#### Note :

##### Conductor Shape

1.5 - 10 sqmm supplied in solid (re) or non compacted circular stranded (rm) conductor shape

16 sqmm supplied in non compacted circular stranded (rm) conductor shape

25 - 300 sqmm supplied in compacted circular stranded (cm) conductor shape

##### Tinned Coated Copper Conductor

Electrical properties for tinned coated copper conductor will be submitted upon request

#### Standard Packing

1.5 - 120 sqmm supplied in wooden drum @ 1000 m

150 - 300 sqmm will be supplied in wooden drum on available length

Length Tolerance per drum ± 2%

### Electrical Data

| Conductor        |                       |                       | Inductance | Current - Carrying Capacity at 30°C * |           | Short circuit current at 1 sec |
|------------------|-----------------------|-----------------------|------------|---------------------------------------|-----------|--------------------------------|
| Nom. Cross Sect. | DC Resistance at 20°C | AC Resistance at 90°C |            | in air                                | in ground |                                |
|                  |                       |                       |            |                                       |           |                                |
| (mm²)            |                       |                       | (mH/km)    |                                       |           |                                |
| 1.5              | 12.1                  | 15.429                | 0.315      | 29                                    | 34        | 0.21                           |
| 2.5              | 7.41                  | 9.449                 | 0.293      | 38                                    | 44        | 0.36                           |
| 4                | 4.61                  | 5.878                 | 0.275      | 50                                    | 58        | 0.57                           |
| 6                | 3.08                  | 3.927                 | 0.263      | 64                                    | 73        | 0.86                           |
| 10               | 1.83                  | 2.334                 | 0.248      | 88                                    | 98        | 1.43                           |
| 16               | 1.15                  | 1.466                 | 0.238      | 116                                   | 128       | 2.29                           |
| 25               | 0.727                 | 0.927                 | 0.240      | 154                                   | 165       | 3.58                           |
| 35               | 0.524                 | 0.668                 | 0.233      | 190                                   | 199       | 5.01                           |
| 50               | 0.387                 | 0.494                 | 0.232      | 230                                   | 236       | 7.15                           |
| 70               | 0.268                 | 0.342                 | 0.229      | 292                                   | 292       | 10.01                          |
| 95               | 0.193                 | 0.247                 | 0.224      | 356                                   | 348       | 13.59                          |
| 120              | 0.153                 | 0.196                 | 0.223      | 414                                   | 397       | 17.16                          |
| 150              | 0.124                 | 0.160                 | 0.224      | 474                                   | 445       | 21.45                          |
| 185              | 0.0991                | 0.128                 | 0.225      | 544                                   | 502       | 26.46                          |
| 240              | 0.0754                | 0.099                 | 0.223      | 644                                   | 582       | 34.32                          |
| 300              | 0.0601                | 0.080                 | 0.221      | 737                                   | 654       | 42.90                          |

\* Further information about rating factor for certain cable arrangement can be found on supplementary technical information

# FIRE RESISTANT CABLES

## N2XY 3 x (1.5-300) mm<sup>2</sup> 0.6/1 kV

### Cu / Mica / XLPE / PVC

(Copper Conductor, Mica Tape, XLPE Insulated, PVC Sheathed)

Standard Specification : SNI IEC 60502-1 : 2009 and IEC 60331

### Construction Data

| Nom. Cross Section Area | Overall Diameter | Cable Weight |
|-------------------------|------------------|--------------|
|                         | approx.          | approx.      |
| mm <sup>2</sup>         | mm               | kg/km        |
| 1.5                     | 15.2             | 282          |
| 2.5                     | 16.2             | 338          |
| 4                       | 17.4             | 415          |
| 6                       | 18.9             | 511          |
| 10                      | 21.0             | 689          |
| 16                      | 23.5             | 915          |
| 25                      | 26.5             | 1,289        |
| 35                      | 29.0             | 1,646        |
| 50                      | 32.0             | 2,039        |
| 70                      | 37.0             | 2,828        |
| 95                      | 40.5             | 3,682        |
| 120                     | 44.5             | 4,496        |
| 150                     | 50.0             | 5,575        |
| 185                     | 54.5             | 6,814        |
| 240                     | 61.0             | 8,794        |
| 300                     | 66.5             | 10,755       |

#### Application :

For wiring of fire resistant safety circuits, such as fire alarm system, emergency lighting and power, public address and emergency voice communication systems in highrise building, control and instrumentation services in industrial, commercial and residential complexes.

#### Special Features on Request

- Tinned Coated Copper Conductor
- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- Nylon Coated

#### Note :

##### Conductor Shape

1.5 - 10 sqmm supplied in solid (re) or non compacted circular stranded (rm) conductor shape

16 sqmm supplied in non compacted circular stranded (rm) conductor shape

25 - 300 sqmm supplied in compacted circular stranded (cm) conductor shape

##### Tinned Coated Copper Conductor

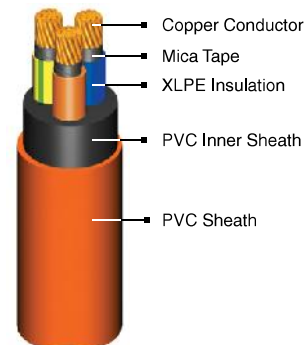
Electrical properties for tinned coated copper conductor will be submitted upon request

#### Standard Packing

1.5 - 95 sqmm supplied in wooden drum @ 1000 m

120 - 300 sqmm will be supplied in wooden drum on available length

Length Tolerance per drum  $\pm 2\%$



### Electrical Data

| Conductor        |                       |                       | Inductance | Current - Carrying Capacity at 30°C * |           | Short circuit current at 1 sec |
|------------------|-----------------------|-----------------------|------------|---------------------------------------|-----------|--------------------------------|
| Nom. Cross Sect. | DC Resistance at 20°C | AC Resistance at 90°C |            |                                       |           |                                |
|                  |                       |                       |            | in air                                | in ground |                                |
| (mm²)            | Max. (Ω/km)           | Max. (Ω/km)           | (mH/km)    | Max. (A)                              | Max. (A)  | Max. (kA)                      |
| 1.5              | 12.1                  | 15.429                | 0.315      | 21                                    | 28        | 0.21                           |
| 2.5              | 7.41                  | 9.449                 | 0.293      | 32                                    | 37        | 0.36                           |
| 4                | 4.61                  | 5.878                 | 0.275      | 43                                    | 49        | 0.57                           |
| 6                | 3.08                  | 3.927                 | 0.263      | 54                                    | 61        | 0.86                           |
| 10               | 1.83                  | 2.334                 | 0.248      | 74                                    | 83        | 1.43                           |
| 16               | 1.15                  | 1.467                 | 0.238      | 99                                    | 107       | 2.29                           |
| 25               | 0.727                 | 0.927                 | 0.240      | 131                                   | 139       | 3.58                           |
| 35               | 0.524                 | 0.669                 | 0.233      | 162                                   | 167       | 5.01                           |
| 50               | 0.387                 | 0.494                 | 0.232      | 200                                   | 203       | 7.15                           |
| 70               | 0.268                 | 0.343                 | 0.229      | 252                                   | 248       | 10.01                          |
| 95               | 0.193                 | 0.247                 | 0.224      | 309                                   | 298       | 13.59                          |
| 120              | 0.153                 | 0.197                 | 0.223      | 359                                   | 339       | 17.16                          |
| 150              | 0.124                 | 0.160                 | 0.224      | 411                                   | 379       | 21.45                          |
| 185              | 0.0991                | 0.129                 | 0.225      | 475                                   | 430       | 26.46                          |
| 240              | 0.0754                | 0.099                 | 0.223      | 562                                   | 497       | 34.32                          |
| 300              | 0.0601                | 0.081                 | 0.221      | 645                                   | 560       | 42.90                          |

\* Further information about rating factor for certain cable arrangement can be found on supplementary technical information

# FIRE RESISTANT CABLES

## N2XY 4 x (1.5-300) mm<sup>2</sup> 0.6/1 kV

**Cu / Mica / XLPE / PVC**

(Copper Conductor, Mica Tape, XLPE Insulated, PVC Sheathed)

Standard Specification : SNI IEC 60502-1 : 2009 and IEC 60331

### Construction Data

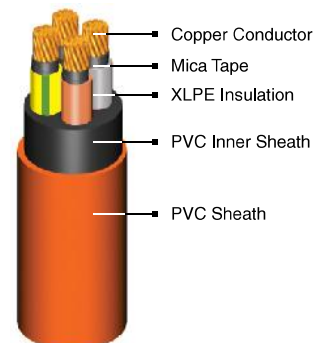
| Nom. Cross Section Area | Overall Diameter | Cable Weight |
|-------------------------|------------------|--------------|
|                         | approx.          | approx.      |
| mm <sup>2</sup>         | mm               | kg/km        |
| 1.5                     | 16.3             | 323          |
| 2.5                     | 17.5             | 392          |
| 4                       | 18.8             | 488          |
| 6                       | 20.5             | 606          |
| 10                      | 23.0             | 839          |
| 16                      | 25.5             | 1,125        |
| 25                      | 29.0             | 1,602        |
| 35                      | 32.0             | 2,073        |
| 50                      | 36.0             | 2,628        |
| 70                      | 41.0             | 3,586        |
| 95                      | 44.5             | 4,700        |
| 120                     | 50.0             | 5,848        |
| 150                     | 55.5             | 7,148        |
| 185                     | 61.0             | 8,849        |
| 240                     | 67.5             | 11,313       |
| 300                     | 74.0             | 13,867       |

#### Application :

For wiring of fire resistant safety circuits, such as fire alarm system, emergency lighting and power, public address and emergency voice communication systems in highrise building, control and instrumentation services in industrial, commercial and residential complexes.

#### Special Features on Request

- Tinned Coated Copper Conductor
- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- Nylon Coated



#### Note :

##### Conductor Shape

1.5 - 10 sqmm supplied in solid (re) or non compacted circular stranded (rm) conductor shape

25 - 300 sqmm supplied in compacted circular stranded (cm) conductor shape

##### Tinned Coated Copper Conductor

Electrical properties for tinned coated copper conductor will be submitted upon request

#### Standard Packing

1.5 - 70 sqmm supplied in wooden drum @ 1000 m

95 - 300 sqmm will be supplied in wooden drum on available length

Length Tolerance per drum ± 2%

### Electrical Data

| Conductor        |                       |                       | Inductance | Current - Carrying Capacity at 30°C * |           | Short circuit current at 1 sec |
|------------------|-----------------------|-----------------------|------------|---------------------------------------|-----------|--------------------------------|
| Nom. Cross Sect. | DC Resistance at 20°C | AC Resistance at 90°C |            |                                       |           |                                |
|                  |                       |                       |            | in air                                | in ground |                                |
| (mm²)            | Max. (Ω/km)           | Max. (Ω/km)           | (mH/km)    | Max. (A)                              | Max. (A)  | Max. (kA)                      |
| 1.5              | 12.1                  | 15.429                | 0.315      | 27                                    | 31        | 0.21                           |
| 2.5              | 7.41                  | 9.449                 | 0.293      | 35                                    | 41        | 0.36                           |
| 4                | 4.61                  | 5.878                 | 0.275      | 47                                    | 53        | 0.57                           |
| 6                | 3.08                  | 3.927                 | 0.263      | 59                                    | 67        | 0.86                           |
| 10               | 1.83                  | 2.334                 | 0.248      | 81                                    | 89        | 1.43                           |
| 16               | 1.15                  | 1.467                 | 0.238      | 108                                   | 116       | 2.29                           |
| 25               | 0.727                 | 0.927                 | 0.240      | 146                                   | 151       | 3.58                           |
| 35               | 0.524                 | 0.669                 | 0.233      | 180                                   | 181       | 5.01                           |
| 50               | 0.387                 | 0.494                 | 0.232      | 212                                   | 208       | 7.15                           |
| 70               | 0.268                 | 0.343                 | 0.229      | 265                                   | 254       | 10.01                          |
| 95               | 0.193                 | 0.247                 | 0.224      | 327                                   | 305       | 13.59                          |
| 120              | 0.153                 | 0.197                 | 0.223      | 379                                   | 347       | 17.16                          |
| 150              | 0.124                 | 0.160                 | 0.224      | 442                                   | 392       | 21.45                          |
| 185              | 0.0991                | 0.129                 | 0.225      | 504                                   | 441       | 26.46                          |
| 240              | 0.0754                | 0.099                 | 0.223      | 597                                   | 511       | 34.32                          |
| 300              | 0.0601                | 0.081                 | 0.221      | 685                                   | 576       | 42.90                          |

\* Further information about rating factor for certain cable arrangement can be found on supplementary technical information