



Special Cables



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Multipairs, Twisted in Bundles, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride T11 to BS 6746

Assembly:

Cores twisted to form pairs, 4 pairs twisted to form a bundle, bundles twisted in concentric layers, 2 pairs twisted as star quad

Colour code:

One Pair : Blue / Red

Two Pairs : Grey / Yellow

Three Pairs : Green / Brown

Four Pairs : White / Black

Bundles are identified by coloured polyester Tapes.

Wrapping:

Polyester tapes

Collective Screen:

Aluminum polyester tape with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or grey or blue

Minimum bending radius:

7.5*d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|------------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia. | Max. DC Res. At 20°C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 7.9 | 80 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1 | 10.1 | 100 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1 | 12.1 | 160 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 14.4 | 230 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 16.1 | 300 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 18.5 | 360 |



PVC Insulation

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|---|----|----------|------|-----|-----|------|-----|
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.4 | 20.3 | 450 |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1 | 8.9 | 100 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1 | 12 | 160 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 16 | 300 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.4 | 20 | 430 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.4 | 22 | 550 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.4 | 24.3 | 660 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 26.7 | 800 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Single Pair or Triple, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride T11 to BS 6746

Assembly:

cores twisted to form a pair or triple and wrapped by polyester tapes

Colour code:

Pair : White / Black

Triple : Black / White / Red

Screen:

Collective screen aluminum polyester tape with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or grey or blue

Minimum bending radius:

7.5*d (d= overall diameter)

Temperature rating:

+5oC up to + 50oC during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Cable Size | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1x 2 x 0.5 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 6 | 50 |
| 1x 3 x 0.5 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 6.3 | 60 |
| 1x 2 x 0.75 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 6.4 | 60 |
| 1x 3 x 0.75 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 6.7 | 70 |
| 1x 2 x 1.0 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 6.8 | 70 |
| 1x 3 x 1.0 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 7.1 | 80 |
| 1x 2 x 1.3 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 7.1 | 80 |
| 1x 3 x 1.3 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 7.4 | 90 |
| 1x 2 x 1.5 | 7 x 0.53 | 12.6 | 0.6 | 0.8 | 7.6 | 90 |
| 1x 3 x 1.5 | 7x 0.53 | 12.6 | 0.6 | 0.8 | 8 | 110 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Multipairs, Layers, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride T11 to BS 6746

Assembly:

Cores twisted to form pairs, twisted pairs in concentric layers and wrapped by polyester tapes

Colour code:

Black / White, continuously numbered, or identification tapes numbered

Collective Screen:

Aluminium polyester tape with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or grey or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+50C up to + 50oC during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 10.3 | 122 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1 | 11.1 | 140 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 14.7 | 240 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 17 | 340 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 18.9 | 433 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 21 | 518 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 23.7 | 636 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 26.3 | 867 |



PVC Insulation

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|------|----|----------|------|-----|-----|------|-----|
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1 | 11.2 | 149 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1 | 11.9 | 165 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 15.8 | 291 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 18.3 | 409 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 20.4 | 523 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 22.8 | 631 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 25.7 | 770 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 26.4 | 902 |



PVC Insulation

Multipairs, Layers, Individual and Collective Screen

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|------------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.0 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 12.2 | 172 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 13.1 | 201 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 17.2 | 351 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 19.7 | 486 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 21.9 | 626 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 25.0 | 670 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 27.6 | 923 |
| | 30 | 7 x 0.43 | 18.4 | 0.6 | 1.7 | 30.5 | 1253 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1.2 | 12.8 | 195 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 14.0 | 245 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 18.2 | 425 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 20.3 | 615 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 23.2 | 790 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 27.0 | 880 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 1.7 | 31.2 | 1100 |
| | 30 | 7 x 0.49 | 14.2 | 0.6 | 2.0 | 34.5 | 1450 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14.1 | 228 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 15.4 | 273 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 20.3 | 480 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 24.0 | 700 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 26.7 | 904 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 30.2 | 1119 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2.0 | 34.0 | 1370 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2.2 | 37.4 | 1845 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Multitriples, Layers, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride T11 to BS 6746

Assembly:

Cores twisted to form triples, twisted triples in concentric layers, and wrapped by polyester tapes.

Colour code:

Black / White / Red, continuously numbered, or identification tapes numbered

Wrapping:

Polyester tapes

Collective Screen

Aluminum polyester tape with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or grey or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to +50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of triples | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-------------------|------------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1.0 | 10.1 | 125 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1.0 | 10.8 | 150 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 14.6 | 245 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 16.5 | 347 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 18.7 | 450 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 21.2 | 565 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 24.0 | 670 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 27.7 | 975 |



PVC Insulation

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|------|----|----------|------|-----|-----|------|------|
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1.0 | 10.9 | 145 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1.0 | 11.8 | 190 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 15.9 | 375 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 17.9 | 435 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 20.2 | 535 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 23.8 | 675 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 26.0 | 970 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 30.0 | 1175 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Multitriples, Layers, Collective Screen

TECHNICAL INFORMATION

| Conductor size | Number of triples | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-------------------|----------------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia.No. x | Max. DC Res. At 20° C | | | | |
| mm ² | No. | mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 12.1 | 170 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 13.6 | 255 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 17.6 | 430 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 20.3 | 590 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 22.8 | 750 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 25.6 | 930 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 27.6 | 1090 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1.2 | 12.8 | 200 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 14.4 | 295 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 18.8 | 510 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 21.7 | 710 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 25 | 930 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 27.4 | 1130 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 1.7 | 29.6 | 1335 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14 | 230 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 15.9 | 325 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 20.8 | 570 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 24.8 | 810 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 27.9 | 1120 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 30.7 | 1280 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2 | 33.1 | 1515 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2.2 | 37.3 | 1960 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Multitriples, Layers, Individual and Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride T11 to BS 6746

Assembly:

Cores twisted to form triples, triples screened by aluminum polyester tapes, screened triples twisted in concentric layers, and wrapped by polyester tapes

Colour code:

Black / White / Red, continuously numbered, or identification tapes numbered

Wrapping:

Polyester tapes

Collective Screen

Aluminum polyester tape with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or grey or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of triples | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-------------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 11.7 | 150 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 13.2 | 205 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 17 | 335 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 19.6 | 450 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 22 | 575 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 24.7 | 710 |



PVC Insulation

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|------|----|----------|------|-----|-----|------|------|
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 26.6 | 835 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.7 | 29.2 | 1130 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1 | 12.5 | 165 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 14.1 | 235 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 18.3 | 395 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 21.1 | 550 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 24.2 | 720 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 26.7 | 875 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 28.8 | 1030 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 2 | 32.4 | 1325 |



PVC Insulation

Multitriples, Layers, Individual and Collective Screen

TECHNICAL INFORMATION

| Conductor size | Number of Triples | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-------------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 13.7 | 195 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 15.5 | 285 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 20.3 | 480 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 23.5 | 665 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 27.1 | 880 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.7 | 29.8 | 1060 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.7 | 32.2 | 1250 |
| | 30 | 7 x 0.43 | 18.4 | 0.6 | 2 | 35.3 | 1530 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 14.4 | 230 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 16.4 | 330 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 21.6 | 565 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 25.6 | 810 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.7 | 28.9 | 1050 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.7 | 31.8 | 1270 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 2 | 35.4 | 1525 |
| | 30 | 7 x 0.49 | 14.2 | 0.6 | 2.2 | 37.2 | 1730 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 15.2 | 265 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 17.3 | 365 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 22.9 | 610 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 27.2 | 935 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 30.7 | 1180 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 2 | 33.8 | 1430 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2.2 | 37 | 1710 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2.2 | 40.6 | 2200 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Single Pair, Collective Screen, Galvanized Steel Wire Armour

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes, where mechanical damages are expected to occur.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride TI1 to BS 6746

Assembly:

cores twisted to form a pair and screened by Aluminum Polyester tape with tinned drain wire and wrapped by polyester tapes

Colour code:

Black / White

Screen:

Collective screen of aluminium polyester tapes with tinned drain wire and wrapped by polyester tapes

Bedding:

Polyvinylchloride

Armouring:

Galvanized steel wire armour to BS 1442

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

10 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|----------------|----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia.No. x | Max. DC Res. At 20°C | | | | | |
| mm ² | No. | mm | Ohm/Km | mm | mm | mm | mm | Kg/Km |
| 0.5 | 1 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.3 | 10.7 | 219 |
| 0.75 | 1 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.3 | 11 | 240 |
| 1 | 1 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 1.3 | 11.4 | 255 |
| 1.3 | 1 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 1.4 | 11.8 | 275 |
| 1.5 | 1 | 7 x 0.53 | 12.6 | 0.6 | 0.8 | 1.4 | 12.6 | 300 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Multipairs, Layers, Collective Screen, Galvanized Steel

Wire Armour

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes, where mechanical damages are expected to occur.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride T11 to BS 6746

Assembly:

Cores twisted to form a pairs, pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White continuously numbered, or identification tapes

numbered

Screen:

Collective screen of aluminium polyester tape with tinned drain wire and wrapped by polyester tapes

Bedding:

Polyvinylchloride

Armouring;

Galvanized steel wire armour to BS 1442

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

10 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | mm | Kg/Km |



PVC Insulation

| | | | | | | | | |
|------|----|----------|------|-----|------|-----|------|------|
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.4 | 13.5 | 344 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.4 | 14.6 | 395 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.5 | 18.7 | 665 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 20.7 | 800 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 22.4 | 920 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.7 | 25.3 | 1220 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.7 | 27.2 | 1370 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.9 | 30.1 | 1710 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 15.6 | 395 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 16.7 | 440 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.25 | 1.6 | 21.5 | 760 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.25 | 1.7 | 24.9 | 905 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.7 | 27.0 | 1240 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.8 | 29.6 | 1390 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.9 | 32.7 | 1580 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 2.0 | 36.1 | 1800 |

Multipairs, Layers, Collective Screen, Galvanized Steel Wire Armour

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max.DC Res. At 20° C | | | | | |
| mm ² | No. | No. x mm | Ohm/Km | mm | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 1.5 | 15.2 | 440 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 1.5 | 16.4 | 490 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.25 | 1.6 | 21.1 | 840 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.7 | 24.4 | 1200 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.7 | 26.4 | 1380 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.8 | 28.8 | 1580 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.9 | 31.8 | 1850 |
| | 30 | 7 x 0.43 | 18.4 | 0.6 | 2 | 2 | 35 | 2470 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 1.5 | 15.6 | 460 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.25 | 1.5 | 18.1 | 630 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.25 | 1.6 | 22.2 | 900 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.7 | 25.3 | 1290 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.8 | 28.1 | 1510 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.8 | 30.4 | 1660 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.9 | 32.5 | 1970 |
| | 30 | 7 x 0.49 | 14.2 | 0.6 | 2 | 2 | 35.9 | 2420 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.25 | 1.6 | 18.2 | 620 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.25 | 1.6 | 19.7 | 745 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.7 | 25.2 | 1230 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.8 | 28.1 | 1520 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.9 | 31.3 | 1865 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.9 | 34.1 | 2140 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2 | 2 | 38.3 | 2740 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2 | 2 | 41.6 | 3340 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation

Individual and Collective Screen, Galvanized Steel Wire

Armour

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes, where mechanical damages are expected to occur.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride T11 to BS 6746

Assembly:

Cores twisted to form a pairs, pairs screened by aluminium polyester tapes, screened pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White continuously numbered, or identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Bedding:

Polyvinylchloride

Armouring;

Galvanized steel wire armour to BS 1442

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

10 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden dru



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.4 | 14.7 | 390 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.5 | 15.9 | 450 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 20.4 | 760 |



PVC Insulation

| | | | | | | | | |
|------|----|----------|------|-----|------|-----|------|------|
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 22.7 | 940 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.7 | 25.5 | 1260 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.8 | 27.8 | 1420 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.9 | 30.7 | 1660 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.9 | 33.0 | 2015 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 15.6 | 440 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 16.7 | 490 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.25 | 1.6 | 21.5 | 850 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.7 | 24.9 | 1210 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.7 | 27.0 | 1390 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.8 | 29.6 | 1620 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.9 | 32.7 | 1880 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 2 | 2.0 | 36.1 | 2590 |

Multipairs, Layers, Individual and Collective Screen, Galvanized Steel Wire Armour

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.25 | 1.5 | 17.2 | 570 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.25 | 1.5 | 18.6 | 660 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.25 | 1.7 | 23.1 | 960 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.7 | 26.3 | 1335 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.8 | 28.7 | 1570 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.9 | 32 | 1870 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.9 | 34.6 | 2120 |
| | 30 | 7 x 0.43 | 18.4 | 0.6 | 2 | 2.1 | 38.3 | 2830 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1.25 | 1.5 | 18.2 | 680 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.25 | 1.6 | 20.3 | 850 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.7 | 26.4 | 1350 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.8 | 29.5 | 1560 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.9 | 32 | 1860 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 2 | 2 | 36.6 | 2300 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 2 | 2.1 | 39.3 | 3200 |
| | 30 | 7 x 0.49 | 14.2 | 0.6 | 2 | 2.2 | 44.2 | 3900 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.25 | 1.7 | 22.8 | 1000 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.25 | 1.7 | 24.1 | 1130 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.8 | 30.4 | 1690 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.9 | 34.1 | 2130 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 2 | 38.7 | 2280 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 2 | 2.2 | 43.3 | 3430 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2 | 2.3 | 48.5 | 4420 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2.5 | 2.5 | 52.8 | 5390 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

Multipairs, Twisted in Bundles, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene type 03 to BS 6234

Assembly:

Cores twisted to form pairs, 4 pairs twisted to form a bundle, bundles twisted in concentric layers, 2 pairs twisted as star quad

Colour code:

One Pair : Blue / Red

Two Pairs : Grey / Yellow

Three Pairs : Green / Brown

Four Pairs : White / Black

Bundles are identified by coloured polyester tapes

Wrapping:

Polyester tapes

Collective Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor Size | Number of Pairs | Conductor | | Nominal Insulation Thickness | Nominal Sheath Thickness | Approximate Overall Diameter | Approximate Net Weight |
|-----------------|-----------------|-----------|--------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia | Max. DC Res.At 20° | | | | |
| mm ² | No. | No. x mm | Ohm/ Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 X 0.3 | 39.2 | 0.6 | 1 | 6.9 | 65 |
| | 4 | 7 X 0.3 | 39.2 | 0.6 | 1 | 9.1 | 85 |
| | 8 | 7 X 0.3 | 39.2 | 0.6 | 1 | 11.1 | 140 |
| | 12 | 7 X 0.3 | 39.2 | 0.6 | 1.2 | 13.4 | 195 |
| | 16 | 7 X 0.3 | 39.2 | 0.6 | 1.2 | 15.1 | 260 |
| | 20 | 7 X 0.3 | 39.2 | 0.6 | 1.2 | 16.5 | 340 |
| | 24 | 7 X 0.3 | 39.2 | 0.6 | 1.4 | 18.3 | 430 |



PE Insulation

| | | | | | | | |
|---|----|----------|------|-----|-----|-----|-----|
| 1 | 2 | 7 X 0.43 | 18.4 | 0.6 | 1 | 8.9 | 85 |
| | 4 | 7 X 0.43 | 18.4 | 0.6 | 1 | 12 | 140 |
| | 8 | 7 X 0.43 | 18.4 | 0.6 | 1.2 | 16 | 165 |
| | 12 | 7 X 0.43 | 18.4 | 0.6 | 1.4 | 20 | 390 |
| | 16 | 7 X 0.43 | 18.4 | 0.6 | 1.4 | 22 | 500 |
| | 20 | 7 X 0.43 | 18.4 | 0.6 | 1.4 | 24 | 640 |
| | 24 | 7 X 0.43 | 18.4 | 0.6 | 1.6 | 26 | 780 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PE Insulation

Single Pair or Triple, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-2

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene type 03 to BS 6234

Assembly:

Cores twisted to form a pair or triple and wrapped by polyester tape

Colour code:

Pair: Black / White

Triple: Black / White / Red

Wrapping:

Polyester tapes

Collective Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to +50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Cable Size | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 x 2 x 0.5 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 5.3 | 40 |
| 1 x 3 x 0.5 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 5.6 | 50 |
| 1 x 2 x 0.75 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 6.4 | 56 |
| 1 x 3 x 0.75 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 6.7 | 65 |
| 1 x 2 x 1.0 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 6.8 | 66 |
| 1 x 3 x 1.0 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 7.1 | 75 |
| 1 x 2 x 1.3 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 7.1 | 75 |
| 1 x 3 x 1.3 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 7.4 | 85 |
| 1 x 2 x 1.5 | 7 x 0.53 | 12.6 | 0.6 | 0.8 | 7.6 | 85 |
| 1 x 3 x 1.5 | 7 x 0.53 | 12.6 | 0.6 | 0.8 | 8 | 104 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

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PE Insulation

Multipairs, Layers, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene T11 to BS 6746

Assembly:

Cores twisted to form a pairs,pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White continuously numbered, or identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|-------------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20oC | | | | |
| mm2 | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 9.3 | 98 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1 | 10 | 112 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 13.2 | 189 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 15 | 252 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 16.7 | 318 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 18.7 | 387 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 20.6 | 452 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 23.3 | 640 |



XETH



PE Insulation

| | | | | | | | |
|------|----|----------|------|-----|-----|------|-----|
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1 | 10.1 | 120 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1 | 10.8 | 134 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 14.3 | 232 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 16.3 | 315 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 18.3 | 410 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 20.3 | 490 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 22.5 | 575 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 24.3 | 683 |

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Multipairs, Layers, Collective Screen

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1 | 10.8 | 138 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1 | 11.6 | 160 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 15.4 | 282 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 17.8 | 396 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 19.8 | 504 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 22 | 608 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 24.8 | 745 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1 | 11.7 | 152 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.2 | 13.3 | 215 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 16.5 | 360 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 19.3 | 385 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 21.7 | 575 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 24.2 | 780 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 1.7 | 26.3 | 930 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 12.9 | 194 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14.1 | 233 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 18.6 | 405 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 21.3 | 564 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 24.3 | 797 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 27.1 | 912 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 30.3 | 1104 |
| 30 | 7 x 0.53 | 12.6 | 0.6 | 2 | 33.7 | 1507 | |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PE Insulation

Multipairs, Layers, Individual and Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded plain annealed copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form a pairs, pairs screened by Aluminium Polyester tapes, Screened pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White continuously numbered, or identification tapes numbered

Screen:

Collective screen of Aluminum Polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm2 | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 10.3 | 118 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1 | 11.1 | 136 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 14.7 | 234 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 17 | 325 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 18.9 | 413 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 21 | 495 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 23.7 | 606 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 26.3 | 822 |

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PE Insulation

| | | | | | | | |
|------|----|----------|------|-----|-----|------|-----|
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1 | 11.2 | 145 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1 | 11.9 | 159 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 15.8 | 280 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 18.3 | 390 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 20.4 | 500 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 22.8 | 602 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 25.7 | 736 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 26.4 | 864 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Multipairs, Layers, Individual and Collective Screen

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 12.2 | 170 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 13.1 | 195 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 17.2 | 340 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 19.7 | 465 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 21.9 | 600 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 25 | 645 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 27.6 | 880 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1.2 | 12.8 | 180 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 14 | 230 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 18.2 | 410 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 20.3 | 590 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 23.3 | 760 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 27 | 850 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 1.7 | 31.2 | 1065 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14.1 | 220 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 15.4 | 263 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 20.3 | 460 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 24 | 670 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 26.7 | 865 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 30.2 | 1070 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2 | 34 | 1300 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2.2 | 37.4 | 1750 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PE Insulation

Multitriples, Layers, Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded plain annealed copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form a triples, triples twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White/ Red continuously numbered, or

identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of Triples | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-------------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm2 | No. | No. x mm | Ohm/Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 10.1 | 115 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1 | 10.8 | 135 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 14.6 | 230 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 16.5 | 330 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 18.7 | 420 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 21.2 | 535 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 24 | 635 |



PE Insulation

| | | | | | | | |
|------|----|----------|------|-----|-----|------|------|
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 27.7 | 960 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1 | 10.9 | 130 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1 | 11.8 | 175 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 15.9 | 355 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 17.9 | 415 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 20.2 | 515 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 23.8 | 645 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 26 | 955 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 30 | 1150 |



Multitriples, Layers, Collective Screen

TECHNICAL INFORMATION

| Conductor size | Number of Triples | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-------------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 12.1 | 160 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 13.6 | 240 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 17.6 | 420 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 20.3 | 570 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 22.8 | 730 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 25.6 | 900 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 27.6 | 1050 |
| | 30 | 7 x 0.43 | 18.4 | 0.6 | 1.7 | 33.2 | 1295 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1.2 | 12.8 | 190 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 14.4 | 275 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 18.8 | 485 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 21.7 | 685 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 25 | 910 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.5 | 27.4 | 1100 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 1.7 | 29.6 | 1300 |
| | 30 | 7 x 0.49 | 14.2 | 0.6 | 2 | 35.6 | 1590 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14 | 220 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 15.9 | 300 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 20.8 | 545 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 24.8 | 785 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 27.9 | 1100 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 30.7 | 1250 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2 | 33.1 | 1460 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2.2 | 37.3 | 1920 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PE Insulation

Multitriples, Layers, Individual and Collective Screen

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form triples, triples screened by aluminium by polyester tapes, screened triples Twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White/ Red, continuously numbered or identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of triples | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-------------------|------------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 11.7 | 145 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 13.2 | 195 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 17 | 320 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 19.6 | 430 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 22 | 560 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 24.7 | 680 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 26.6 | 800 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.7 | 29.2 | 1100 |



PE Insulation

| | | | | | | | |
|------|----|----------|------|-----|-----|------|------|
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1 | 12.5 | 160 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 14.1 | 220 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 18.3 | 380 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 21.1 | 530 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 24.2 | 690 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 26.7 | 845 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.7 | 28.8 | 1000 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 2 | 32.4 | 1300 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Multitriples, Layers, Individual and Collective Screen

TECHNICAL INFORMATION

| Conductor Size | Number of Triples | Conductor | | Nominal Insulation Thickness | Nominal Sheath Thickness | Approximate Overall Diameter | Approximate Net Weight |
|-----------------|-------------------|-----------|---------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia | Max. DC Res. At 20° | | | | |
| mm ² | .No | No. x mm | Ohm/ Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 X 0.43 | 18.4 | 0.6 | 1.2 | 13.7 | 185 |
| | 4 | 7 X 0.43 | 18.4 | 0.6 | 1.3 | 15.5 | 270 |
| | 8 | 7 X 0.43 | 18.4 | 0.6 | 1.3 | 20.3 | 465 |
| | 12 | 7 X 0.43 | 18.4 | 0.6 | 1.3 | 23.5 | 650 |
| | 16 | 7 X 0.43 | 18.4 | 0.6 | 1.5 | 27.1 | 850 |
| | 20 | 7 X 0.43 | 18.4 | 0.6 | 1.7 | 29.8 | 1030 |
| | 24 | 7 X 0.43 | 18.4 | 0.6 | 1.7 | 32.2 | 1220 |
| | 30 | 7 X 0.43 | 18.4 | 0.6 | 2 | 35.3 | 1480 |
| 1.3 | 2 | 7 X 0.49 | 14.2 | 0.6 | 1.3 | 14.4 | 220 |
| | 4 | 7 X 0.49 | 14.2 | 0.6 | 1.3 | 16.4 | 310 |
| | 8 | 7 X 0.49 | 14.2 | 0.6 | 1.3 | 21.6 | 540 |
| | 12 | 7 X 0.49 | 14.2 | 0.6 | 1.5 | 25.6 | 780 |
| | 16 | 7 X 0.49 | 14.2 | 0.6 | 1.7 | 28.9 | 1010 |
| | 20 | 7 X 0.49 | 14.2 | 0.6 | 1.7 | 31.8 | 1190 |
| | 24 | 7 X 0.49 | 14.2 | 0.6 | 2 | 35.4 | 1475 |
| | 30 | 7 X 0.49 | 14.2 | 0.6 | 2 | 37.2 | 1680 |
| 1.5 | 2 | 7 X 0.53 | 12.6 | 0.6 | 1.3 | 15.2 | 255 |
| | 4 | 7 X 0.53 | 12.6 | 0.6 | 1.3 | 17.3 | 340 |
| | 8 | 7 X 0.53 | 12.6 | 0.6 | 1.3 | 22.9 | 570 |
| | 12 | 7 X 0.53 | 12.6 | 0.6 | 1.5 | 27.2 | 900 |
| | 16 | 7 X 0.53 | 12.6 | 0.6 | 1.7 | 30.7 | 1150 |
| | 20 | 7 X 0.53 | 12.6 | 0.6 | 2 | 33.8 | 1400 |
| | 24 | 7 X 0.53 | 12.6 | 0.6 | 2.2 | 37 | 1660 |
| | 30 | 7 X 0.53 | 12.6 | 0.6 | 2.2 | 40.6 | 2100 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PE Insulation

Single Pair, Collective Screen, Galvanized Steel Wire Armour

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes, where mechanical damages are expected to occur.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form a pair or triple and screened by aluminium polyester tape with tinned drain wire and wrapped by polyester tapes

Colour code:

Black / White

Bedding:

Polyvinylchloride

Armouring:

Galvanized steel wire armour to BS 1442

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

10 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor Size | Number of Pairs | Conductor | | Nominal Insulation Thickness | Steel wire diameter | Nominal Sheath thickness | Approximate Overall diameter | Approximate Net Weight |
|----------------|-----------------|-----------|--------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia | Max. DC Res.At 20° | | | | | |
| mm2 | No. | No. x mm | Ohm/Km | mm | mm | mm | mm | Kg/Km |
| 0.5 | 1 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.3 | 10.3 | 210 |
| 0.75 | 1 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.3 | 11 | 230 |
| 1 | 1 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 1.3 | 11.4 | 240 |
| 1.3 | 1 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 1.4 | 11.8 | 260 |
| 1.5 | 1 | 7 x 0.53 | 12.6 | 0.6 | 0.8 | 1.4 | 12.6 | 290 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PE Insulation

Multipairs, Layers, Collective Screen, Galvanized Steel

Wire Armour

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes, where mechanical damages are expected to occur.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form pairs, pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White, continuously numbered, or identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Bedding:

Polyvinylchloride

Armouring:

Galvanized steel wire armour BS 1442

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

10x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res.At 20° C | | | | | |
| mm2 | No. | No. x mm | Ohm /Km | mm | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.4 | 13.5 | 330 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.4 | 14.6 | 370 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.5 | 18.7 | 630 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 20.7 | 770 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 22.4 | 880 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.7 | 25.3 | 1170 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.7 | 27.2 | 1340 |



PE Insulation

| | | | | | | | | |
|------|----|----------|------|-----|------|-----|------|------|
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.9 | 30.1 | 1660 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 15.6 | 370 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 16.7 | 410 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.25 | 1.6 | 21.5 | 720 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.25 | 1.7 | 24.9 | 880 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.7 | 27 | 1200 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.8 | 29.6 | 1350 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.9 | 32.7 | 1530 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 2 | 36.1 | 1730 |



Multipairs, Layers, Collective Screen Galvanized Steel Wire Armour

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | mm | Kg/Km |
| 1.0 | 2 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 1.5 | 15.2 | 420 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 1.5 | 16.4 | 470 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.25 | 1.6 | 21.1 | 820 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.7 | 24.4 | 1170 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.7 | 26.4 | 1350 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.8 | 28.8 | 1530 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 1.9 | 31.8 | 1760 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 0.8 | 1.5 | 15.6 | 430 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.25 | 1.5 | 18.1 | 600 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.25 | 1.6 | 22.2 | 860 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.7 | 25.3 | 1240 |
| | 16 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.8 | 28.1 | 1460 |
| | 20 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.8 | 30.4 | 1600 |
| | 24 | 7 x 0.49 | 14.2 | 0.6 | 1.6 | 1.9 | 32.5 | 1900 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.25 | 1.6 | 18.2 | 600 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.25 | 1.6 | 19.7 | 705 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.7 | 25.2 | 1190 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.8 | 28.1 | 1460 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.9 | 31.3 | 1800 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 1.9 | 34.1 | 2090 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 2.0 | 2.0 | 38.3 | 2680 |
| 30 | 7 x 0.53 | 12.6 | 0.6 | 2.0 | 2.2 | 41.6 | 3220 | |



PE Insulation

Multipairs, Layers, Individual and Collective Screen, Galvanized Steel Wire Armour



Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes, where mechanical damages are expected to occur.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form pairs, pairs screened by aluminium polyester tapes, screened pairs twisted in concentric layer and wrapped by polyester tapes

Colour code:

Black / White, continuously numbered, or

identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes.

Bedding:

Polyvinylchloride

Armouring:

Galvanized steel wire armour to BS 1442

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

10x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | steel wire diameter | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | mm | Kg/Km |



PE Insulation

| | | | | | | | | |
|------|----|----------|------|-----|------|-----|------|------|
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.4 | 14.7 | 315 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 1.5 | 15.9 | 410 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 20.4 | 690 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.25 | 1.6 | 22.7 | 820 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.7 | 25.5 | 1160 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.8 | 27.8 | 1320 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.9 | 30.7 | 1580 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 1.9 | 33.0 | 1930 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 15.6 | 355 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 0.8 | 1.5 | 16.7 | 450 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.25 | 1.6 | 21.5 | 755 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.7 | 24.9 | 1110 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.7 | 27.0 | 1260 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.8 | 29.6 | 1540 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 1.9 | 32.7 | 1760 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 2 | 2.0 | 36.1 | 2470 |



Multipairs, Layers, Individual and Collective Screen, Galvanized Steel Wire Armour

TECHNICAL INFORMATION

| Conductor Size | Number of Pairs | Conductor | | Nominal Insulation Thickness | Steel wire diameter | Nominal Sheath thickness | Approximate Overall diameter | Approximate Net Weight |
|-----------------|-----------------|-----------|---------------------|------------------------------|---------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia | Max. DC Res. At 20° | | | | | |
| mm ² | No. | No. x mm | Ohm/Km | mm | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 X 0.43 | 18.4 | 0.6 | 1.25 | 1.5 | 17.2 | 500 |
| | 4 | 7 X 0.43 | 18.4 | 0.6 | 1.25 | 1.5 | 18.6 | 610 |
| | 8 | 7 X 0.43 | 18.4 | 0.6 | 1.25 | 1.7 | 23.1 | 920 |
| | 12 | 7 X 0.43 | 18.4 | 0.6 | 1.6 | 1.7 | 26.3 | 1290 |
| | 16 | 7 X 0.43 | 18.4 | 0.6 | 1.6 | 1.8 | 28.7 | 1500 |
| | 20 | 7 X 0.43 | 18.4 | 0.6 | 1.6 | 1.9 | 32 | 1810 |
| | 24 | 7 X 0.43 | 18.4 | 0.6 | 1.6 | 1.9 | 34.6 | 2130 |
| | 30 | 7 X 0.43 | 18.4 | 0.6 | 2 | 2.1 | 38.3 | 2760 |
| 1.3 | 2 | 7 X 0.49 | 14.2 | 0.6 | 1.25 | 1.5 | 18.2 | 620 |
| | 4 | 7 X 0.49 | 14.2 | 0.6 | 1.25 | 1.6 | 20.3 | 800 |
| | 8 | 7 X 0.49 | 14.2 | 0.6 | 1.6 | 1.7 | 26.4 | 1290 |
| | 12 | 7 X 0.49 | 14.2 | 0.6 | 1.6 | 1.8 | 29.5 | 1480 |
| | 16 | 7 X 0.49 | 14.2 | 0.6 | 1.6 | 1.9 | 32 | 1800 |
| | 20 | 7 X 0.49 | 14.2 | 0.6 | 2 | 2 | 36.6 | 2220 |
| | 24 | 7 X 0.49 | 14.2 | 0.6 | 2 | 2.1 | 39.3 | 3130 |
| | 30 | 7 X 0.49 | 14.2 | 0.6 | 2 | 2.2 | 44.2 | 3810 |
| 1.5 | 2 | 7 X 0.53 | 12.6 | 0.6 | 1.25 | 1.7 | 22.8 | 930 |
| | 4 | 7 X 0.53 | 12.6 | 0.6 | 1.25 | 1.7 | 24.1 | 1070 |
| | 8 | 7 X 0.53 | 12.6 | 0.6 | 1.6 | 1.8 | 30.4 | 1600 |
| | 12 | 7 X 0.53 | 12.6 | 0.6 | 1.6 | 1.9 | 34.1 | 2030 |
| | 16 | 7 X 0.53 | 12.6 | 0.6 | 1.6 | 2 | 38.7 | 2190 |
| | 20 | 7 X 0.53 | 12.6 | 0.6 | 2 | 2.2 | 43.3 | 3320 |
| | 24 | 7 X 0.53 | 12.6 | 0.6 | 2 | 2.3 | 48.5 | 4310 |
| | 30 | 7 X 0.53 | 12.6 | 0.6 | 2.5 | 2.5 | 52.8 | 5280 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Multicores, Layers, Overall Screen of Tinned Copper WireBraid

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black continuously numbered

Screen:

Collective screen of tinned copper wire braid with coverage from 60% up to 80% and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|------------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.1 | 0.6 | 1.2 | 7.2 | 95 |
| | 3 | 7 x 0.43 | 18.1 | 0.6 | 1.2 | 7.6 | 110 |
| | 5 | 7 x 0.43 | 18.1 | 0.6 | 1.3 | 10.3 | 150 |
| | 7 | 7 x 0.43 | 18.1 | 0.6 | 1.3 | 11.1 | 180 |
| | 12 | 7 x 0.43 | 18.1 | 0.6 | 1.4 | 14.2 | 270 |
| | 19 | 7 x 0.43 | 18.1 | 0.6 | 1.4 | 16.3 | 380 |
| | 24 | 7 x 0.43 | 18.1 | 0.6 | 1.6 | 19.2 | 465 |
| 1.5 | 2 | 7 x 0.53 | 12.1 | 0.6 | 1.2 | 9 | 125 |
| | 3 | 7 x 0.53 | 12.1 | 0.6 | 1.2 | 9.4 | 145 |
| | 5 | 7 x 0.53 | 12.1 | 0.6 | 1.3 | 11.2 | 200 |
| | 7 | 7 x 0.53 | 12.1 | 0.6 | 1.3 | 12 | 240 |
| | 12 | 7 x 0.53 | 12.1 | 0.6 | 1.4 | 15.4 | 375 |
| | 19 | 7 x 0.53 | 12.1 | 0.6 | 1.5 | 18 | 545 |
| | 24 | 7 x 0.53 | 12.1 | 0.6 | 1.6 | 21 | 670 |



Single Pair, Collective Screen of Tinned Copper Wire Braid

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form a pair wrapped by polyester tapes

Colour code:

Black / White

Screen:

Collective screen of aluminium polyester tapes and tinned copper wire braid with coverage from 60% up to 80% and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 X 2 X 0.5 | 7 x 0.3 | 39.2 | 0.6 | 0.8 | 6.3 | 40 |
| 1 X 2 X 0.75 | 7 x 0.7 | 24.6 | 0.6 | 0.8 | 6.6 | 46 |
| 1 X 2 X 1.0 | 7 x 0.43 | 18.4 | 0.6 | 0.8 | 7.0 | 53 |
| 1 X 2 X 1.3 | 7 x 0.49 | 14.2 | 0.6 | 0.9 | 7.6 | 65 |
| 1 X 2 X 1.5 | 7 x 0.53 | 12.6 | 0.6 | 0.9 | 8.2 | 73 |



Multipairs, Layers, Overall Screen of Tinned Copper Wire Braid

Application:

These cables are used in the chemical and petrochemical industries for the transmission of analogue and digital signals for measurements and process control purposes.

Engineering Specification:

Standard:

BS 5308-1

Rated Voltage:

300/500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyethelene 03 to BS 6234

Assembly:

Cores twisted to form pairs, twisted pairs in concentric layers and wrapped by polyester tapes

Colour code:

Black / White, continuously numbered, or

identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes and tinned copper wire braid with coverage from 60% up to 80% and wrapped by polyester tapes

Sheath:

Polyvinylchloride TM1 to BS 6746 colour black or blue

Minimum bending radius:

7.5 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm2 | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1 | 9.3 | 95 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1 | 10 | 115 |
| | 6 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 12.3 | 175 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 13.2 | 190 |
| | 10 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 14.5 | 220 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 15 | 250 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1 | 10.1 | 120 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1 | 10.8 | 134 |
| | 6 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 13.8 | 220 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 14.3 | 230 |
| | 10 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 15.8 | 275 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 16.3 | 320 |



Multipairs, Layers, Overall Screen of Plain or Tinned Copper Wire Braid

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.0 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.0 | 10.8 | 135 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.0 | 11.6 | 160 |
| | 6 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 12.8 | 255 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 15.4 | 280 |
| | 10 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 17.2 | 345 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 17.8 | 400 |
| 1.3 | 2 | 7 x 0.49 | 14.2 | 0.6 | 1.0 | 11.4 | 165 |
| | 4 | 7 x 0.49 | 14.2 | 0.6 | 1.2 | 13.5 | 195 |
| | 6 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 14.7 | 260 |
| | 8 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 16.6 | 340 |
| | 10 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 18.1 | 410 |
| | 12 | 7 x 0.49 | 14.2 | 0.6 | 1.3 | 20.2 | 480 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 12.9 | 195 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14.1 | 230 |
| | 6 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 17.8 | 390 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 18.6 | 405 |
| | 10 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 20.6 | 490 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 21.3 | 564 |

Multicores, Layers, Collective Screen, Strande

Application:

These cables are used in fire fighting alarm systems in hazardous area where the safety is highly required during fire condition.

Engineering Specification:

Standard:

IEC 60502

Rated Voltage:

600 / 1000 V

Conductor:

Stranded plain / tinned annealed copper

Insulation:

Flame barrier mica tape, cross-linked polyethylene

Assembly:

Cores twisted together in concentric layers and wrapped by polyester tapes

Colour code:

Black continuously numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Halogen free, low smoke thermoplastic material, red colour

Minimum bending radius:

7.5 x d (d= overall diameter)

Fire resistant property:

750°C according to IEC 331



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.5 | 2 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 10.5 | 115 |
| | 5 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 12.8 | 204 |
| | 7 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 13.8 | 212 |
| | 10 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 17.2 | 352 |
| | 12 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 17.8 | 402 |
| | 19 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 20.6 | 582 |
| | 24 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 23.9 | 720 |
| | 30 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 25.3 | 870 |



PE Insulation

| | | | | | | | |
|-----|----|----------|------|-----|-----|------|------|
| | 37 | 7 x 0.52 | 12.1 | 0.7 | 1.8 | 27.3 | 1040 |
| 2.5 | 2 | 7 x 0.67 | 7.41 | 0.7 | 1.8 | 11.4 | 146 |
| | 5 | 7 x 0.67 | 7.41 | 0.7 | 1.8 | 14.1 | 260 |
| | 7 | 7 x 0.67 | 7.41 | 0.7 | 1.8 | 15.2 | 325 |
| | 10 | 7 x 0.67 | 7.41 | 0.7 | 1.8 | 19.0 | 435 |
| | 12 | 7 x 0.67 | 7.41 | 0.7 | 1.8 | 19.6 | 500 |
| | 19 | 7 x 0.67 | 7.41 | 0.7 | 1.8 | 22.8 | 700 |
| | 24 | 7 x 0.67 | 7.41 | 0.7 | 1.8 | 26.6 | 860 |
| | 30 | 7 x 0.67 | 7.41 | 0.7 | 1.9 | 28.4 | 1040 |
| | 37 | 7 x 0.67 | 7.41 | 0.7 | 1.9 | 30.1 | 1250 |



Fire Resistant Cables

Multipairs, Layers, Collective Screen, Stranded Conductor

Application:

These cables are used in fire fighting alarm systems in hazardous area where the safety is highly required during fire condition.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Stranded plain / tinned annealed copper

Insulation:

Flame barrier mica tape, cross-linked polyethylene

Assembly:

Cores twisted to form pairs, pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White continuously numbered, or identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes.

Sheath:

Halogen free, low smoke thermoplastic material, red colour

Minimum bending radius:

6 x d (d= overall diameter)

Fire resistant property:

750°C according to IEC 331

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 11.1 | 98 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 12.8 | 145 |
| | 6 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 15.3 | 200 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 17.0 | 270 |
| | 10 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 18.8 | 310 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.4 | 19.9 | 355 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.4 | 22.5 | 454 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 25.0 | 560 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 27.1 | 650 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 30.1 | 800 |



Fire Resistant Cables

| | | | | | | | |
|------|----|----------|------|-----|-----|------|-----|
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 11.8 | 110 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 13.7 | 175 |
| | 6 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 16.6 | 245 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 17.7 | 305 |
| | 10 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 20.1 | 370 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.4 | 21.3 | 435 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.4 | 24.1 | 555 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 26.8 | 685 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 29.1 | 800 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 32.3 | 990 |

Multipairs, Layers, Collective Screen, Stranded Conductor

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res.At 20° C | | | | |
| mm2 | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 13.1 | 142 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 15.5 | 230 |
| | 6 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 18.6 | 325 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 19.8 | 405 |
| | 10 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 22.6 | 490 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.4 | 23.9 | 585 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 27.4 | 760 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 30.4 | 940 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 33 | 1100 |
| 1.5 | 30 | 7 x 0.43 | 18.4 | 0.6 | 1.7 | 36.7 | 1360 |
| | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14 | 166 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 16.7 | 286 |
| | 6 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 20.1 | 400 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 21.5 | 505 |
| | 10 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 24.5 | 620 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.4 | 26 | 735 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 29.7 | 960 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 33 | 1185 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 36.1 | 1410 |
| 30 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 40 | 1725 | |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.
- We can meet all other standard as BS 5308 and IEC 502.



Fire Resistant Cables

Multipairs, Layers, Individual and Collective Screen, Stranded Conductor

Application:

These cables are used in fire fighting alarm systems in hazardous area where the safety is highly required during fire condition.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Stranded plain / tinned annealed copper

Insulation:

Flame barrier mica tape, cross-linked polyethylene

Assembly:

Cores twisted to form pairs, pairs screened by aluminium polyester tapes, screened pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Black / White continuously numbered, or Identification tapes numbered

Screen:

Collective screen of aluminum polyester tapes with tinned drain wire and wrapped by polyester tapes

Sheath:

Halogen free, low smoke thermoplastic material, red colour

Minimum bending radius:

6 x d (d= overall diameter)

Fire resistant property:

750°C according to IEC 331

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |



Fire Resistant Cables

| | | | | | | | |
|------|----|----------|------|-----|-----|------|------|
| 0.5 | 2 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 11.8 | 110 |
| | 4 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 13.7 | 170 |
| | 6 | 7 x 0.3 | 39.2 | 0.6 | 1.2 | 16.4 | 234 |
| | 8 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 17.7 | 296 |
| | 10 | 7 x 0.3 | 39.2 | 0.6 | 1.3 | 20.1 | 360 |
| | 12 | 7 x 0.3 | 39.2 | 0.6 | 1.4 | 21.3 | 425 |
| | 16 | 7 x 0.3 | 39.2 | 0.6 | 1.4 | 24.1 | 540 |
| | 20 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 26.8 | 670 |
| | 24 | 7 x 0.3 | 39.2 | 0.6 | 1.5 | 29.1 | 780 |
| | 30 | 7 x 0.3 | 39.2 | 0.6 | 1.6 | 32.3 | 960 |
| 0.75 | 2 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 12.5 | 126 |
| | 4 | 7 x 0.37 | 24.6 | 0.6 | 1.2 | 14.5 | 200 |
| | 6 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 17.7 | 285 |
| | 8 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 18.8 | 350 |
| | 10 | 7 x 0.37 | 24.6 | 0.6 | 1.3 | 21.5 | 430 |
| | 12 | 7 x 0.37 | 24.6 | 0.6 | 1.4 | 22.7 | 505 |
| | 16 | 7 x 0.37 | 24.6 | 0.6 | 1.4 | 25.8 | 650 |
| | 20 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 28.7 | 800 |
| | 24 | 7 x 0.37 | 24.6 | 0.6 | 1.5 | 31.1 | 935 |
| | 30 | 7 x 0.37 | 24.6 | 0.6 | 1.6 | 34.6 | 1155 |

Multipairs, Layers, Individual and Collective Screen, Stranded Conductor

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1 | 2 | 7 x 0.43 | 18.4 | 0.6 | 1.2 | 13.1 | 142 |
| | 4 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 15.5 | 230 |
| | 6 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 18.6 | 325 |
| | 8 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 19.8 | 405 |
| | 10 | 7 x 0.43 | 18.4 | 0.6 | 1.3 | 22.6 | 490 |
| | 12 | 7 x 0.43 | 18.4 | 0.6 | 1.4 | 23.9 | 585 |
| | 16 | 7 x 0.43 | 18.4 | 0.6 | 1.5 | 27.4 | 760 |
| | 20 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 30.4 | 940 |
| | 24 | 7 x 0.43 | 18.4 | 0.6 | 1.6 | 33.0 | 1100 |
| | 30 | 7 x 0.43 | 18.4 | 0.6 | 1.7 | 36.7 | 1360 |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14.0 | 166 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 16.7 | 286 |
| | 6 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 20.1 | 400 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 21.5 | 505 |
| | 10 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 24.5 | 620 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.4 | 26.0 | 735 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 29.7 | 960 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.6 | 33.0 | 1185 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 36.1 | 1410 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 40.0 | 1725 |



Multicores, Unscreened, Stranded Conductor

Application:

These cables are used for communication and signaling in fire alarm systems.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Stranded annealed plain copper

Insulation:

polyvinylchloride rated for 105oC

Assembly:

Cores twisted together in concentric layers

Colour code:

Two Core: red, black

Three Core: red, black, blue

Four Core: red, yellow, blue, black

Sheath:

Flame retardant polyvinylchloride, red coloured

Minimum bending radius:

7.5 x d (d= overall diameter)

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.0 | 2 | 7 x 0.43 | 18.1 | 0.6 | 0.8 | 6.6 | 65 |
| | 3 | 7 x 0.43 | 18.1 | 0.6 | 0.8 | 7.0 | 79 |
| | 4 | 7 x 0.43 | 18.1 | 0.6 | 0.8 | 7.6 | 98 |
| | 2 | 7 x 0.52 | 12.1 | 0.6 | 0.8 | 7.1 | 81 |
| | 3 | 7 x 0.52 | 12.1 | 0.6 | 0.9 | 7.8 | 103 |
| | 4 | 7 x 0.52 | 12.1 | 0.6 | 0.9 | 8.5 | 128 |



Multipairs, Layers, Collective Screen, Stranded Conductor

Application:

These cables are used for communication and signaling in fire alarm systems.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Stranded annealed plain copper

Insulation:

Polyvinylchloride rated for 105oC

Assembly:

Cores twisted to form pairs, pairs twisted in concentric layers and wrapped by polyester tapes.

Colour code:

Red / Black continuously numbered, or identification tapes numbered

Screen:

Collective screen of aluminium polyester tap with tinned drainwire and wrapped by polyester tapes

Sheath:

Flame retardant polyvinylchloride, red coloured

Minimum bending radius:

7.5 x d (d= overall diameter)

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|--------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. | | | | |
| | | | At 20° C | | | | |
| mm2 | No. | No. xmm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.5 | 2 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 12 | 155 |
| | 4 | 7 x 0.53 | 12.6 | 0.6 | 1.2 | 14 | 253 |
| | 8 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 18.1 | 457 |
| | 12 | 7 x 0.53 | 12.6 | 0.6 | 1.3 | 21.6 | 652 |
| | 16 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 24.7 | 860 |
| | 20 | 7 x 0.53 | 12.6 | 0.6 | 1.5 | 27.5 | 1058 |
| | 24 | 7 x 0.53 | 12.6 | 0.6 | 1.7 | 30.2 | 1270 |
| | 30 | 7 x 0.53 | 12.6 | 0.6 | 2 | 33.9 | 1600 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Multicores, Unscreened, Solid Conductor

Application:

These cables are used for communication and signaling in fire alarm systems.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Solid annealed plain copper

Insulation:

polyvinylchloride rated for 105oC

Assembly:

Cores twisted together in concentric layers

Colour code:

Two Core: red, black

Three Core: red, black, blue

Four Core: red, yellow, blue, black

Sheath:

Flame retardant polyvinylchloride, red coloured

Minimum bending radius:

7.5 x d (d= overall diameter)

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor Size | Number of Cores | Conductor | | Nominal Insulation thickness | Nominal Theath Thickness | Approximate overall Diameter | Approximate net Weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x Dia | Max.dc Resis. At 20C | | | | |
| mm ² | No. | No.x mm | Ohm/ Km | mm | mm | mm | kg/km |
| 1 | 2 | 1x1.13 | 18.1 | 0.6 | 0.8 | 6.3 | 49 |
| | 3 | 1x1.13 | 18.1 | 0.6 | 0.8 | 6.6 | 65 |
| | 4 | 1x1.13 | 18.1 | 0.6 | 0.8 | 7.2 | 81 |
| 1.5 | 2 | 1x1.35 | 12.1 | 0.6 | 0.8 | 6.7 | 60 |
| | 3 | 1x1.35 | 12.1 | 0.6 | 0.9 | 7.3 | 84 |
| | 4 | 1x1.35 | 12.1 | 0.6 | 0.9 | 8 | 105 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Multipairs, Layers, Collective Screen, Solid Conductor

Application:

These cables are used for communication and signaling in fire alarm systems.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Solid annealed plain copper

Insulation:

Polyvinylchloride rated for 105oC

Assembly:

Cores twisted to form pairs, pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Red / Black continuously numbered, or identification tapes numbered

Screen:

Collective screen of aluminium polyester tap with tinned drain wire and wrapped by polyester tapes

Sheath:

Flame retardant polyvinylchloride, red coloured

Minimum bending radius:

7.5 x d (d= overall diameter)

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor Size | Number of Pairs | Conductor | | Nominal Insulation thickness | Nominal Theath Thickness | Approximate overall Diameter | Approximate net Weight |
|----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No. x Dia | Max.dc Resis. At 20C | | | | |
| mm2 | No. | No. x mm | Ohm/Km | mm | mm | mm | kg/km |
| 1.5 | 2 | 1x1.35 | 12.1 | 0.6 | 1.2 | 11.3 | 142 |
| | 4 | 1x1.35 | 12.1 | 0.6 | 1.2 | 13.1 | 232 |
| | 8 | 1x1.35 | 12.1 | 0.6 | 1.3 | 16.9 | 418 |
| | 12 | 1x1.35 | 12.1 | 0.6 | 1.3 | 20.1 | 596 |
| | 16 | 1x1.35 | 12.1 | 0.6 | 1.5 | 23.3 | 293 |
| | 20 | 1x1.35 | 12.1 | 0.6 | 1.5 | 25.6 | 967 |
| | 24 | 1x1.35 | 12.1 | 0.6 | 1.5 | 27.8 | 1139 |
| | 30 | 1x1.35 | 12.1 | 0.6 | 1.7 | 31.1 | 1426 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Multicores, Unscreened, Flexible Conductor

Application:

These cables are used for communication and signaling in fire alarm systems.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Flexible annealed plain copper

Insulation:

Polyvinylchloride rated for 105oC

Assembly:

Cores twisted together in concentric layers

Colour code:

Two Core: red, black

Three Core: red, black, blue

Four Core: red, yellow, blue, black

Sheath:

Flame retardant polyvinylchloride, red coloured

Minimum bending radius:

7.5 x d (d= overall diameter)

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor Size | Number of Cores | Conductor | | Nominal Insulation thickness | Nominal Theath Thickness | Approximate overall Diameter | Approximate net Weight |
|----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x Dia | Max.dc Resis. At 20C | | | | |
| mm2 | No. | No.x mm | Ohm/Km | mm | mm | mm | kg/km |
| 1 | 2 | 32x0.19 | 19.5 | 0.6 | 0.8 | 6.5 | 49 |
| | 3 | 32x0.19 | 19.5 | 0.6 | 0.8 | 6.9 | 75 |
| | 4 | 32x0.19 | 19.5 | 0.6 | 0.8 | 7.5 | 92 |
| 1.5 | 2 | 36x0.22 | 13.3 | 0.6 | 0.8 | 7.1 | 78 |
| | 3 | 36x0.22 | 13.3 | 0.6 | 0.9 | 7.7 | 99 |
| | 4 | 36x0.22 | 13.3 | 0.6 | 0.9 | 8.4 | 122 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Multipairs, Layers, Collective Screen, Flexible Conductor

Application:

These cables are used for communication and signaling in fire alarm systems.

Engineering Specification:

Standard:

BS-5308

Rated Voltage:

300 / 500 V

Conductor:

Flexible annealed plain copper

Insulation:

Polyvinylchloride rated for 105oC

Assembly:

Cores twisted to form pairs, pairs twisted in concentric layers and wrapped by polyester tapes

Colour code:

Red/Black continuously numbered, or identification tapes numbered

Screen:

Collective screen of aluminium polyester tap with tinned drain wire and wrapped by polyester tapes

Sheath:

Flame retardant polyvinylchloride, red coloured

Minimum bending radius:

7.5 x d (d= overall diameter)

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor Size | Number of Pairs | Conductor | | Nominal Insulation thickness | Nominal Theath Thickness | Approximate overall Diameter | Approximate net Weight |
|----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x Dia | Max.dc Resis. At 20C | | | | |
| mm2 | No. | No.x mm | Ohm/Km | mm | mm | mm | kg/km |
| 1.5 | 2 | 36x0.22 | 13.3 | 0.6 | 1.2 | 11.8 | 143 |
| | 4 | 36x0.22 | 13.3 | 0.6 | 1.2 | 13.7 | 229 |
| | 8 | 36x0.22 | 13.3 | 0.6 | 1.3 | 17.8 | 412 |
| | 12 | 36x0.22 | 13.3 | 0.6 | 1.5 | 21.6 | 585 |
| | 16 | 36x0.22 | 13.3 | 0.6 | 1.5 | 24.4 | 777 |
| | 20 | 36x0.22 | 13.3 | 0.6 | 1.5 | 26.9 | 947 |
| | 24 | 36x0.22 | 13.3 | 0.6 | 1.7 | 29.6 | 1143 |
| | 30 | 36x0.22 | 13.3 | 0.6 | 1.7 | 32.7 | 1395 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Stranded Copper Conductors

PVC Insulation, PVC Sheathed

Application:

For outdoor and indoor installations in damp and wet locations, connecting signaling and control units in industry, in railways, in traffic signals, in thermopower and hydropower stations. They are laid in air, in ducts, in trenches, in steel support brackets or direct in ground, when well protected.

Engineering Specification:

Standard:

IEC – 60502

Rated Voltage:

300 / 500 V

Conductor:

Soft annealed solid copper wire as per class

1 of IEC 228

Insulation:

Polyvinylchloride rated 70oC or 85oC

Assembly:

Cores twisted together to form a round

assembly cable with fillers whenever

necessary

Colour code:

Black cores with white numbers and one green yellow core

Sheath:

Flame retardant polyvinylchloride, black or grey colour

Minimum bending radius:

15 x d (d= overall diameter)

Temperature rating:

+5oC up to + 50oC during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of cores | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|----------------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia.No. x | Max. DC Res. At 20oC | | | | |
| mm ² | No. | mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.5 | 5 | 1x1.38 | 12.1 | 0.8 | 1.8 | 11.8 | 200 |
| | 7 | 1x1.38 | 12.1 | 0.8 | 1.8 | 12.7 | 250 |
| | 10 | 1x1.38 | 12.1 | 0.8 | 1.8 | 15.7 | 340 |
| | 12 | 1x1.38 | 12.1 | 0.8 | 1.8 | 16.2 | 385 |
| | 14 | 1x1.38 | 12.1 | 0.8 | 1.8 | 17 | 435 |
| | 16 | 1x1.38 | 12.1 | 0.8 | 1.8 | 17.8 | 490 |
| | 19 | 1x1.38 | 12.1 | 0.8 | 1.8 | 18.7 | 560 |
| | 24 | 1x1.38 | 12.1 | 0.8 | 1.8 | 21.7 | 700 |
| | 30 | 1x1.38 | 12.1 | 0.8 | 1.8 | 23.8 | 850 |
| | 37 | 1x1.38 | 12.1 | 0.8 | 1.8 | 24.7 | 1000 |
| | 44 | 1x1.38 | 12.1 | 0.8 | 1.8 | 28.4 | 1200 |



PVC Insulation, PVC Sheathed

TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 2.5 | 5 | 1x1.78 | 7.41 | 0.8 | 1.8 | 12.9 | 260 |
| | 7 | 1x1.78 | 7.41 | 0.8 | 1.8 | 13.8 | 330 |
| | 10 | 1x1.78 | 7.41 | 0.8 | 1.8 | 17.2 | 450 |
| | 12 | 1x1.78 | 7.41 | 0.8 | 1.8 | 17.7 | 540 |
| | 14 | 1x1.78 | 7.41 | 0.8 | 1.8 | 18.6 | 600 |
| | 16 | 1x1.78 | 7.41 | 0.8 | 1.8 | 19.6 | 670 |
| | 19 | 1x1.78 | 7.41 | 0.8 | 1.8 | 20.6 | 780 |
| | 24 | 1x1.78 | 7.41 | 0.8 | 1.8 | 24 | 1030 |
| | 30 | 1x1.78 | 7.41 | 0.8 | 1.8 | 25.4 | 1160 |
| | 37 | 1x1.78 | 7.41 | 0.8 | 1.9 | 27.4 | 1410 |
| 4 | 44 | 1x1.78 | 7.41 | 0.8 | 2 | 31.2 | 1670 |
| | 5 | 1x2.26 | 4.61 | 1 | 1.8 | 15.3 | 430 |
| | 7 | 1x2.26 | 4.61 | 1 | 1.8 | 16.5 | 480 |
| | 10 | 1x2.26 | 4.61 | 1 | 1.8 | 20.8 | 670 |
| | 12 | 1x2.26 | 4.61 | 1 | 1.8 | 21.5 | 780 |
| | 14 | 1x2.26 | 4.61 | 1 | 1.8 | 22.6 | 890 |
| | 16 | 1x2.26 | 4.61 | 1 | 1.8 | 23.8 | 1000 |
| | 19 | 1x2.26 | 4.61 | 1 | 1.9 | 25.1 | 1170 |
| | 24 | 1x2.26 | 4.61 | 1 | 2 | 29.6 | 1460 |
| | 30 | 1x2.26 | 4.61 | 1 | 2.1 | 31.6 | 1830 |
| | 37 | 1x2.26 | 4.61 | 1 | 2.2 | 34.1 | 2320 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Stranded Copper Conductors

PVC Insulation, Copper Tape Screened, PVC Sheathed

Application:

For outdoor installations in damp and wet locations, connecting signaling and control units in industry in railways, in traffic signals, in thermopower and hydropower stations. Where electrical interference could alter signal transmission, They are laid in air, in ducts, in trenches, in steel support brackets or direct in ground, when well protected.

Engineering Specification:

Standard:

IEC – 60502

Rated Voltage:

600 / 1000 V

Conductor:

Soft annealed stranded copper wire as per class 2 of IEC 228

Insulation:

Polyvinylchloride rated 70oC or 85oC

Assembly:

Cores twisted together to form a round assembly cable with fillers whenever necessary

Colour code:

Black cores with white numbers and one

green yellow core

Bedding:

Polyvinylchloride rated 70oC

Screen :

Copper tape helically applied over the bedding

Sheath:

Flame retardant polyvinylchloride, black or grey colour

Minimum bending radius:

15 x d (d= overall diameter)

Temperature rating:

+5oC up to + 50oC during operation

Packing:

On non-returnable wooden drum



TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|---------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res.At 20oC | | | | |
| mm2 | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.5 | 5 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 12.3 | 215 |
| | 7 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 13.3 | 265 |
| | 10 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 16.5 | 360 |
| | 12 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 17 | 410 |
| | 14 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 17.8 | 465 |
| | 16 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 18.7 | 530 |
| | 19 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 19.7 | 600 |
| | 24 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 22.9 | 740 |
| | 30 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 24.2 | 890 |
| | 37 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 26.1 | 1070 |
| | 44 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 30.2 | 1295 |



PVC Insulation, Copper Tape Screened, PVC Sheathed

TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|---------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res.At 20oC | | | | |
| mm2 | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 2.5 | 5 | 7x0.67 | 7.41 | 0.8 | 1.8 | 13.4 | 275 |
| | 7 | 7x0.67 | 7.41 | 0.8 | 1.8 | 14.5 | 350 |
| | 10 | 7x0.67 | 7.41 | 0.8 | 1.8 | 18.1 | 480 |
| | 12 | 7x0.67 | 7.41 | 0.8 | 1.8 | 18.7 | 555 |
| | 14 | 7x0.67 | 7.41 | 0.8 | 1.8 | 19.6 | 630 |
| | 16 | 7x0.67 | 7.41 | 0.8 | 1.8 | 20.6 | 710 |
| | 19 | 7x0.67 | 7.41 | 0.8 | 1.8 | 21.7 | 820 |
| | 24 | 7x0.67 | 7.41 | 0.8 | 1.8 | 25.3 | 1020 |
| | 30 | 7x0.67 | 7.41 | 0.8 | 1.8 | 26.8 | 1235 |
| | 37 | 7x0.67 | 7.41 | 0.8 | 1.9 | 28.9 | 1495 |
| 4 | 44 | 7x0.67 | 7.41 | 0.8 | 2 | 33.5 | 1800 |
| | 5 | 7x0.85 | 4.61 | 1 | 1.8 | 16.1 | 440 |
| | 7 | 7x0.85 | 4.61 | 1 | 1.8 | 17.4 | 520 |
| | 10 | 7x0.85 | 4.61 | 1 | 1.8 | 22 | 720 |
| | 12 | 7x0.85 | 4.61 | 1 | 1.8 | 22.7 | 840 |
| | 14 | 7x0.85 | 4.61 | 1 | 1.8 | 23.9 | 950 |
| | 16 | 7x0.85 | 4.61 | 1 | 1.8 | 25.2 | 1070 |
| | 19 | 7x0.85 | 4.61 | 1 | 1.9 | 26.6 | 1260 |
| | 24 | 7x0.85 | 4.61 | 1 | 2 | 31.4 | 1580 |
| | 30 | 7x0.85 | 4.61 | 1 | 2.1 | 33.5 | 1965 |
| 37 | 7x0.85 | 4.61 | 1 | 2.2 | 36.2 | 2510 | |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Stranded Copper Conductors

PVC Insulation, Steel Tape Armoured, PVC Sheathed

Application:

For outdoor and indoor installations in damp and wet locations, Laid Direct in the ground, where mechanical damages are expected to occur. They are normally used in connecting signaling and control units in industry, in railways, in traffic signals, in thermopower and hydropower stations.

Engineering Specification:

Standard:

IEC – 60502

Rated Voltage:

600 / 1000 V

Conductor:

Soft annealed Stranded Copper wire as per class 2 of IEC 228

Insulation:

Polyvinylchloride rated 70oC or 85oC

Assembly:

Cores twisted together to form a round assembly cable with fillers whenever necessary

Colour code:

Black cores with white numbers and one

green yellow core

Bedding:

Polyvinylchloride rated 70°C

Armouring:

Double layers of steel tapes are applied helically

Sheath:

Flame retardant polyvinylchloride, black or grey colour

Minimum bending radius:

15 x d (d= overall diameter)

Temperature rating:

+5°C up to + 50°C during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of cores | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res.At 20° C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 1.5 | 5 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 15.3 | 340 |
| | 7 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 15.7 | 370 |
| | 10 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 18.9 | 495 |
| | 12 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 19.4 | 550 |
| | 14 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 20.2 | 610 |
| | 16 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 21.1 | 670 |
| | 19 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 22.1 | 760 |
| | 24 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 25.3 | 930 |
| | 30 | 7x 0.52 | 12.1 | 0.8 | 1.8 | 27.5 | 1115 |
| | 37 | 7x 0.52 | 12.1 | 0.8 | 1.9 | 28.5 | 1290 |
| | 44 | 7x 0.52 | 12.1 | 0.8 | 2 | 31 | 1500 |



PVC Insulation, Steel Tape Armoured, PVC Sheathed

TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20oC | | | | |
| mm ² | No. | No. xmm | Ohm /Km | mm | mm | mm | Kg/Km |
| 2.5 | 5 | 7x0.67 | 7.41 | 0.8 | 1.8 | 15.8 | 390 |
| | 7 | 7x0.67 | 7.41 | 0.8 | 1.8 | 16.9 | 470 |
| | 10 | 7x0.67 | 7.41 | 0.8 | 1.8 | 20.5 | 630 |
| | 12 | 7x0.67 | 7.41 | 0.8 | 1.8 | 21.1 | 710 |
| | 14 | 7x0.67 | 7.41 | 0.8 | 1.8 | 22 | 800 |
| | 16 | 7x0.67 | 7.41 | 0.8 | 1.8 | 23 | 875 |
| | 19 | 7x0.67 | 7.41 | 0.8 | 1.8 | 24.1 | 1000 |
| | 24 | 7x0.67 | 7.41 | 0.8 | 1.8 | 27.7 | 1225 |
| | 30 | 7x0.67 | 7.41 | 0.8 | 1.9 | 29.8 | 1470 |
| | 37 | 7x0.67 | 7.41 | 0.8 | 2 | 31.5 | 1750 |
| 4 | 5 | 7x0.85 | 4.61 | 1 | 1.8 | 18.5 | 540 |
| | 7 | 7x0.85 | 4.61 | 1 | 1.8 | 19.5 | 670 |
| | 10 | 7x0.85 | 4.61 | 1 | 1.8 | 24.4 | 850 |
| | 12 | 7x0.85 | 4.61 | 1 | 1.8 | 25.2 | 980 |
| | 14 | 7x0.85 | 4.61 | 1 | 1.8 | 26.3 | 1160 |
| | 16 | 7x0.85 | 4.61 | 1 | 1.9 | 27.6 | 1310 |
| | 19 | 7x0.85 | 4.61 | 1 | 2 | 29 | 1520 |
| | 24 | 7x0.85 | 4.61 | 1 | 2.1 | 33.8 | 1900 |
| | 30 | 7x0.85 | 4.61 | 1 | 2.3 | 35.9 | 2350 |
| | 37 | 7x0.85 | 4.61 | 1 | 2.4 | 38.8 | 2970 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



PVC Insulation, Steel Wire Armoured, PVC Sheathed

Application:

For outdoor and indoor installations in damp and wet locations, laid direct in the ground, where mechanical damages are expected to occur. They are normally used in connecting signaling and control units in industry, in railways, in traffic signals, in thermopower and hydropower stations.

Engineering Specification:

Standard:

IEC – 60502

Rated Voltage:

600 / 1000 V

Conductor:

Soft annealed stranded copper wire as per class 2 of IEC 228

Insulation:

Polyvinylchloride rated 70oC or 85oC

Assembly:

Cores twisted together to form a round assembly cable with fillers whenever necessary

Colour code:

Black cores with white numbers and one

green yellow core

Bedding:

Polyvinylchloride rated 70oC

Armouring:

Single layers of steel wire are applied helically

Sheath:

Flame retardant polyvinylchloride, black or grey colour

Minimum bending radius:

15 x d (d= overall diameter)

Temperature rating:

+5oC up to + 50oC during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal Thickness of Steel tape | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|---------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20°C | | | | | |
| mm ² | No. | No. x mm | Ohm/Km | mm | mm | mm | mm | Kg/Km |
| 1.5 | 5 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 14.6 | 350 |
| | 7 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 17 | 430 |
| | 10 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 19.3 | 570 |
| | 12 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 19.8 | 625 |
| | 14 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 20.6 | 690 |
| | 16 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 21.5 | 800 |
| | 19 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 22.5 | 850 |
| | 24 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 25.7 | 1030 |
| | 30 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 27.3 | 1285 |
| | 37 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.8 | 28.9 | 1400 |
| | 44 | 7x 0.52 | 12.1 | 0.8 | 0.2 | 1.9 | 31 | 1800 |



PVC Insulation, Steel Wire Armoured, PVC Sheathed

TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal Thickness of Steel tape | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|---------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20oC | | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | mm | Kg/Km |
| 2.5 | 5 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 16.2 | 440 |
| | 7 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 17.3 | 530 |
| | 10 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 20.9 | 710 |
| | 12 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 21.5 | 790 |
| | 14 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 22.4 | 880 |
| | 16 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 23.4 | 970 |
| | 19 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 24.5 | 1090 |
| | 24 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.8 | 28.1 | 1140 |
| | 30 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.9 | 27.3 | 1630 |
| | 37 | 7x 0.67 | 7.41 | 0.8 | 0.2 | 1.9 | 31.9 | 1875 |
| 4 | 5 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 1.8 | 18.9 | 660 |
| | 7 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 1.8 | 20.3 | 740 |
| | 10 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 1.8 | 24.9 | 960 |
| | 12 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 1.8 | 25.6 | 1120 |
| | 14 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 1.8 | 26.7 | 1270 |
| | 16 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 1.8 | 28 | 1390 |
| | 19 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 1.8 | 29.4 | 1610 |
| | 24 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 2 | 34.4 | 2030 |
| | 30 | 7x 0.85 | 4.61 | 0.8 | 0.2 | 2.1 | 36.5 | 2660 |
| | 37 | 7x 0.85 | 4.61 | 0.8 | 0.5 | 2.2 | 39.4 | 3250 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Stranded Copper Conductors

PVC Insulation, Steel Wire Armoured, PVC Sheathed

Application:

For outdoor and indoor installations in damp and wet locations, laid direct in the ground, where mechanical damages are expected to occur. They are normally used in connecting signaling and control units in industry, in railways, in traffic signals, in thermopower and hydropower stations.

Engineering Specification:

Standard:

IEC – 60502

Rated Voltage:

600 / 1000 V

Conductor:

Soft annealed stranded copper wire as per class 2 of IEC 228

Insulation:

Polyvinylchloride rated 70oC or 85oC

Assembly:

Cores twisted together to form a round assembly cable with fillers whenever necessary

Colour code:

Black cores with white numbers and one

green yellow core

Bedding:

Polyvinylchloride rated 70oC

Armouring:

Single layers of steel wire are applied helically

Sheath:

Flame retardant polyvinylchloride, black or grey colour

Minimum bending radius:

15 x d (d= overall diameter)

Temperature rating:

+5oC up to + 50oC during operation

Packing:

On non-returnable wooden drums



TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal Diameter of steel wire | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | | |
| mm2 | No. | No. x mm | Ohm/Km | mm | mm | mm | mm | Kg/Km |
| 1.5 | 5 | 7x 0.52 | 12.1 | 0.8 | 0.8 | 1.8 | 16.6 | 500 |
| | 7 | 7x 0.52 | 12.1 | 0.8 | 0.8 | 1.8 | 18 | 550 |
| | 10 | 7x 0.52 | 12.1 | 0.8 | 0.8 | 1.8 | 21 | 770 |
| | 12 | 7x 0.52 | 12.1 | 0.8 | 1.6 | 1.8 | 23.3 | 1080 |
| | 14 | 7x 0.52 | 12.1 | 0.8 | 1.6 | 1.8 | 24.2 | 1140 |
| | 16 | 7x 0.52 | 12.1 | 0.8 | 1.6 | 1.8 | 25 | 1260 |
| | 19 | 7x 0.52 | 12.1 | 0.8 | 1.6 | 1.8 | 26 | 1370 |
| | 24 | 7x 0.52 | 12.1 | 0.8 | 1.6 | 1.8 | 28.9 | 1620 |
| | 30 | 7x 0.52 | 12.1 | 0.8 | 1.6 | 1.8 | 31 | 1850 |
| | 37 | 7x 0.52 | 12.1 | 0.8 | 1.6 | 1.9 | 34 | 2250 |
| | 44 | 7x 0.52 | 12.1 | 0.8 | 2 | 2 | 37.3 | 2560 |



PVC Insulation, Steel Wire Armoured, PVC Sheathed

TECHNICAL INFORMATION

| Conductor size | Number of Cores | Conductor | | Nominal insulation thickness | Nominal Diameter of steel wire | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|-----------------------|------------------------------|--------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20° C | | | | | |
| mm ² | No. | No. x mm | Ohm/Km | mm | mm | mm | mm | Kg/Km |
| 2.5 | 5 | 7x 0.67 | 7.41 | 0.8 | 0.8 | 1.8 | 17.8 | 600 |
| | 7 | 7x 0.67 | 7.41 | 0.8 | 0.8 | 1.8 | 19.2 | 660 |
| | 10 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 1.8 | 23.8 | 1160 |
| | 12 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 1.8 | 25 | 1280 |
| | 14 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 1.8 | 26 | 1390 |
| | 16 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 1.8 | 27 | 1510 |
| | 19 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 1.9 | 28.3 | 1670 |
| | 24 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 1.9 | 31.4 | 2030 |
| | 30 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 1.9 | 34.5 | 2450 |
| | 37 | 7x 0.67 | 7.41 | 0.8 | 1.6 | 2 | 37.4 | 2870 |
| | 44 | 7x 0.67 | 7.41 | 0.8 | 2 | 2.1 | 40.5 | 3280 |
| 4 | 5 | 7x 0.85 | 4.61 | 1 | 1.6 | 1.8 | 20.8 | 780 |
| | 7 | 7x 0.85 | 4.61 | 1 | 1.6 | 1.8 | 23.5 | 1190 |
| | 10 | 7x 0.85 | 4.61 | 1 | 1.6 | 1.8 | 27.2 | 1510 |
| | 12 | 7x 0.85 | 4.61 | 1 | 1.6 | 1.8 | 29 | 1700 |
| | 14 | 7x 0.85 | 4.61 | 1 | 1.6 | 1.8 | 30 | 1850 |
| | 16 | 7x 0.85 | 4.61 | 1 | 1.6 | 1.9 | 31.6 | 2040 |
| | 19 | 7x 0.85 | 4.61 | 1 | 1.6 | 1.9 | 33 | 2260 |
| | 24 | 7x 0.85 | 4.61 | 1 | 2 | 2.1 | 38.4 | 3070 |
| | 30 | 7x 0.85 | 4.61 | 1 | 2 | 2.1 | 41.3 | 3560 |
| | 37 | 7x 0.85 | 4.61 | 1 | 2 | 2.2 | 43.2 | 4120 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

Data Cable - Category 5e

Application:

The cable is used for Local Area Computer Networks mainly in office or business environments.

Engineering Specification:

Type:

UTP- Cat 5e

Standard:

TIA / EIA 568 A, ISO / IEC 11801

Conductor:

24 AWG (0.528mm) solid bare conductor

Insulation:

Solid polyethylene, diameter 0.95mm

Pairs:

2 insulated conductors twisted together, Lay varied to minimize crosstalk

Assembly:

4 pairs twisted together

Sheath:

Flame retardant PVC Grey RAL 7032, 5.86mm nominal diameter

Pair Colours:

One Pair : blue & white / blue

Two Pairs : orange & white / orange

Three Pairs : green & white / green

Four Pairs : brown & white / brown

Bending radius:

8 x O.D during installation

Temperature range during operation:

+5°C up to + 50°C



ELECTRICAL CHARACTERISTICS

| Frequency (MHz) | Characteristic impedance (ohms) | Maximum Attenuation (dB /100m @ 20°C) | Near End Cross talk Minimum | Minimum Structural Return Loss (dB) at 100mm |
|-----------------|---------------------------------|---|-----------------------------|--|
| 1 | 100 ± 15% | 2.1 | 65 | 23 |
| 4 | 100 ± 15% | 4.1 | 56 | 23 |
| 10 | 100 ± 15% | 6.5 | 50 | 23 |
| 16 | 100 ± 15% | 8.3 | 47 | 23 |
| 20 | 100 ± 15% | 9.3 | 46 | 23 |
| 31.25 | 100 ± 15% | 11.7 | 43 | 21 |
| 62.5 | 100 ± 15% | 17 | 38 | 18 |
| 100 | 100 ± 15% | 22 | 36 | 16 |
| 125 | 100 ± 15% | 25 | 34 | 16 |

Packaging

Available in easy – pull boxes of 1000 feet (305m) capacity.

This assures the cable will not be damaged during installation due to the “figure 8” internal coiling.

It also enables easy, tidy storage before and during installation.

Data Cable - Category 5e

Application:

The cable is used for Local Area Computer Networks mainly in electrically noisy office or industrial environments.

Engineering Specification:

Type:

STP- Cat 5e

Standard:

TIA/ EIA 568 A, ISO / IEC 11801

Conductor:

24 AWG (0.528mm) solid bare conductor

Insulation:

Solid polyethylene, diameter 1.09mm

Pairs:

2 insulated conductors twisted together, lay varied to minimize crosstalk

Assembly:

4 pairs twisted together

Screen:

Aluminium polyester tape and 0.5mm plain or tinned copper drain wire

Pair Colours:

One Pair : blue & white / blue

Two Pairs : orange & white / orange

Three Pairs : green & white / green

Four Pairs : brown & white / brown

Bending radius:

8 x O.D during installation

Temperature range during operation:

+5°C up to + 50



ELECTRICAL CHARACTERISTICS

| Frequency (MHz) | Characteristic impedance (ohms) | Maximum Attenuation (dB /100m @ 20°C) | Near End Cross talk Minimum | Minimum Structural Return Loss (dB) at 100mm |
|-----------------|---------------------------------|---|-----------------------------|--|
| 0.772 | - | 1.8 | 64 | - |
| 1 | 100 ± 15% | 2 | 62 | 23 |
| 4 | 100 ± 15% | 4.1 | 53 | 23 |
| 10 | 100 ± 15% | 6.5 | 47 | 23 |
| 16 | 100 ± 15% | 8.2 | 44 | 23 |
| 20 | 100 ± 15% | 9.2 | 42 | 23 |
| 31.25 | 100 ± 15% | 11.7 | 39 | 21 |
| 62.5 | 100 ± 15% | 17 | 35 | 18 |
| 100 | 100 ± 15% | 22 | 32 | 16 |
| 125 | 100 ± 15% | 25 | 32 | 16 |

Packaging

Available in easy – pull boxes of 1000 feet (305m) capacity.

This assures the cable will not be damaged during installation due to

the “figure 8” internal coiling. It also enables easy, tidy storage before and during installation.

Data Cable - Category 6

Application:

The cable is used for Local Area Computer Networks where performance greater than that available from category 5 specification is required.

Engineering Specification:

Type:

UTP- Cat 6

Standard:

TIA/ EIA 568 A, ISO / IEC 11801

Conductor:

24 AWG (0.54mm) solid bare conductor

Insulation:

Solid polyethylene, diameter 0.97mm

Pairs:

2 insulated conductors twisted together, Lay varied to minimize crosstalk

Assembly:

4 pairs twisted together

Sheath:

Flame retardant PVC Grey RAL 7032, 5.94mm nominal diameter

Pair Colours:

One Pair : blue & white / blue

Two Pairs : orange & white / orange

Three Pairs : green & white / green

Four Pairs : brown & white / brown

Bending radius:

8 x O.D during installation

Temperature range during operation:

+5°C up to + 50°C



ELECTRICAL CHARACTERISTICS

| Frequency (MHz) | Characteristic impedance (ohms) | Maximum Attenuation (dB /100m @ 20°C) | Near End Cross talk Minimum | Minimum Structural Return Loss (dB) at 100mm |
|-----------------|---------------------------------|---|-----------------------------|--|
| 1 | 100 ± 15% | 1.9 | 80 | 78 |
| 4 | 100 ± 15% | 3.8 | 74 | 70.3 |
| 10 | 100 ± 15% | 6 | 68 | 62.2 |
| 16 | 100 ± 15% | 7.6 | 64 | 56.6 |
| 20 | 100 ± 15% | 8.6 | 62.2 | 53.8 |
| 31.25 | 100 ± 15% | 10.9 | 59 | 48.6 |
| 62.5 | 100 ± 15% | 15.8 | 54 | 39.2 |
| 100 | 100 ± 15% | 20.5 | 50 | 31.2 |
| 125 | 100 ± 15% | 20.9 | 48 | 27.1 |
| 200 | 100 ± 15% | 27 | 42 | 15 |

Packaging

Available in easy – pull boxes of 1000 feet (305m) capacity.

This assures the cable will not be damaged during installation due to the “figure 8” internal coiling.

It also enables easy, tidy storage before and during installation.



Telephone Cable

PVC Insulated Multipairs

Application:

The cable is used for Indoor installation and interconnection of Transmission, Telephone, Telegraph and Electronic equipment.

Engineering Specification:

Standard:

IEC-189 & TC-113

Conductor:

Solid, plain / tinned copper.

Insulation:

PVC rated 70oC as per IEC 189.2

Assembly:

Cores are twisted into pairs and pairs twisted together to form a cable core

Sheath:

Polyvinylchloride as per IEC 189-2 and rip cord is provided under the sheath for easy stripping

Temperature rating:

+5°C to +50°C during operation



COLOUR CODE OF INSULATION

| No. of Pairs | A Wire | B Wire | No. of Pairs | A Wire | B Wire | Unit No. | Colour of Bindings |
|--------------|--------|--------|--------------|--------|--------|----------|--------------------|
| 1 | white | Blue | 11 | Black | Blue | 1 | Blue |
| 2 | White | Orange | 12 | Black | Orange | 2 | Orange |
| 3 | White | Green | 13 | Black | Green | 3 | Green |
| 4 | White | Brown | 14 | Black | Brown | 4 | Brown |
| 5 | White | Grey | 15 | Black | Grey | 5 | Grey |
| 6 | Red | Blue | 16 | Yellow | Blue | 6 | White |
| 7 | Red | Orange | 17 | Yellow | Orange | 7 | Red |
| 8 | Red | Green | 18 | Yellow | Green | 8 | Black |
| 9 | Red | Brown | 19 | Yellow | Brown | 9 | Yellow |
| 10 | Red | Grey | 20 | Yellow | Grey | 10 | Violet |

Pakaging

Cables supplied on coils of (200m) or in non-returnable wooden drums.

PVC Insulated Multipairs

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20°C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.4 | 1 | 1x0.4 | 153 | 0.15 | 0.6 | 3 | 12 |
| | 2 | 1x0.4 | 153 | 0.15 | 0.6 | 4.1 | 19 |
| | 3 | 1x0.4 | 153 | 0.15 | 0.6 | 4.2 | 23 |
| | 4 | 1x0.4 | 153 | 0.15 | 0.6 | 4.6 | 28 |
| | 5 | 1x0.4 | 153 | 0.15 | 0.6 | 5 | 33 |
| | 6 | 1x0.4 | 153 | 0.15 | 0.7 | 5.6 | 40 |
| | 7 | 1x0.4 | 153 | 0.15 | 0.7 | 5.9 | 44 |
| | 10 | 1x0.4 | 153 | 0.15 | 0.7 | 6.7 | 57 |
| | 15 | 1x0.4 | 153 | 0.15 | 0.7 | 7.9 | 79 |
| | 20 | 1x0.4 | 153 | 0.15 | 0.8 | 9.1 | 104 |
| | 25 | 1x0.4 | 153 | 0.15 | 0.8 | 10 | 125 |
| | 30 | 1x0.4 | 153 | 0.15 | 0.8 | 10.7 | 143 |
| | 40 | 1x0.4 | 153 | 0.15 | 0.9 | 12.4 | 191 |
| | 50 | 1x0.4 | 153 | 0.15 | 0.9 | 13.6 | 230 |
| | 60 | 1x0.4 | 153 | 0.15 | 0.9 | 14.7 | 270 |
| | 80 | 1x0.4 | 153 | 0.15 | 1 | 16.9 | 355 |
| | 100 | 1x0.4 | 153 | 0.15 | 1 | 18.6 | 430 |
| | 200 | 1x0.4 | 153 | 0.15 | 1.4 | 28 | 1012 |
| 300 | 1x0.4 | 153 | 0.15 | 1.5 | 33.4 | 1486 | |
| 400 | 1x0.4 | 153 | 0.15 | 1.6 | 38.4 | 1952 | |
| 0.5 | 1 | 1x0.5 | 97.8 | 0.15 | 0.6 | 3.4 | 16 |
| | 2 | 1x0.5 | 97.8 | 0.15 | 0.6 | 4.8 | 6 |
| | 3 | 1x0.5 | 97.8 | 0.15 | 0.6 | 4.9 | 32 |
| | 4 | 1x0.5 | 97.8 | 0.15 | 0.6 | 5.4 | 38 |
| | 5 | 1x0.5 | 97.8 | 0.15 | 0.6 | 5.9 | 45 |
| | 6 | 1x0.5 | 97.8 | 0.15 | 0.7 | 6.6 | 56 |
| | 7 | 1x0.5 | 97.8 | 0.15 | 0.7 | 7 | 63 |
| | 10 | 1x0.5 | 97.8 | 0.15 | 0.7 | 8 | 82 |
| | 15 | 1x0.5 | 97.8 | 0.15 | 0.7 | 9.5 | 114 |
| | 20 | 1x0.5 | 97.8 | 0.15 | 0.8 | 10.9 | 150 |
| | 25 | 1x0.5 | 97.8 | 0.15 | 0.8 | 12 | 180 |
| | 30 | 1x0.5 | 97.8 | 0.15 | 0.9 | 13.2 | 215 |



Telephone Cable

| | | | | | | |
|-----|-------|------|------|-----|------|------|
| 40 | 1x0.5 | 97.8 | 0.15 | 0.9 | 14.9 | 280 |
| 50 | 1x0.5 | 97.8 | 0.15 | 0.9 | 16.5 | 340 |
| 60 | 1x0.5 | 97.8 | 0.15 | 0.9 | 17.9 | 400 |
| 80 | 1x0.5 | 97.8 | 0.15 | 1 | 20.5 | 520 |
| 100 | 1x0.5 | 97.8 | 0.15 | 1 | 22.7 | 640 |
| 200 | 1x0.5 | 97.8 | 0.15 | 1.5 | 30.6 | 1350 |
| 300 | 1x0.5 | 97.8 | 0.15 | 1.6 | 37 | 2000 |

PVC Insulated Multipairs

TECHNICAL INFORMATION

| Conductor size | Number of pairs | Conductor | | Nominal insulation thickness | Nominal sheath thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | | No.x dia. | Max. DC Res. At 20°C | | | | |
| mm ² | No. | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 0.6 | 1 | 1x0.6 | 67.9 | 0.15 | 0.6 | 3.6 | 19 |
| | 2 | 1x0.6 | 67.9 | 0.15 | 0.6 | 5.1 | 31 |
| | 3 | 1x0.6 | 67.9 | 0.15 | 0.6 | 5.2 | 38 |
| | 4 | 1x0.6 | 67.9 | 0.15 | 0.6 | 5.8 | 47 |
| | 5 | 1x0.6 | 67.9 | 0.15 | 0.6 | 6.4 | 57 |
| | 6 | 1x0.6 | 67.9 | 0.15 | 0.7 | 7.1 | 69 |
| | 7 | 1x0.6 | 67.9 | 0.15 | 0.7 | 8.7 | 77 |
| | 10 | 1x0.6 | 67.9 | 0.15 | 0.7 | 10.5 | 103 |
| | 15 | 1x0.6 | 67.9 | 0.15 | 0.8 | 12 | 150 |
| | 20 | 1x0.6 | 67.9 | 0.15 | 0.9 | 13.2 | 195 |
| | 25 | 1x0.6 | 67.9 | 0.15 | 0.9 | 14.3 | 235 |
| | 30 | 1x0.6 | 67.9 | 0.15 | 0.9 | 16.2 | 275 |
| | 40 | 1x0.6 | 67.9 | 0.15 | 0.9 | 17.9 | 355 |
| | 50 | 1x0.6 | 67.9 | 0.15 | 0.9 | 19.6 | 430 |
| | 60 | 1x0.6 | 67.9 | 0.15 | 1 | 22.3 | 515 |
| | 80 | 1x0.6 | 67.9 | 0.15 | 1 | 25.1 | 670 |
| | 100 | 1x0.6 | 67.9 | 0.15 | 1.2 | 26 | 845 |
| 150 | 1x0.6 | 67.9 | 0.15 | 1.4 | 26.7 | 1240 | |
| 200 | 1x0.6 | 67.9 | 0.15 | 1.5 | 30.71 | 1260 | |
| 250 | 1x0.6 | 67.9 | 0.15 | 1.6 | 34 | 2000 | |
| 0.8 | 1 | 1x0.8 | 37.5 | 0.25 | 0.7 | 6.4 | 30 |



Telephone Cable

| | | | | | | |
|-----|-------|------|------|-----|------|------|
| 2 | 1x0.8 | 37.5 | 0.25 | 0.7 | 6.5 | 50 |
| 3 | 1x0.8 | 37.5 | 0.25 | 0.7 | 7.3 | 62 |
| 4 | 1x0.8 | 37.5 | 0.25 | 0.7 | 7.9 | 78 |
| 5 | 1x0.8 | 37.5 | 0.25 | 0.7 | 9 | 91 |
| 6 | 1x0.8 | 37.5 | 0.25 | 0.9 | 9.5 | 115 |
| 7 | 1x0.8 | 37.5 | 0.25 | 0.9 | 11 | 128 |
| 10 | 1x0.8 | 37.5 | 0.25 | 0.9 | 13.1 | 171 |
| 15 | 1x0.8 | 37.5 | 0.25 | 0.9 | 14.8 | 240 |
| 20 | 1x0.8 | 37.5 | 0.25 | 0.9 | 16.5 | 310 |
| 25 | 1x0.8 | 37.5 | 0.25 | 1 | 17.9 | 385 |
| 30 | 1x0.8 | 37.5 | 0.25 | 1 | 20.3 | 450 |
| 40 | 1x0.8 | 37.5 | 0.25 | 1 | 22.9 | 580 |
| 50 | 1x0.8 | 37.5 | 0.25 | 1.2 | 24.8 | 735 |
| 60 | 1x0.8 | 37.5 | 0.25 | 1.2 | 28.7 | 865 |
| 80 | 1x0.8 | 37.5 | 0.25 | 1.4 | 31.7 | 1150 |
| 100 | 1x0.8 | 37.5 | 0.25 | 1.4 | 32.5 | 1410 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

MATV Cables

Application:

TV patented coaxial cables for satellite and digital installations.

Engineering Specification:

Conductor:

Solid plain copper

Insulation:

Cellular polyethylene

Shield:

Aluminium polyester with tinned or plain copper braid

Jacket:

Polyvinylchloride, white or black colour

Packing:

Available in easy – pull boxes 100m or 500m on wooden drums



TECHNICAL INFORMATION

Type: RG - 59 / U MATV

| Conductor Diameter | Insulation Diameter | Shield type & Coverage | Outer Diameter | Nominal Impedance | Nominal Capacitance | Nominal Velocity of Propag. | Nominal Attenuation At 20oC | |
|--------------------|---------------------|------------------------|----------------|-------------------|---------------------|-----------------------------|-----------------------------|------------|
| | | | | | | | MHz | dB / 100 m |
| mm | mm | % | mm | Ohms | PF / m | % | | |
| 0.81 | 3.71 | 100% Al /PET | 6.16 | 75 ± 2% | 53 | 82 | 100 | 8.2 |
| | | Tape + 40% | | | | | 200 | 11.5 |
| | | T. CU braid | | | | | 400 | 16.1 |
| | | | | | | | 700 | 21.3 |

Type: RG - 11 / U MATV

| Conductor Diameter | Insulation Diameter | Shield type & Coverage | Outer Diameter | Nominal Impedance | Nominal Capacitance | Nominal Velocity of Propag. | Nominal Attenuation At 20oC | |
|--------------------|---------------------|------------------------|----------------|-------------------|---------------------|-----------------------------|-----------------------------|------------|
| | | | | | | | MHz | dB / 100 m |
| mm | mm | % | mm | Ohms | PF / m | % | | |
| 1.63 | 7.25 | 100% Al /PET | 10.3 | 75 ± 2% | 53 | 82 | 100 | 3.9 |
| | | Tape + 40% | | | | | 200 | 5.6 |
| | | T. CU braid | | | | | 400 | 7.9 |
| | | | | | | | 700 | 11.5 |

MATV Cables

TECHNICAL INFORMATION

Type: RG - 6 / U MATV

| Conductor Diameter | Insulation Diameter | Shield type & Coverage | Outer Diameter | Nominal Impedance | Nominal Capacitance | Nominal Velocity of Propag. | Nominal Attenuation At 20oC | |
|--------------------|---------------------|------------------------|----------------|-------------------|---------------------|-----------------------------|-----------------------------|------------|
| | | | | | | | MHz | dB / 100 m |
| mm | mm | % | mm | Ohms | PF / m | % | | |
| 1.02 | 4.59 | 100% Al /PET | 7 | 75 ± 2% | 53 | 82 | 100 | 6.6 |
| | | Tape + 40% | | | | | 200 | 9.2 |
| | | T. CU braid | | | | | 400 | 13.1 |
| | | | | | | | 700 | 17.4 |

Type: CF -160 MATV

| Conductor Diameter | Insulation Diameter | Shield type & Coverage | Outer Diameter | Nominal Impedance | Nominal Capacitance | Nominal Velocity of Propag. | Nominal Attenuation At 20oC | |
|--------------------|---------------------|------------------------|----------------|-------------------|---------------------|-----------------------------|-----------------------------|------------|
| | | | | | | | MHz | dB / 100 m |
| mm | mm | % | mm | Ohms | PF / m | % | | |
| 1.14 | 5.1 | 100% Al /PET | 7 | 75 ± 2% | 53 | 82 | 100 | 6 |
| | | Tape + 70% | | | | | 300 | 9 |
| | | T. CU braid | | | | | 500 | 13 |
| | | | | | | | 800 | 16 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

RG Cables

Application:

Cables used for transmitting and receiving high frequency signals in radio frequency devices and connections.

Engineering Specification:

Conductor:

Solid or stranded plain / tinned copper

Insulation:

Solid polyethylene

Shield:

Plain or tinned copper braid

Jacket:

Polyvinylchloride, white or black colour

Packing:

Available in easy – pull boxes 100m or 500m on wooden drums



TECHNICAL INFORMATION

Type: RG - 58 / U

| Conductor Mat. /Const. | Insulation Diameter | Shield type & Coverage | Outer Diameter | Nominal Impedance | Nominal Capacitance | Nominal Velocity of Propag. | Nominal Attenuation At 20°C | |
|---------------------------|------------------------|---------------------------|-------------------|----------------------|------------------------|-----------------------------------|--------------------------------|------------|
| | | | | | | | MHz | dB / 100 m |
| mm | mm | % | mm | Ohms | PF / m | % | 100 | 14.8 |
| CU / 1x0.82 | 2.95 | 96% | 4.9 | 53 ± 2% | 93 | 66 | 200 | 22.3 |
| | | T. CU braid | | | | | 400 | 32.8 |
| | | | | | | | 700 | 45.9 |

RG Cables

Type: RG - 216

| Conductor Mat. /Const. | Insulation Diameter | Shield type & Coverage | Outer Diameter | Nominal Impedance | Nominal Capacitance | Nominal Velocity of Propag. | Nominal Attenuation At 20°C | |
|---------------------------|------------------------|---------------------------|-------------------|----------------------|------------------------|-----------------------------------|--------------------------------|------------|
| | | | | | | | MHz | dB / 100 m |
| mm | mm | % | mm | Ohms | PF / m | % | | |
| CU / 7 x 0.4 | 7.25 | 95% | 10.8 | 75 ± 2% | 67.3 | 66 | 100 | 6.6 |
| | | 2 CU braid | | | | | 200 | 9.5 |
| | | | | | | | 400 | 13.8 |
| | | | | | | | 700 | 19 |

Type: RG - 8 / U

| Conductor Mat. /Const. | Insulation Diameter | Shield type & Coverage | Outer Diameter | Nominal Impedance | Nominal Capacitance | Nominal Velocity of Propag. | Nominal Attenuation At 20°C | |
|---------------------------|------------------------|---------------------------|-------------------|----------------------|------------------------|-----------------------------------|--------------------------------|------------|
| | | | | | | | MHz | dB / 100 m |
| mm | mm | % | mm | Ohms | PF / m | % | | |
| CU / 7 x 0.74 | 7.16 | 97% | 10.29 | 52 ± 2% | 96.8 | 66 | 100 | 6.2 |
| | | CU braid | | | | | 200 | 8.9 |
| | | | | | | | 400 | 13.4 |
| | | | | | | | 700 | 26.2 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

PVC Insulation

Application:

This wire is used in the manufacture of electrical harnesses for cars and other automotive products.

Engineering Specification:

Conductor:

Soft annealed stranded fine wires according to DIN ISO 6722, part 3

Insulation:

Polyvinylchloride, according to DIN ISO 6722, part 2, class A

Colour coding :

Two colours are marked by two diametrically opposed longitudinal stripes

Packing:

Cables are packed in carton boxes

Temperature range:

-40°C up to + to 90 °C



TECHNICAL INFORMATION

| Conductor size | Conductor | | | Nominal insulation thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|------------------|--------------------|------------------------------|------------------------------|------------------------|
| | No.x dia. | Approx. Diameter | Max. DC Res. At 20 | | | |
| mm ² | No. x mm | mm | Ohm /Km | mm | mm | Kg/Km |
| 0.5 | 16 x 0.21 | 1 | 37.1 | 0.6 | 2.2 | 9 |
| 0.75 | 24 x 0.21 | 1.2 | 24.7 | 0.6 | 2.4 | 12 |
| 1 | 32 x 0.21 | 1.35 | 18.5 | 0.6 | 2.6 | 15 |
| 1.5 | 30 x 0.26 | 1.7 | 12.7 | 0.6 | 2.9 | 20 |
| 2 | 40 x 0.26 | 2 | 9.42 | 0.6 | 3.2 | 26 |
| 2.5 | 50 x 0.26 | 2.2 | 7.6 | 0.7 | 3.6 | 32 |
| 3 | 60 x 0.26 | 2.5 | 6 | 0.7 | 3.9 | 37 |
| 4 | 56 x 0.31 | 2.75 | 4.71 | 0.8 | 4.4 | 49 |
| 6 | 84 x 0.31 | 3.3 | 3.14 | 0.8 | 4.9 | 68 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Heat - Resistant PVC Insulation

Application:

This wire is used in the manufacture of electrical harnesses for cars and other automotive products.

Engineering Specification:

Conductor:

Soft annealed stranded fine wires according to DIN ISO 6722, part 3

Insulation:

Heat - resistant polyvinylchloride, according to DIN ISO 6722, part 2, class B

Colour coding :

Two colours are marked by two diametrically opposed longitudinal stripes

Packing:

Cables are packed in carton boxes

Temperature range:

-40°C up to + to 105 °C



TECHNICAL INFORMATION

| Conductor size | Conductor | | | Nominal insulation thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|------------------|--------------------|------------------------------|------------------------------|------------------------|
| | No.x dia. | Approx. Diameter | Max. DC Res. At 20 | | | |
| mm ² | No. x mm | mm | Ohm /Km | mm | mm | Kg/Km |
| 0.5 | 16 x 0.21 | 1 | 37.1 | 0.6 | 2.2 | 9 |
| 0.75 | 24 x 0.21 | 1.2 | 24.7 | 0.6 | 2.4 | 11 |
| 1 | 32 x 0.21 | 1.35 | 18.5 | 0.6 | 2.6 | 14 |
| 1.5 | 30 x 0.26 | 1.7 | 12.7 | 0.6 | 2.9 | 19 |
| 2.5 | 50 x 0.26 | 2.2 | 7.6 | 0.7 | 3.6 | 31 |
| 4 | 56 x 0.31 | 2.75 | 4.71 | 0.8 | 4.4 | 49 |
| 6 | 84 x 0.31 | 3.3 | 3.14 | 0.8 | 4.9 | 68 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

Heat - Pressure Resistant PVC Insulation

Application:

This wire is used in the manufacture of electrical harness for cars and other automotive products.

Engineering Specification:

Conductor:

Soft annealed stranded fine wires according to DIN ISO 6722, part 3

Insulation:

Heat – resistant polyvinylchloride, according to DIN ISO 6722, part 2 class B

(hot pressure resistance test at 120°C)

Colour coding :

Two colours are marked by two diametrically opposed longitudinal stripes

Packing:

Cables are packed in carton boxes

Temperature range:

-20°C up to + to 125 °C



TECHNICAL INFORMATION

| Conductor size | Conductor | | | Nominal insulation thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|------------------|----------------------|------------------------------|------------------------------|------------------------|
| | No.x dia. | Approx. Diameter | Max. DC Res. At 20°C | | | |
| mm ² | No. x mm | mm | Ohm /Km | mm | mm | Kg/Km |
| 0.5 | 16 x 0.21 | 1 | 37.1 | 0.6 | 2.2 | 9 |
| 0.75 | 24 x 0.21 | 1.2 | 24.7 | 0.6 | 2.4 | 11 |
| 1 | 32 x 0.21 | 1.35 | 18.5 | 0.6 | 2.6 | 14 |
| 1.5 | 30 x 0.26 | 1.7 | 12.7 | 0.6 | 2.9 | 19 |
| 2.5 | 50 x 0.26 | 2.2 | 7.6 | 0.7 | 3.6 | 30 |
| 3 | 60 x 0.26 | 2.5 | 6.21 | 0.7 | 3.9 | 36 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

Cold - Resistant PVC Insulation

Application:

This wire is used in the manufacture of electrical harness for cars and other automotive products.

Engineering Specification:

Conductor:

Soft annealed stranded super fine wires

Insulation:

Cold- resistant polyvinylchloride, according to DIN ISO 6722, part 2, class A.

(Cold pressure resistance test at 120°C)

Colour coding :

Two colours are marked by two diametrically opposed longitudinal stripes

Packing:

Cables are packed in carton boxes

Temperature range:

-40°C up to + to 90 °C



TECHNICAL INFORMATION

| Conductor size | Conductor | | | Nominal insulation thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|------------------|----------------------|------------------------------|------------------------------|------------------------|
| | No.x dia. | Approx. Diameter | Max. DC Res. At 20°C | | | |
| mm ² | No. x mm | Mm | Ohm /Km | mm | mm | Kg/Km |
| 0.5 | 28 x 0.16 | 1.1 | 37.7 | 0.6 | 2.3 | 9 |
| 0.75 | 24 x 0.16 | 1.3 | 25.1 | 0.6 | 2.5 | 12 |
| 1 | 57 x 0.16 | 0.5 | 18.8 | 0.6 | 2.7 | 15 |
| 1.5 | 84 x 0.16 | 1.8 | 12.4 | 0.6 | 3 | 20 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



Concentric Conductors with PVC Insulation

Application:

This wire is used in the manufacture of electrical harnesses for cars and other automotive products.

Engineering Specification:

Conductor:

Concentric stranded copper conductor according to DIN ISO 72551, part 6, type A

Insulation:

Polyvinylchloride, according to DIN ISO 72551, part 5

Colour coding :

Two colours are marked by two diametrically opposed longitudinal stripes

Packing:

Cables are packed in carton boxes

Temperature range:

-40°C up to + to 105 °C



TECHNICAL INFORMATION

| Conductor size | Conductor | | | Nominal insulation thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|------------------|----------------------|------------------------------|------------------------------|------------------------|
| | No.x dia. | Approx. Diameter | Max. DC Res. At 20°C | | | |
| mm ² | No. x mm | Mm | Ohm /Km | mm | mm | Kg/Km |
| 0.35 | 7 x 0.26 | 0.8 | 52 | 0.2 | 1.3 | 4.5 |
| 0.5 | 19 x 0.19 | 1 | 37.1 | 0.22 | 1.6 | 6.6 |
| 0.75 | 19 x 0.23 | 1.2 | 24.7 | 0.24 | 1.9 | 9 |
| 1 | 19 x 0.32 | 1.35 | 18.5 | 0.24 | 2.1 | 11 |
| 1.5 | 19 x 0.32 | 1.7 | 12.7 | 0.24 | 2.4 | 16 |
| 2 | 19 x 0.37 | 2 | 9.42 | 0.24 | 2.6 | 22.5 |
| 2.5 | 19 x 0.41 | 2.2 | 7.6 | 0.28 | 3 | 26 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.

PVC Thin Insulation

Application:

This wire is used in the manufacture of electrical harnesses for cars and other automotive products.

Engineering Specification:

Conductor:

Fine wires stranded copper conductor according to DIN ISO 72551, part 6, type B.

Insulation:

Polyvinylchloride, according to DIN ISO 72551, part 5

Colour coding:

Two colours are marked by two diametrically opposed longitudinal stripes

Packing:

Cables are packed in carton boxes

Temperature range:

-40°C up to + to 105 °C



TECHNICAL INFORMATION

| Conductor size | Conductor Details | | | Minimum insulation thickness | Approximate overall diameter | Minimum Concent. Factor | Approximate net weight |
|-----------------|-------------------|------------------|----------------------|------------------------------|------------------------------|-------------------------|------------------------|
| | No. x dia. | Approx. Diameter | Max. DC Res. At 20°C | | | | |
| mm ² | No. x mm | mm | Ohm /Km | mm | mm | % | Kg/Km |
| 0.35 | 12 x 0.21 | 0.9 | 52 | 0.2 | 1.4 | 55 | 4.5 |
| 0.5 | 16 x 0.21 | 1 | 37.1 | 0.22 | 1.6 | 55 | 6.6 |
| 0.75 | 24 x 0.21 | 1.2 | 24.7 | 0.24 | 1.9 | 55 | 9 |
| 1 | 32 x 0.21 | 1.35 | 18.5 | 0.24 | 2.1 | 55 | 11 |
| 1.5 | 30 x 0.26 | 1.7 | 12.7 | 0.24 | 2.4 | 55 | 16 |
| 2 | 30 x 0.31 | 1.9 | 9.31 | 0.24 | 2.6 | 55 | 22.5 |
| 2.5 | 50 x 0.26 | 2.2 | 7.6 | 0.28 | 3 | 55 | 26 |
| 3 | 45 x 0.31 | 2.4 | 6.21 | 0.28 | 3.2 | 55 | 32.5 |
| 4 | 56 x 0.31 | 2.75 | 4.7 | 0.32 | 3.7 | 55 | 42 |
| 6 | 84 x 0.31 | 3.3 | 3.1 | 0.32 | 4.3 | 55 | 61 |



HO5VV-F

Application:

These cables can be used for domestic cooking and heating appliances provided that the cable does not come into contact with the heating elements.

Engineering Specification:

Standard:

BS 6500

Rated Voltage:

300 / 500 V

Conductor:

Stranded plain annealed copper as per BS - 6360

Insulation:

PVC type TI – 2 as per BS - 6746

Colour code:

Blue, Brown

Three cores:

Green / Yellow, Blue, Brown

Four Cores:

Green / Yellow, Black, Blue, Brown.

Assembly:

Cores twisted together to form a round cable

Sheath:

PVC type TM-2 as per BS6746 - white colour

Temperature rating:

+5°C up to + 70°C



TECHNICAL INFORMATION

| Conductor size | Conductor | | Nominal insulation thickness | Nominal Sheath Thickness | Approximate overall diameter | Approximate net weight |
|-----------------|------------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | No. x dia. | Max. DC Res. At 20°C | | | | |
| mm ² | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 2 x 0.75 | 24 x 0.2 | 26.4 | 0.6 | 0.8 | 6.5 | 61 |
| 2 x 1.0 | 32 x 0.2 | 19.5 | 0.6 | 0.8 | 6.8 | 70 |
| 2 x 1.5 | 30 x 0.25 | 13.3 | 0.7 | 0.8 | 7.7 | 91 |
| 2 x 2.5 | 50 x 0.25 | 7.98 | 0.8 | 1 | 9.4 | 139 |
| 2 x 4 | 56 x 0.3 | 4.95 | 0.8 | 1.1 | 10.7 | 192 |
| 3 x 0.75 | 24 x 0.2 | 26.4 | 0.6 | 0.8 | 6.9 | 73 |
| 3 x 1.00 | 32 x 0.2 | 19.5 | 0.6 | 0.8 | 7.2 | 85 |
| 3 x 1.5 | 30 x 0.25 | 13.3 | 0.7 | 0.9 | 8.4 | 114 |
| 3 x 2.5 | 50 x 0.25 | 7.98 | 0.8 | 1.1 | 10.2 | 175 |
| 3 x 4 | 56 x 0.3 | 4.95 | 0.8 | 1.2 | 11.6 | 244 |
| 4 x 0.75 | 24 x 0.2 | 26.4 | 0.6 | 0.9 | 7.7 | 91 |
| 4 x 1.0 | 32 x 0.2 | 19.5 | 0.6 | 0.9 | 8.1 | 106 |
| 4 x 1.5 | 30 x 0.25 | 13.3 | 0.7 | 1 | 9.3 | 142 |
| 4 x 2.5 | 50 x 0.25 | 7.98 | 0.8 | 1.1 | 11.1 | 211 |
| 4 x 4 | 56 x 0.3 | 4.95 | 0.8 | 1.2 | 12.6 | 297 |



HO3VV-F

Application:

These cables are useful in domestic premises, kitchens, offices or light duties for light portable appliances.

Engineering Specification:

Standard:

BS 6500

Rated Voltage:

300 / 300 V

Conductor:

Stranded plain annealed copper as per BS - 6360

Insulation:

PVC type TI – 2 as per BS - 6746

Colour code:

Blue, Brown

Three cores:

Green / Yellow, Blue, Brown

Four Cores:

Green / Yellow, Black, Blue, Brown

Assembly:

Cores twisted together to form a round cable
For flat cables, two cores re laid parallel

Sheath:

PVC type TM-2 as per BS6746 - white colour

Temperature rating:

-5oC up to + 70oC



TECHNICAL INFORMATION

| Conductor size | Conductor | | Nominal insulation thickness | Nominal Sheath Thickness | Approximate overall diameter | Approximate net weight |
|-----------------|-----------|----------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | No.x dia. | Max. DC Res. At 20°C | | | | |
| mm ² | No. x mm | Ohm /Km | mm | mm | mm | Kg/Km |
| 2 x 0.5 | 16 x 0.2 | 39 | 0.5 | 0.6 | 3.6 x 6.0 | 30 |
| 2 x 0.5 | 16 x 0.2 | 39 | 0.5 | 0.6 | 5.2 | 40 |
| 2 x 0.75 | 24 x 0.2 | 26.4 | 0.5 | 0.6 | 3.9 x 6.4 | 40 |
| 2 x 0.75 | 24 x 0.2 | 26.4 | 0.5 | 0.6 | 5.7 | 49 |
| 3 x 0.5 | 16 x 0.2 | 39 | 0.5 | 0.6 | 5.6 | 48 |
| 3 x 0.75 | 24 x 0.2 | 26.4 | 0.5 | 0.6 | 6 | 60 |
| 4 x 0.5 | 16 x 0.2 | 39 | 0.5 | 0.6 | 6.1 | 58 |
| 4 x 0.75 | 24 x 0.2 | 26.4 | 0.5 | 0.6 | 6.6 | 72 |

- The above data are approximate and subject to normal manufacturing tolerance.
- Other types can be provided on specific request.



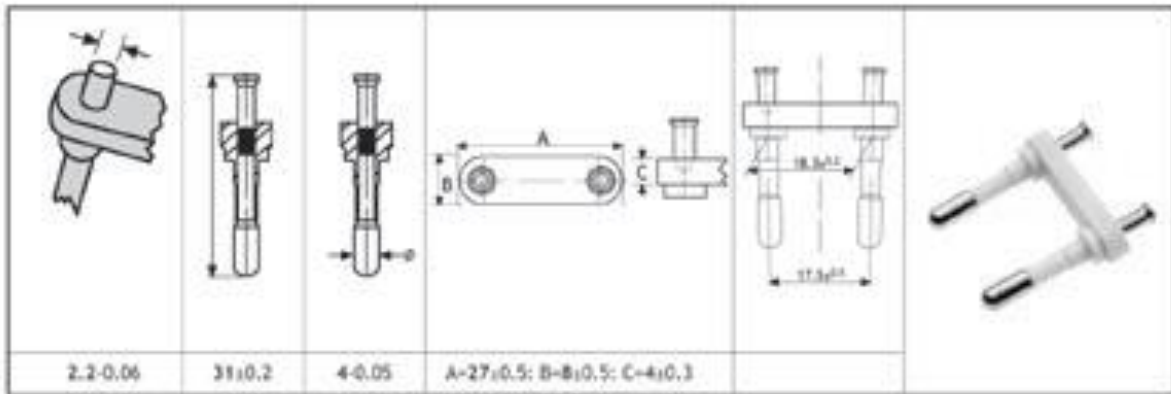
Flat Cords:

Suitable Cables:

HO3VV-F : 2 x 0.75

HO5VV-F : 2 x 0.75

HO5VV-F : 2 x 1.0



Group:

PVC Pug for Safety Class II

Voltage rating

300 / 300 V & 300 / 500 V only allowed for double insulated appliances

Description:

Straight flat plug without earthing contact

Material :

Glass – reinforced polyamide, black or white colour

Permitted current rating:

2.5 Amps AC or 10 Amps AC

Permitted Voltage:

250 V AC

Pins:

4.0 mm Ø solid metal

Pins, nickel – plated

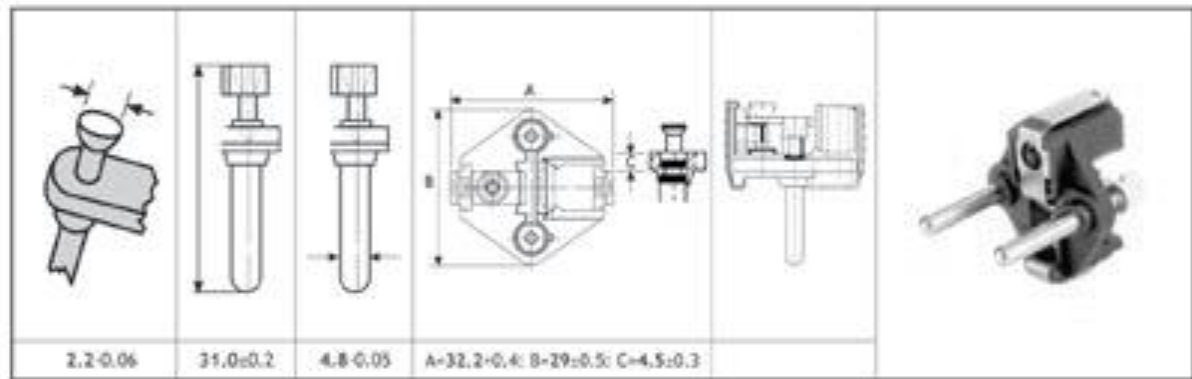
Round Cords with Double Earthing System

Suitable Cables:

HO5VV-F : 3 G 0.75

HO5VV-F : 3 G 1.0

HO5VV-F : 3 G 1.5



Group:

PVC Pug for Safety Class I

Voltage rating

300 / 500 V

Description:

2- pin angled plug with double earthing system

Material :

PBTP 30% glass – reinforced, anthracite black or white colour

Permitted current rating:

10 / 16 Amps AC

Pins:

4.8 mm Ø solid metal

Pins, nickel – plated

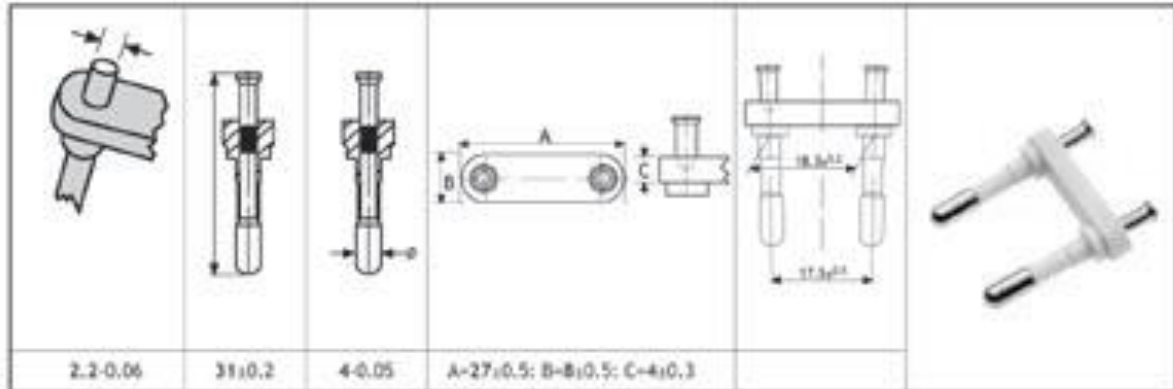
Round Cords with Double Earthing System

Suitable Cables:

HO3VV-F : 3 G 0.75

HO5VV-F : 3 G 0.75

HO5VV-F : 3 G 1.0



Group:

PVC Plug for Safety Class I

Voltage rating:

300 / 300 V & 300 / 500 V

Description:

2 - pin angled plug with lateral earthing system

Material :

PBTP 30% glass – reinforced, anthracite black
or white colour

Permitted current rating:

10 / 16 Amps AC

Pins:

4.8 mm Ø solid metal

Pins, nickel – plated



HNXC

Technical Information

DC resistance of conductor:

DC resistance per unit length of the conductor at another conductor temperature t is given by:

$$R = R_0 [1 + \alpha_{20} (t - 20^\circ\text{C})]$$

Where:

R = DC resistance at temperature t °C Ω/Km

R_0 = DC resistance at temperature 20°C Ω/Km

t = conductor temperature °C

α_{20} = temperature coefficient at 20°C $1/^\circ\text{C}$

AC Resistance of Conductor:

To calculate the AC resistance of the conductor at its operating temperature the following formula is used:

$$R_{ac} = R (1 + K_p + K_s)$$

Where:

K_p and K_s are proximity effect and skin effect factors

Inductance:

Self mutual inductance is defined as follows:

$$L = K + 0.2 \ln \left(\frac{25}{d} \right)$$

Where:

L = Inductance in mH / Km

K = A constant depending on the number of wires in the conductor

d = Conductor diameter in mm

n = Axial spacing between cables in trefoil formation in mm

= $1.26 \times$ axial spacing between cables in flat formation in mm

Capacitance:

The mutual capacitance of the pairs or adjacent cores shall not exceed a maximum of 250 PF/m at a frequency of 1KHz

1- Mutual capacitance of unshielded twisted pair

$$C = \frac{7.218\varepsilon}{\log\left(\frac{1.3D}{fd}\right)}$$

2- Mutual capacitance of shielded twisted pair

$$C = \frac{21.14\varepsilon}{\log\left(\frac{1.2D}{fd}\right)}$$

3- Mutual capacitance of overall shielded & cables

$$C = \frac{9.515\varepsilon}{\log\left(\frac{1.5D}{fd}\right)}$$

Where:

C : Mutual Capacitance In PF/m

ε : Dielectric constant of insulation material

D : Diameter over insulation in mm

d : Diameter over conductor in mm

L / R ratio:

The L / R ratio for adjacent cores shall not exceed the following maximum value:

| Conductor mm ² | Maximum L/R ratio |
|---------------------------|-------------------|
| | μH / Ω |
| 0.5 | 25 |
| 0.75 | 25 |
| 1.5 | 40 |

Impedance Zo (ohms):

$$1- \text{Unshielded twisted pair} : Z_o = \frac{310\sqrt{\epsilon}}{C} \quad \Omega$$

$$2- \text{Shielded twisted pair} : Z_o = \frac{276}{\sqrt{\epsilon}} \log \left(\frac{1.2D}{f (d)} \right) \quad \Omega$$

$$3- \text{Overall shield \& cabled} : Z_o = \frac{347}{\sqrt{\epsilon}} \log \left(\frac{1.5D}{f (d)} \right) \quad \Omega$$

Where:

C : Mutual Capacitance In PF/m

ϵ : Dielectric constant of insulation material

f : Stranding factor depend on no. of wires in conductor

D : Diameter over insulation in mm

d : Diameter over conductor in mm

Attenuation:

The power loss in an electrical system, in cables, generally expressed in decibels (dB) per unit length

$$\text{Attenuation} : (A) = 86.8 \sqrt{\frac{RGW}{2}}$$

Where:

A: Attenuation in dB per 100 ft

R: Resistance (AC)

G: Conductance

W: $2\pi f$ (f= test frequency MHz)

Velocity of Propagation:

The speed of an electrical signal down a length of cable compared to speed in free space expressed as a percent.

It is inversely proportional to the dielectric constant. Lowering the dielectric constant. Lowering the dielectric constant increases the velocity

$$V_p = \frac{1}{\sqrt{\epsilon}} \text{ or } V_p = \frac{1}{\sqrt{LC}}$$

Where:

E : Dielectric constant

L: Inductance

C: Capacitance



Technical Information

| Dielectric medium or material | Vp |
|-------------------------------|------|
| | (%) |
| Air | 100 |
| Solid polyethylene | 65.9 |
| Foamed polyethylene | 80 |
| PVC | 45 |



Fire Resistant cables:

A cable can be described as fire resistant when it complies with the severe test in IEC 331 in which the middle portion of a sample of cable 1200 mm long is supported by two metal rings 300 mm apart and exposed to the flame from a tube type gas burner at 750°C. Simultaneously the rated voltage of the cable is applied continuously throughout the test period. Furthermore, not less than 12 hours after the flame has been extinguished, the cable is reenergized. No electrical failure must occur under these conditions.

Halogen Free Material:

What are Halogens?

Halogens are salts of the elements Fluorine, Chlorine, Bromine and Iodine.

Fluorine and chlorine are important in cable design. For example; Fluorine, Chlorine and Bromine are common components of flame protection additives.

When is a cable Halogen-free?

The burning behavior of cables is very important for the safety of buildings and also in control plants.

Consequently the following points are important:

- Behavior under flame influence ie. the inflammability as the propagation of fire.
- Development of smoke density (darkening of emergency exits, hindrance of the fire fighters).

Cables produced of non halogen – free materials such as those with chlorine in the molecule – chain : polyvinylchloride (PVC), chloroprene rubber (CR), chlorinated polyethylene (CM), have a better behavior in case of fire.

These are barely combustible or not flammable and self-extinguishing, in case of fire molecules of Chlorine (or Fluorine) are released which hinder the access of oxygen at the fire location and hence suffocate the flame.

The disadvantage of these materials is that the released Chlorine (or Fluorine) atoms combine with hydrogen which is decomposed from the plastic material as well as hydrochloric acid or hydrofluoric acid from the existing air. These compounds are extremely corrosive and toxic in consequence, damage by corrosion may be higher than the damage caused by fire.

Halogen-free cables contain no halogens, ie. the insulation and sheath materials of these cables are composed of polymers of pure hydrocarbons. Burning these materials, produce no corrosive compounds or toxic gases, only water vapor and carbon dioxide gas.

For maximum security halogen free cable must be hardly flammable and self-extinguishing . This is achieved by using special polymer compounds, containing high percentages of flame protective materials.

Application:

Halogen-free cable are increasingly specified for public buildings and areas where large numbers of people may be present.

LAN Cables:

The necessity to communicate through digital information, to share data, to reach calculation – resources and to share costly devices has encourages the development of local area networks. A local area network (LAN) is a computer network linking users in a small area. Generally, a local area network connects users located either in the same office, or at the same floor, or in the same building. The success of local area networks is due to their ability to satisfy communication needs at a reasonable price. Compatibility is a critical element.

Local area networks require high-speed channels for data-transmission, permitting the transfer of large blocks of data, images, and video-signals.

The technology used in local networks can reach a transmission rate which is higher than 100 Mbps, ie. higher

than that of traditional direct connections. Moreover, the traditionally low transfer – capacity of public telecommunications is increasing therefore the distinction between direct connection, local area networks and wide area networks is going to lose significance, at least as far as transmission – capacity is concerned. The transmission media is the cable. Common media are phone-pairs, coaxial cables and purpose designed LAN cables which are essentially extremely high performance telephone pairs, sometimes provided with shielding. This kind of shielded cable is more immune to electrical interference and permits high speed transmission over longer distances. Pairs are still the most versatile media for transmission and are often the best choice for new network installations.

Attenuation:

The reduction in a transmitted signal as it passes through wires or equipment in an electrical circuit.

MAXIMUM ATTENUATION VALUES OF CAT 5

| Frequency (MHz) | Maximum attenuation dB |
|--------------------|---------------------------|
| 0.1 | N / A |
| 1 | 2.5 |
| 4 | 4.8 |
| 10 | 7.5 |
| 16 | 9.4 |
| 20 | 10.5 |
| 31.25 | 13.1 |
| 62.5 | 18.4 |
| 100 | 23.2 |

Characteristic Impedance:

The nominal differential characteristic impedance of a cabling link shall be 100Ω at frequencies between 1 MHz and the highest specified frequency for the cabling class. The tolerance of the characteristic impedance in a given link shall not exceed the chosen nominal impedance by more than + 15Ω from 1Mhz up to the highest specified frequency for the class.

Near end crosstalk loss (Next):

The near-end crosstalk loss of a link shall meet or exceed the values shown in table below, and shall be consistent with the design values of cable length and cabling materials used.

MAXIMUM NEXT LOSS OF CAT 5

| Frequency (MHz) | Maximum attenuation dB |
|--------------------|---------------------------|
| 1 | 54 |
| 4 | 45 |
| 10 | 39 |
| 16 | 36 |
| 20 | 35 |
| 31.25 | 32 |
| 62.5 | 27 |
| 100 | 24 |

Attenuation to crosstalk loss ration (ASR):

This is the difference between the crosstalk and the attenuation of the link in dB.

$$ACR(dB) = a_n (dB) - a(dB).$$

Return loss:

The return loss of the cabling, measured at any interface, shall meet or exceed the values shown in the table below:

| Frequency (MHz) | Maximum attenuation dB |
|--------------------|---------------------------|
| $1 \leq F < 10$ | 18 |
| $10 \leq F < 16$ | 15 |
| $16 \leq F < 20$ | 15 |
| $20 \leq F < 100$ | 10 |



Coaxial Cable :

A cable consisting of two cylindrical with a common axis, separated by a dielectric

Electrical Parameters:

1- Characteristic Impedance: $Z_0 = \frac{138}{\sqrt{\epsilon}} \log \left(\frac{D}{d} \right) \Omega$

2- Velocity of Propagation: $V_p = \frac{100\%}{\sqrt{\epsilon}}$

3- Capacitance: $C = \frac{24.148\epsilon}{\log \left(\frac{D}{d} \right)} \text{PF/m}$

4- Inductance: $L = 0.459 \log \left(\frac{D}{d} \right)$

5- Braiding Details:

Braid angle: $\Phi = \tan^{-1} \left(\frac{2 \left(\frac{+e}{C} \right)^p}{C} \right) \text{Degrees}$

Braid picks per cm: $p = \frac{0.394(c) \tan}{2 M}$

Braid resistance: $R = \frac{r}{n(C) (\cos)}$

Where:

D = Diameter under shield in mm

d = conductor diameter in mm

ε = dielectric constant of insulation

= 1.56 cellular polyethylene

= 2.26 solid polyethylene

C= number of carriers

n = number of wires in one carrier

M = D + build of braid on one shield wall in mm

e = diameter of each wire in mm

R = DC resistance of the braid in ohm/km

r = DC resistance of each wire in ohm/km

p = picks per cm



Packing:

1- LAN Cable:

Available in easy – pull boxes of 1000 feet (305m) capacity.

This assures the cable will not be damaged during installation due to the “figure 8” coiling.

It also enables easy, tidy storage before and during installation.

2 - Coaxial Cable:

Available in easy – pull boxes of 100 m or 500m on wooden drum.

3 - Telephone Cable:

Cables supplied on coils of (200m) or in non-returnable wooden drums.

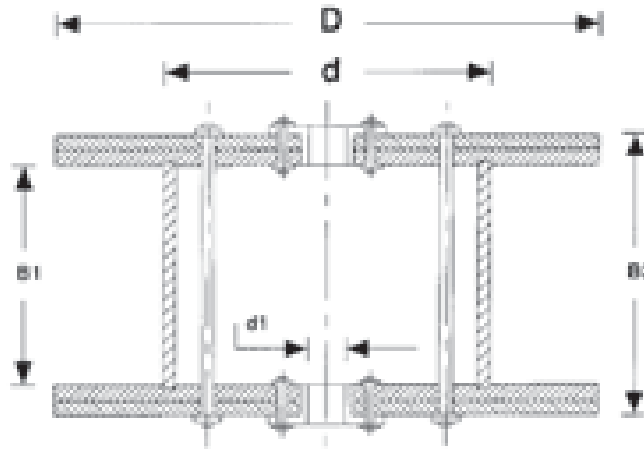
4 - Automotive wires:

Wires are packed in Carton boxes which reduces storage area & cost.

Boxes may be delivered individually or as a solid cube on wooden pallet.

5- Instrumentation, Fire Resistant and Control Cables:

International practice is to supply cables on wooden drums. At the customers request we will also supply on steel drums for improved on-site performance and handling.



DRUM DIMENSIONS

| D | D | d1 | B1 | B2 | W1 | W2 |
|------|------|-----|------|------|-----|------|
| 600 | 300 | 85 | 410 | 530 | 16 | 300 |
| 700 | 350 | 85 | 410 | 530 | 20 | 350 |
| 800 | 400 | 85 | 410 | 530 | 24 | 400 |
| 1000 | 500 | 85 | 610 | 710 | 46 | 800 |
| 1250 | 580 | 85 | 580 | 680 | 60 | 1700 |
| 1400 | 700 | 85 | 800 | 950 | 160 | 2000 |
| 1600 | 700 | 110 | 800 | 950 | 170 | 2500 |
| 1800 | 920 | 110 | 900 | 1050 | 240 | 3000 |
| 2000 | 1020 | 110 | 1200 | 1350 | 335 | 4000 |

| Where: | |
|------------------------------------|-----|
| D : Flange diameter | mm. |
| d : Barrel diameter | mm. |
| d1: Axis hole diameter | mm. |
| B1 : Distance between flanges | mm. |
| B2 : Overall width | mm. |
| W1: Approximate net weight of drum | Kg. |
| W2: Maximum gross weight of drum | Kg. |



Technical Information

Weight – Imperial

| | |
|--------------|---------|
| Ounces | 28.495 |
| Pounds (AV) | 453.59 |
| Pounds (AV) | 0.45359 |
| Tons (short) | 907.19 |
| Tons (long) | 1016.05 |

Weight – Metric

| | |
|-------------|-----------|
| Grams | 0.03527 |
| Grams | 0.002205 |
| Kilograms | 35.274 |
| Kilograms | 2.2046 |
| Kilograms | 0.001102 |
| Kilograms | 0.0009842 |
| Millimeters | 0.03937 |

Miscellaneous – Imperial

| | |
|------------------------|-----------|
| Pounds per 1000 feet | 1.48816 |
| Pounds per mile | 0.28185 |
| Pounds per square inch | 0.0007031 |
| Pounds per square inch | 0.07031 |
| Pounds per cubic | 27.68 |
| Feet per second | 18.288 |
| Feet per second | 1.09728 |
| Miles per hour | 1.60935 |
| Ohms per 1000 feet | 3.28083 |
| Ohms per mile | 0.62137 |
| Decibels per 1000 feet | 3.28083 |
| Decibels per mile | 0.62137 |
| Decibels | 0.1153 |

Miscellaneous – Metric

| | |
|------------------------|---------|
| Kg / Km | 0.67197 |
| Kg / Km | 3.54795 |
| Kg. per square mm | 1422.34 |
| Kg. per square cm | 14.2234 |
| Grams per cubic cm | 0.03613 |
| Meters per minute | 0.05468 |
| Kilometers per hour | 0.91134 |
| Kilometers per hour | 0.62137 |
| Ohms per kilometer | 0.3048 |
| Ohms per kilometer | 1.6093 |
| Decibels per kilometer | 0.3048 |
| Decibels per kilometer | 1.6093 |

Length – Imperial

| | | | |
|--------------|---------------------|------------|------------|
| grams | Mils | 0.001 | Inches |
| grams | Mils | 0.0254 | mm |
| kilograms | Inches | 1000 | Mils |
| kilograms | Inches | 25.40 | Mm |
| kilograms | Inches | 2.54 | Cm |
| | Feet | 30.48 | Cm |
| Ounces | Feet | 0.3048 | Meters |
| Pounds | Feet (thousands of) | 0.3048 | Kilometers |
| Ounces | Yards | 0.9144 | Meters |
| Pounds | miles | 1.3093 | Kilometers |
| Tons (short) | Length-metric | | |
| Tone (long) | Millimeters | 39.37 Mils | |
| inches | | | |

| | | |
|-------------|----------|--------|
| Centimeters | 0.3937 | Inches |
| Centimeters | 0.032808 | Feet |
| Meters | 39.37 | Inches |
| Meters | 3.2808 | Feet |
| Meters | 1.0936 | Yards |
| Kilometers | 3280.83 | Feet |
| Kilometers | 0.62137 | Miles |

Area – Imperial

| | | |
|---------------|--------------|---------------|
| Square mils | 1.2732 | Circular mils |
| Square mils | 0.000001 | Square inches |
| Circular mils | 0.7854 | Square mils |
| Circular mils | 0.0000007954 | Square inches |
| Square mils | 0.0005037 | Square mm. |
| Square inches | 1000000 | Square mils |
| Square inches | 1273240 | Circular mils |
| Square inches | 645.16 | Square mm |
| Square inches | 645.16 | Square cm. |
| Square feet | 0.09290 | Square meters |
| Square yards | 0.8361 | Square meters |

Area – Metric

| | | |
|--------------------|---------|---------------|
| Square millimeters | 1973.52 | Circular mils |
| Square millimeters | 0.00155 | Square inches |
| Square centimeters | 0.155 | Square inches |
| Square meters | 10.7638 | Square feet |
| Square meters | 1.19599 | Square yards |

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Technical Information

Temperature

| | | |
|------------|--------------|--------------|
| Fahrenheit | $5/9(*F)-32$ | *Celsius |
| Celsius | $9/5(*C)+32$ | * Fahrenheit |

Volume – Imperial

| | | |
|-----------------|----------|---------------|
| Cubic inches | 16.38716 | Cubic cm. |
| Cubic feet | 0.028317 | Cubic meters. |
| Volume – U. S. | | |
| Quarts (liquid) | 0.9463 | Liters |
| Gallons | 3.7854 | Liters |

Volume – Metric

| | | |
|--------------|---------|---------------------|
| Cubic cm | 0.06102 | Cubic incuse |
| Cubic meters | 35.3145 | Cubic feet. |
| Liters | 1.05668 | Quarts.(liquid U.S) |
| Liters | 0.26417 | Gallons (U.S.) |



A

Area of conductor

The size of conductor cross-section measured in circular mils, square inches, etc.

Armor

A braid or wrapping of metal, usually steel, used for mechanical protection.

Armored cable

A cable having a metallic covering for protection against mechanical injury.

Astm

The American society for Testing and materials

Attenuation

The reduction in a transmitted signal as it passes through wires or equipment in an electrical circuit.

AWG

Abbreviation for American wire gauge.

Abrasion Resistance:

Ability of a material or cable to resist surface wear.

A.C. Resistance

The total resistance offered by a device to alternating current circuit due to inductive and capacitive effects, as well as the

Alternating voltage:

The voltage developed across a resistance or impedance through which alternating current is flowing.

Ambient temperature

The normal temperature within a given area

American wire gauge

A standard used in the determination of the physical size of a conductor determined by its circular mil area. Usually expressed as AWG. Also referred to as brown and sharpe (B&S) wire gauge.

Ampacity:

The maximum current an insulated wire or cable can safely carry without exceeding either the insulation or jacket material limitations (Same as current carrying capacity).

Ampere

The unit current. One ampere is the current flowing through one ohm of resistance at one volt potential .

Anneal

To subject to high heat with subsequent cooling. When annealing copper, the act of softening the metal by means

direct current resistance.

Active current

In an alternating current, a component in phase with the voltage. The working component as distinguished from the idle or wattless component.

Aerial cable

A cable suspended in the air on poles or other overhead structure.

Air core cable

A telephone cable in which the interstices in the cable core are not filled with a moisture blocking material.

Air spaced coaxial cable

One in which air is the essential dielectric material. A spirally wound synthetic filament or spacer may be used to center the conductor.

Alpeth

A telephone cable having an aluminum shield and a polyethylene jacket.

Alternating current (A.C.)

An electric current that continually reverses its direction giving a repetitive plus and minus wave form at fixed intervals.

of heat to render it less brittle

Anode

The electrode through which a direct current enters the liquid, gas or other discrete part of an electrical circuit; the positively charged pole of an electrochemical cell.

Appliance wire and cable

Appliance wiring material is a classification of underwriters' laboratories, inc., covering insulated wire and cable, internal wiring of appliances and equipment. Each construction satisfies the requirements for use in particular applications.

B

Balance circuit

A circuit so arranged that the impressed voltage on each conductor of the pair are equal in magnitude but opposite in polarity with respect to ground.

Band width

The frequency range of transmitted electrical signals, expressed in Hertz.

Bare conductor



A conductor having no covering. A conductor with no coating

Bedding

A layer of material applied to a cable immediately below the armoring.

Binder

A spirally served tape or thread used for holding assembled cable components in place awaiting subsequent manufacturing operations.

Bonded flat cable

Flat cable consisting of individually insulated conductors lying parallel and bonded together typically for application in electronics, telecommunications. Or computers.

Braid

A fibrous or metallic group of filaments interwoven in cylindrical form to form a covering over one or more wires.

Braid angle

The smaller of the two angles formed by the shielding strand

C

Colour Code

A colour system for circuit identification by use of solid colours, tracers, braids, surface printing, etc.

Composite cable

A cable consisting of two or more different types or sizes of wires.

Concentricity

In a wire or cable, the measurement of the location of the center of the conductor with respect to the geometric center of the circular insulation.

Concentric Stranding

A group of wires twisted so as to contain a center core with one or more distinct layers of spirally wrapped, wires laid overall.

Conductance

The ability of a conductor to carry electric current. It is the reciprocal of resistance and is measured in Mhos.

Conductivity

A term used in describing the capability of a material to carry an electrical charge. Usually expressed as a percentage of copper conductivity copper being one hundred (100%) percent.

Conductor

Any material capable of transferring electrical charge easily.

Control cable

A multi-conductor cable made for operation in control or signal

or cladding on the copper.

and the axis of the cable being shielded.

Breakdown of insulation

Failure of an insulated conductor resulting in a flow of current through the insulation. It may be caused by the application of excess voltage or by defects or decay.

Breakdown voltage

The voltage at which the insulation between two conductors breaks down.

Bunched Strand

Any number of conductor strands twisted together in one direction with the same lay length.

Buried Cable

A cable installed directly in the ground without use of underground conduit. Also called "direct burial cable".

circuits.

Core

In cables, a term used to denote a component or assembly of components, over which other materials are applied, such as additional components, shield, sheath, or armor.

Cross-Sectional Area

The area of the cut surface of an object cut at right angles to the length of the object.

Crosstalk

Signal interference between nearby conductors caused by pickup of stray energy. It is also called induced interference.

Cure

To change the physical properties of a material by chemical reaction, by the action of heat and catalysts, alone or in combination, with or without pressure.

Current

The rate of flow of electricity in a circuit, measured in amperes.

Current Carrying Capacity

The maximum current an insulated conductor or cable can continuously carry without exceeding its temperature rating. It is also called ampacity.

Current, Direct (D.C.)

Electrical current whose electrons flow in one direction only; it may be constant or pulsating as long as their movement is in



the same direction.

Cycle

The complete sequence of alternation or reversal of alternation or reversal of the flow of an alternating electric current. (See Hertz)

Cable

A group of individually insulated conductors in twisted or parallel configuration, with or without an overall covering.

Cable, Star Quad

A multicore radio or television relay cable in which the conductors are arranged in quads and each quad consists of four conductors twisted together, the diagonally opposite conductors constituting a pair circuit. Also known as spiral four cable.

Cabling

The act of twisting together two or more insulated components by machine to form a cable.

Capacitance:

Storage of electrically separated charges between two plates having different potentials.

The value depends on the surface area of the plates and the distance and material between them.

Capacitance, Direct:

The capacitance measured directly with all other conductors, including shield, short circuited to ground.

Capacitance, Mutual

The capacitance between two conductors with all other conductors, including shield, short circuited to ground.

Capacitance unbalance

The inequalities of the capacitances of the wires of a telephone circuit to other wires or to earth which produce interference. Various forms of unbalance arise according to the circuits concerned in the measurement, hence

D

D.C.

Abbreviation for "Direct Current"

Decibel (dB)

A unit to express differences of power level. Used to express power gain in amplifiers or power loss in passive circuits or cables.

Dielectric Constant (K)

side-to-side, pair – to- pair unbalance.

Capacitance unbalance to ground

An inequality of capacitance between the ground capacitance the conductors of a pair which results in a pickup of external source energy, usually from power transmission lines.

Capacitance coupling

Electrical interaction between two conductors caused by the capacitance between them.

Characteristic impedance

The impedance that , when connected to the output terminals of a transmission line of any length, makes the line appear infinitely long. The ratio of voltage to current at every point along a transmission line on which there are no stranding waves.

Charge

The quantity of electricity held statically in a capacitor or an insulated conductor.

Circular Mil

A measurement used in determining the area of wire. The area of a circle one thousandth (.001) of an inch in diameter.

Coating

A material applied to the surface of a conductor to prevent environmental deterioration, facilitate soldering or improve electrical performance.

Coaxial Cable

A cable consisting of two cylindrical conductors with a common axis, separated by a dielectric.

Cold Test

Any test to determine the performance of cable during or after subjection to a specified low temperature for a specified time

The ratio of the capacitance of a capacitor (or consoles) with dielectric between the electrodes to the capacitance with air is between the electrodes. Also called permittivity and specific inductive capacity.

Dielectric Strength

The voltage which an insulation can withstand before breakdown occurs. Usually expressed as a voltage gradient (such as volts per mil).



Dielectric test

A test in which a higher than the rated voltage is applied for a specified time to determine the adequacy of the insulation under normal conditions.

Direct capacitance

The capacitance measured directly from conductor to conductor through a single insulation layer.

Direction of Lay

The direction, either clockwise or counterclockwise, of a conductor or group of conductors when looking axially down a cable length.

Drain Wire

In a cable, an uninsulated wire laid over the component or component and used as a ground connection. Normally laid in contact with a metallic foil shield.

Drawing

In the manufacturing of wire, pulling the metal through a die or series of dies for reduction of diameter to a specified size.

Drop Wire

A telephone cable, usually consisting of one insulated telephone pair, which is used to connect a subscribers premises to open wires lines on poles.

Filler

- (1) A material used in the cable to fill large interstices between electrical components;
- (2) A substance, often inert, added to a compound to improve properties and / or decrease cost.

Film

A thin plastic sheet.

Flame Resistance

Ability of the material to extinguish flame once the source of heat is removed

Flat cable

A cable with two essentially flat surfaces

Flexible Cable

A cable containing one or more cores, each formed of a group of wires, the diameters of the wires, the diameters of the wires being sufficiently small to afford flexibility.

Flexibility

The ease with which a cable may be bent

Foamed Plastics

Plastic insulations having a cellular structure.

Foamskin

Polyethylene foam insulation

Frequency

Number of times an alternating current reverses itself in one second. Expressed in Hertz (Hz), which is one cycle per second.

G

Gauge

A term used to denote physical size.

H

Harness

An arrangement of wires and cables, usually with many breakouts, which have been tied together or pulled into a rubber or plastic sheath, used to interconnect electric circuit.

Heat Resistance

Ability of a substance to maintain physical chemical and electrical integrity under specified temperature conditions.

Henry

Unit of inductance such that the induced voltage in volts is numerically equal to the rate of change of current in amperes per second.

Hertz (Hz)

A term replacing cycles-per seconds as a unit of frequency.

High Temperature wire and cable

Those electrical wires and cable having thermal operating characteristics of 150°C and higher.

Hz

Abbreviation for Hertz.

E

Eccentricity

Like concentricity, a measure of the center of a conductor's location with respect to the circular cross-section of the insulation; expressed as a percentage of center displacement of one circle within the other.

EIA

Abbreviation for Electronic Industries Association.

Elongation

The fractional increase in length of a material stressed in tension.



Embossing

A means of identification or lettering using heat and or pressure to leave raised lettering on the sheath material of the cable.

Emergency overloads

Loads which occur when larger than normal currents are carried through a cable or wire over a short period time.

Extrusion

The process of continuously forcing a plastic or elastomer and a conductor core through a die, thereby applying a continuous coating of insulation or jacket to the core or conductor.

ICEA

Insulated Cable Engineers Association (formerly IPCEA).

Impedance

The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particular frequency. It is a combination of resistance R and reactance X, measured in ohms.

Impulse (Or pulse)

A surge of unidirectional polarity.

Induced Current

An electric current set up in a circuit by interacting electrical fields a current caused by electromagnetic induction.

Inductance

The property of a circuit element that opposes a change in current flow, thus causing current change to lag behind voltage changes. It is measured in Henrys.

Induction

The phenomenon of a voltage, magnetic field or electrostatic charge being produced in an object by lines of force from the source of such fields.

Inductive coupling

Crosstalk resulting from the action of the electromagnetic field of one conductor on the other.

Insulation

A non-conductive material usually surrounding or separating two conductive materials. Often called the dielectric in a radio frequency cable.

IEC

International Electrotechnical Commission, Similar to the ISO in structure and scope.

IEEE

Institute of Electrical and Electronic Engineers.

F

Farad

A unit of electrical capacity

Fext

Far end crosstalk

Figure 8 cable

An aerial cable configuration in which the conductors and the strand which supports the cable are integrally jacketed a cross-section of the finished cable approximates the figure "eight".

Insulation Resistance

That property of an insulating material which resists electrical current flow through the insulating material when a potential difference is applied.

Insulation Thickness

The wall thickness of the applied insulation

Interference

Any undesired electrical signal induced into a conductor by electrical or electromagnetic means (Noise)

ISO

International Standards Organization

Longitudinal shield

A tap shield, flat or corrugated, applied longitudinally along the axis of the cable core being shielded

Loop Resistance

The total resistance of two conductors measured round trip from one end.

Loss Factor

The product of the dissipation and dielectric constant of an insulating material.

M

Marker Tape

A tap laid parallel to the conductors under the sheath in a cable, imprinted with the manufacture's name and the specification to which the cable is made.

Other information such as date of manufacture may



Glossary

also be included.

MCM

One thousand circular Mils.

Megohm

One million ohms

Mho

The unit of conductivity. The reciprocal of an ohm.

Mhz

Megahertz (one million cycles per second)

Microphonics

Noise in a system caused by mechanical vibration of components within the system.

Microwave

A short (usually less than 30cm.) Electrical wave.

Mill

A unit used in measuring diameter of a wire or thickness of insulation over a conductor. One onethousandth of an inch (0.001").

Moisture Resistance

The ability of a material to resist absorbing moisture from the air or when immersed in water.

Multi-Conductor

More than one conductor within a single cable.

Mutual inductance

The ratio of voltage induced in one conductor to the time rate of current change in the separate conductor causing this induction.

Mylar

DuPont trademark for polyethylene terephthalate (polyester) film used in the form of a tape.

J

Jacket

A material covering over a wire insulation or an assembly of components. An overall jacket on a complex cable grouping is also often referred to as a sheath.

K

Kilohertz

1.000 Hertz (cycles per second)

Kilovolt

A term denoting 1000 volts.

Kilowatt

A term denoting 1000 watts.

Next

Near end crosstalk

O

Ohm

Unit of resistance such that a constant current of one ampere produces a force of one volt.

Overall Diameter

Finished diameter over wire or cable

Over Current

The Current which causes and excessive temperature rise in a conductor.

Overload Capacity

The maximum level of current, voltage, or power which a device can withstand before it is damaged.

Lay Direction

The direction in which the strands of a conductor run over the top of the conductor as they recede from and observer looking along the axis of the conductor.

Leakage Current

The undesirable flow of current through or over the surface of an insulation

RFI

Radio Frequency Interference.

RG/U

Radio Government, Universal. RG is the military designation for coaxial cable and U stands for " general Utility".

Round Conductor

A conductor whose cross-section is substantially circular

Oxygen index

Percentage of Oxygen necessary to support combustion of specified material.

P

Pair

Two insulated wires of a single circuit associated together.

Peak Voltage

The maximum instantaneous voltage.

Percent Conductivity

Conductivity of a material expressed as a percentage of that of copper



Polyester

Polyethylene terephthalate which is used extensively in the production of a high strength moisture resistant film used as cable core wrapping material.

Polyethylene

A family of insulating materials derived from polymerization of ethylene gas. They are basically pure hydrocarbon resins, with excellent dielectric properties.

Polypropylene

A thermoplastic polymer of propylene.

Polyvinylchloride (PVC).

A thermoplastic material composed of polymers of vinylchloride which may be rigid or elastomeric, depending on specific formulation.

Power Factor

The ratio of resistance to impedance. The ratio of the actual power of an alternating current to apparent power. Mathematically, the cosine of the angle between the voltage applied and the current resulting.

Propagation time

The required for an electrical wave to travel between two points on a transmission line.

Pulse

A current or voltage which changes abruptly from one value to another and back to the original value in a finite length of time.

Pulse Cable

A type of coaxial cable constructed to transmit repeated high voltage pulses without degradation.

S

Sheath

The material, usually an extruded plastic or elastomer, applied outermost to a wire or cable. Very often referred to as a jacket.

Shield

A metallic layer around an insulated conductor or group of conductors to prevent electrostatic or electromagnetic interference between the enclosed wires and external fields. This shield can be braided or served wires, foil wrap, foil backed tape, a metallic tube, or conductors, the shielding effectiveness is in proportion to the amount of coverage, usually expressed in percentage.

Shield Coverage

The physical area of a cable that is actually covered by the shielding material and is expressed in percentage.

Signal

Current used to convey information, either digital, analogue, audio or video.

Single cable

A cable designed to carry current of usually less than one ampere per conductor.

Skin Effect

The tendency of alternating current, as its frequency increases, to travel only on the surface of a conductor.

Solid Conductor

A conductor consisting of a single wire.

Spark Test

A test designed to locate imperfections (usually pinholes) in a wire insulation by application of an electrical potential across the material for a short period of time while the wire is drawn through an electrode field with one end of the wire grounded.

Specific Gravity

The ratio of the weight of any volume of substance to a weight of an equal volume of some substance taken as a standard, usually water for liquids and hydrogen for gases.

Square Mil

The area of a square on mil by one mil.

Stranded conductor

A conductor composed of individual groups of wires twisted together to form an entire unit.

Strand Lay length

A distance of advance of one strand of a spirally stranded conductor, in one turn, measured axially.

Q

Quad

A four- wire unit of insulated conductors. See star quad

R

Rated Temperature

The maximum temperature at which an electric component can operate for extended periods without loss of its operating properties

Rated Voltage



The maximum voltage at which an electric component can operate for extended periods without degradation of performance or safety hazard.

Reactance

The opposition offered to the flow of alternating current by the inductance or capacitance of a component or circuit

Resistance

In D.C. circuits, the opposition a material offers to current, measured in ohms. In A.C. Circuits, resistance is the real component of impedance, and may be higher than the value measured at D.C.

T

Temperature Rating

The maximum temperature at which insulating material may be used in continuous operation without loss of its basic properties.

Tensile strength

A term denoting the greatest longitudinal tensile stress a substance can bear without mechanical failure.

Thermal Rating

The maximum and / or minimum temperature at which a material will perform its functions without undue degradation.

Thermal Shock

A test to determine the ability of a material to withstand heat and cold by subjecting it to rapid and wide change in temperature.

Tinned Copper

Tin coating over copper to aid in soldering and inhibit corrosion.

Tinned wire

Copper wire that has been coated with a layer of tin or solder to simplify soldering.

Triple (Traid)

A cable consisting of three insulated single conductors twisted together.

Tubing

A tube of extruded non-supported plastic or metallic material.

Twin Cable

A cable composed of two separated insulated stranded conductors laid parallel under a common covering.

Twin Coaxial cable

A single cable consisting of two separate coaxial cables laid adjacent and parallel or twisted together.

Twisted Pair

A twisted pair is composed of two small separately insulated wires twisted together.

Twisted Triad

Any three individually insulated conductors which are twisted together.

V

Velocity of Propagation

The speed of an electric signal down a length of cable compared to speed in free space expressed as a percentage. It is the reciprocal of the square root of the dielectric constant of the cable insulation.

Volt (potential difference)

A unit of electrical pressure. One volt is the amount of pressure that will cause one ampere of current in one ohm of resistance.

Voltage

The term most often used in place of electromotive force, potential, potential difference, or voltage drop, to designate electric pressure that exists between two points and is capable of producing a flow of current when a circuit is connected between the two points.

Voltage Drop.

The amount of voltage loss between two power in a circuit.

Voltage Rating

The highest voltage that may be continuously applied to a wire or cord in conformance with standards or specifications.

Volume Receptivity

The electrical resistance between opposite face of a 1 cm cube of insulating material, commonly expressed in ohms/centimeter.