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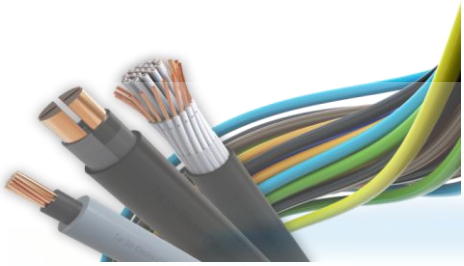
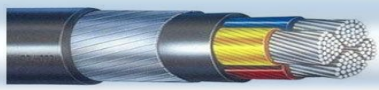
# Electrical Cables



**Heavy Duty Cables;** The cables are suitable for use on AC single phase or three phase (earthed or unearthed) systems for rated voltage up to and including 1100 volts. These cables can be used on DC systems for rated voltage up to and including 1500 volts to earth. These Cables are categorized are various types such as;

| POWER & CONTROL CABLES; | |
|---|---|
| Material | Aluminium/ Copper conductor |
| Insulation type | XLPE Insulation, PVC Insulation |
| Capacity Range | Upto 1.1 kV |
| Dimensions | 1.5 Sq. mm to 1000 Sq. mm Cable range |
| Layers | 1 Core to 100 core, 1.5 & 2.5 sqmm control cable range |
| Type | Armoured / Unarmoured |
| Sheaths | FR/FRLSH/PVC ST2/LSZH sheathing |
| Cables Types | Low Voltage Cable (1.1 kV) with 1, 2, 3, 3.5 & 4 cores |



**Applications;**

- Industries such as Renewable Energy / Oil & Gas / Petrochemicals / Cement / Steel etc. •
- Distribution and Power Networks.
- Nuclear and Thermal Power Stations.
- Airports, Marine, Defense, Telecom.
- Building, Mining, Railways.
- Automation, Manufacturing Industry.

| HIGH VOLTAGE CABLES; | |
|---|---|
| Material | Aluminium/ Copper Conductor |
| Insulation type | XLPE; insulation by CCV process with triple head extrusion. |
| Capacity Range | 3.3 kV to 33 kV |
| Dimensions | 35 sqmm to 1200 sqmm |
| Type | Armoured / Unarmoured |
| Sheath | FR/FRLSH/PVC ST2/PE/LSZH sheathing |

**Applications:**

- Power Distribution.

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| EHV CABLES; | |
|---|---|
| Material | Milliken type conductor |
| Insulation type | AL-PE Laminate |
| Capacity Range | 66kV/110kV/132kV/220kV |
| Dimensions | Up to 2500 Sq. mm |
| Sheath | Sheathing- Aluminium Corrugated/ Lead Sheath/ |

**Features:**

- Ultra clean rooms for semi-conductive material & XLPE insulation by CCV process with triple head extrusion.
- Safer & easier to install.
- Low on maintenance when compared to over head conductor.
- Best use of high value land in dense populated areas.

**Applications:**

- Power Transmission and Distribution.
- Power Generation Station.
- Metro Rail, Industrial Parks, Airport, Smart Cities etc.

| INUSTRIAL FLEXIBLE CABLES; | |
|---|---|
| Type | Single Core & Multi-core Cable |
| Insulation type | FR/FR-LSH/HR-FR-LSH/LSZH |
| Capacity Range | 66kV/110kV/132kV/220kV |
| Dimensions | 0.5 sqmm to 400 sqmm |

**Features;**

- Smooth & Glossy Surface, Extra Flexible.
- High Insulation and High Abrasion Resistance
- Heat Resistance.

| Construction | |
|---|---|
| **Conductors** | The most acceptable metals for conductors are copper and aluminium due to their higher conductivity and ductility. As copper has got higher affinity for sulphur, it corrodes in the atmosphere where sulphur fumes are present. In these conditions tinned copper should be used. Aluminium oxide film which is always present on Aluminium conductor surface acts as barrier and it protects the Aluminium conductor from corrosion in fumes laden atmosphere. |
| **Insulation** | The PVC covering over conductor is called insulation and is provided by extrusion process only. The insulated conductor is called core. There are type of PVC insulation permitted under I.S.1554 are as follows;<br>a) Insulation with TYPE A PVC compound as per I.S. 5831 which is suitable for 70 deg.C continuous operation.<br>b) Insulation with TYPE C PVC compound as per I.S. 5831 which is suitable for 85 deg. C continuous operation. |
| **Laying up** | The cores are laid up with suitable lay. The final layer always has a right hand lay i.e. if you look along the cable, the cores move to your right hand. |

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| | |
|---|---|
| **Inner Sheath** | Inner sheath is provided over the laid up cores. It is provided to give circular shape to the cable and it provides bedding for the armouring. |
| **Armouring** | In case of armoured cables, generally galvanized steel wire / strip armouring is provided over the innersheath in multicore cables and Aluminium Round Wire or Aluminium Strip over the insulation in single core cables. It provides mechanical protection to inside cores and it carries earth return current in case of a short circuit of a core with armour. |
| **Outer Sheath** | The PVC covering over the armouring in case of armoured cables and over the innersheath in case of unarmoured cables is called outersheath. I.S. 1554 specifies nominal and minimum thicknesses of outer sheath for unarmoured cables and only minimum thickness of outer sheath for armoured cables. It permits the following types of outer sheath PVC compounds.<br>a) Outer sheath with type ST1 PVC compound as per IS-5831, which is suitable for 70°C continuous operation.<br>b) Outer sheath with Type ST2 PVC compound as per IS-5831, which is suitable for 85°C continuous operation. |

**"1.1 KV SINGLE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED"**

UNARMOURED PVC SHEATHED CABLES CONFORMING TO IS:1554 (PART I)

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Nominal Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Direct In Ground | | In Duct | | In Air | |
| | | | | | | 2 Cables | 3 Cables | 2 Cables | 3 Cables | 2 Cables | 3 Cables |
| Sq. mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 1.8 | 7.0 | 55 | 18.100 | 21 | 17 | 19 | 17 | 18 | 15 |
| *2.5 | 0.9 | 1.8 | 7.5 | 65 | 12.100 | 28 | 24 | 25 | 24 | 25 | 21 |
| *4.0 | 1.0 | 1.8 | 8.0 | 75 | 7.410 | 36 | 31 | 33 | 30 | 32 | 27 |
| *6.0 | 1.0 | 1.8 | 9.0 | 90 | 4.610 | 44 | 39 | 42 | 37 | 41 | 35 |
| *10 | 1.0 | 1.8 | 10.0 | 105 | 3.080 | 54 | 51 | 56 | 51 | 56 | 47 |
| 16 | 1.0 | 1.8 | 11.0 | 140 | 1.910 | 75 | 66 | 71 | 65 | 72 | 64 |
| 25 | 1.2 | 1.8 | 12.5 | 195 | 1.200 | 97 | 86 | 93 | 84 | 99 | 84 |
| 35 | 1.2 | 1.8 | 13.5 | 235 | 0.868 | 120 | 100 | 110 | 100 | 120 | 105 |
| 50 | 1.4 | 1.8 | 15.0 | 305 | 0.641 | 145 | 120 | 130 | 115 | 150 | 130 |
| 70 | 1.4 | 1.8 | 17.0 | 385 | 0.443 | 170 | 140 | 155 | 135 | 185 | 155 |
| 95 | 1.6 | 1.8 | 19.0 | 515 | 0.320 | 205 | 175 | 180 | 155 | 215 | 190 |
| 120 | 1.6 | 2.0 | 21.0 | 610 | 0.253 | 230 | 195 | 200 | 170 | 240 | 220 |
| 150 | 1.8 | 2.0 | 22.5 | 735 | 0.206 | 265 | 220 | 220 | 190 | 270 | 250 |
| 185 | 2.0 | 2.0 | 25.0 | 885 | 0.164 | 300 | 240 | 240 | 210 | 305 | 290 |
| 240 | 2.2 | 2.0 | 28.0 | 1100 | 0.125 | 335 | 270 | 270 | 225 | 350 | 335 |
| 300 | 2.4 | 2.0 | 30.0 | 1335 | 0.100 | 370 | 295 | 295 | 245 | 395 | 380 |
| 400 | 2.6 | 2.2 | 34.0 | 1665 | 0.078 | 410 | 325 | 335 | 275 | 455 | 435 |
| 500 | 3.0 | 2.2 | 38.0 | 2130 | 0.061 | 435 | 345 | 355 | 295 | 490 | 480 |
| 630 | 3.4 | 2.4 | 43.0 | 2685 | 0.047 | 485 | 390 | 395 | 320 | 560 | 550 |
| 800 | 3.4 | 2.4 | 47.0 | 3255 | 0.037 | 525 | 440 | 420 | 350 | 650 | 640 |
| 1000 | 3.4 | 2.6 | 51.5 | 3960 | 0.029 | 570 | 490 | 445 | 380 | 735 | 720 |

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## "1.1 KV SINGLE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED ALUMINIUM WIRE / STRIP"

ARMOURED & PVC SHEATHED CABLES CONFORMING TO IS:1554 (PART I)

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Armour | | Nominal Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Direct In Ground | | In Duct | | In Air | |
| | | Aluminium Wire Dia | Aluminium Strip Thickness | | | | | 2 Cables | 3 Cables | 2 Cables | 3 Cables | 2 Cables | 3 Cables |
| Sq.mm | mm | mm | mm | mm | mm | kg/mm | Ohm/Km | Amps | Amps | Amps | Amps | Amps | Amps |
| *4 | 1.3 | 1.4 | - | 1.24 | 11.0 | 155 | 7.410 | 36 | 31 | 33 | 30 | 32 | 27 |
| *6 | 1.3 | 1.4 | - | 1.24 | 12.0 | 175 | 4.610 | 44 | 39 | 42 | 37 | 41 | 35 |
| *10 | 1.3 | 1.4 | - | 1.24 | 13.0 | 205 | 3.080 | 50 | 51 | 56 | 51 | 56 | 47 |
| 16 | 1.3 | 1.4 | - | 1.24 | 14.0 | 230 | 1.910 | 75 | 66 | 71 | 65 | 72 | 64 |
| 25 | 1.5 | 1.4 | - | 1.24 | 15.0 | 300 | 1.200 | 97 | 86 | 93 | 84 | 99 | 84 |
| 35 | 1.5 | 1.4 | - | 1.24 | 16.0 | 350 | 0.868 | 97 | 100 | 110 | 100 | 120 | 105 |
| 50 | 1.7 | 1.4 | - | 1.24 | 18.0 | 430 | 0.641 | 120 | 120 | 130 | 115 | 150 | 130 |
| 70 | 1.7 | 1.4 | - | 1.40 | 20.0 | 530 | 0.443 | 145 | 140 | 155 | 135 | 185 | 155 |
| 95 | 1.9 | - | 4 x 0.80 | 1.40 | 21.0 | 610 | 0.320 | 170 | 175 | 180 | 155 | 215 | 190 |
| 120 | 1.9 | - | 4 x 0.80 | 1.40 | 22.0 | 710 | 0.253 | 205 | 195 | 200 | 170 | 240 | 220 |
| 150 | 2.1 | - | 4 x 0.80 | 1.40 | 24.0 | 840 | 0.206 | 230 | 220 | 220 | 190 | 270 | 250 |
| 185 | 2.3 | - | 4 x 0.80 | 1.40 | 26.0 | 1020 | 0.164 | 265 | 240 | 240 | 210 | 305 | 290 |
| 240 | 2.5 | - | 4 x 0.80 | 1.40 | 29.0 | 1250 | 0.125 | 300 | 270 | 270 | 225 | 350 | 335 |
| 300 | 2.7 | - | 4 x 0.80 | 1.56 | 32.0 | 1500 | 0.100 | 335 | 295 | 295 | 245 | 395 | 380 |
| 400 | 3.0 | - | 4 x 0.80 | 1.56 | 36.0 | 1910 | 0.078 | 370 | 325 | 335 | 275 | 455 | 435 |
| 500 | 3.4 | - | 4 x 0.80 | 1.56 | 40.0 | 2350 | 0.061 | 410 | 345 | 355 | 295 | 490 | 480 |
| 630 | 3.9 | - | 4 x 0.80 | 1.72 | 44.0 | 2920 | 0.047 | 435 | 390 | 395 | 320 | 560 | 550 |
| 800 | 3.9 | - | 4 x 0.80 | 1.88 | 48.0 | 3510 | 0.037 | 525 | 440 | 420 | 350 | 650 | 640 |
| 1000 | 3.9 | - | 4 x 0.80 | 2.04 | 53.0 | 4300 | 0.029 | 570 | 490 | 445 | 380 | 735 | 720 |

## "1.1 KV SINGLE CORE, COPPER CONDUCTOR, PVC INSULATED ALUMINIUM WIRE / STRIP"

ARMOURED & PVC SHEATHED CABLES CONFORMING TO IS:1554

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Armour | | Nominal Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Direct In Ground | | In Duct | | In Air | |
| | | Aluminium Wire Dia | Aluminium Strip Thickness | | | | | 2 Cables | 3 Cables | 2 Cables | 3 Cables | 2 Cables | 3 Cables |
| Sq. mm | mm | mm | mm | mm | mm | Kgs/Km | Ohm/Km | Amps. | Amps. | Amps. | Amps. | Amps. | Amps. |
| *4 | 1.3 | 1.4 | - | 1.24 | 11.0 | 180 | 4.610 | 46 | 39 | 42 | 38 | 43 | 35 |
| *6 | 1.3 | 1.4 | - | 1.24 | 12.0 | 215 | 3.080 | 57 | 49 | 54 | 48 | 54 | 44 |
| 10 | 1.3 | 1.4 | - | 1.24 | 13.0 | 270 | 1.830 | 75 | 65 | 72 | 64 | 72 | 60 |
| 16 | 1.3 | 1.4 | - | 1.24 | 14.0 | 330 | 1.150 | 94 | 85 | 92 | 83 | 92 | 82 |
| 25 | 1.5 | 1.4 | - | 1.24 | 15.0 | 460 | 0.727 | 125 | 110 | 120 | 110 | 125 | 110 |
| 35 | 1.5 | 1.4 | - | 1.24 | 16.0 | 575 | 0.524 | 150 | 130 | 140 | 125 | 155 | 130 |
| 50 | 1.7 | 1.4 | - | 1.24 | 18.0 | 740 | 0.387 | 180 | 155 | 165 | 150 | 190 | 165 |
| 70 | 1.7 | 1.4 | - | 1.40 | 20.0 | 970 | 0.268 | 220 | 190 | 200 | 175 | 235 | 205 |
| 95 | 1.9 | - | 4 x 0.80 | 1.40 | 21.0 | 1200 | 0.193 | 265 | 220 | 230 | 200 | 275 | 245 |
| 120 | 1.9 | - | 4 x 0.80 | 1.40 | 22.0 | 1460 | 0.153 | 300 | 250 | 255 | 220 | 310 | 280 |
| 150 | 2.1 | - | 4 x 0.80 | 1.40 | 24.0 | 1770 | 0.124 | 340 | 280 | 280 | 245 | 345 | 320 |
| 185 | 2.3 | - | 4 x 0.80 | 1.40 | 26.0 | 2170 | 0.099 | 380 | 305 | 305 | 260 | 390 | 370 |
| 240 | 2.5 | - | 4 x 0.80 | 1.40 | 29.0 | 2740 | 0.075 | 420 | 345 | 340 | 285 | 445 | 425 |
| 300 | 2.7 | - | 4 x 0.80 | 1.56 | 32.0 | 3360 | 0.060 | 465 | 375 | 370 | 310 | 500 | 475 |
| 400 | 3.0 | - | 4 x 0.80 | 1.56 | 36.0 | 4400 | 0.047 | 500 | 400 | 405 | 335 | 570 | 550 |
| 500 | 3.4 | - | 4 x 0.80 | 1.56 | 40.0 | 5450 | 0.037 | 540 | 425 | 430 | 355 | 610 | 590 |
| *10 | 1.3 | 1.4 | - | 1.24 | 13.0 | 270 | 1.830 | 75 | 65 | 72 | 64 | 72 | 60 |
| 25 | 1.5 | 1.4 | - | 1.24 | 15.0 | 460 | 0.727 | 125 | 110 | 120 | 110 | 125 | 110 |
| 50 | 1.7 | 1.4 | - | 1.24 | 18.0 | 740 | 0.387 | 180 | 155 | 165 | 150 | 190 | 165 |
| 95 | 1.9 | - | 4 x 0.80 | 1.40 | 21.0 | 1200 | 0.193 | 265 | 220 | 230 | 200 | 275 | 245 |
| 150 | 2.1 | - | 4 x 0.80 | 1.40 | 24.0 | 1770 | 0.124 | 340 | 280 | 280 | 245 | 345 | 320 |
| 240 | 2.5 | - | 4 x 0.80 | 1.40 | 29.0 | 2740 | 0.075 | 420 | 345 | 340 | 285 | 445 | 425 |
| 400 | 3.0 | - | 4 x 0.80 | 1.56 | 36.0 | 4400 | 0.047 | 500 | 400 | 405 | 335 | 570 | 550 |
| 630 | 3.9 | - | 4 x 0.80 | 1.72 | 44.0 | 6820 | 0.028 | 590 | 470 | 465 | 375 | 680 | 660 |

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## "1.1 KV SINGLE CORE, COPPER CONDUCTOR, PVC INSULATED"

UNARMOURED PVC SHEATHED CABLES CONFORMING TO IS:1554 (PART I) AMENDED UPTO DATE

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Nominal Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Direct In Ground | | In Duct | | In Air | |
| | | | | | | 2 Cables | 3 Cables | 2 Cables | 3 Cables | 2 Cables | 3 Cables |
| Sq. mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 1.8 | 7.0 | 65 | 12.100 | 25 | 22 | 23 | 21 | 24 | 20 |
| *2.5 | 0.9 | 1.8 | 7.5 | 82 | 7.410 | 35 | 30 | 31 | 29 | 32 | 27 |
| *4.0 | 1.0 | 1.8 | 8.0 | 100 | 4.610 | 46 | 39 | 42 | 38 | 43 | 35 |
| *6.0 | 1.0 | 1.8 | 9.0 | 130 | 3.080 | 57 | 49 | 54 | 48 | 54 | 44 |
| *10 | 1.0 | 1.8 | 10.0 | 170 | 1.830 | 75 | 65 | 72 | 64 | 72 | 60 |
| 16 | 1.0 | 1.8 | 11.0 | 240 | 1.150 | 94 | 85 | 92 | 83 | 92 | 82 |
| 25 | 1.2 | 1.8 | 12.5 | 350 | 0.727 | 125 | 110 | 120 | 110 | 125 | 110 |
| 35 | 1.2 | 1.8 | 13.5 | 455 | 0.524 | 150 | 130 | 140 | 125 | 155 | 130 |
| 50 | 1.4 | 1.8 | 15.0 | 620 | 0.387 | 180 | 155 | 165 | 150 | 190 | 165 |
| 70 | 1.4 | 1.8 | 17.0 | 820 | 0.268 | 220 | 190 | 200 | 175 | 235 | 205 |
| 95 | 1.6 | 1.8 | 19.0 | 1105 | 0.193 | 265 | 220 | 230 | 200 | 275 | 245 |
| 120 | 1.6 | 2.0 | 21.0 | 1355 | 0.153 | 300 | 250 | 255 | 220 | 310 | 280 |
| 150 | 1.8 | 2.0 | 22.5 | 1665 | 0.124 | 340 | 280 | 280 | 245 | 345 | 320 |
| 185 | 2.0 | 2.0 | 25.0 | 2040 | 0.099 | 380 | 305 | 305 | 260 | 390 | 370 |
| 240 | 2.2 | 2.0 | 28.0 | 2590 | 0.075 | 420 | 345 | 340 | 285 | 445 | 425 |
| 300 | 2.4 | 2.0 | 30.0 | 3200 | 0.060 | 465 | 375 | 370 | 310 | 500 | 475 |
| 400 | 2.6 | 2.2 | 34.0 | 4150 | 0.047 | 500 | 400 | 405 | 335 | 570 | 550 |
| 500 | 3.0 | 2.2 | 38.0 | 5230 | 0.370 | 540 | 425 | 430 | 355 | 610 | 590 |
| 630 | 3.4 | 2.4 | 43.0 | 6600 | 0.280 | 590 | 470 | 465 | 375 | 680 | 660 |

## "1.1 KV TWIN CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED"

ARMOURED PVC SHEATHED CABLES CONFORMING TO IS : 1554 (PART I)

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Nominal Thickness of Inner Sheath | Armour | | Minimum Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Galv. Round Steel Wire Nominal Dia. | Galv. Flat Steel Strip Nominal Thickness | | | | | Direct in Ground | In Ducts | In Air |
| Sq. mm | mm | mm | mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 0.3 | 1.4 | - | 1.24 | 12.5 | 320 | 18.100 | 18 | 16 | 16 |
| *2.5 | 0.9 | 0.3 | 1.4 | - | 1.24 | 13.5 | 380 | 12.100 | 25 | 21 | 21 |
| *4.0 | 1.0 | 0.3 | 1.4 | - | 1.24 | 15.0 | 450 | 7.410 | 32 | 27 | 27 |
| *6.0 | 1.0 | 0.3 | 1.4 | - | 1.24 | 16.0 | 500 | 4.610 | 40 | 34 | 35 |
| *10 | 1.0 | 0.3 | 1.4 | - | 1.24 | 18.0 | 600 | 3.080 | 55 | 45 | 47 |
| 16 | 1.0 | 0.3 | - | 0.8 | 1.40 | 18.0 | 500 | 1.910 | 70 | 58 | 59 |
| 25 | 1.2 | 0.3 | - | 0.8 | 1.40 | 20.0 | 650 | 1.200 | 90 | 76 | 78 |
| 35 | 1.2 | 0.3 | - | 0.8 | 1.40 | 21.5 | 750 | 0.868 | 110 | 92 | 99 |
| 50 | 1.4 | 0.3 | - | 0.8 | 1.40 | 24.5 | 950 | 0.641 | 135 | 115 | 125 |
| 70 | 1.4 | 0.3 | - | 0.8 | 1.56 | 28.0 | 1150 | 0.443 | 160 | 140 | 150 |
| 95 | 1.6 | 0.4 | - | 0.8 | 1.56 | 31.0 | 1460 | 0.320 | 190 | 170 | 185 |
| 120 | 1.6 | 0.4 | - | 0.8 | 1.56 | 33.0 | 1670 | 0.253 | 210 | 190 | 210 |
| 150 | 1.8 | 0.4 | - | 0.8 | 1.72 | 37.0 | 2010 | 0.206 | 240 | 210 | 240 |
| 185 | 2.0 | 0.5 | - | 0.8 | 1.88 | 40.5 | 2450 | 0.164 | 275 | 240 | 275 |
| 240 | 2.2 | 0.5 | - | 0.8 | 2.04 | 45.0 | 2950 | 0.125 | 320 | 275 | 325 |
| 300 | 2.4 | 0.6 | - | 0.8 | 2.20 | 50.0 | 3560 | 0.100 | 355 | 305 | 365 |
| 400 | 2.6 | 0.7 | - | 0.8 | 2.36 | 56.0 | 4500 | 0.078 | 385 | 345 | 420 |
| 500 | 3.0 | 0.7 | - | 0.8 | 2.68 | 62.5 | 5600 | 0.061 | 410 | 370 | 450 |

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## "1.1 KV TWIN CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED"

UNARMOURED, PVC SHEATHED CABLES CONFORMING TO IS: 1554 (PART I) AMENDED UPTO DATE.

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Nominal Thickness of Inner Sheath | Nominal Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Direct In Ground | In Ducts | In Air |
| Sq. mm | mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 0.3 | 1.8 | 11.0 | 115 | 18.100 | 18 | 16 | 16 |
| *2.5 | 0.9 | 0.3 | 1.8 | 12.0 | 150 | 12.100 | 25 | 21 | 21 |
| *4.0 | 1.0 | 0.3 | 1.8 | 13.5 | 185 | 7.410 | 32 | 27 | 27 |
| *6.0 | 1.0 | 0.3 | 1.8 | 14.5 | 220 | 4.610 | 40 | 34 | 35 |
| *10 | 1.0 | 0.3 | 1.8 | 16.0 | 275 | 3.080 | 55 | 45 | 47 |
| 16 | 1.0 | 0.3 | 1.8 | 17.5 | 285 | 1.910 | 70 | 58 | 59 |
| 25 | 1.2 | 0.3 | 2.0 | 19.5 | 405 | 1.200 | 90 | 76 | 78 |
| 35 | 1.2 | 0.3 | 2.0 | 20.5 | 490 | 0.868 | 110 | 92 | 99 |
| 50 | 1.4 | 0.3 | 2.0 | 24.0 | 650 | 0.641 | 135 | 115 | 125 |
| 70 | 1.4 | 0.3 | 2.0 | 27.0 | 800 | 0.443 | 160 | 140 | 150 |
| 95 | 1.6 | 0.4 | 2.2 | 28.5 | 1065 | 0.320 | 190 | 170 | 185 |
| 120 | 1.6 | 0.4 | 2.2 | 33.0 | 1250 | 0.253 | 210 | 190 | 210 |
| 150 | 1.8 | 0.4 | 2.4 | 34.0 | 1550 | 0.206 | 240 | 210 | 240 |
| 185 | 2.0 | 0.5 | 2.4 | 37.0 | 1880 | 0.164 | 275 | 240 | 275 |
| 240 | 2.2 | 0.5 | 2.6 | 42.5 | 2400 | 0.125 | 320 | 275 | 325 |
| 300 | 2.4 | 0.6 | 2.8 | 45.5 | 2920 | 0.100 | 355 | 305 | 365 |
| 400 | 2.6 | 0.7 | 3.2 | 51.5 | 3815 | 0.078 | 385 | 345 | 420 |
| 500 | 3.0 | 0.7 | 3.4 | 57.0 | 4750 | 0.061 | 410 | 370 | 450 |

## "1.1 KV THREE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED"

ARMOURED PVC SHEATHED CABLES CONFORMING TO IS : 1554 (PART I)

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Nominal Thickness of Inner Sheath | Armour | | Minimum Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Galv. Round Steel Wire Nominal Dia. | Galv. Flat Steel Strip Nominal Thickness | | | | | Direct In Ground | In Ducts | In Air |
| Sq. mm | mm | mm | mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 0.3 | 1.4 | - | 1.24 | 12.5 | 375 | 18.100 | 16 | 14 | 13 |
| *2.5 | 0.9 | 0.3 | 1.4 | - | 1.24 | 14.0 | 425 | 12.100 | 21 | 18 | 18 |
| *4.0 | 1.0 | 0.3 | 1.4 | - | 1.24 | 15.5 | 500 | 7.410 | 28 | 23 | 23 |
| *6.0 | 1.0 | 0.3 | 1.4 | - | 1.24 | 17.0 | 575 | 4.610 | 35 | 30 | 30 |
| *10 | 1.0 | 0.3 | 1.4 | - | 1.4 | 19.0 | 700 | 3.080 | 46 | 39 | 40 |
| 16 | 1.0 | 0.3 | - | 0.8 | 1.40 | 20.0 | 650 | 1.910 | 60 | 50 | 51 |
| 25 | 1.2 | 0.3 | - | 0.8 | 1.40 | 22.0 | 800 | 1.200 | 76 | 63 | 70 |
| 35 | 1.2 | 0.3 | - | 0.8 | 1.40 | 25.0 | 950 | 0.868 | 92 | 77 | 86 |
| 50 | 1.4 | 0.3 | - | 0.8 | 1.56 | 27.0 | 1200 | 0.641 | 110 | 95 | 105 |
| 70 | 1.4 | 0.4 | - | 0.8 | 1.56 | 31.0 | 1500 | 0.443 | 135 | 115 | 130 |
| 95 | 1.6 | 0.4 | - | 0.8 | 1.56 | 34.0 | 1900 | 0.320 | 165 | 140 | 155 |
| 120 | 1.6 | 0.4 | - | 0.8 | 1.72 | 38.0 | 2240 | 0.253 | 185 | 155 | 180 |
| 150 | 1.8 | 0.5 | - | 0.8 | 1.88 | 42.0 | 2700 | 0.206 | 210 | 175 | 205 |
| 185 | 2.0 | 0.5 | - | 0.8 | 1.88 | 46.0 | 3200 | 0.164 | 235 | 200 | 240 |
| 240 | 2.2 | 0.6 | - | 0.8 | 2.20 | 52.0 | 3990 | 0.125 | 275 | 235 | 280 |
| 300 | 2.4 | 0.6 | - | 0.8 | 2.36 | 56.5 | 4850 | 0.100 | 305 | 260 | 315 |
| 400 | 2.6 | 0.7 | - | 0.8 | 2.52 | 64.0 | 6100 | 0.078 | 335 | 290 | 375 |
| 500 | 3.0 | 0.7 | - | 0.8 | 2.84 | 72.0 | 7600 | 0.061 | 350 | 310 | 410 |

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## "1.1 KV THREE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED"

UNARMOURED PVC SHEATHED CABLES CONFORMING TO IS : 1554 (PART I)

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Nominal Thickness of Inner Sheath | Nominal Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight Of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Direct In Ground | In Ducts | In Air |
| Sq. mm | mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 0.3 | 1.8 | 11.5 | 130 | 18.100 | 16 | 14 | 13 |
| *2.5 | 0.9 | 0.3 | 1.8 | 12.5 | 170 | 12.100 | 21 | 18 | 18 |
| *4.0 | 1.0 | 0.3 | 1.8 | 13.5 | 210 | 7.410 | 28 | 23 | 23 |
| *6.0 | 1.0 | 0.3 | 1.8 | 15.0 | 255 | 4.610 | 35 | 30 | 30 |
| *10 | 1.0 | 0.3 | 1.8 | 16.5 | 325 | 3.080 | 46 | 39 | 40 |
| 16 | 1.0 | 0.3 | 1.8 | 17.5 | 360 | 1.910 | 60 | 50 | 51 |
| 25 | 1.2 | 0.3 | 2.0 | 22.0 | 520 | 1.200 | 76 | 63 | 70 |
| 35 | 1.2 | 0.3 | 2.0 | 23.0 | 640 | 0.868 | 92 | 77 | 86 |
| 50 | 1.4 | 0.3 | 2.0 | 27.0 | 850 | 0.641 | 110 | 95 | 105 |
| 70 | 1.4 | 0.4 | 2.2 | 31.0 | 1110 | 0.443 | 135 | 115 | 130 |
| 95 | 1.6 | 0.4 | 2.2 | 33.0 | 1425 | 0.320 | 165 | 140 | 155 |
| 120 | 1.6 | 0.4 | 2.2 | 36.0 | 1690 | 0.253 | 185 | 155 | 180 |
| 150 | 1.8 | 0.5 | 2.4 | 41.0 | 2120 | 0.206 | 210 | 175 | 205 |
| 185 | 2.0 | 0.5 | 2.6 | 45.0 | 2600 | 0.164 | 235 | 200 | 240 |
| 240 | 2.2 | 0.6 | 2.8 | 50.0 | 3290 | 0.125 | 275 | 235 | 280 |
| 300 | 2.4 | 0.6 | 3.0 | 55.5 | 4050 | 0.100 | 305 | 260 | 315 |
| 400 | 2.6 | 0.7 | 3.4 | 63.5 | 5290 | 0.078 | 335 | 290 | 375 |
| 500 | 3.0 | 0.7 | 3.8 | 71.0 | 6570 | 0.061 | 350 | 310 | 410 |

* If required, these sizes can be offered with stranded conductors also

## "1.1 KV THREE CORE, COPPER CONDUCTOR, PVC INSULATED, INNER SHEATHED"

ARMOURED PVC SHEATHED CABLES CONFORMING TO IS : 1554 (PART I)

| Nominal Cross Sectional Area | Nominal Thickness of Insula-tion | Nominal Thickness of Inner Sheath | Armour | | Minimum Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Galv. Round Steel Wire Nominal Dia. | Galv. Flat Steel Strip Nominal Thickness | | | | | Direct In Ground | In Ducts | In Air |
| Sq. mm | mm | mm | mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 0.3 | 1.4 | - | 1.24 | 12.5 | 405 | 12.100 | 21 | 17 | 17 |
| *2.5 | 0.9 | 0.3 | 1.4 | - | 1.24 | 14.0 | 475 | 7.410 | 27 | 24 | 24 |
| *4.0 | 1.0 | 0.3 | 1.4 | - | 1.24 | 15.5 | 580 | 4.610 | 36 | 30 | 30 |
| *6.0 | 1.0 | 0.3 | 1.4 | - | 1.24 | 17.0 | 700 | 3.080 | 45 | 38 | 39 |
| *10 | 1.0 | 0.3 | 1.4 | | 1.40 | 19.0 | 890 | 1.830 | 60 | 50 | 52 |
| 16 | 1.0 | 0.3 | - | 0.8 | 1.40 | 20.0 | 950 | 1.150 | 77 | 64 | 66 |
| 25 | 1.2 | 0.3 | | 0.8 | 1.40 | 22.0 | 1270 | 0.727 | 99 | 81 | 90 |
| 35 | 1.2 | 0.3 | - | 0.8 | 1.40 | 25.0 | 1600 | 0.524 | 120 | 99 | 110 |
| 50 | 1.4 | 0.3 | | 0.8 | 1.56 | 27.0 | 2150 | 0.387 | 145 | 125 | 135 |
| 70 | 1.4 | 0.4 | - | 0.8 | 1.56 | 31.0 | 2800 | 0.268 | 175 | 150 | 165 |
| 95 | 1.6 | 0.4 | | 0.8 | 1.56 | 34.0 | 3670 | 0.193 | 210 | 175 | 200 |
| 120 | 1.6 | 0.4 | - | 0.8 | 1.72 | 38.0 | 4470 | 0.153 | 240 | 195 | 230 |
| 150 | 1.8 | 0.5 | | 0.8 | 1.88 | 42.0 | 5500 | 0.124 | 270 | 225 | 265 |
| 185 | 2.0 | 0.5 | - | 0.8 | 1.88 | 46.0 | 6650 | 0.099 | 300 | 255 | 305 |
| 240 | 2.2 | 0.6 | | 0.8 | 2.20 | 52.0 | 8450 | 0.075 | 345 | 295 | 355 |
| 300 | 2.4 | 0.6 | - | 0.8 | 2.36 | 56.5 | 10450 | 0.060 | 385 | 335 | 400 |
| 400 | 2.6 | 0.7 | - | 0.8 | 2.52 | 64.0 | 13525 | 0.047 | 425 | 360 | 455 |

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## "1.1 KV THREE CORE, COPPER CONDUCTOR, PVC INSULATED, INNER SHEATHED"

UNARMOURED PVC SHEATHED CABLES CONFORMING TO IS : 1554 (PART I) AMENDED UPTO DATE

| Nominal Cross Sectional Area | Nominal Thickness of Insulation | Nominal Thickness of Inner Sheath | Nominal Thickness of Outer Sheath | Approx. Overall Diameter | Approx. Weight of Cable | Max. Dc Conductor Resistance at 20°C | Current Ratings | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Direct In Ground | In Ducts | In Air |
| Sq. mm | mm | mm | mm | mm | Kgs./Km | Ohm/Km | Amps. | Amps. | Amps. |
| *1.5 | 0.8 | 0.3 | 1.8 | 11.5 | 160 | 12.100 | 21 | 17 | 17 |
| *2.5 | 0.9 | 0.3 | 1.8 | 12.5 | 220 | 7.410 | 27 | 24 | 24 |
| *4.0 | 1.0 | 0.3 | 1.8 | 13.5 | 290 | 4.610 | 36 | 30 | 30 |
| *6.0 | 1.0 | 0.3 | 1.8 | 15.0 | 370 | 3.080 | 45 | 38 | 39 |
| *10 | 1.0 | 0.3 | 1.8 | 16.5 | 510 | 1.830 | 60 | 50 | 52 |
| 16 | 1.0 | 0.3 | 1.8 | 17.5 | 660 | 1.150 | 77 | 64 | 66 |
| 25 | 1.2 | 0.3 | 2.0 | 22.0 | 990 | 0.727 | 99 | 81 | 90 |
| 35 | 1.2 | 0.3 | 2.0 | 23.0 | 1290 | 0.524 | 120 | 99 | 110 |
| 50 | 1.4 | 0.3 | 2.0 | 27.0 | 1780 | 0.387 | 145 | 125 | 135 |
| 70 | 1.4 | 0.4 | 2.2 | 31.0 | 2410 | 0.268 | 175 | 150 | 165 |
| 95 | 1.6 | 0.4 | 2.2 | 33.0 | 3190 | 0.193 | 210 | 175 | 200 |
| 120 | 1.6 | 0.4 | 2.2 | 36.0 | 3920 | 0.153 | 240 | 195 | 230 |
| 150 | 1.8 | 0.5 | 2.4 | 41.0 | 4910 | 0.124 | 270 | 225 | 265 |
| 185 | 2.0 | 0.5 | 2.6 | 45.0 | 6040 | 0.099 | 300 | 255 | 305 |
| 240 | 2.2 | 0.6 | 2.8 | 50.0 | 7750 | 0.075 | 345 | 295 | 355 |
| 300 | 2.4 | 0.6 | 3.0 | 55.5 | 9620 | 0.060 | 385 | 335 | 400 |
| 400 | 2.6 | 0.7 | 3.4 | 63.5 | 12715 | 0.047 | 425 | 360 | 455 |