

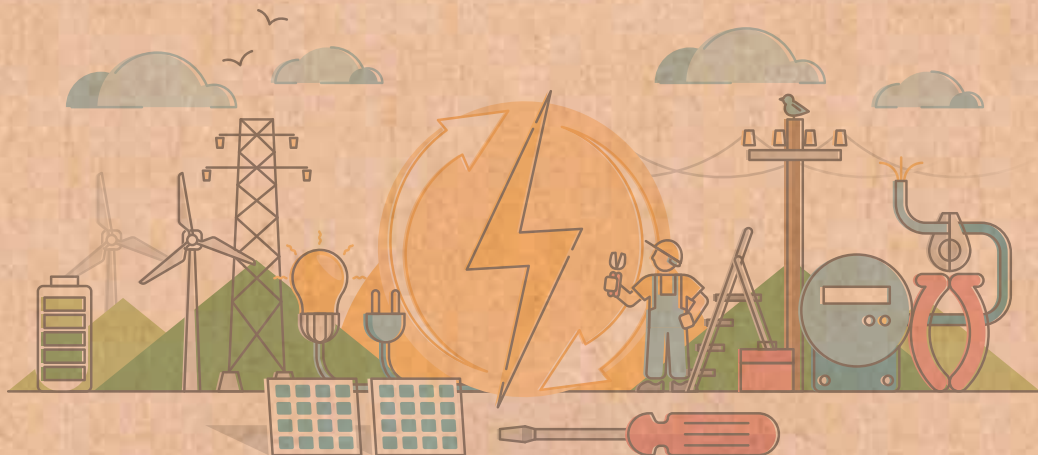


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WIRES AND CABLES

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ABOUT US

ABOUT US

In the era of technological revolution, we at Chetak Cable Industries take immense pleasure in introducing ourselves as a progressive manufacturer of the widest range of PVC insulated wires and cables under the brand name "Zerome". We are backed by expert technical services, rigorous scrutiny with laboratory tests and advanced technology to deliver the most effective and economical wires and cables solutions. We strive hard to achieve excellence by distributing superior quality of products and attain customer satisfaction.

Our State-of-the-art manufacturing unit is in Kolkata, and with time and consistent performance we are now a recognized name to leading consultants, contractors, builders, industries and government sectors in many Indian cities and are now well equipped in export services.

THREE PILLARS OF OUR COMPANY

Trust your eyes: Catering top notch solutions to most cities in India we have built reliability and trust among all our clients.

Check the quality: We deliver laboratory tested premium quality products passing through three stages of quality check program and leverage advanced highly equipped technology.

Judge the Price: All our products are available at affordable prices to meet the requirements of all our customers and are timely delivered.

SALIENT FEATURES

Electrolytic Grade Copper having 99.9% purity & maximum conductivity to ensure minimum power losses & maximum safety.

Uniformly bunched copper wires of uniform diameter that makes stripping & crimping of wires easier & minimizes losses.

Indigenously developed PVC compound formulated from finest ingredients is produced in house.

High thermal stability & insulation resistance makes it suitable for use in Indian environment.

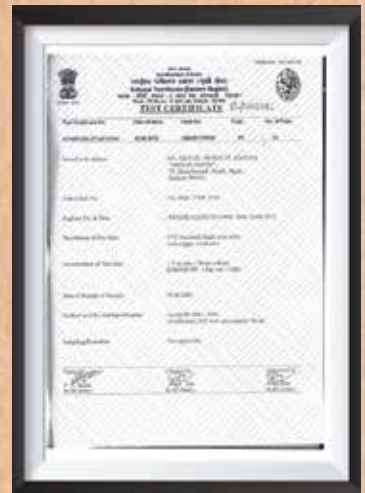
Double insulation, with insulation from virgin PVC & coated with ultra thin colour layer.

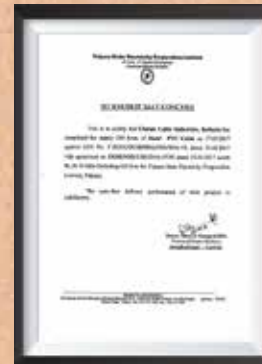
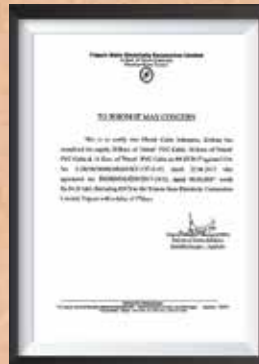
This feature enhances safety & insures proper colour identification.



CERTIFICATIONS

CERTIFICATIONS



APPROVALS & APPRAISALS**Brief description of Quality Control**

Raw Material Input Stage:- After being tested for conductivity and resistivity metals from each lot in sent to third party lab for purty tests. Every lot of PVC before accepting in is tested for tensile, elongation, thermal stability, and Loi.

In-Process Test:- Tests like conductivity, continuity, spark test, dimensions are carried out at this stage.

Finished Product Stage:- Finally after production but before releasing the product goes through routine & type tests (all 23 nos) with the longest one being of 240 hrs.



TABLE - 1/694

**SINGLE CORE FR PVC INSULATED COPPER CONDUCTOR (UNSHEATHED) EXTRA FLEXIBLE
WIRING CABLES CL V 1100 VOLTAGE AS PER IS:694-2010**

| Basic Code | Nominal Cross Sectional area of conductor | Number/ Nominal. | Thickness of Insulation (Nom) | Approx Overall Diameter | Current Carrying Capacity 2 Cables Single Phase | Max. Conductor Resistance Per KM at 20°C |
|--------------|---|-----------------------|-------------------------------|-------------------------|--|--|
| | | Dia. of cond. strands | | | Unenclosed clipped directly to a surface or on cable trays | |
| Zerome | Sq.mm | No. of strands mm | mm | mm | Amps | Ohms |
| Zmmisc - 100 | 0.5 | 16/0.2 | 0.6 | 2.2 | 5.0 | 39.0 |
| Zmmisc - 101 | 0.75 | 24/0.2 | 0.6 | 2.5 | 7.0 | 26.0 |
| Zmmisc - 102 | 1.0 | 32/0.2 | 0.6 | 2.7 | 12.0 | 19.5 |
| Zmmisc - 103 | 1.5 | 30/0.25 | 0.7 | 3.0 | 16.0 | 13.3 |
| Zmmisc - 104 | 2.5 | 50/0.25 | 0.8 | 3.6 | 22.0 | 7.98 |
| Zmmisc - 105 | 4.0 | 56/0.3 | 0.8 | 4.4 | 29.0 | 4.95 |
| Zmmisc - 106 | 6.0 | 84/0.3 | 0.8 | 5.0 | 37.0 | 3.3 |

Note: Supplied in 90 meter lengths in carton packaging and in 270 meters project packaging.

* The number and diameter of conductor strands are for reference only. Conductor resistance as per IS:8130 is the governing criteria.

* The above material can be supplied in CAT - 01 & FR-LSH HRFR PVC also.

TABLE - 2/694

**SINGLE CORE FR PVC INSULATED COPPER CONDUCTOR (UNSHEATHED) EXTRA FLEXIBLE CABLES 1100
VOLTAGE GRADE INDUSTRIAL APPLICATION AS PER IS:694-2010**

| Basic Code | Nominal Cross Sectional area of conductor | Number/ Nominal | Thickness of Insulation (Nom) | Approx Overall Diameter | Current Carrying Capacity 2 Cables Single Phase | Max. Conductor Resistance Per KM at 20°C |
|--------------|---|--------------------------|-------------------------------|-------------------------|--|--|
| | | Dia. of cond. strands in | | | Unenclosed clipped directly to a surface or on cable trays | |
| Zerome | Sq.mm | mm | mm | mm | Amps | Ohms |
| Zmmisc - 107 | 10 | 80/0.4 | 1.0 | 6.6 | 51 | 1.91 |
| Zmmisc - 108 | 16 | 126/0.4 | 1.0 | 7.8 | 68 | 1.21 |
| Zmmisc - 109 | 25 | 196/0.4 | 1.2 | 9.8 | 110 | 0.78 |
| Zmmisc - 110 | 35 | 276/0.4 | 1.2 | 11.1 | 110 | 0.554 |
| Zmmisc - 111 | 50 | 396/0.4 | 1.4 | 13.5 | 145 | 0.386 |
| Zmmisc - 112 | 70 | 360/0.5 | 1.4 | 15.5 | 214 | 0.272 |
| Zmmisc - 113 | 95 | 475/0.5 | 1.6 | 17.8 | 254 | 0.206 |
| Zmmisc - 114 | 120 | 608/0.5 | 1.6 | 19.5 | 300 | 0.161 |
| Zmmisc - 115 | 150 | 750/0.5 | 1.8 | 22.0 | 340 | 0.129 |
| Zmmisc - 116 | 185 | 925/0.5 | 2.0 | 24.0 | 390 | 0.106 |
| Zmmisc - 117 | 240 | 1221/0.5 | 2.2 | 28.0 | 460 | 0.801 |

Note: Supplied in 100 meter lengths. Project packaging also available.

* The number and diameter of conductor strands are for reference only. Conductor resistance as per IS:8130 is the governing criteria.

CONSTRUCTION

Conductor : Plain annealed copper conductor as per IS:8130

Insulation : Primary - Natural PVC Type A with FR property

Secondary : Skin colour coated PVC Type A with HRFR property

Colour : Yellow/Red/Blue/Green

Any other colour on specific request can also be supplied

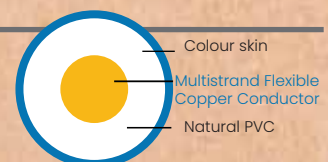


TABLE - 3/694

**SINGLE CORE FR PVC INSULATED, COPPER/ ALUMINIUM CONDUCTOR (UNSHEATHED) CABLE
FOR FIXED WIRING / CL II 1100 VOLTAGE GRADE CL II AS PER IS:694-2010**

| Basic Code | Nominal Cross Sectional area of conductor | Number/ Nom. Dia. of cond. strands | Thickness of Insulation (Nom) | Approx Overall Diameter | Current Carrying Capacity 2 Cables Single Phase (Copper) | Max. Conductor Resistance of Copper Per KM at 20°C |
|------------|---|---------------------------------------|-------------------------------|-------------------------|--|--|
| | | | | | Unenclosed clipped directly to a surface or on cable trays | |
| Zerome | Sq.mm | mm | mm | mm | Amps | Ohms |
| Zmw - 102 | 1.5 | 22/0.3 | 0.7 | 3.0 | 16 | 12.1 |
| Zmw - 103 | 2.5 | 36/0.3 | 0.8 | 3.8 | 22 | 7.41 |
| Zmw - 104 | 4 | 7/0.85 | 0.8 | 4.5 | 29 | 4.61 |
| Zmw - 105 | 6 | 7/1.04 | 0.8 | 5.2 | 41 | 3.08 |
| Zmw - 106 | 10 | 7/1.32 | 1 | 6.5 | 55 | 1.83 |
| Zmw - 107 | 16 | 7/1.70 | 1 | 7.8 | 74 | 1.15 |
| Zmw - 108 | 25 | 7/2.14 | 1.2 | 9.7 | 97 | 0.727 |
| Zmw - 109 | 35 | 7/2.52 | 1.2 | 10.9 | 119 | 0.524 |
| Zmw - 110 | 50 | 19/1.78 | 1.4 | 12.5 | 145 | 0.387 |

TABLE - 4/694

ZEROME EXTRA FLEXIBLE TEFNOR BLENDED PVC INSULATED AND SHEATHED, 1.1KV, COPPER CONDUCTOR, MULTICORE INDUSTRIAL CABLES AS PER IS:694-2010

| Nominal Area In Sq. mm | No. of Strands/ Nominal Dia | Max. DC resistance Ohm/km at 20°C | Nominal Insulation thickness mm | Core dia. mm | Nominal | | | Overall Diameter in mm (Approx) | Overall Diameter in mm (Approx) | Overall Diameter in mm (Approx) | Current Rating |
|------------------------|-----------------------------|-----------------------------------|---------------------------------|--------------|------------------------|------------------------|------------------------|---------------------------------|---------------------------------|---------------------------------|----------------|
| | | | | | Sheath thickness in mm | Sheath thickness in mm | Sheath thickness in mm | | | | |
| | | | | | 2 core | 3 core | 4 core | 2 core | 3 core | 4 core | |
| 0.50 | 16/0.2 | 39.00 | 0.60 | 2.20 | 0.90 | 0.90 | 0.90 | 6.20 | 6.60 | 7.20 | 4 |
| 0.75 | 24/0.2 | 26.00 | 0.60 | 2.50 | 0.90 | 0.90 | 0.90 | 6.80 | 7.20 | 7.90 | 7 |
| 1.00 | 32/0.2 | 19.50 | 0.60 | 2.60 | 0.90 | 0.90 | 0.90 | 7.00 | 7.50 | 8.10 | 12 |
| 1.50 | 30/0.25 | 13.3 | 0.60 | 2.90 | 0.90 | 0.90 | 1.00 | 7.60 | 8.10 | 9.00 | 16 |
| 2.50 | 50/0.25 | 7.98 | 0.70 | 3.50 | 1.00 | 1.00 | 1.00 | 9.20 | 9.80 | 11.00 | 22 |
| 4.00 | 56/0.3 | 4.95 | 0.80 | 4.30 | 1.00 | 1.00 | 1.00 | 10.60 | 11.30 | 12.40 | 29 |
| 6.00 | 84/0.3 | 3.30 | 0.80 | 5.10 | 1.10 | 1.10 | 1.20 | 12.60 | 13.40 | 15.20 | 37 |
| 10.00 | 140/0.3 | 1.91 | 1.00 | 6.60 | 1.30 | 1.40 | 1.40 | 16.00 | 17.00 | 18.80 | 51 |
| 16.00 | 126/0.4 | 1.21 | 1.00 | 7.70 | 1.40 | 1.40 | 1.40 | 18.80 | 20.00 | 22.00 | 68 |
| 25.00 | 196/0.4 | 0.78 | 1.20 | 9.80 | 1.40 | 1.50 | 1.60 | 23.00 | 25.00 | 28.00 | 86 |
| 35.00 | 276/0.4 | 0.554 | 1.20 | 11.00 | 1.60 | 1.60 | 1.70 | 26.50 | 28.00 | 31.00 | 110 |
| 50.00 | 396/0.4 | 0.386 | 1.40 | 13.40 | 2.00 | 2.00 | 2.00 | 30.90 | 33.00 | 36.50 | 145 |



SUBMERSIBLE CABLES

Zerome Submersible Cables are made of bright, plain, multi standard annealed copper conductor with PVC insulation. These cables are designed for smooth power supply even under adverse conditons. Used for submersible pump motors, these cables are available in standard length of 100 meters.

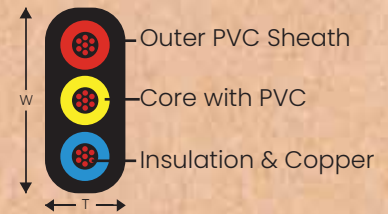


TABLE - 5/694



SUBMERSIBLE FLAT CABLE (THREE CORE-COPPER) VOLTAGE GRADE 1100 V, CONFIRMING TO IS:694-2010

| Nominal Area of Conductor | Number / Nominal Diameter of Wire | Thickness of PVC Insulation (Nom) | PVC Outer Sheath (Nom) | Maximum Resistance Per Km. at 20°C | Approx. Overall Dimension | Current carrying capacity at 40°C |
|---------------------------|-----------------------------------|-----------------------------------|------------------------|------------------------------------|---------------------------|-----------------------------------|
| | | | | | (W x T) | |
| Sq. mm | mm | mm | mm | Ohms | mm | Amps |
| 1.5 | 22/0.3 | 0.6 | 0.9 | 12.10 | 10.7 x 5.3 | 14 |
| 2.5 | 36/0.3 | 0.7 | 1.0 | 7.41 | 12.8 x 5.8 | 18 |
| 4.0 | 56/0.3 | 0.8 | 1.0 | 4.95 | 15.3 x 7.1 | 26 |
| 6.0 | 84/0.3 | 0.8 | 1.1 | 3.30 | 19.2 x 8.4 | 31 |
| 10.0 | 80/0.4 | 1.0 | 1.4 | 1.91 | 24.2 x 10.4 | 42 |
| 16.0 | 126/0.4 | 1.0 | 1.4 | 1.21 | 29.0 x 12.4 | 57 |
| 25.0 | 196/0.4 | 1.2 | 2.0 | 0.78 | 36.5 x 15.7 | 72 |
| 35.0 | 276/0.4 | 1.2 | 2.0 | 0.554 | 40.5x17.2 | 98 |
| 50.0 | 396/0.4 | 1.4 | 2.2 | 0.386 | 46.5x19.3 | 128 |

TABLE - 6/694



ZEROME MULTICORE ROUND INDUSTRIAL COPPER CABLE (6 CORES TO 19 CORES) GENERALLY CONFORMING TO IS:694-2010

| Area Sq. mm | 0.5 | 0.75 | 1 | 1.5 | 2.5 | 4 | |
|-----------------------------|--|--------|--------|---------|---------|--------|------|
| No of Strands / Nominal Dia | 16/0.2 | 24/0.2 | 32/0.2 | 30/0.25 | 50/0.25 | 56/0.3 | |
| Conductor Dia in mm | 0.94 | 1.2 | 1.34 | 1.64 | 2.08 | 2.61 | |
| Core Dia in mm | 2.2 | 2.5 | 2.6 | 2.9 | 3.5 | 4.3 | |
| No. of Cores | | | | | | | |
| 6 | Avg. Sheath thickness mm | 0.9 | 1 | 1 | 1.1 | 1.2 | |
| | App. overall Dia mm | 8.5 | 9.5 | 9.8 | 10.7 | 15.3 | |
| 7 | Avg. Sheath thickness mm | 0.9 | 1 | 1 | 1.1 | 1.2 | |
| | App. overall Dia mm | 8.5 | 9.5 | 9.8 | 10.7 | 15.3 | |
| 8 | Avg. Sheath thickness mm | 1 | 1 | 1 | 1.1 | 1.3 | |
| | App. overall Dia mm | 9.3 | 10.4 | 10.7 | 11.9 | 16.9 | |
| 10 | Avg. Sheath thickness mm | 1 | 1.1 | 1.1 | 1.1 | 1.4 | |
| | App. overall Dia mm | 10.8 | 12.2 | 12.6 | 13.8 | 20 | |
| 12 | Avg. Sheath thickness mm | 1 | 1.1 | 1.1 | 1.2 | 1.4 | |
| | App. overall Dia mm | 11.2 | 12.6 | 13 | 14.3 | 20.7 | |
| 14 | Avg. Sheath thickness mm | 1.1 | 1.1 | 1.1 | 1.2 | 1.4 | |
| | App. overall Dia mm | 12 | 13.3 | 13.7 | 15.2 | 21.8 | |
| 16 | Avg. Sheath thickness mm | 1.1 | 1.2 | 1.2 | 1.2 | 1.5 | |
| | App. overall Dia mm | 12.6 | 14.2 | 14.6 | 16 | 23.2 | |
| 19 | Avg. Sheath thickness mm | 1.1 | 1.2 | 1.3 | 1.3 | 1.5 | |
| | App. overall Dia mm | 13.2 | 14.9 | 15.6 | 17.1 | 24.5 | |
| | Max. Conductor Resistance in Ohm / Km at 20°C. | 39 | 26 | 19.5 | 13.3 | 7.98 | 4.95 |
| | Recommended Current Rating in AMP | 4 | 7 | 12 | 16 | 22 | 29 |

TABLE-1/1554**SIZE: 1.5 Sqmm (Solid)**

**1.1 KV MULTICORE PVC INSULATED AND SHEATHED UNARMoured & ARMoured COPPER
CONTROL CABLE CONFORMING TO IS:1554 (P-1) CM/L: 5100095488**

| No. of cores | Thickness of Insulation (Nominal) | Thickness of Inner Sheath (N/A for single core) (min) | Unarmoured | | | Armoured | | | | Current Ratings | |
|--------------|-----------------------------------|---|---------------------------------|----------------------|--------------------------|---------------------------------|---|----------------------|--------------------------|-----------------|--------|
| | | | Thickness of Outer Sheath (min) | Overall dia (approx) | Weight of Cable (approx) | Thickness of Outer Sheath (min) | Diameter of armour in round wire/flat strip | Overall dia (approx) | Weight of Cable (approx) | In ground | In Air |
| | mm | mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km | Amps | Amps |
| 2 | 0.8 | 0.3 | 1.8 | 11.5 | 175 | 1.24 | 1.4 | 13 | 390 | 23 | 20 |
| 3 | 0.8 | 0.3 | 1.8 | 12 | 200 | 1.24 | 1.4 | 13.5 | 425 | 21 | 17 |
| 4 | 0.8 | 0.3 | 1.8 | 12.5 | 225 | 1.24 | 1.4 | 14 | 465 | 21 | 17 |
| 5 | 0.8 | 0.3 | 1.8 | 13.5 | 240 | 1.24 | 1.4 | 15 | 500 | 16 | 14 |
| 6 | 0.8 | 0.3 | 1.8 | 14.5 | 280 | 1.24 | 1.4 | 16 | 565 | 15 | 13 |
| 7 | 0.8 | 0.3 | 1.8 | 14.5 | 300 | 1.24 | 1.4 | 16 | 580 | 14 | 13 |
| 8 | 0.8 | 0.3 | 1.8 | 16 | 330 | 1.24 | 1.4 | 17 | 630 | 14 | 12 |
| 9 | 0.8 | 0.3 | 1.8 | 17 | 370 | 1.24 | 1.4 | 18.5 | 700 | 13 | 12 |
| 10 | 0.8 | 0.3 | 1.8 | 17.5 | 400 | 1.4 | 1.4 | 19 | 725 | 13 | 11 |
| 12 | 0.8 | 0.3 | 1.8 | 18 | 450 | 1.4 | 4.0 X 0.8 | 19 | 750 | 12 | 10 |
| 14 | 0.8 | 0.3 | 1.8 | 18.5 | 500 | 1.4 | 4.0 X 0.8 | 19.5 | 770 | 11 | 10 |
| 16 | 0.8 | 0.3 | 1.8 | 19.5 | 525 | 1.4 | 4.0 X 0.8 | 20 | 820 | 11 | 9 |
| 19 | 0.8 | 0.3 | 2.0 | 21 | 600 | 1.4 | 4.0 X 0.8 | 21 | 900 | 10 | 9 |

TABLE-2/1554**SIZE: 2.5 Sqmm (Solid)**

| No. of Cores | Thickness of Insulation (Nominal) | Thickness of Inner Sheath (min) | Unarmoured | | | Armoured | | | | Current Ratings | |
|--------------|-----------------------------------|---------------------------------|---------------------------------|----------------------|--------------------------|---------------------------------|---|----------------------|--------------------------|-----------------|--------|
| | | | Thickness of Outer Sheath (min) | Overall dia (approx) | Weight of Cable (approx) | Thickness of Outer Sheath (min) | Diameter of armour in round wire/flat strip | Overall dia (approx) | Weight of Cable (approx) | In ground | In Air |
| | mm | mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km | Amps | Amps |
| 2 | 0.9 | 0.3 | 1.8 | 12.5 | 218 | 1.24 | 1.4 | 15 | 460 | 32 | 27 |
| 3 | 0.9 | 0.3 | 1.8 | 13 | 255 | 1.24 | 1.4 | 15 | 510 | 27 | 24 |
| 4 | 0.9 | 0.3 | 1.8 | 14 | 300 | 1.24 | 1.4 | 15.5 | 580 | 27 | 24 |
| 5 | 0.9 | 0.3 | 1.8 | 15 | 320 | 1.24 | 1.4 | 16.5 | 625 | 23 | 19 |
| 6 | 0.9 | 0.3 | 1.8 | 16 | 380 | 1.24 | 1.4 | 17.5 | 715 | 21 | 18 |
| 7 | 0.9 | 0.3 | 1.8 | 16 | 415 | 1.24 | 1.4 | 17.5 | 730 | 20 | 17 |
| 8 | 0.9 | 0.3 | 1.8 | 17.5 | 460 | 1.4 | 1.4 | 19.5 | 780 | 19 | 16 |
| 9 | 0.9 | 0.3 | 1.8 | 19 | 515 | 1.4 | 4.0 X 0.8 | 19.5 | 820 | 18 | 15 |
| 10 | 0.9 | 0.3 | 1.8 | 20 | 520 | 1.4 | 4.0 X 0.8 | 20 | 840 | 18 | 15 |
| 12 | 0.9 | 0.3 | 2.0 | 21 | 590 | 1.4 | 4.0 X 0.8 | 21 | 900 | 17 | 14 |
| 14 | 0.9 | 0.3 | 2.0 | 21.5 | 675 | 1.4 | 4.0 X 0.8 | 21.5 | 1020 | 16 | 14 |
| 16 | 0.9 | 0.3 | 2.0 | 22.5 | 750 | 1.4 | 4.0 X 0.8 | 23 | 1080 | 15 | 13 |
| 19 | 0.9 | 0.3 | 2.0 | 24 | 875 | 1.4 | 4.0 X 0.8 | 24 | 1225 | 14 | 12 |



TABLE-3/1554

1.1 KV SINGLE CORE PVC INSULATED & SHEATHED UNARMoured & ARMoured CABLE WITH ALUMINIUM / COPPER CONDUCTOR CONFORMING TO IS:1554(P-1) CM/L: 5100095488

| Nominal area of conductor | Unarmoured | | | | Armoured | | | | |
|---------------------------|---|-------------------------------------|-------------------------------|---|---|---|-------------------------------------|-------------------------------|---|
| | Nominal thickness of insulation (Nominal) | Thickness of Outer Sheath (Nominal) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. | Nominal thickness of insulation (Nominal) | Diameter of round wire / flat strip (Nominal) | Thickness of Outer Sheath (Minimum) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. |
| Sq mm | mm | mm | mm | Kg/Km | mm | mm | mm | mm | Kg/Km |
| 2.5 | 0.9 | 1.8 | 7.5 | 72 | - | - | - | - | - |
| 4 | 1.0 | 1.8 | 8.5 | 78 | - | - | - | - | - |
| 6 | 1.0 | 1.8 | 9.0 | 88 | - | - | - | - | - |
| 10 | 1.0 | 1.8 | 10.0 | 110 | - | - | - | - | - |
| 16 | 1.0 | 1.8 | 11.0 | 140 | 1.3 | - | 1.24 | 14.0 | 240.0 |
| 25 | 1.2 | 1.8 | 13.0 | 195 | 1.5 | 1.4 | 1.24 | 15.0 | 300.0 |
| 35 | 1.2 | 1.8 | 14.0 | 240 | 1.5 | 1.4 | 1.24 | 16.0 | 350.0 |
| 50 | 1.4 | 1.8 | 16.0 | 305 | 1.7 | 1.4 | 1.24 | 18.0 | 410.0 |
| 70 | 1.4 | 1.8 | 17.0 | 390 | 1.7 | 1.4 | 1.40 | 20.0 | 530.0 |
| 95 | 1.6 | 1.8 | 19.0 | 500 | 1.9 | 4.0 X 0.8 | 1.40 | 21.0 | 600.0 |
| 120 | 1.6 | 2.0 | 21.0 | 605 | 1.9 | 4.0 X 0.8 | 1.40 | 23.0 | 710.0 |
| 150 | 1.8 | 2.0 | 23.0 | 725 | 2.1 | 4.0 X 0.8 | 1.40 | 24.0 | 800.0 |
| 185 | 2.0 | 2.0 | 25.0 | 880 | 2.3 | 4.0 X 0.8 | 1.40 | 27.0 | 950.0 |
| 240 | 2.2 | 2.0 | 27.0 | 1100 | 2.5 | 4.0 X 0.8 | 1.40 | 29.5 | 1200.0 |
| 300 | 2.4 | 2.0 | 30.0 | 1325 | 2.7 | 4.0 X 0.8 | 1.56 | 32.0 | 1450.0 |

TABLE-4/1554

1.1 KV TWO CORE PVC INSULATED & SHEATHED UNARMoured & ARMoured CABLE WITH ALUMINIUM / COPPER CONDUCTOR CONFORMING TO IS:1554(P-1) CM/L: 5100095488

| Nominal area of conductor | Thickness of insulation (Nominal) | Thickness of Inner Sheath (Minimum) | Unarmoured | | | Armoured | | | |
|---------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------|---|--|-------------------------------------|-------------------------------|---|
| | | | Thickness of Outer Sheath (Nominal) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. | Diameter/ Dimension of round wire / flat strip (Nominal) | Thickness of Outer Sheath (Minimum) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. |
| Sq mm | mm | mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km |
| 2.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 1.0 | 0.3 | 1.80 | 14.0 | 205 | 1.4 | 1.24 | 16.5 | 480 |
| 6 | 1.0 | 0.3 | 1.80 | 15.0 | 235 | 1.4 | 1.24 | 18.0 | 540 |
| 10 | 1.0 | 0.3 | 1.80 | 17.0 | 310 | 1.4 | 1.24 | 19.0 | 635 |
| 16 | 1.0 | 0.3 | 1.80 | 17.0 | 340 | 4.0 X 0.8 | 1.40 | 18.0 | 580 |
| 25 | 1.2 | 0.3 | 2.00 | 19.0 | 405 | 4.0 X 0.8 | 1.40 | 20.0 | 650 |
| 35 | 1.2 | 0.3 | 2.00 | 21.0 | 485 | 4.0 X 0.8 | 1.40 | 22.0 | 750 |
| 50 | 1.4 | 0.3 | 2.00 | 24.0 | 620 | 4.0 X 0.8 | 1.40 | 25.0 | 925 |
| 70 | 1.4 | 0.3 | 2.00 | 26.0 | 785 | 4.0 X 0.8 | 1.56 | 27.0 | 1140 |
| 95 | 1.6 | 0.4 | 2.20 | 30.0 | 1050 | 4.0 X 0.8 | 1.56 | 30.0 | 1440 |
| 120 | 1.6 | 0.4 | 2.20 | 32.0 | 1225 | 4.0 X 0.8 | 1.56 | 32.0 | 1650 |
| 150 | 1.8 | 0.4 | 2.40 | 35.0 | 1500 | 4.0 X 0.8 | 1.72 | 36.0 | 1960 |
| 185 | 2.0 | 0.5 | 2.4 | 38.0 | 1875 | 4.0 X 0.8 | 1.88 | 38.0 | 2375 |

TABLE-5/1554

1.1 KV THREE CORE PVC INSULATED & SHEATHED UNARMoured & ARMoured CABLE WITH ALUMINIUM/COPPER CONDUCTOR CONFORMING TO IS:1554(P-1) CM/L: 5100095488

| Nominal area of conductor | Thickness of insulation (Nominal) | Thickness of Inner Sheath (Minimum) | Unarmoured | | | Armoured | | | |
|---------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------|---|---|-------------------------------------|-------------------------------|---|
| | | | Thickness of Outer Sheath (Nominal) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. | Diameter/ Dimension of round wire/ flat strip (Nominal) | Thickness of Outer Sheath (Minimum) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. |
| Sq mm | mm | mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km |
| 4 | 1.0 | 0.3 | 1.80 | 14.5 | 225 | 1.4 | 1.24 | 17.0 | 530 |
| 6 | 1.0 | 0.3 | 1.80 | 18.0 | 285 | 1.4 | 1.24 | 18.0 | 600 |
| 10 | 1.0 | 0.3 | 1.80 | 19.0 | 355 | 1.4 | 1.40 | 20.0 | 725 |
| 16 | 1.0 | 0.3 | 1.80 | 19.0 | 375 | 4.0 X 0.8 | 1.40 | 19.5 | 615 |
| 25 | 1.2 | 0.3 | 2.00 | 22.0 | 520 | 4.0 X 0.8 | 1.40 | 23.0 | 820 |
| 35 | 1.2 | 0.3 | 2.00 | 24.0 | 635 | 4.0 X 0.8 | 1.40 | 24.0 | 980 |
| 50 | 1.4 | 0.3 | 2.00 | 27.0 | 830 | 4.0 X 0.8 | 1.56 | 28.0 | 1210 |
| 70 | 1.4 | 0.4 | 2.20 | 30.0 | 1090 | 4.0 X 0.8 | 1.56 | 31.0 | 1500 |
| 95 | 1.6 | 0.4 | 2.20 | 33.5 | 1415 | 4.0 X 0.8 | 1.56 | 34.0 | 1900 |
| 120 | 1.6 | 0.4 | 2.20 | 38.0 | 1695 | 4.0 X 0.8 | 1.72 | 38.0 | 2220 |
| 150 | 1.8 | 0.5 | 2.40 | 41.0 | 2080 | 4.0 X 0.8 | 1.88 | 42.0 | 2645 |

TABLE-6/1554

1.1 KV THREE AND HALF CORE PVC INSULATED & SHEATHED UNARMoured & ARMoured CABLE WITH ALUMINIUM/COPPER CONDUCTOR CONFORMING TO IS:1554(P-1) CM/L: 5100095488

| Nominal area of conductor | | Thickness of insulation (Nominal) | | Unarmoured | | | | Armoured | | | |
|---------------------------|---------|-----------------------------------|---------|-------------------------------------|-------------------------------------|-------------------------------|---|----------------------------------|-------------------------------------|-------------------------------|---|
| Main | Neutral | Main | Neutral | Thickness of Inner Sheath (Minimum) | Thickness of Outer Sheath (Nominal) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. | Diameter of flat strip (Nominal) | Thickness of Outer Sheath (Minimum) | Overall dia of cable (Approx) | Weight of cable (Approx) with Al. Cond. |
| Sq mm | Sq mm | mm | mm | mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km |
| 25 | 16 | 1.2 | 1.0 | 0.3 | 2.00 | 24.0 | 610 | 4.0 X 0.8 | 1.40 | 24.0 | 935 |
| 35 | 16 | 1.2 | 1.0 | 0.3 | 2.00 | 25.0 | 735 | 4.0 X 0.8 | 1.40 | 26.0 | 1045 |
| 50 | 25 | 1.4 | 1.2 | 0.3 | 2.00 | 28.5 | 960 | 4.0 X 0.8 | 1.56 | 30.0 | 1365 |
| 70 | 35 | 1.4 | 1.2 | 0.4 | 2.20 | 32.0 | 1270 | 4.0 X 0.8 | 1.56 | 33.0 | 1690 |
| 95 | 50 | 1.6 | 1.4 | 0.4 | 2.20 | 36.0 | 1630 | 4.0 X 0.8 | 1.56 | 37.0 | 2140 |
| 120 | 70 | 1.6 | 1.4 | 0.5 | 2.40 | 40.0 | 2030 | 4.0 X 0.8 | 1.72 | 40.0 | 2575 |
| 150 | 70 | 1.8 | 1.4 | 0.5 | 2.40 | 43.0 | 2375 | 4.0 X 0.8 | 1.88 | 44.0 | 3040 |



TABLE-1/ TDS**CABLE SIZES READY RECKONER**

| For Motors with Start-Delta Starter | | | | | | | | For Motors with DOL Starters | | | | |
|-------------------------------------|----------------------|--|-----------------------------|---------------------------------|---------------|------------------------------|---------------|---------------------------------|-----------------------|---|----------------------|-------------------|
| 3 Phase 415 V HP | 415 V 50 Hz KW | Approx. full load current in Amps | Phase Current in Amps | Typical Cable size Aluminium | | Typical Cable Size Copper | | 3 phase 415 V. 50Hz HP | 415 V. 50 Hz Kw | Approx full load current in Amps | Typical Cable Size | |
| | | | | Supply side | Motor side | Supply side | Motor side | | | | Aluminium (sq mm) | Copper (Sq mm) |
| 3 | 2.2 | 5 | 2.88 | 1.5 / 2.5 | 1.5 / 2.5 | 1.5 / 1.5 | 1.5 / 1.5 | 0.50 | 0.40 | 1.2 | 1.5 / 2.5 | 1.5 |
| 5 | 3.75 | 7.5 | 4.32 | 1.5 / 2.5 | 1.5 / 2.5 | 1.5 / 1.5 | 1.5 / 1.5 | 0.75 | 0.55 | 1.6 | 1.5 / 2.5 | 1.5 |
| 7.5 | 5.50 | 11 | 6.34 | 2.5 / 4 | 1.5 / 2.5 | 1.5 / 2.5 | 1.5 / 1.5 | 1.0 | 0.75 | 1.8 | 1.5 / 2.5 | 1.5 |
| 10 | 7.50 | 14 | 8.10 | 4 | 1.5 / 2.5 | 2.5 | 1.5 / 1.5 | 1.5 | 1.1 | 2.6 | 1.5 / 2.5 | 1.5 |
| 12.5 | 9.30 | 18 | 10.02 | 4 | 2.5 | 2.5 | 1.5 | 2.0 | 1.5 | 3.5 | 1.5 / 2.5 | 1.5 |
| 15 | 11.0 | 21 | 12.10 | 6 | 2.5 | 4 | 1.5 | 3.0 | 2.2 | 5 | 1.5 / 2.5 | 1.5 |
| 20 | 15.0 | 28 | 16.0 | 10 | 4 | 6 | 2.5 | 4.0 | 3.0 | 6.2 | 1.5 / 2.5 | 1.5 |
| 25 | 18.5 | 35 | 20.20 | 16 | 6 | 10 | 4 | 5.0 | 3.75 | 7.5 | 2.5 | 1.5 |
| 30 | 22.0 | 40 | 23.0 | 16 | 6 | 10 | 4 | 6.0 | 4.5 | 9 | 2.5 | 1.5 |
| 35 | 26.0 | 47 | 27.0 | 25 | 10 | 16 | 6 | 7.5 | 5.5 | 11 | 4 | 2.5 |
| 40 | 30.0 | 55 | 30.30 | 25 | 16 | 16 | 10 | 10 | 7.5 | 14 | 4 | 2.5 |
| 45 | 33.5 | 60 | 34.6 | 35 | 16 | 25 | 10 | 12.5 | 9.3 | 18 | 6 | 4 |
| 50 | 37.0 | 66 | 35.0 | 35 | 16 | 25 | 10 | 15 | 11 | 21 | 6 | 4 |
| 60 | 44.0 | 80 | 45.0 | 50 | 25 | 35 | 16 | 17.5 | 13 | 24 | 10 | 6 |
| 65 | 48.5 | 87 | 50 | 70 | 35 | 50 | 25 | 20 | 15 | 28 | 10 | 6 |
| 70 | 52 | 94 | 54 | 70 | 35 | 50 | 25 | 25 | 18.5 | 35 | 16 | 10 |
| 75 | 55 | 100 | 57.5 | 70 | 35 | 50 | 25 | 30 | 22 | 40 | 25 | 16 |
| 90 | 67.5 | 120 | 59 | 95 | 50 | 70 | 35 | 35 | 26 | 47 | 25 | 16 |
| 100 | 75.0 | 135 | 78 | 95 | 50 | 70 | 35 | 40 | 30 | 55 | 25 | 16 |
| 125 | 90 | 165 | 95 | 120 | 70 | 95 | 50 | 45 | 33.5 | 60 | 35 | 25 |
| 150 | 110 | 200 | 115 | 185 | 70 | 120 | 50 | 50 | 37 | 66 | 35 | 25 |
| 175 | 132 | 230 | 133 | 240 | 120 | 185 | 95 | 60 | 44 | 80 | 50 | 35 |
| 200 | 150 | 275 | 159 | 300 / 400 | 150 | 240 / 300 | 120 | 75 | 55 | 100 | 70 | 50 |
| 240 | 175 | 320 | 184.5 | 300 / 400 | 185 | 240 / 300 | 150 | 90 | 67.5 | 120 | 95 | 70 |
| 250 | 187.5 | 323 | 185 | 400 | 185 | 240 / 300 | 150 | 100 | 75 | 135 | 95 | 70 |
| 275 | 204 | 360 | 206 | 500 | 185 | 300 / 400 | 150 | 150 | 110 | 150 | 185 | 150 |
| 300 | 225 | 385 | 222 | 500 | 240 | 300 / 400 | 185 | 200 | 150 | 175 | 300 / 400 | 240 / 300 |
| 400 | 300 | 500 | 300 | 630 | 30 | 400/500 | 240/300 | 225 | 168 | 200 | 300/400 | 240/300 |

TABLE-2/TDS :**SHORT CIRCUIT RATING OF 1.1 KV GRADE CABLES (KILO AMPS)**

| Nominal Area of conductor (Sq mm) | PVC Cables | | HR PVC Cables | |
|--------------------------------------|------------|-----------|---------------|-----------|
| | Copper | Aluminium | Copper | Aluminium |
| 1.5 | 0.172 | - | 0.156 | - |
| 2.5 | 0.287 | - | 0.26 | - |
| 4 | 0.46 | 0.303 | 0.417 | 0.276 |
| 6 | 0.69 | 0.455 | 0.625 | 0.414 |
| 10 | 1.15 | 0.758 | 1.04 | 0.69 |
| 16 | 1.84 | 1.21 | 1.67 | 1.10 |
| 25 | 2.87 | 1.89 | 2.60 | 1.72 |
| 35 | 4.02 | 2.65 | 3.65 | 2.41 |
| 50 | 5.75 | 3.79 | 5.21 | 3.45 |
| 70 | 8.05 | 5.30 | 7.29 | 4.83 |
| 95 | 10.92 | 7.20 | 9.90 | 6.55 |
| 120 | 13.79 | 9.09 | 12.5 | 8.28 |
| 150 | 17.24 | 11.36 | 15.63 | 10.35 |
| 185 | 21.26 | 14.02 | 19.27 | 12.76 |
| 240 | 27.59 | 18.18 | 25.0 | 16.55 |

FORMULA: Formula for calculating the sort circuit rating for other durations

$$I_{sh} = \frac{KA}{\sqrt{t}}$$

Where Ish = short circuit current in KA
 K = constant (10.076 for aluminium & 0.094 for copper)
 A = area of cross section in sq.mm
 T = duration of short circuit in second

the above formula is valid for 't' from 0.2 secs. to 0.5 secs.

TABLE-3/TDS :**RATING FACTORS FOR AIR & GROUND TEMPERATURE**

| A. Rating factors for variation in ambient air temperature | | | | | | |
|--|------|------|------|------|------|------|
| Ambient Temp(°C) | 25 | 30 | 35 | 40 | 45 | 50 |
| Rating Factors | 1.14 | 1.10 | 1.04 | 1.00 | 0.95 | 0.90 |
| B. Rating factors for variation in ground temperature | | | | | | |
| Ground Temp(°C) | 15 | 20 | 25 | 30 | 35 | 40 |
| Rating Factors | 1.12 | 1.08 | 1.03 | 1.00 | 0.96 | 0.91 |

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