



INVASION OF
INNOVATION

CIAZZ WIRES AND CABLES



ABOUT US

"Ciazz" is a brand of R.K industries an ISO 9001 : 2008, 14001: 2015 and OHSAS 18001: 2007vv Company. CIAZZ is one of the fastest rising companies dealing in electrical appliances. Based in Ghaziabad Haryana and Jaipur, CIAZZ in a short span of time has built a good reputation in the market due to its strict quality check measures and innovative products which are above the competing brands in the market. CIAZZ is not just a traditional electrical appliances manufacturing company, we do heavy investment in research and development to develop and provide products which are relevant to the market and are futuristic in design and utility.

All our products are tested in state of art laboratory by our engineers. The cables are manufactured strictly according to the Indian standards and we are allowed to put the ISI mark on the products after proper testing and inspection by the bureau of Indian standards.

Product Name- **House wires**

Product description - Ciazz brings you the finest wires for your homes. Our House wires are made with latest technology and match all the safety standards.

Application-

- Homes
- Hotels
- Kitchen
- Bathroom

Product specification -

- 100V Multi strand Flexible,
- PVC Cables as per IS: 694

Sizes : Single Core 1.0 to 630 sq mm

Options-

- Conductor - Bright Annealed Copper
- Insulation - PVC / HR PVC / FR / FRLS PVC/ Zero Halogen

Product features -

- Flame Retardant
- ZHFR (Zero Halogen Flame Retardant) Insulation.
- Thermal properties enable the cable to hold up in case of overload
- Its insulation is resistant to steam, vapor and boiling water
- Avoids cracking & ageing
- Suitable for seepage prone areas.

Components -

- Conductor - The conductor of the house wire is made of electrolytic grade bare copper conductor as per IS - 8130: 1984, which has high conductive copper, the copper conductor passes more current and lowers the electricity bill.
- Insulator - Insulator is the part of the cable which covers the conductor so that current won't come out and create any electric fault. Insulators can be a wire (color) or any insulated material. The insulating material PVC (Polyvinyl Chloride) Type A (IS-5831:1984) in twin layer which provides high thermal stability and tensile strength, thereby increase the life of wires.



Product Name - **Flat Submercible**

Product description - Submercible wires are ideal for underground and underwater use. These wires are safe, durable, flexible and can work in wet conditions. Thus, why these wires are extensively used in manufacture of pump.

Application - Submersible flat cables are used in winding / rewinding submersible pump motors. These are also used in HP Pump motors for application in dewatering, naval pumps, and mining.

Product specification -

- 1.1 kv stranded Plain Copper
- PVC Insulated & PVC sheathed as per IS: 694
- Sizes :3 core – 1.5 to 35 sq. mm

Options -

- Conductor - Copper,
- Insulation - PVC /HR PVC
- Sheath - PVC / HR PVC

Product features -

- Higher Life: wires have excellent, electrical, mechanical, thermal & chemical properties. These wires withstand abrasion, frictional losses and work in every type of typical conditions.
- High Tensile Strength: The insulation adds significantly to the tensile strength as it supports the wire at each point where excessive stretching occurs.
- Easy Winding: The winding resistance is less and the motor is easy to wind.
- Withstands 130°C Temperature: For short period 130°C & continuous -60°C to 105°C.

Components -

- Conductor- The conductor is the material which carries current. It can be of different materials (Aluminium/Copper). In the cable industry, it is preferred to use copper and aluminium conductors for these cables. We manufacture Submersible flat cable with copper conductor. The copper conductor can provide flexibility too.
- Insulator- An Insulator is the part of the cable which covers the conductor so that current won't come out and create any electric fault. These wires are protected with tough grade PVC insulation with colours red, blue and yellow.
- Sheath- The sheath is the protection cover of cable, which protects cables from external forces, oil, water and mechanical forces. Keeping in view this major part, we have built our flat submersible cable with PVC (Polyvinyl Chloride) sheath. PVC can also stand against the excessive heating condition.

Product Name- **Flexible Multicore**

Product description- Flexible multicore cable are designed to work inside cable carriers against physical stress and tight bending area which is directly associated with application in moving state. The service life of these cables is long because of the higher level of flexibility. The difference is visible as a normal cable manages 50,000 cycles only whereas, the dynamic cable can complete between one and three million cycles. We offer a complete range of insulated Single / Multicore flexible cable as per standard of IS 694:1990. And for export market BS 6004 and BS 6500.

Application - Machine tools, control panels, various electrical installations in small machines and any type of electrical industry products.

Product specifications-

Type: 1100 V PVC insulated and Sheathed as per IS : 694 / BS

Sizes : Two, Three or Four Core up to 24 cores.

Options-

- conductor – Multi Stranded Plain / Tinned
- Insulation – PVC /XLPE / HR PVC / FR /FRLS/ Zero Halogen
- Sheathed– PVC /HR PVC/FR/ FRLS/Zero Halogen

Product features -

- Highly Flexible in nature due to maximum use of copper wire strands.
- These cables are ideal for easy installation for portable or movable equipment.
- Polyurethane (PUR) jackets offer protection against water/oil.

Components of wire -

- Conductor- The conductor is the material which carries current. It can be of different materials (Aluminium/Copper). The conductors are of electrolytic grade annealed copper. The conductor in the flexible multicore cable is basically multi - stranded and PVC insulated which provides high insulation resistance and dielectric strength.
- Insulator- An insulator is the part of the cable which covers the conductor so that current won't come out and create any electric fault. Insulators can be a wire (color) or any insulated material. In flexible cable insulation material is PVC (Polyvinyl chloride), XLPE (Cross-Linked Polyethylene).
- Sheath -Inner Sheath and an outer sheath of flexible multicore cables are made of PVC (Polyvinyl Chloride). The main work of sheath is to protect the cables from mechanical, climatic, electrical and chemical

Product Name- **Power cables**

Product description- An assembly of one or more electrical conductors held together with an overall sheath is known as LT power cables. This assembly is used for electrical power transmission and distribution purpose. Ciaaz supplies the finest PVC & PE cables in India. Cross-linked polyethylene (XLPE) is known to be as a thermosetting compound. It softens at the crystal melting point of polyethylene (85°C to 115°C) and becomes elastic rubber-like consistency, and retains this property until the temperature rise to 250°C to 300°C. These cables are designed and manufactured as per current, voltage, operating maximum temperature and purpose of applications desired by a customer.

Application - LT power cable may be installed as permanent wiring within buildings, run overhead, buried in the ground or exposed. And Flexible power cables are used in mobile tools, portable devices, and machinery.

Product specification -

Type -1.1 kV PVC /XLPE as per IS : 1554 – (Part-I) / IS : 7098(Part- I)/BS /IEC

Sizes : Single Core 1.5 to 1000 sq. mm Multi core 1.5 to 630 sq. mm

Options-

Conductor – Stranded / Solid / Circular shaped-Aluminium / Copper Insulation – PVC /XLPE/HR PVC /Zero Halogen Inner sheath – PVC/HR PVC /FR/FRLS PVC Armouring – G. S.Round Wire/ Flat Strip or Aluminium Wire /Flat Strip Outer sheath - PVC /HR PVC/FR/FRLS PVC /Zero Halogen

Product features -

- Dielectric losses are very less in these cables
- LT power cable is flexible, lightweight, fire-resistant in nature
- These cables can carry high current with high short circuit rating 250°C as against 160°C for PVC

Components of wire -

- Conductor- The conductor is the material which carries current. It can be of different materials (Aluminium/Copper). In the cable industry, it is preferred to use copper and aluminium conductors for these cables. We manufacture Submersible flat cable with copper conductor. The copper conductor can provide flexibility too.
- Insulator- An Insulator is the part of the cable which covers the conductor so that current won't come out and create any electric fault. These wires are protected with tough grade PVC insulation with colours red, blue and yellow.
- Sheath- The sheath is the protection cover of cable, which protects cables from external forces, oil, water and mechanical forces. Keeping in view this major part, we have built our flat submersible cable with PVC (Polyvinyl Chloride) sheath. PVC can also stand against the excessive heating condition.

Table No. 1 - **FLAME RETARDENT (FR)**

Multistrand Copper Conductor, Flame Retardent PVC Insulated, 1100 Volts Cable

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Diameter (Nominal)	Overall Diameter (Maximum)	Conductor Resistance at 20°C (Maximum)	Current Rating
mm ²	No.'s / mm	mm	mm	mm	Ohm/km	Amps
0.75	24/0.20	0.6	2.5	2.8	26	7
1.0	14/0.30	0.7	2.7	3.2	18.1	12
1.5	22/0.30	0.7	3.1	3.4	12.1	16
2.5	36/0.30	0.8	3.7	4.2	7.41	22
4.0	56/0.30	0.8	4.3	4.8	4.95	29
6.0	84/0.30	0.8	5.0	5.6	3.30	37

1. Conductor as per IS : 81301984.
2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
3. Bright anealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
4. Insulated with double layer FR grade PVC for better Insulation & Electrical Properties.
5. As per IS:694-1990
6. Environment Friendly Lead free PVC Compound.

Table No. 2 - **FLAME RETARDENT LOW SMOKE (FR-LSH)**

Multistrand Copper Conductor, Flame Retardent Low Smoke PVC Insulated, 1100 Volts Cable.

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Diameter (Nominal)	Overall Diameter (Maximum)	Conductor Resistance at 20°C (Maximum)	Current Rating
mm ²	No.'s / mm	mm	mm	mm	Ohm/km	Amps
0.75	24/0.20	0.6	2.5	2.8	26	7
1.0	14/0.30	0.7	2.7	3.2	18.1	12
1.5	22/0.30	0.7	3.1	3.4	12.1	16
2.5	36/0.30	0.8	3.7	4.2	7.41	22
4.0	56/0.30	0.8	4.3	4.8	4.95	29
6.0	84/0.30	0.8	5.0	5.6	3.30	37

1. Conductor as per IS-8130:1984.
2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
3. Bright anealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
4. Insulation: Specially formulated high temperature grade of Flame Retardent Low Smoke compound to restrict the spread of flames in fire situation. The smoke emitted by the burning cable is less compared to traditional cables. This ensures improved visibility for evacuation of trapped victims and facilitates fire fighting operation.
5. As per IS:694-1990.
6. Insulated with Environment Friendly PVC Compound.

Table No. 3 - **ZERO HALOGEN FLAME RETARDENT (ZHFR)/ LOW SMOKE ZERO HALOGEN (LSZH)**

Multistrand Copper Conductor Zero Halogen Flame Retardent Low Smoke Grade
Compound Insulated 1100volts Cable.

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Diameter (Nominal)	Overall Diameter (Maximum)	Conductor Resistance at 20°C (Maximum)	Current Rating
mm ²	No.'s / mm	mm	mm	mm	Ohm/km	Amps
0.75	24/0.20	0.6	2.5	2.8	26	8
1.0	14/0.30	0.7	2.7	3.2	18.1	14
1.5	22/0.30	0.7	3.1	3.4	12.1	18
2.5	36/0.30	0.8	3.7	4.2	7.41	25
4.0	56/0.30	0.8	4.3	4.8	4.95	33
6.0	84/0.30	0.8	5.0	5.6	3.30	42

1. Conductor as per IS-8130:1984.
2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
3. Bright anealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
4. Insulation: Specially formulated polymeric compound of Zero Halogen Flame Retardent Low Smoke is used. The performance of the cable in a fire situation is exceptionally good. The insulation does not burn readily. The smoke is negligible, transparent, non toxic. The Victims trapped in fire do not suffocate and this facilitates fire fighting operations. Unlike PVC, the smoke emitted is non-corrosive. Thus, the electronic printed circuit boards, hard disks and other sensitive electronic equipments are unaffected.
5. Generally conforms to IEC 60332-1 & 3, IEEE 60754-1 & 2, IEC 60754-1 & 2, BS 4066-1 & 3, BS 7211.

Table No. 4 - **HEAT RESISTANT (HR) 105°C CABLES**
Multistrand Copper Conductor Heat Resistant PVC Insulated, 1100 Volts Cable.

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Diameter (Nominal)	Overall Diameter (Maximum)	Conductor Resistance at 20°C (Maximum)	Current Rating
mm ²	No.'s / mm	mm	mm	mm	Ohm/km	Amps
0.75	24/0.20	0.6	2.5	2.8	26	8
1.0	14/0.30	0.7	2.7	3.2	18.1	14
1.5	22/0.30	0.7	3.1	3.4	12.1	18
2.5	36/0.30	0.8	3.7	4.2	7.41	25
4.0	56/0.30	0.8	4.3	4.8	4.95	33
6.0	84/0.30	0.8	5.0	5.6	3.30	42

1. Conductor as per IS-8130:1984.
2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
3. Bright anealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
4. Insulated: Specially formulated Heat Resistant PVC compound is used to withstand 105°C which enables the cable to withstand overload.
5. As per BS: 6231 , IEC 60227, DIN VDE 0281-3.

Table No. 5 - **SINGLE CORE FLEXIBLE CABLES (FR)**

Multistrand Copper Conductor FR PVC Insulated, (Unsheathed) 1100 Volts Cable.

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Diameter (Nominal)	Overall Diameter (Maximum)	Conductor Resistance at 20°C (Maximum)	Current Rating
mm ²	No.'s / mm	mm	mm	mm	Ohm/km	Amps
0.50	16/0.20	0.6	2.2	2.6	39	5
0.75	22/0.20	0.6	2.5	2.8	26	7
1.0	32/0.20	0.7	2.8	3.0	19.5	12
1.5	30/0.25	0.7	3.1	3.8	13.3	16
2.5	50/0.25	0.8	3.8	4.2	7.98	22
4	56/0.30	0.8	4.4	4.8	4.95	29
6	84/0.30	0.8	5.0	6.4	3.30	37
10	80/0.40	1.0	6.8	8.0	1.91	51
16	126/0.40	1.0	8.0	9.6	1.21	68
25	196/0.40	1.2	10.0	11.5	0.780	86
35	276/0.40	1.2	11.2	13.0	0.554	110
50	396/0.40	1.4	13.5	15.0	0.386	145
70	357/0.50	1.4	15.0	17.0	0.272	215
95	475/0.50	1.6	17.5	19.0	0.206	260
120	608/0.50	1.6	19.5	21.0	0.161	305

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Diameter (Nominal)	Overall Diameter (Maximum)	Conductor Resistance at 20°C (Maximum)	Current Rating
mm ²	No.'s / mm	mm	mm	mm	Ohm/km	Amps
150	756/0.50	1.8	22.0	23.5	0.129	355
185	925/0.50	2.0	24.5	26.5	0.106	415
240	1221/0.50	2.2	28.0	30.0	0.0801	500
300	1517/0.50	2.4	30.0	32.0	0.0641	585
400	2013/0.50	2.6	34.5	36.5	0.0486	695

1. Conductor as per IS-8130:1984.
2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
3. Bright anealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
4. Insulated with Environment friendly Lead free PVC Compound.
5. As per IS: 694-1990 (generally).

Table No. 6 - **SUBMERSIBLE CABLES FLEXIBLE THREE CORE**

Flat Cables Copper Conductor, PVC Insulated and PVC Sheathed 1100 Volts Grade Cable.

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Thickness of Sheath (Nominal)	Width (Nominal)	Height (Nominal)	Current Rating
mm ²	No.'s / mm	mm	mm	mm	mm	Amps
1.0	32/0.20	0.6	0.9	9.6	4.4	12
1.5	30/0.25	0.6	0.9	10.4	4.8	15
2.5	50/0.25	0.7	1.0	13.0	5.8	20
4.0	56/0.30	0.8	1.1	15.2	6.6	26
6.0	84/0.30	0.8	1.1	16.8	7.2	33
10	80/0.40	1.0	1.2	22.7	9.3	45
16	126/0.40	1.0	1.3	26.8	10.8	61
25	196/0.40	1.2	1.5	32.8	13.0	78
35	276/0.40	1.2	1.6	37.0	14.6	99
50	396/0.40	1.4	1.7	44.0	17.0	135

- 1. Conductor as per IS-8130:1984.
- 2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
- 3. Bright anealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
- 4. Insulated with Environment friendly Lead free PVC Compound.
- 5. As per IS: 694-1990 .

Table No. 7 - **SINGLE CORE AND MULTI CORE FLEXIBLE ROUND INDUSTRIAL CABLE**

Multistrand Copper Conductor, FR PVC Insulated and FR PVC Sheathed Cable 1100 Cable.

Cross Sectional Area of Conductor (Nominal)	No. and Diameter of Strand (Nominal)	Thickness of Insulation (Nominal)	Thickness of Sheath (Nominal)				Overall Diameter (Nominal)				Current Rating
mm ²	No.'s / mm	mm	mm				mm				Amps
			Single Core	Two Core	Three Core	Four Core	Single Core	Two Core	Three Core	Four Core	
0.50	16/0.20	0.6	0.9	0.9	0.9	0.9	4.0	6.20	6.60	7.2	5
0.75	24/0.20	0.6	0.9	0.9	0.9	0.9	4.20	6.60	7.0	7.6	7
1.0	32/0.20	0.6	0.9	0.9	0.9	0.9	4.40	7.0	7.4	8.0	12
1.5	30/0.25	0.6	0.9	0.9	0.9	0.9	4.60	7.40	8.0	8.6	15
2.5	50/0.25	0.7	1.0	1.0	1.0	1.0	5.0	9.0	9.6	10.5	20
4.0	56/0.30	0.8	1.0	1.0	1.1	1.1	6.2	10.4	11.3	12.4	26
6.0	84/0.30	0.8	1.0	1.1	1.1	1.2	6.8	11.9	12.6	14.1	33
10.0	80/0.40	1.0	1.0	1.2	1.2	1.3	8.8	16	17	18.8	45
16.0	126/0.40	1.0	1.0	1.3	1.3	1.4	10.0	18.8	20.0	22.4	61
25.0	196/0.40	1.2	1.1	1.4	1.5	1.6	12.0	22.6	24.5	27.2	78
35.0	276/0.40	1.2	1.1	1.5	1.6	1.7	13.5	25.6	27.7	31.0	99
50.0	396/0.40	1.4	1.2	1.6	1.7	1.8	16.0	35.5	33.0	36.5	135

1. Conductor as per IS-8130:1984.
2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
3. Bright annealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
4. Insulated with Environment friendly Lead free PVC Compound.
5. As per IS: 694-1990 .

Table No. 8 - **Multi Core Flexible Round Industrial Cables**

Multistrand Copper Conductor, FR PVC Insulated and FR PVC Sheathed 1100 volts grade.

Nominal Cross Sectional Area	sqmm	0.50	0.75	1.00	1.50	2.50	4.00
Conductor, Construction	No./Dia	16/0.20	24/0.20	32/0.20	30/0.25	50/0.25	56/0.30
Conductor Diameter (Approx.)	mm	0.90	1.10	1.30	1.60	2.00	2.60
Nominal Insulation Thickness	mm	0.60	0.60	0.60	0.60	0.70	0.80
Core Diameter (Approx.)	mm	2.20	2.40	2.60	2.80	3.40	4.20

No. of Cores								
5	Sheath Thickness (Avg)	mm	0.9	0.9	1.00	1.00	1.00	1.10
	Overall Diameter (Approx.)	mm	7.80	8.40	9.10	9.60	11.20	13.60
6	Sheath Thickness (Avg)	mm	0.90	1.00	1.00	1.00	1.10	1.20
	Overall Diameter (Approx.)	mm	8.50	9.20	9.80	10.50	12.80	15.00
7	Sheath Thickness (Avg)	mm	0.90	1.00	1.00	1.00	1.10	1.20
	Overall Diameter (Approx.)	mm	8.50	9.20	9.80	10.50	12.80	15.00

No. of Cores								
10	Sheath Thickness (Avg)	mm	1.00	1.10	1.10	1.10	1.30	1.40
	Overall Diameter (Approx.)	mm	10.80	12.00	12.60	13.50	16.60	19.80
12	Sheath Thickness (Avg)	mm	1.00	1.10	1.10	1.10	1.30	1.40
	Overall Diameter (Approx.)	mm	11.20	12.40	13.00	14.00	17.30	20.50
14	Sheath Thickness (Avg)	mm	1.00	1.10	1.10	1.20	1.30	1.40
	Overall Diameter (Approx.)	mm	12.00	13.00	13.70	15.00	18.20	21.60
16	Sheath Thickness (Avg)	mm	1.10	1.20	1.20	1.20	1.40	1.50
	Overall Diameter (Approx.)	mm	12.60	13.80	14.60	15.70	19.50	23.00
19	Sheath Thickness (Avg)	mm	1.10	1.20	1.30	1.30	1.40	1.50
	Overall Diameter (Approx.)	mm	13.20	14.50	15.60	16.80	20.50	24.20
24	Sheath Thickness (Avg)	mm	1.20	1.30	1.30	1.40	1.40	1.50
	Overall Diameter (Approx.)	mm	15.60	17.20	18.50	20.00	24.00	28.40

1. Conductor as per IS-8130:1984.
2. The number & diameter of conductor strands are for reference only and governed by conductor resistance.
3. Bright annealed electrolytic grade copper conductor, bunched together in high precision machines for uniformity and flexibility.
4. Insulated with Environment friendly Lead free PVC Compound.
5. As per IS: 694-1990 .

Product Name- **Copper cables**

Product description- A Multi-Core Copper Control Cable for transmission of current operation of objects being controlled. When direct access to an object is not possible than Copper Control cable came to access. Copper Control cables, having a position in between power cables and communication cables belongs to the family of instrumentation cables. They are widely used to distribute low voltage data / signal. Control cables are designed for automation controls and have a copper conductor and enveloped in galvanized steel braid. These cables can carry signals up to 40 volts in the regions that require less than 1 Ampere.

Application - Copper Control cables are Suitable for cable trays, Conduits, Underground, Overhead, cable trays and all electrical installation industrial control circuits for sending electrical signals.

Product specification-

- Type 650/1100 V PVC/XLPE as per IS 1554-(Part-I) & IS: 7098 (Part- I)/BS/IEC
- Sizes: 1.5/ 2.5 sq. mm up to 100 cores 4 & 6 sq. mm up to 4 cores

Options- Conductor-Solid/Stranded/Plain/ Tinned Insulation - PVC/HR PVC/XLPE/Zero Halogen Innersheath - PVC/HR PVC /FR/FRLS/Zero Halogen Armouring-G. S.Round Wire/Flat Strip Outersheath-PVC/HR PVC/FR/FRLS/Zero Halogen

Product features -

- Copper Conductor and PVC/XLPE insulation provides safer operation for longer period
- Flexibility is what Copper Control Wire can provide you due to Copper Conductor
- Copper Control cables installation is very easy. Most Electricians prefer to have Copper wiring
- Highly compatible with any electrical device or appliances or instrument or any place

Components of wire -

- Conductor - Conductor usually conducts the flow of electricity or signals within cables. Conductors can be of Silver / Aluminum/Copper. The cost of the cable also varies as the type of conductors changes. In copper control cable the conductor is of Copper. You can see the difference of Copper and Aluminium conductor.
- Insulator- An insulator is the part of the cable which covers the conductor so that current won't come out and create any electric fault. Insulators can be a wire (colour) or any insulated material. These cables usually bear a PVC / XLPE insulation that protects them from impacts and harsh climatic conditions.
- Sheath - The sheath is an outer cover, which protects the wire from external damage. If in case, current passes from insulated material, Sheath is responsible for controlling the current in that case.

Product Name- **Fire Survival cable**

Product description- Ciazz bring you the premium quality Fire Survival Cables. The offered cables are fireproof as these are insulated with PVC / TPE / LSZH materials, which maintain circuit integrity even during extreme temperature. Modern manufacturing techniques are adopted in our huge infrastructure facility to manufacture these cables. These Fire Survival Cables are carefully tested as per IEC-60331 standards to meet the industry laid parameters.

Application- Due to highly flame retardant nature, fire survival cable has application in public areas mostly such hospitals, metro terminals, underground projects, airports, schools etc.

Product specification - Power Cables 1.1 kV as per BS : 7846 / BS : 6387 Sizes : S/Cx 16 to 1000 Sq. mm Multi Core 16 to 400 Sq. mm Control Cables Sizes : 1.5 / 2.5 sq mm up to 61 cores 4 & 6 sq. mm up to 4 cores.

Options- Conductor-Copper/Aluminium Screening-Mica Tape Insulation-XLPE/ZHFR Inner Sheath-ZHFR Armouring-Wire/Strip Screening - Glass Tape Outer Sheath - ZHFR

Product features -

- These cables are tensile, durable, water and chemical resistant.
- These cables can stand against high temperature for 3 -4 hours easily.
- Does not emit hazardous gasses.

Components of wire -

- Conductor - Conductor usually conducts flow of electricity or signals within cables. Conductors can be of Aluminium / Copper. Our range of fire survival cables is made using copper/aluminium conductors.
- Insulator - An insulator is the part of the cable which covers the conductor so that current won't come out and create any electric fault. Insulators can be a wire (color) or any insulated material. In fire survival cables, insulated material is made of XLPE (Cross-linked Polyethylene). XLPE is more powerful than normal insulation. It possesses the ability to stand for long period of time against fire. At the time of high heat, it produces white smog, so that people can get aware.
- Sheath- The sheath is an outer cover, which protects the wire from external damage. In fire survival cables, the sheath is of ZHFR (Zero halogen flame retardant). It also protects the conductor and insulator in the cable from excessive heat.

Product Name- **Aerial Bunch Cable**

Product description - Aerial Bunched Cables (ABC) are used for Over Head Power distribution. When compared to the conventional bare conductor overhead distribution system. Aerial Bunched Cables provides higher safety and reliability. This system is ideal for rural distribution and especially attractive for installation in difficult terrains such as hilly, forest & coastal areas etc. Aerial Bunched Cables is also considered to be a better choice for power distribution in congested urban areas with narrow lanes and by-lanes.

Application -

- As replacement of bare lines in Rural Areas, in woods and in other localities & narrow streets where the space is limited.
- As replacement of bare lines where reliability of supply is of prime importance.
- As replacement of bare lines where high degree of stability of supply voltage is of importance.
- In hilly terrains where cost of erection of overhead lines or underground cable becomes very high.

Product specification - 1100 Volts, Polyethylene / cross Linked Polyethylene insulated cables with Aluminum conductors twisted over central bare / insulated alloy messenger wire IS - 14255 - 1995/ BS - 7870 (Part-V) 1999
Sizes: Phase conductor up to – 95 sq.mm Messenger conductor up to- 70 sq mm

Options - Conductor – All Aluminium / alloy Insulation – Polyethylene / cross linked polyethylene

Product features -

- Cores being insulated, the chances of power thefts are eliminated.
- Safest system because phase conductors are insulated, no risk of danger of accidental touching live conductor.
- These are cheaper than power cables.

FINAL TESTING

All the cable length manufactured at Ciazz works undergo rigorous testing detailed given below :

Routine Tests

Tests carried out on each cable to check the requirements which are likely to vary during production.

- 1) Conductor Resistance / Insulation Resistance
- 2) High Voltage
- 3) Armour Resistance (for mining cables)

Type tests

Tests carried out to prove conformity with the specification. These are intended to prove the general qualities and design of a given type of cable. The following shall constitute Type Tests :

Test	For Requirement Ref	For Test method, Ref Part Number of IS : 10810
a) Tests on Conductor <ul style="list-style-type: none">(i) Annealing (for Copper)(ii) Tensile Test (for Aluminium)(iii) Wrapping Test (for Aluminium)(iv) Conductor resistance	IS : 8130 - 1984 IS : 8130 - 1984 IS : 8130 - 1984 IS : 8130 - 1984	1 2 3 5
b) Test for Armouring wires/strips	6, Table 5 and IS : 3975 - 1979	36 to 42
c) Test for thickness for Insulation & Sheath	9, 12 and 14 Table 2,4 and 6	6

Test	For Requirement Ref	For Test method, Ref Part Number of IS : 10810
d) Physical Tests for Insulation		
(i) Tensile Strength and Elongations at break	Table 1	7
(ii) Ageing in Air Oven	Table 1	11
(iii) Hot Set Test	Table 1	30
(iv) Shrinkage Test	Table 1	12
(v) Water Absorption (gravimetric)	Table 1	33
e) Physical Tests for Outer Sheath		
(i) Tensile Strength and Elongations at break	IS : 5831 - 1984	
(ii) Ageing in Air Oven	IS : 5831 - 1984	7
(iii) Loss of Mass in Air Oven(where applicable)	IS : 5831 - 1984	11
(iv) Shrinkage Test	IS : 5831 - 1984	10
(v) Hot Deformation	IS : 5831 - 1984	12
(vi) Heat Shock Test	IS : 5831 - 1984	15
(vii) Thermal Stability	IS : 5831 - 1984	14
f) Insulation Resistance (Volume Resistivity Test)	Table 1	43
g) High Voltage	16.2	45
h) Flammability Test	16.3	53
OPTIONAL TESTS		
The following shall constitute optional tests for Outer Sheath :		
a) Cold Blend	IS : 5831 - 1984	20
b) Cold Impact	IS : 5831 - 1984	21
c) Resistance Test for Armour (other than mining cable)		
d) Anti Rodent / Termite		

Acceptance Tests

The following shall constitute acceptance tests :

01. Annealing (for Copper)
02. Tensile Test (for Aluminium)
03. Wrapping Test (Aluminium)
04. Conductor resistance test
05. Test for thickness for Insulation & Sheath
06. Hot set test for insulation
07. Tensile strength and elongation at break test for insulation & sheath
08. High Voltage test
09. Insulation resistance (volume resistivity) test

The following additional Type tests are carried out on FR, FR-LSH, FR-LSZH and FS cables :

Sr. No.	Condition of Hazards	Tests	Specification/Method of Test	Specified Value
1.	Spread of fire.	(a) Oxygen index (Limiting Oxygen Index-LOI)	ASTM-D 2863	29% (Min.)
		(b) Temperature Index	ASTM-D 2863 & BICC Handbook	250 Deg.C (Min.)
2.	Evolution of Corrosive gases	Halogen Acid gas generation	**IEC-754-1 (By Wt.)	20% (Max.)
3.	Emission of smoke	Smoke density rating test(SDR)	**ASTM-D-2843	60% (Max.)
4.	Evolution of Corrosive gases	Halogen Acid gas generation	***IEC-754-1 (By Wt.)	0.5% (Max.)
5.	Emission of smoke	Smoke density rating test(SDR)	***ASTM-D-2843	20% (Max.)
6.	Flammability	Flame Retardance	*(a) IEC-332-1 (Single Cable)	Unburnt Length
			*(b) Swedish chimney SS-424-1475 (Class F3)	Unburnt Length 300mm(Min.)
			*(c) IEC-332-3 (Bunched Cables)	Length burnt 2.5 Mtrs.(Max.)

CABLES

- *Tests applicable for FR Cables
- **Tests applicable for FR-LSH Cables
- ***Tests applicable for FR-LSZH and FS Cables

Performance Table As Per Bs:6387 For Fs Cables

TEST	CATEGORY
Resistance to Fire alone	
650°C for 3 hours	A
750°C for 3 hours	B
950°C for 3 hours	C
950°C for 20 minutes	S
Resistance to Fire with Water Spray (optional)	
650°C	W
Resistance to Fire with Mechanical Shock (optional)	
650°C	X
750°C	Y
950°C	Z

Table No. 1 - “ CIAZZ ” 1100V SINGLE CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Unarmoured Cable			Armoured Cable							Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
		Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable				Round Wire Armoured Cable			In Ground	In free air		
					Nominal Thickness of Insulation	Nominal Diameter of Flat Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Amps.	Amps.
4	Solid	0.7	1.8	7.5	1.0	-	-	-	1.4	1.24	10.0	36	31	7.41	9.48
6	Solid	0.7	1.8	8.0	1.0	-	-	-	1.4	1.24	10.5	44	39	4.61	5.90
10	Solid	0.7	1.8	9.0	1.0	-	-	-	1.4	1.24	11.5	59	53	3.08	3.94
16	Stranded	0.7	1.8	10.0	1.0	-	-	-	1.4	1.24	12.5	76	73	1.91	2.44
25	Stranded	0.9	1.8	12.0	1.2	-	-	-	1.4	1.24	14.0	96	98	1.20	1.54
35	Stranded	0.9	1.8	13.0	1.2	-	-	-	1.4	1.24	16.0	114	121	0.868	1.11
50	Stranded	1.0	1.8	14.5	1.3	-	-	-	1.4	1.24	18.0	135	150	0.641	0.82
70	Stranded	1.1	1.8	16.0	1.4	-	-	-	1.4	1.24	20.0	166	187	0.443	0.567
95	Stranded	1.1	1.8	18.0	1.4	4 x 0.80	1.40	20.0	1.6	1.40	22.0	198	230	0.320	0.410
120	Stranded	1.2	1.8	20.0	1.5	4 x 0.80	1.40	22.0	1.6	1.40	23.0	225	268	0.253	0.324
150	Stranded	1.4	2.0	22.0	1.7	4 x 0.80	1.40	23.0	1.6	1.40	25.0	253	309	0.206	0.264
185	Stranded	1.6	2.0	24.0	1.9	4 x 0.80	1.40	25.0	1.6	1.40	27.0	286	360	0.164	0.210
240	Stranded	1.7	2.0	27.0	2.0	4 x 0.80	1.40	28.0	1.6	1.40	29.0	332	433	0.124	0.160
300	Stranded	1.8	2.0	29.0	2.1	4 x 0.80	1.56	30.0	1.6	1.56	32.0	376	501	0.100	0.128
400	Stranded	2.0	2.2	33.0	2.4	4 x 0.80	1.56	35.0	2.0	1.56	37.0	431	596	0.0778	0.100
500	Stranded	2.2	2.2	36.0	2.6	4 x 0.80	1.56	38.0	2.0	1.56	40.0	490	693	0.0605	0.0774
630	Stranded	2.4	2.2	40.0	2.8	4 x 0.80	1.72	42.0	2.0	1.72	45.0	557	814	0.0469	0.0600
800	Stranded	2.6	2.4	45.0	3.1	4 x 0.80	1.72	47.0	2.0	1.88	50.0	600	890	0.0367	0.0470
1000	Stranded	2.8	2.6	50.0	3.3	4 x 0.80	1.88	52.0	2.5	2.04	55.0	650	1050	0.0291	0.0372

Table No. 2 - “ **CIAZZ** ” 1100V SINGLE CORE COPPER CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Unarmoured Cable			Armoured Cable							Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
		Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable				Round Wire Armoured Cable			In Ground	In free air		
					Nominal Thickness of Insulation	Nominal Diameter of Flat Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Amps.	Amps.
4	Solid	0.7	1.8	7.5	1.0	-	-	-	1.4	1.24	10.0	47	42	4.61	5.90
6	Solid	0.7	1.8	8.0	1.0	-	-	-	1.4	1.24	10.5	59	53	3.08	3.94
10	Stranded	0.7	1.8	9.0	1.0	-	-	-	1.4	1.24	11.5	78	72	1.83	2.34
16	Stranded	0.7	1.8	10.0	1.0	-	-	-	1.4	1.24	12.5	102	98	1.15	1.47
25	Stranded	0.9	1.8	12.0	1.2	-	-	-	1.4	1.24	14.0	132	132	0.727	0.930
35	Stranded	0.9	1.8	13.0	1.2	-	-	-	1.4	1.24	16.0	156	156	0.524	0.671
50	Stranded	1.0	1.8	14.5	1.3	-	-	-	1.4	1.24	18.0	186	198	0.387	0.495
70	Stranded	1.1	1.8	16.0	1.4	-	-	-	1.4	1.24	20.0	228	246	0.268	0.343
95	Stranded	1.1	1.8	18.0	1.4	4 x 0.80	1.40	20.0	1.6	1.40	22.0	264	294	0.193	0.247
120	Stranded	1.2	1.8	20.0	1.5	4 x 0.80	1.40	22.0	1.6	1.40	23.0	300	336	0.153	0.196
150	Stranded	1.4	2.0	22.0	1.7	4 x 0.80	1.40	23.0	1.6	1.40	25.0	336	384	0.124	0.159
185	Stranded	1.6	2.0	24.0	1.9	4 x 0.80	1.40	25.0	1.6	1.40	27.0	366	444	0.0991	0.127
240	Stranded	1.7	2.0	27.0	2.0	4 x 0.80	1.40	28.0	1.6	1.40	29.0	414	510	0.0754	0.0965
300	Stranded	1.8	2.0	29.0	2.1	4 x 0.80	1.56	30.0	1.6	1.56	32.0	450	570	0.0601	0.0769
400	Stranded	2.0	2.2	33.0	2.4	4 x 0.80	1.56	35.0	2.0	1.56	37.0	480	660	0.0470	0.0602
500	Stranded	2.2	2.2	36.0	2.6	4 x 0.80	1.56	38.0	2.0	1.56	40.0	570	708	0.0366	0.0468
630	Stranded	2.4	2.2	40.0	2.8	4 x 0.80	1.72	42.0	2.0	1.72	45.0	564	825	0.0283	0.0362
800	Stranded	2.6	2.4	45.0	3.1	4 x 0.80	1.72	47.0	2.0	1.88	50.0	660	945	0.0221	0.0283
1000	Stranded	2.8	2.6	50.0	3.3	4 x 0.80	1.88	52.0	2.5	2.04	55.0	723	1050	0.0176	0.0225

Table No. 3 - “ CIAZZ ” 1100V TWO CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
				Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
						Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Amps.	Amps.
4	Solid	0.7	0.3	1.8	13.0	-	-	-	1.40	1.24	14.5	40	34	7.41	9.48
6	Solid	0.7	0.3	1.8	14.0	-	-	-	1.40	1.24	15.5	50	44	4.61	5.90
10	Solid	0.7	0.3	1.8	15.0	-	-	-	1.40	1.24	17.0	69	59	3.08	3.94
16	Stranded	0.7	0.3	1.8	15.0	-	-	-	1.40	1.40	17.0	88	74	1.91	2.44
25	Stranded	0.9	0.3	2.0	17.5	4 x 0.80	1.40	18.5	1.60	1.40	20.0	112	98	1.20	1.54
35	Stranded	0.9	0.3	2.0	19.0	4 x 0.80	1.40	20.0	1.60	1.40	21.5	138	124	0.868	1.11
50	Stranded	1.0	0.3	2.0	21.5	4 x 0.80	1.40	22.5	1.60	1.40	24.0	169	156	0.641	0.82
70	Stranded	1.1	0.3	2.0	24.5	4 x 0.80	1.56	25.5	1.60	1.56	27.0	200	188	0.443	0.567
95	Stranded	1.1	0.4	2.2	27.5	4 x 0.80	1.56	28.0	2.00	1.56	30.0	238	231	0.320	0.410
120	Stranded	1.2	0.4	2.2	30.0	4 x 0.80	1.56	30.5	2.00	1.56	32.5	262	262	0.253	0.324
150	Stranded	1.4	0.4	2.2	33.0	4 x 0.80	1.72	34.0	2.00	1.72	36.0	300	300	0.206	0.264
185	Stranded	1.6	0.5	2.4	37.0	4 x 0.80	1.72	37.5	2.00	1.88	40.0	344	344	0.164	0.210
240	Stranded	1.7	0.5	2.6	40.5	4 x 0.80	1.88	41.0	2.50	2.04	45.0	400	406	0.125	0.160
300	Stranded	1.8	0.6	2.8	44.5	4 x 0.80	2.04	45.5	2.50	2.20	49.0	444	456	0.100	0.128
400	Stranded	2.0	0.6	3.0	49.0	4 x 0.80	2.36	50.0	2.50	2.36	53.0	481	525	0.0778	0.100
500	Stranded	2.2	0.7	3.4	55.0	4 x 0.80	2.52	56.0	3.15	2.68	60.5	523	678	0.0605	0.0774
630	Stranded	2.4	0.7	3.6	62.0	4 x 0.80	2.68	63.0	3.15	2.84	67.5	592	786	0.0469	0.0600

Table No. 4 - “ **CIAZZ** ” 1100V TWO CORE COPPER CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
				Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
						Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Amps.	Amps.
4	Solid	0.7	0.3	1.8	13.0	-	-	-	1.40	1.24	14.5	51	44	4.61	5.90
6	Solid	0.7	0.3	1.8	14.0	-	-	-	1.40	1.24	15.5	63	56	3.08	3.94
10	Stranded	0.7	0.3	1.8	15.0	-	-	-	1.40	1.24	17.0	88	75	1.83	2.34
16	Stranded	0.7	0.3	1.8	15.0	-	-	-	1.40	1.40	17.0	113	98	1.15	1.47
25	Stranded	0.9	0.3	2.0	17.5	4 x 0.80	1.40	18.5	1.60	1.40	20.0	144	131	0.727	0.930
35	Stranded	0.9	0.3	2.0	19.0	4 x 0.80	1.40	20.0	1.60	1.40	21.5	175	150	0.524	0.671
50	Stranded	1.0	0.3	2.0	21.5	4 x 0.80	1.40	22.5	1.60	1.40	24.0	206	194	0.387	0.495
70	Stranded	1.1	0.3	2.0	24.5	4 x 0.80	1.56	25.5	1.60	1.56	27.0	256	244	0.268	0.343
95	Stranded	1.1	0.4	2.2	27.5	4 x 0.80	1.56	28.0	2.00	1.56	30.0	300	288	0.193	0.247
120	Stranded	1.2	0.4	2.2	30.0	4 x 0.80	1.56	30.5	2.00	1.56	32.5	344	331	0.153	0.196
150	Stranded	1.4	0.4	2.2	33.0	4 x 0.80	1.72	34.0	2.00	1.72	36.0	388	381	0.124	0.159
185	Stranded	1.6	0.5	2.4	37.0	4 x 0.80	1.72	37.5	2.00	1.88	40.0	438	438	0.0991	0.127
240	Stranded	1.7	0.5	2.6	40.5	4 x 0.80	1.88	41.0	2.50	2.04	45.0	506	512	0.0754	0.0965
300	Stranded	1.8	0.6	2.8	44.5	4 x 0.80	2.04	45.5	2.50	2.20	49.0	562	581	0.0601	0.0769
400	Stranded	2.0	0.6	3.0	49.0	4 x 0.80	2.36	50.0	2.50	2.36	53.0	612	662	0.0470	0.0602

Table No. 5 - “ **CIAZZ** ” 1100V THREE CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
				Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
						Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Amps.	Amps.
4	Solid	0.7	0.3	1.8	13.5	-	-	-	1.40	1.24	15.0	34	31	7.41	9.48
6	Solid	0.7	0.3	1.8	14.5	-	-	-	1.40	1.24	16.0	43	50	4.61	5.90
10	Solid	0.7	0.3	1.8	16.5	-	-	-	1.40	1.24	18.0	57	67	3.08	3.94
16	Stranded	0.7	0.3	1.8	17.0	4 x 0.80	1.24	18.0	1.60	1.40	20.0	73	70	1.91	2.44
25	Stranded	0.9	0.3	2.0	20.0	4 x 0.80	1.40	20.5	1.60	1.40	22.0	94	96	1.20	1.54
35	Stranded	0.9	0.3	2.0	22.0	4 x 0.80	1.40	23.0	1.60	1.40	24.0	113	117	0.868	1.11
50	Stranded	1.0	0.3	2.0	24.5	4 x 0.80	1.40	25.5	1.60	1.56	27.0	133	142	0.641	0.82
70	Stranded	1.1	0.4	2.2	29.0	4 x 0.80	1.56	30.0	2.00	1.56	31.5	164	179	0.443	0.567
95	Stranded	1.1	0.4	2.2	32.0	4 x 0.80	1.56	32.5	2.00	1.56	34.5	196	221	0.320	0.410
120	Stranded	1.2	0.4	2.2	34.5	4 x 0.80	1.56	35.5	2.00	1.72	37.5	223	257	0.253	0.324
150	Stranded	1.4	0.5	2.4	38.5	4 x 0.80	1.72	39.0	2.00	1.88	41.5	249	292	0.206	0.264
185	Stranded	1.6	0.5	2.6	43.0	4 x 0.80	1.88	43.5	2.50	2.04	48.5	282	337	0.164	0.210
240	Stranded	1.7	0.6	2.8	48.0	4 x 0.80	2.04	48.5	2.50	2.20	52.0	326	399	0.125	0.160
300	Stranded	1.8	0.6	3.0	52.0	4 x 0.80	2.20	52.0	2.50	2.36	57.0	367	455	0.100	0.128
400	Stranded	2.0	0.7	3.2	59.0	4 x 0.80	2.52	59.5	3.15	2.68	65.0	418	530	0.0778	0.100
500	Stranded	2.2	0.7	3.6	66.0	4 x 0.80	2.68	66.0	3.15	2.84	72.0	470	612	0.0605	0.0774
630	Stranded	2.4	0.7	3.8	73.0	4 x 0.80	2.84	73.0	4.00	3.00	80.0	529	707	0.0469	0.0600

Table No. 6 - “ CIAZZ ” 1100V THREE CORE COPPER CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
				Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
						Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Amps.	Amps.
4	Solid	0.7	0.3	1.8	13.5	-	-	-	1.40	1.24	15.0	43	36	4.61	5.90
6	Solid	0.7	0.3	1.8	14.5	-	-	-	1.40	1.24	16.0	54	47	3.08	3.94
10	Stranded	0.7	0.3	1.8	16.5	-	-	-	1.40	1.24	18.0	72	62	1.83	2.34
16	Stranded	0.7	0.3	1.8	17.0	4 x 0.80	1.24	18.0	1.60	1.40	20.0	92	70	1.15	1.47
25	Stranded	0.9	0.3	2.0	20.0	4 x 0.80	1.40	20.5	1.60	1.40	22.0	119	108	0.727	0.930
35	Stranded	0.9	0.3	2.0	22.0	4 x 0.80	1.40	23.0	1.60	1.40	24.0	144	132	0.524	0.671
50	Stranded	1.0	0.3	2.0	24.5	4 x 0.80	1.40	25.5	1.60	1.56	27.0	174	162	0.387	0.495
70	Stranded	1.1	0.4	2.2	29.0	4 x 0.80	1.56	30.0	2.00	1.56	31.5	210	198	0.268	0.343
95	Stranded	1.1	0.4	2.2	32.0	4 x 0.80	1.56	32.5	2.00	1.56	34.5	252	240	0.193	0.247
120	Stranded	1.2	0.4	2.2	34.5	4 x 0.80	1.56	35.5	2.00	1.72	37.5	288	276	0.153	0.196
150	Stranded	1.4	0.5	2.4	38.5	4 x 0.80	1.72	39.0	2.00	1.88	41.5	324	318	0.124	0.159
185	Stranded	1.6	0.5	2.6	43.0	4 x 0.80	1.88	43.5	2.50	2.04	48.5	360	366	0.0991	0.127
240	Stranded	1.7	0.6	2.8	48.0	4 x 0.80	2.04	48.5	2.50	2.20	52.0	414	426	0.0754	0.0965
300	Stranded	1.8	0.6	3.0	52.0	4 x 0.80	2.20	52.0	2.50	2.36	57.0	462	480	0.0601	0.0769
400	Stranded	2.0	0.7	3.2	59.0	4 x 0.80	2.52	59.5	3.15	2.68	65.0	510	546	0.0469	0.0602

Table No. 7 - “ CIAZZ ” 1100V THREE AND HALF CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation		Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
					Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
		Main	Neutral				Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm ²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Amps.	Amps.
25/16	Stranded	0.9	0.7	0.3	2.0	21.0	4 x 0.80	1.40	22.0	1.60	1.40	24.0	94	96	1.20	1.54
35/16	Stranded	0.9	0.7	0.3	2.0	23.0	4 x 0.80	1.40	24.0	1.60	1.40	26.0	113	117	0.868	1.11
50/16	Stranded	1.0	0.9	0.3	2.0	26.0	4 x 0.80	1.40	27.0	1.60	1.56	29.0	133	142	0.641	0.82
70/35	Stranded	1.1	0.9	0.4	2.2	30.0	4 x 0.80	1.56	31.0	2.00	1.56	34.0	164	179	0.443	0.567
95/50	Stranded	1.1	1.0	0.4	2.2	34.0	4 x 0.80	1.56	35.0	2.00	1.56	38.0	196	221	0.320	0.410
120/70	Stranded	1.2	1.1	0.4	2.2	37.0	4 x 0.80	1.72	38.0	2.00	1.72	41.0	223	257	0.253	0.324
150/70	Stranded	1.4	1.1	0.5	2.4	41.0	4 x 0.80	1.72	42.0	2.00	1.88	45.0	249	292	0.206	0.264
185/95	Stranded	1.6	1.1	0.5	2.6	47.0	4 x 0.80	1.88	47.0	2.50	2.04	50.0	282	337	0.164	0.210
240/120	Stranded	1.7	1.2	0.6	2.8	51.5	4 x 0.80	2.04	52.0	2.50	2.20	56.0	326	399	0.125	0.160
300/150	Stranded	1.8	1.4	0.6	3.0	56.0	4 x 0.80	2.20	56.0	2.50	2.36	61.0	367	455	0.100	0.128
400/185	Stranded	2.0	1.6	0.7	3.4	63.0	4 x 0.80	2.52	63.0	3.15	2.68	69.0	418	530	0.0778	0.100
500/240	Stranded	2.2	1.7	0.7	3.6	71.0	4 x 0.80	2.68	71.5	3.15	2.84	77.0	470	612	0.0605	0.0774

Table No. 8 - “ **CIAZZ** ” **1100V THREE AND HALF CORE COPPER CONDUCTOR, XLPE INSULATED,**
Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation		Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
					Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
		Main	Neutral				Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Ohm/km	Ohm/km
25/16	Stranded	0.9	0.7	0.3	2.0	21.0	4 x 0.80	1.40	22.0	1.60	1.40	24.0	119	108	0.727	0.930
35/16	Stranded	0.9	0.7	0.3	2.0	23.0	4 x 0.80	1.40	24.0	1.60	1.40	26.0	144	132	0.524	0.671
50/16	Stranded	1.0	0.9	0.3	2.0	26.0	4 x 0.80	1.40	27.0	1.60	1.56	29.0	173	162	0.387	0.495
70/35	Stranded	1.1	0.9	0.4	2.2	30.0	4 x 0.80	1.56	31.0	2.00	1.56	34.0	210	198	0.268	0.343
95/50	Stranded	1.1	1.0	0.4	2.2	34.0	4 x 0.80	1.56	35.0	2.00	1.56	38.0	252	240	0.193	0.247
120/70	Stranded	1.2	1.1	0.4	2.2	37.0	4 x 0.80	1.72	38.0	2.00	1.72	41.0	288	276	0.153	0.196
150/70	Stranded	1.4	1.1	0.5	2.4	41.0	4 x 0.80	1.72	42.0	2.00	1.88	45.0	324	318	0.124	0.159
185/95	Stranded	1.6	1.1	0.5	2.6	47.0	4 x 0.80	1.88	47.0	2.50	2.04	50.0	360	366	0.0991	0.127
240/120	Stranded	1.7	1.2	0.6	2.8	51.5	4 x 0.80	2.04	52.0	2.50	2.20	56.0	414	426	0.0754	0.0965
300/150	Stranded	1.8	1.4	0.6	3.0	56.0	4 x 0.80	2.20	56.0	2.50	2.36	61.0	462	480	0.0601	0.0769
400/185	Stranded	2.0	1.6	0.7	3.4	63.0	4 x 0.80	2.52	63.0	3.15	2.68	69.0	510	546	0.0470	0.0602

Table No. 9 - “ **CIAZZ** ” 1100V FOUR CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
				Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
						Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Ohm/km	Ohm/km
4	Solid	0.7	0.3	1.8	15.0	-	-	-	1.40	1.24	16.0	34	31	7.41	9.48
6	Solid	0.7	0.3	1.8	16.0	-	-	-	1.40	1.24	17.5	43	50	4.61	5.90
10	Solid	0.7	0.3	1.8	18.0	-	-	-	1.40	1.40	19.5	57	67	3.08	3.94
16	Stranded	0.7	0.3	1.8	19.0	4 x 0.80	1.40	20.0	1.60	1.40	21.0	73	70	1.91	2.44
25	Stranded	0.9	0.3	2.0	22.5	4 x 0.80	1.40	23.0	1.60	1.40	25.0	94	96	1.20	1.54
35	Stranded	0.9	0.3	2.0	25.0	4 x 0.80	1.40	25.0	1.60	1.40	26.5	113	117	0.868	1.11
50	Stranded	1.0	0.3	2.0	28.0	4 x 0.80	1.56	29.0	1.60	1.56	30.0	133	142	0.641	0.82
70	Stranded	1.1	0.4	2.2	32.0	4 x 0.80	1.56	33.0	2.00	1.56	35.0	164	179	0.443	0.567
95	Stranded	1.1	0.4	2.2	35.0	4 x 0.80	1.56	36.0	2.00	1.72	38.5	196	221	0.320	0.410
120	Stranded	1.2	0.5	2.4	40.0	4 x 0.80	1.72	40.5	2.00	1.88	43.0	223	257	0.253	0.324
150	Stranded	1.4	0.5	2.6	44.0	4 x 0.80	1.88	45.0	2.50	2.04	48.0	249	292	0.206	0.264
185	Stranded	1.6	0.5	2.8	49.0	4 x 0.80	2.04	49.5	2.50	2.20	52.5	282	337	0.164	0.210
240	Stranded	1.7	0.6	3.0	55.0	4 x 0.80	2.20	55.0	2.50	2.36	58.5	326	399	0.125	0.160
300	Stranded	1.8	0.7	3.2	60.0	4 x 0.80	2.36	60.0	3.15	2.52	65.5	367	455	0.100	0.128
400	Stranded	2.0	0.7	3.6	68.0	4 x 0.80	2.68	68.0	3.15	2.84	72.5	418	530	0.0778	0.100

Table No. 10 - “ **CIAZZ** ” **1100V FOUR CORE COPPER CONDUCTOR, XLPE INSULATED,**

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

Nominal Cross Sectional Area of Conductor	Form of Conductor	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
				Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
						Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
mm²		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Ohm/km	Ohm/km
4	Solid	0.7	0.3	1.8	15.0	-	-	-	1.40	1.24	16.0	43	36	4.61	5.90
6	Solid	0.7	0.3	1.8	16.0	-	-	-	1.40	1.24	17.5	54	47	3.08	3.94
10	Solid	0.7	0.3	1.8	18.0	-	-	-	1.40	1.40	19.5	72	62	1.83	2.34
16	Stranded	0.7	0.3	1.8	19.0	4 x 0.80	1.40	20.0	1.60	1.40	21.0	92	79	1.15	1.47
25	Stranded	0.9	0.3	2.0	22.5	4 x 0.80	1.40	23.0	1.60	1.40	25.0	119	108	0.727	0.930
35	Stranded	0.9	0.3	2.0	25.0	4 x 0.80	1.40	25.0	1.60	1.40	26.5	144	132	0.524	0.671
50	Stranded	1.0	0.3	2.0	28.0	4 x 0.80	1.56	29.0	1.60	1.56	30.0	174	162	0.387	0.495
70	Stranded	1.1	0.4	2.2	32.0	4 x 0.80	1.56	33.0	2.00	1.56	35.0	210	198	0.268	0.343
95	Stranded	1.1	0.4	2.2	35.0	4 x 0.80	1.56	36.0	2.00	1.72	38.5	252	240	0.193	0.247
120	Stranded	1.2	0.5	2.4	40.0	4 x 0.80	1.72	40.5	2.00	1.88	43.0	288	276	0.153	0.196
150	Stranded	1.4	0.5	2.6	44.0	4 x 0.80	1.88	45.0	2.50	2.04	48.0	324	318	0.124	0.159
185	Stranded	1.6	0.5	2.8	49.0	4 x 0.80	2.04	49.5	2.50	2.20	52.5	360	366	0.0991	0.127
240	Stranded	1.7	0.6	3.0	55.0	4 x 0.80	2.20	55.0	2.50	2.36	58.5	414	426	0.0754	0.0965
300	Stranded	1.8	0.7	3.2	60.0	4 x 0.80	2.36	60.0	3.15	2.52	65.5	462	480	0.0601	0.0769
400	Stranded	2.0	0.7	3.6	68.0	4 x 0.80	2.84	68.0	3.15	2.84	72.5	510	546	0.0470	0.0602

Table No. 11 - “ CIAZZ ” 1100V CONTROL CABLE, 1.5 SQ.MM SOLID COPPER & XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

No. of Cores	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
			Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
					Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
Nos.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Ohm/km	Ohm/km
2	0.7	0.3	1.8	11.0	-	-	-	1.4	1.24	13.0	33	29	12.1	15.50
3	0.7	0.3	1.8	11.0	-	-	-	1.4	1.24	13.0	25	22	12.1	15.50
4	0.7	0.3	1.8	12.0	-	-	-	1.4	1.24	14.0	25	22	12.1	15.50
5	0.7	0.3	1.8	13.0	-	-	-	1.4	1.24	15.0	24	21	12.1	15.50
6	0.7	0.3	1.8	14.0	-	-	-	1.4	1.24	16.0	22	19	12.1	15.50
7	0.7	0.3	1.8	14.0	-	-	-	1.4	1.24	16.0	21	18	12.1	15.50
8	0.7	0.3	1.8	15.0	-	-	-	1.4	1.24	17.0	20	18	12.1	15.50
9	0.7	0.3	1.8	16.0	-	-	-	1.4	1.24	18.0	19	17	12.1	15.50
10	0.7	0.3	1.8	17.0	-	-	-	1.4	1.24	19.0	18	16	12.1	15.50
12	0.7	0.3	1.8	17.5	-	-	-	1.4	1.24	19.0	17	15	12.1	15.50
14	0.7	0.3	1.8	18.0	-	-	-	1.4	1.40	20.0	16	14	12.1	15.50
16	0.7	0.3	1.8	19.0	4 x 0.80	1.40	20.0	1.6	1.40	21.5	16	14	12.1	15.50
19	0.7	0.3	1.8	20.0	4 x 0.80	1.40	21.0	1.6	1.40	22.0	15	13	12.1	15.50
24	0.7	0.3	2.0	23.0	4 x 0.80	1.40	24.0	1.6	1.40	25.0	13	12	12.1	15.50
27	0.7	0.3	2.0	24.0	4 x 0.80	1.40	24.5	1.6	1.40	26.0	13	11	12.1	15.50
30	0.7	0.3	2.0	25.0	4 x 0.80	1.40	25.0	1.6	1.40	27.0	12	11	12.1	15.50
37	0.7	0.3	2.0	26.5	4 x 0.80	1.40	27.0	1.6	1.40	28.0	11	10	12.1	15.50
42	0.7	0.3	2.0	28.0	4 x 0.80	1.40	29.0	1.6	1.56	31.0	11	9	12.1	15.50
52	0.7	0.3	2.0	31.0	4 x 0.80	1.56	32.0	1.6	1.56	33.0	10	9	12.1	15.50
61	0.7	0.4	2.2	33.0	4 x 0.80	1.56	34.0	2.0	1.56	36.0	9	8	12.1	15.50

Table No. 12 - “ CIAZZ ” 1100V CONTROL CABLE, 2.5 SQ.MM SOLID COPPER & XLPE INSULATED,

Unarmoured & Armoured Cable Conforming to IS 7098 (Part-1) - 1988

No. of Cores	Nominal Thickness of Insulation	Minimum Thickness of Inner Sheath	Unarmoured Cable		Steel Armoured Cable						Current Rating		Max DC Resistance at 20°C	A.C. Resistance at 90°C
			Nominal Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Strip Armoured Cable			Round Wire Armoured Cable			In Ground	In free air		
					Nominal Dimension of Steel Strip	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable	Nominal Dimension of Steel Round Wire	Minimum Thickness of Outer Sheath	Approx. Overall Diameter of Cable				
Nos.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps.	Amps.	Ohm/km	Ohm/km
2	0.7	0.3	1.8	12.0	-	-	-	1.4	1.24	14.0	39	32	7.41	9.48
3	0.7	0.3	1.8	12.0	-	-	-	1.4	1.24	14.0	34	30	7.41	9.48
4	0.7	0.3	1.8	13.0	-	-	-	1.4	1.24	15.0	34	30	7.41	9.48
5	0.7	0.3	1.8	14.0	-	-	-	1.4	1.24	16.0	31	28	7.41	9.48
6	0.7	0.3	1.8	15.0	-	-	-	1.4	1.24	17.0	29	26	7.41	9.48
7	0.7	0.3	1.8	15.0	-	-	-	1.4	1.24	17.0	27	25	7.41	9.48
8	0.7	0.3	1.8	16.0	-	-	-	1.4	1.24	18.0	26	24	7.41	9.48
9	0.7	0.3	1.8	17.0	-	-	-	1.4	1.40	19.0	25	22	7.41	9.48
10	0.7	0.3	1.8	18.5	4 x 0.80	1.40	19.0	1.6	1.40	21.0	24	21	7.41	9.48
12	0.7	0.3	1.8	19.0	4 x 0.80	1.40	20.0	1.6	1.40	21.5	22	20	7.41	9.48
14	0.7	0.3	1.8	20.0	4 x 0.80	1.40	21.0	1.6	1.40	22.0	21	19	7.41	9.48
16	0.7	0.3	2.0	21.0	4 x 0.80	1.40	22.0	1.6	1.40	23.0	20	18	7.41	9.48
19	0.7	0.3	2.0	22.0	4 x 0.80	1.40	23.0	1.6	1.40	24.0	19	17	7.41	9.48
24	0.7	0.3	2.0	26.0	4 x 0.80	1.40	27.0	1.6	1.40	28.0	17	16	7.41	9.48
27	0.7	0.3	2.0	26.5	4 x 0.80	1.40	27.0	1.6	1.40	28.5	16	16	7.41	9.48
30	0.7	0.3	2.0	27.0	4 x 0.80	1.40	28.0	1.6	1.40	29.0	16	14	7.41	9.48
37	0.7	0.3	2.0	29.0	4 x 0.80	1.40	30.0	1.6	1.56	31.5	15	13	7.41	9.48
42	0.7	0.4	2.2	32.0	4 x 0.80	1.40	33.0	2.0	1.56	34.5	14	12	7.41	9.48
52	0.7	0.4	2.2	34.5	4 x 0.80	1.56	35.0	2.0	1.56	37.0	13	12	7.41	9.48
61	0.7	0.4	2.2	36.5	4 x 0.80	1.56	37.0	2.0	1.56	39.0	12	11	7.41	9.48

Note : These Cables can be manufactured with Stranded conductor also.

CAPACITANCE AND REACTANCE

Capacitance Approximate Capacitance (Microfarad / km) 1.1kv XLPE Cables

Nominal Area Conductor	Single Core		Two Core	Three, Three and Half and Four Core
	Unarmoured	Armoured		
Sq. mm				
1.5	0.19	-	0.051	0.15
2.5	0.24	-	0.058	0.15
4	0.29	-	0.065	0.15
6	0.34	-	0.071	0.15
10	0.43	0.32	0.081	0.15
16	0.51	0.38	0.088	0.15
25	0.49	0.38	0.089	0.15
35	0.57	0.44	0.096	0.15
50	0.58	0.46	0.098	0.15
70	0.63	0.51	0.10	0.15
95	0.73	0.59	0.11	0.15
120	0.74	0.61	0.11	0.15
150	0.73	0.61	0.11	0.15
185	0.69	0.59	0.11	0.15
240	0.74	0.64	0.11	0.15
300	0.80	0.69	0.12	0.15
400	0.83	0.70	0.12	0.15
500	0.83	0.71	0.12	0.15
630	0.87	0.75	0.11	0.15
800	0.92	0.78	-	0.15
1000	0.94	0.81	-	0.15

Reactance Approximate reactance at 50Hz (Ohm/km) 1.1kv XLPE Cables

Nominal Area Conductor	Single Core		Multi Core
	Unarmoured	Armoured	
Sq. mm			
1.5	0.155	-	0.107
2.5	0.142	-	0.0985
4	0.132	-	0.0927
6	0.123	-	0.0884
10	0.114	0.134	0.0837
16	0.108	0.125	0.0808
25	0.103	0.120	0.0105
35	0.0986	0.114	0.0783
50	0.0937	0.108	0.0750
70	0.0900	0.102	0.0740
95	0.0865	0.100	0.0724
120	0.0851	0.0968	0.0712
150	0.0839	0.0941	0.0716
185	0.0836	0.0932	0.0718
240	0.0813	0.0900	0.0710
300	0.0795	0.0881	0.0705
400	0.0787	0.0873	0.0704
500	0.0779	0.0859	0.0702
630	0.0785	0.0843	0.0698
800	0.0755	0.0826	-
1000	0.0752	0.0825	-

Short Circuit Rating for 1 Second Duration for
XPLE Insulated Cables with Copper and Aluminium Conductors. (Current in kAmps)

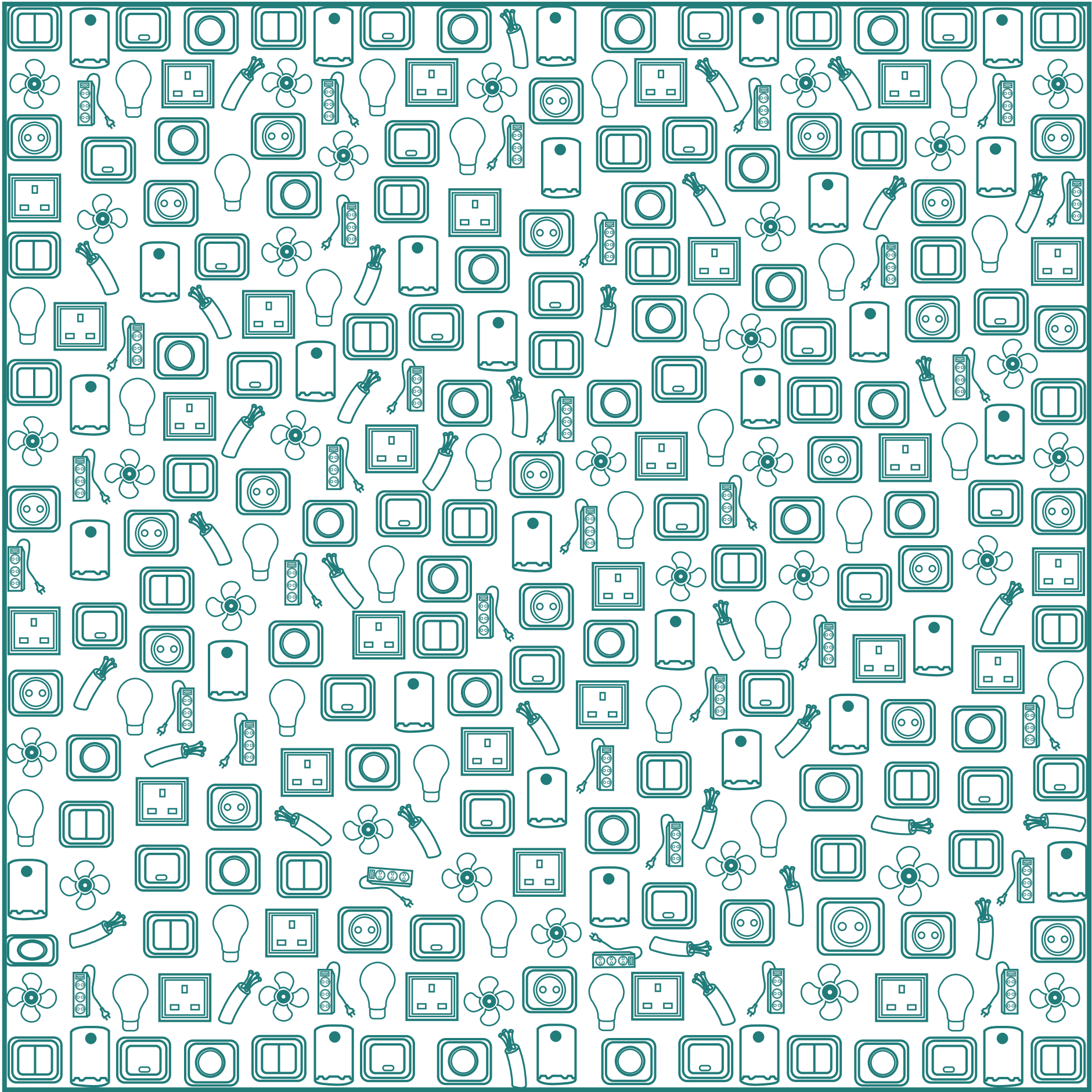
Nominal Size Sq.mm	XLPE Insulated	
	Copper	Aluminium
1.5	0.21	-
2.5	0.36	-
4	0.57	0.38
6	0.86	0.57
10	1.40	0.94
16	2.30	1.50
25	3.60	2.40
35	5.00	3.30
50	7.10	4.70
70	10.00	6.60
95	13.60	9.00
120	17.10	11.30
150	21.40	14.20
185	26.40	17.50
240	34.30	22.60
300	42.90	28.30
400	57.10	37.70
500	71.40	47.20
630	90.00	59.40
800	114.30	75.50
1000	142.90	94.30

- 1) Max. Conductor Temperature During
Operation - 90°C
- 2) Max. Conductor Temperature During
Short Circuit - 250°C

Formula Relating Short Circuit Rating with Duration

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

where
It = Short Circuit Rating for t seconds
t = Duration in seconds
Ish = Short Circuit Rating for 1 second.





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