



Black Copper

Protecting Millions of Smile!



Black Copper



We are pleased to introduce our brand “**Black Copper**”, a flagship name under **Black Copper India Private Limited**, engaged in the manufacturing of high-quality wires and cables conforming to relevant IS standards. Our products are trusted for their performance, reliability, and compliance with stringent quality benchmarks.

We take pride in having secured approvals and impanelment in several key government departments and defence establishments across India, reaffirming our commitment to quality and national infrastructure development.

Approved Government Bodies:

1. Public Works Department (PWD):

- Maharashtra PWD
- Gujarat PWD
- Uttar Pradesh PWD

Our brand “**Black Copper**” is recognized and approved by the respective PWDs for supply and usage in state infrastructure projects, affirming our product’s adherence to public sector quality and safety standards.

2. Military Engineering Services (MES): Our brand has been approved and listed under MES for the following zones:

A. MES Jodhpur Zone

- Jodhpur, Jaisalmer, Ahmedabad.

B. MES Kochi Zone

- (NW) Kochi, (NB) Kochi, Ezhimala, Navy Jamnagar, Navy Lonavala.

This extensive approval across various strategic military and naval units underscores our ability to meet the demanding requirements of defence grade installations.

We are committed to supporting infrastructure development and defence readiness through our premium range of wires and cables. We look forward to serving your organization with quality products backed by professional service and timely delivery.

Let me know if you would like this on a letterhead or require a version formatted for tender submissions.



Black Copper

How we work

Quality Process

We have a vigorous Quality Manual Plan comprising testing of our raw material that comes within our facility with in line checks during production and final testing. The quality manual program is regularly reviewed to upgrade the testing along with regular advancements to avoid any discrepancy.

Our laboratory is well equipped with all advanced instruments to ensure that various tests that are required for different specification are well conducted before cables are cleared for despatch. Each consignment of cables is despatched to the customer with test report results of tests conducted with our in house laboratory. The details of tests conducted on raw material in process and on final stage are given below:- All test are conforming to IS : 694 - 2010.

Raw Materials

Raw materials are procured from approved vendors. Testing on raw material starts from vendor's end itself. The raw material is received along with the vendor's test report. The following tests are conducted to review the raw material ourselves and also to verify the vendor's test reports.

1. Conductors

Tests are conducted on conductors as per IS : 8130 : 2013. Apart from these tests, if the customer requires any additional information in the form of any other test we are more than willing to accommodate the requirement.

Conductor Resistance: 100% with the help of Kelvin Double Bridge for wires up to 0.4mm. diameter. Finer wires by sampling of 10% on lot basis. if the customers requires any additional information in the form of any other test we are more than willing to accommodate the requirement

Conductor Elongation: 100% on Tensile Testing machine for wires up to 0.4mm diameter, Finer wires by sampling of 10% on lot basis.

2. P.V.C. Compound

Tests are conducted on PVC Compound are as per IS: 5831: 1984. Apart from these tests, Sample of every consignment is first run on trial basis and following tests are conducted:

Tests

Insulation Resistance

Elongation

Tensile Strength

Flammability Testing

High Voltage Test

Instruments

Megha Ohm Meter

Tensile Testing Machine

Thermal Stability

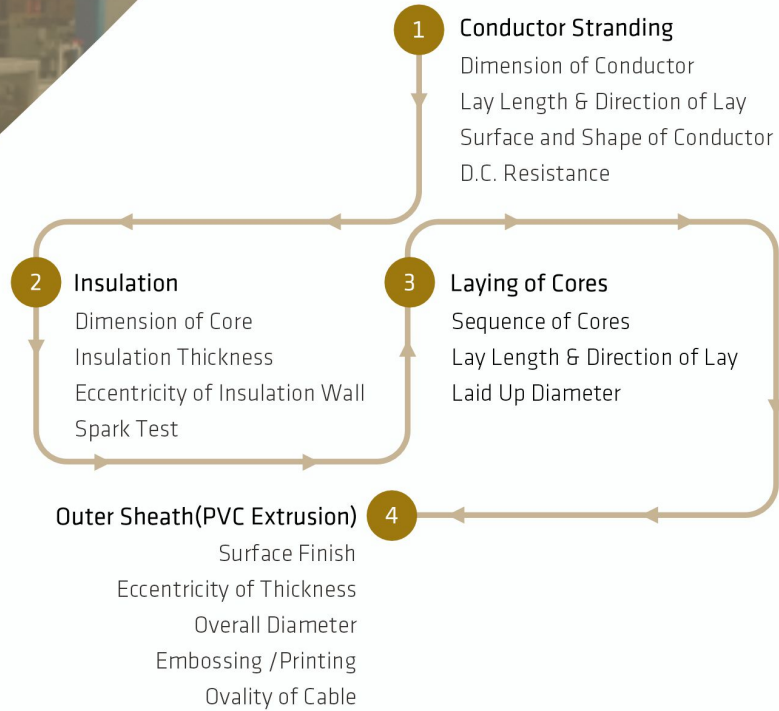
On line Spark Testers

High Voltage Tester





In Process Test



Routine Test

- Conductor Resistance Test
- High Voltage Test (at Room temperature)

Acceptance Test

- Conductor Resistance Test
- Annealing Test (For Copper)
- Thickness of Insulation & Sheath
- Tensile Strength & Elongation Test of Insulation & Sheath.
- Shrinkage Test of Insulation & Sheath.
- Hot Deformation Test of Insulation & Outer Sheath.
- Heat Shock Test of Insulation & Outer Sheath.
- Oxygen & Temperature Index Test
- Smoke Density Test
- HCL Gas Generation Test
- Insulation Resistance Test
- Flammability Test
- High Voltage Test (at Room temperature)

Optional Tests

- Cold Bend Test.
- Cold Impact Test
- Additional Ageing Test.

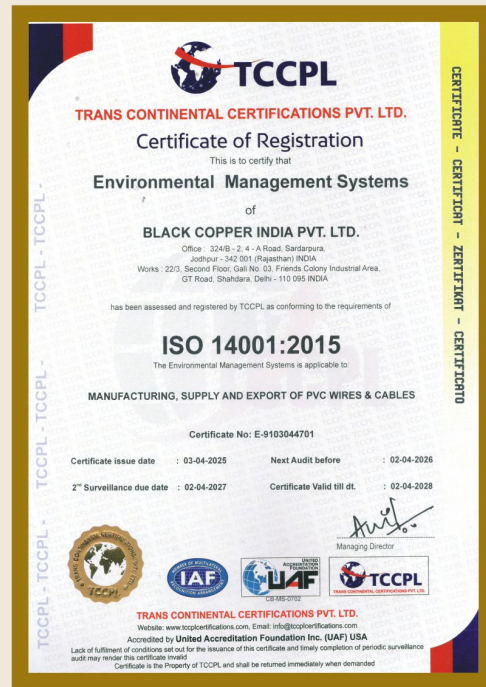
Black Copper
WIRES & CABLES



Quality Assurance

Black Copper WIRES & CABLES

Protecting Millions of Smile!



IS : 694



CM/L : 8530061117



9001:2015



14001:2015



45001:2018

Quality Assurance

Black Copper WIRES & CABLES

Protecting Millions of Smile!



Tele: 0291-2515134

Military Engineer Services
Headquarters
Chief Engineer Jodhpur Zone
Jodhpur - 342010

600002/CMPT/ 65/E2 (Des) 14 Feb 2025

M/s Black Copper India Pvt Ltd
34/B-2, 4th A Road, Sandarpura
Jodhpur, Rajasthan - 342003

INCORPORATION OF ITEM IN ZONAL SPECIFICATION AND TENDER DOCUMENT UNDER AOR OF HQ CE JODHPUR ZONE

- Ref this HQ letter No 600002/CMPT/60/E2 (Des) dt 13 Feb 2025 may please be treated as cancelled.
- It is intimated that your firm as sought for approval of this HQ vide your letter No Nil dt 02 Jan 2025 has been accorded approval for inclusion in zonal specification and future tender under AOR of this HQ for the period of two years and valid upto **12 Feb 2027**.

S/No	Name of Product	Make	Group
(a)	FRLS/FRLSH single core copper conductor PVC insulated unsheathed house wire (1.5-16 Sqmm)	Black Copper	III
(b)	FRLS/FRLSH PVC insulated unsheathed single core copper conductor cable (1.5-25 Sqmm) Industrial		
(c)	Flat (3-core Submersible) cable (1-25 Sqmm)		
(d)	PVC insulated FRLS/FRLSH copper conductor flexible multi core round cable (1-25 Sqmm)		
(e)	Copper conductor coaxial jelly flooded cable (0.9mm dia)		

- The approval does not absolve the Executive / Supervisory staff from their responsibility for using correct quality product. It is only after they are satisfied about the quality and the performance, the product will be used. Mandatory checks about the quality will be carried out as laid down and the records of the same maintained.
- Further continuation of the products will be decided based on the mandatory feedback performance report submitted by CWEs in case of anyone using the product any defect / discrepancy, the same will be reported immediately without waiting for the expiry period of two year.
- The firm is required to submit a minimum three performance reports from the MES duly signed by GE / AGE (I) and countersigned by next higher Engineer Authority at the time of renewal of products.

(Sushil Khosla)
Lt Col
SO-1 (Des)
For Chief Engineer

Copy to :
CWE (A) Jaitehr
CWE (A) Jodhpur
CWE (A) Ahmedabad. } for your info and necessary action please.

Tele: 0484-2668726
Fax: 0484-2666619

HQ Chief Engineer (NW)
Military Engineer Services
Naval Base PO
Kochi: 682004

250018/CMPT/ 456/E2 (D) 29 Apr 2025

CWE (NW) Kochi
CWE (NB) Kochi
CWE Ezhimala
GE (I) Navy Jamnagar
GE (I) Navy Lonavla

INCORPORATION OF ITEM ZONAL SPECIFICATION AND TENDER DOCUMENTS UNDER AOR OF HQ CE (NW) KOCHI ZONE

- In ref of CMPT - III held in this HQ on 20 Apr 2025.
- M/s Black Copper India Pvt Ltd has approached this HQ for approval and incorporation of their products for use in defence works.
- In term of E-in-C's Branch, (Policy No 08(2021) issued vide letter No A/37698/12-144/Pol/E2W (PPC) dt 13 Nov 2024 and as referred in Para 12 on page 02 of zonal specification for inclusion of item in tender document is hereby accorded by CMPT-III committee constituted at this zone for use of following product in defence wk for the pd up to two years i.e. up to **28 Apr 2027**.

Sl	Name of product	Make/Brand
(a)	FR/FLSH PVC insulated unsheathed single core copper conductor cable (1.5 - 16 Sqmm)	Brand- Black Copper
(b)	Flat (3-Core Submersible) cable (1-25 Sqmm)	
(c)	FR PVC insulated and PVC round sheathed flexible multicore copper conductor cable (1 to 25 Sqmm)	

- The approval does not absolve the executive / supervisory staff from their responsibility for using correct quality products. It is only after they are satisfied about the quality and the performance, the product will be used. Mandatory checks about the quality will be carried out as laid down and the records of the same maintained. In case any information using the product notice any defects/ discrepancy, the same will be reported immediately without waiting for the expiry of the validity date.
- Future specification / details of the product like drawing, samples etc can be obtained from the manufacture at the address given below.
- Future continuation of the products thereafter will be decided based on mandatory feedback performance.

(Sujat Priyadarshi)
EE (SG)
Jt Dir (Design)
for CE (NW) Kochi

Copy to -
M/s Black Copper India Pvt Ltd
Registered Office: 34/B-2-4th A Road,
Sandarpura Jodhpur 342003 (Rajasthan)
Mob: 8300883909
Email: blackcopperindia@gmail.com

A six monthly report be submitted to as to reach this office in Mar and Oct every year. Nil supply report will be assumed for the preceding six months in case of non receipt of report.

Internal
E2 (Pg) Sec - for inclusion in Zonal Specification
E3 Sec - for inclusion in future tenders
E3 Sec - for info & necessary action plz



High Insulation Superior Flexibility

Leakage of current from the live conductor through the insulator is a common problem in all cables. But in case of inferior insulation, the current leakage can increase, causing damage to installations and posing serious threat to life. Black Copper Wires & Cables Low Leakage Current wires have a leakage limit, 50 times less than the prescribed international safety norms.

According to the international safety norms, the current leakage limit for hand held equipment is considered safe, if it doesn't exceed 0.75 mA. Black Copper Wires & Cables with high quality insulation ensure that the leakage is as low as 0.0 mA. Black Copper Wires & Cables have been certified by the Government of India.

Nominal area of conductor	Leakage current (m Amps)
0.75	0.009
1.00	0.009
1.50	0.010
2.50	0.011
4.00	0.013
6.00	0.015



ECO FRIENDLY

RoHS Compliant

Substances such as lead, chromium etc. can be harmful for the environment and dangerous to health. Restriction of Hazardous Substances, commonly referred to as RoHS, is a directive adopted by The European Union restricting the use of specific hazardous materials found in electronics equipment.

Black Copper Wires & Cables are certified by the Bureau Veritas for RoHS compliance per directive 2006/95/EC. We are proud towards making our contributions towards an eco-friendly environment.



Best Copper Used

Black Copper Wires & Cables use ETP grade annealed copper which is more than 99.95% pure and therefore ensures 101% conductivity (IACS)

Annealed Copper ETP Grade
101% Conductivity (IACS) Used



Black Copper FR House Wire Single Core PVC Insulated (Unsheathed)

Application :

Building cable for installation on wall surface or in concealed conduits. Where fire and electrical safety is utmost important for Lighting & power application in buildings, residential, hotels, hospitals, commercial & IT parks.

Conductor :

Bright Annealed Electrolytic Grade Bare Copper conforming to IS : 8130 specifications.
0.50 Sq. mm to 0.75 Sq. mm cables are made of class 5 conductors.
1.00 Sq. mm to 1.50 Sq. mm & 2.50 Sq. mm cables are made of class 2 conductors.
4.00 Sq. mm to 16.00 Sq. mm cables are made of class 5 conductors.

Insulation :

FR Cables will have primary insulation with natural PVC of FR-TYPE A / FR-TYPE D / FR-TYPE C properties & skin coating with coloured PVC compound.

Temperature Index :

Minimum 250°C at 21% Oxygen Index.

Insulation Colours :

Red, Yellow, Black, Blue, Green, Gray, White with tracing.
Any other colours can be made on specific order.

Packing :

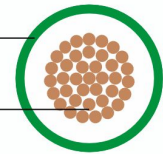
90 meters coils in Box, 200 meters in Poly packing.



Cable Cross Section View

Two layer Insulation with FR Grade PVC

High Conductivity bare annealed Copper Conductor



Nominal Cross Sectional Area of Conductor	Number/ Nomi. Dia of Cond. Strands	Thickness of Insulation (Nom.)	Approx. Overall Dimension	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
				Conduit/ Trunking	Unenclosed clipped directly to surface or on cable trays	
Sq. mm	mm	mm	mm	Amps	Amps	Ohms
0.50	16/0.2	0.6	2.20	3	4	39.0
0.75	24/0.2	0.6	2.40	6	7	26.0
1.0	14/0.3	0.6	2.70	11	12	18.1
1.5	22/0.3	0.7	3.00	13	16	12.1
2.5	36/0.3	0.8	3.60	18	22	7.41
4.0	56/0.3	0.8	4.0	24	29	4.95
6.0	84/0.3	0.8	4.90	31	37	3.30
10.0	140/0.30	1.0	6.60	42	48	1.91
16.0	225/0.30	1.0	7.80	54	63	1.21

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

The number & diameter of conductor strands are for reference only. The actual size may vary. As per IS-694, if the resistance of a cable is within the specified maximum limit then it is accepted as conforming to the nominal cross-sectional area specified for that size.



Black Copper FR LSH / ZH FR Single Core PVC Insulated (Unsheathed)

Application :

Suitable for use in conduit and for fixed, protected installation particularly suitable for wiring in fire and explosion prone areas, chemical factories, densely wired areas, public buildings, schools, hospitals, commercial complexes, theaters etc.

Conductor :

Bright Annealed Electrolytic Grade Bare Copper conforming to IS : 8130 specifications.
0.50 Sq. mm to 16.00 Sq. mm cables are made of class 5 conductors.

Insulation :

FR LSH/ZH FR Cables will have primary insulation with natural PVC of FR LSH/ZH FR TYPE D and TYPE C properties and skin coating with coloured PVC compound.

Temperature Index :

Minimum 250°C at 21% Oxygen Index.

Insulation Colours :

Red, Yellow, Black, Blue, Green, Gray, White with tracing.
Any other colours can be made on specific order.

Packing :

90 meters coils in Box, 200 meters in Poly packing.

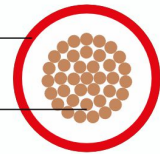




Cable Cross Section View

Two layer Insulation with FR LHS / HR FR Grade PVC

High Conductivity bare annealed Copper Conductor



Nominal Cross Sectional Area of Conductor	Number/ Nomi. Dia of Cond. Strands	Thickness of Insulation (Nom.)	Approx. Overall Dimension	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
				Conduit/ Trunking	Unenclosed clipped directly to surface or on cable trays	
Sq. mm	mm	mm	mm	Amps	Amps	Ohms
0.50	16/0.2	0.6	2.20	3	4	39.0
0.75	24/0.2	0.6	2.40	6	7	26.0
1.0	32/0.2	0.6	2.70	11	12	19.5
1.5	30/0.25	0.6	3.00	13	16	13.3
2.5	50/0.25	0.7	3.60	18	22	7.98
4.0	56/0.3	0.8	4.10	24	29	4.95
6.0	84/0.3	0.8	4.90	31	37	3.30
10.0	140/0.30	1.0	6.60	42	48	1.91
16.0	225/0.30	1.0	7.80	54	63	1.21

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

The number & diameter of conductor strands are for reference only. The actual size may vary. As per IS-694, if the resistance of a cable is within the specified maximum limit then it is accepted as conforming to the nominal cross-sectional area specified for that size.



Black Copper Single Core FR PVC Insulated (Unsheathed)

Application :

Suitable for wiring in all types of residential and commercial infrastructure, where fire and electrical safety is utmost important.

Conductor :

Bright Annealed Electrolytic Grade Bare Copper conforming to IS : 8130 specifications. 0.50 Sq. mm to 120.00 Sq. mm cables are made of class 5 conductors.

Insulation :

FR will have primary insulation with natural Uni-colour TYPE D PVC as per IS : 5831 properties and skin coating with coloured PVC compound.

Temperature Index :

Minimum 250°C at 21% Oxygen Index.

Insulation Colours :

Red, Yellow, Black, Blue, Green, Gray, White with tracing.
Any other colours can be made on specific order.

Packing :

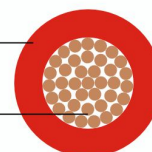
100 meters coils in Poly warp packing.



Cable Cross Section View

Two layer Insulation with FR Grade PVC

High Conductivity bare annealed Copper Conductor



Nominal Cross Sectional Area of Conductor	Number/ Nomi. Dia of Cond. Strands	Thickness of Insulation (Nom.)	Approx. Overall Dimension	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
				Conduit/ Trunking	Unenclosed clipped directly to surface or on cable trays	
Sq. mm	mm	mm	mm	Amps	Amps	Ohms
0.50	16/0.2	0.6	2.20	5	5	39.0
0.75	24/0.2	0.6	2.40	8	8	26.0
1.0	32/0.2	0.6	2.70	13	14	19.5
1.5	30/0.25	0.6	3.00	17	20	13.3
2.5	50/.025	0.7	3.60	24	26	7.98
4.0	56/0.30	0.8	4.10	30	30	4.95
6.0	84/0.30	0.8	4.90	32	38	3.30
10.0	140/0.30	1.0	6.60	42	48	1.91
16.0	126/0.40	1.0	7.80	54	63	1.21
25.00	196/0.40	1.2	9.40	68	80	0.780
35.00	276/0.40	1.2	10.80	82	103	0.554
50.00	396/0.40	1.4	12.80	114	138	0.386
70.00	356/0.50	1.4	15.50	214	215	0.272
95.00	484/0.50	1.6	18.00	260	260	0.206
120.00	608/0.50	1.6	20.00	305	305	0.161

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

The number & diameter of conductor strands are for reference only. The actual size may vary. As per IS-694, if the resistance of a cable is within the specified maximum limit then it is accepted as conforming to the nominal cross-sectional area specified for that size.



Black Copper Flat Cable

3-Core XLPE Submersible Cable

Application :

Black Copper Submersible PVC wires are specially designed to provide electrical energy to submersible water pumps installed deep inside the ground. As the cables are usually installed in harsh conditions underground, the outer cover is made of a special grade of abrasion-resistant. These flat submersible cables are used to connect the underwater submersible pump set with supply lines for agriculture, irrigation, domestic installation, power supply and other applications. The submersible cable is a specialized product and is used for submersible pumps in deep wells. The area of installation is physically restrictive and the environment is very hostile. PVC used is resistant to water, oil, petrol, most acids, alkalis, and grease.

Conductor :

Class 5 Bright Annealed Electrolytic Grade Bare Copper conforming to IS : 8130 specifications.

Insulation :

XLPE cables are specially made high grade cross-linked polyethylene for insulation by extrusion process. Uni-colour TYPE A / TYPE D PVC as per IS : 5831. In PVC Cables especially PVC grade is used by extrusion process.

Specification

Class 2(1 to 2.5 Sq. mm) for others class 5 to EN 60228, XLPE insulation & PVC ST-2 / Silicon sheath to IEC 60502-1.

Standard Colours :

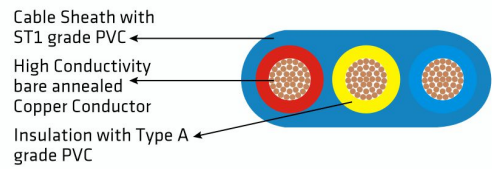
Blue, Black ST, XLPE PVC as per IS-694.

Packing :

Supplied in 100, 200 & 500 meters length (+/-5% length tolerance) in wooden drums.



Cable Cross Section View



Nominal Cross Sectional Area of Conductor	Number/ Nomi. Dia of Cond. Strands	Thickness of Insulation (Nom.)	Current Carrying Capacity	Approx. Overall Dimension Three Core (W x H)	Max. Conductor Resistance per KM at 20°C
Sq. mm	mm	mm	Amps	mm	Ohms
1.00	0.7	1.0	12	10.6 x 5.20	18.1
1.50	0.7	1.0	20	11.6 x 5.5	12.1
2.50	0.7	1.1	30	13.1 x 6.2	7.41
4.00	0.8	1.1	37	15.0 x 6.8	4.95
6.00	0.8	1.2	46	17.2 x 7.7	3.30
10.00	0.8	1.3	66	20.2 x 8.8	1.91
16.00	0.8	1.4	85	23.6 x 10.0	1.21
25.00	1.0	1.5	113	28.9 x 12.0	0.78
35.00	1.0	1.6	139	32.7 x 13.4	0.554
50.00	1.2	1.7	156	38.7 x 15.5	0.386

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

The number & diameter of conductor strands are for reference only. The actual size may vary. As per IS-694, if the resistance of a cable is within the specified maximum limit then it is accepted as conforming to the nominal cross-sectional area specified for that size.





Black Copper Multi Core

PVC Insulated Copper Flexible Round Cables

Application :

Black Copper Multi core flexible cables with copper conductor for various industrial and domestic applications like electrically operated Machines & Equipment's (eg. Air-Conditioners/ Refrigerators/motors etc.) Multi core round PVC insulated industrial grade copper conductor and FR PVC sheathed flexible cables, 1.1kv as per IS:694. The sheathing material provides resistance to oil, and moisture and superior mechanical strength without losing its flexibility. These cables can also be made available with FR compound on request.

Conductor :

Class 5 Bright Annealed Electrolytic Grade Bare Copper conforming to IS : 8130 specifications.

Insulation :

Unicolour TYPE A / TYPE D PVC as per IS : 5831.

Specification

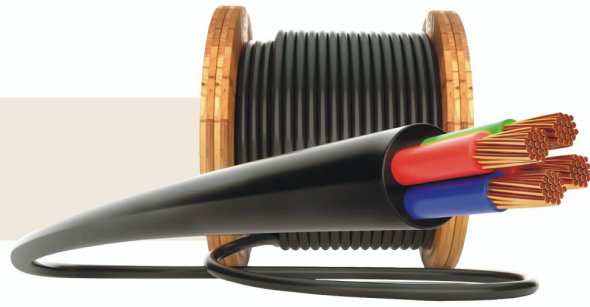
Class 2(1 to 2.5 Sq. mm) for others class 5 to EN 60228, XLPE insulation & PVC ST-2 / Silicon sheath to IEC 60502-1.

Standard Colours :

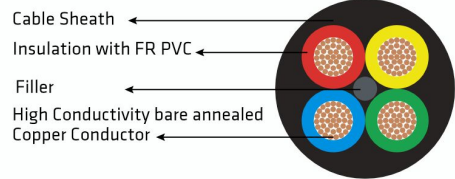
Blue, White, Black ST-3, PVC as per IS-694.

Packing :

Supplied in 100 meters length and in bigger length packages on request. Any colour on specific request can be supplied.



Cable Cross Section View



Nominal Cross Sectional Area of Conductor	Insulation		Normal Thickness of Sheath			Overall Dia. of Cable (App.)			Current Carrying Capacity at 40°C	Max. Conductor Resistance per KM at 20°C
	Number/Size of Wires for each core	Thickness (Nom.)	2 Core	3 Core	4 Core	2 Core	3 Core	4 Core		
Sq. mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps	Ohms
1.00	32/0.20	0.6	0.9	0.9	0.9	7.2	7.8	8.5	12	18.1
1.50	30/0.25	0.6	0.9	0.9	1.0	8.0	9.0	10.0	20	12.1
2.50	50/0.25	0.7	1.0	1.0	1.0	9.0	9.5	11.0	30	7.41
4.00	56/0.30	0.8	1.0	1.0	1.0	10.5	11.5	12.5	37	4.95
6.00	84/0.30	0.8	1.1	1.2	1.2	12.9	13.7	15.1	46	3.30
10.00	140/0.30	1.0	1.3	1.4	1.4	15.9	17.2	18.9	66	1.91
16.00	126/0.40	1.0	1.4	1.4	1.4	17.4	18.5	20.4	85	1.21
25.00	196/0.40	1.2	1.5	1.6	1.6	20.5	22.6	25.1	113	0.78
35.00	276/0.40	1.2	1.6	1.6	1.7	23.4	25.0	27.8	139	0.554
50.00	396/0.40	1.4	2.0	2.0	2.0	28.6	30.5	33.7	156	0.386

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

The number & diameter of conductor strands are for reference only. The actual size may vary. As per IS-694, if the resistance of a cable is within the specified maximum limit then it is accepted as conforming to the nominal cross-sectional area specified for that size.





Black Copper Coaxial Cable

Copper Coaxial Jelly Flooded Cable (RG6)

Application :

Black Copper High quality co-axial for cable TV network for notch free attenuation values over wide range of frequencies. The special jacketing offers increased life even in rugged conditions.

Conductor :

The central conductor is made of solid electrolytic grade annealed plain copper conductor, which has distinct advantages over traditional copper conductor.

Insulation :

The insulation provided over the conductor is of foam PE which acts as a dielectric.

Screen :

Aluminium Mylar tape is provided over the insulated conductor to shield the conductor and ensure disturbance free transmission of signals.

Braiding :

The braiding is generally provided with 60% coverage of Annealed Tinned Copper/ Alloy.

Standard Colours :

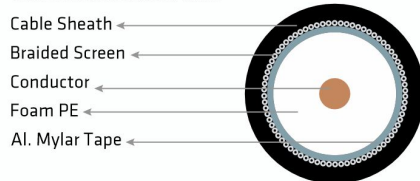
White, Black ST-3, Gray

Packing :

100 or 305 meters length (+/-5% length tolerance) in wooden drums.

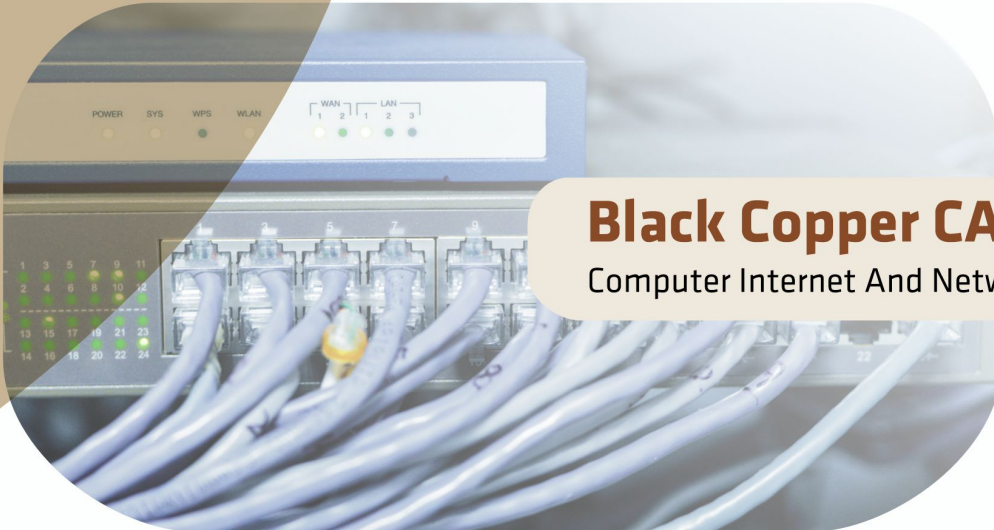


Cable Cross Section View



Construction Details		Cable Type
		RG6
Inner Conductor		Copper
Nominal Diameter (mm)		0.90
Dielectric		Foam PE
Nominal Diameter (mm)		4.5
Outer Conductor	First	Bonded AL Tape
	Second	Tinned Cu/Al Braided
Nominal Coverage (%)		80
PVC Jacket		Black / White
Nominal Cable Diameter (mm)		6.8





Black Copper CAT 5e/6e UTP Computer Internet And Networking Cable

Application :

CAT 5e/6e UTP cables are high performance cables used increasingly for modern computer network systems. These cables form the back bone of modern data transmission in industries, residential and commercial infrastructure.

Conductor :

Solid bare copper

Insulation :

High density polyethylene.

Pair :

2 Insulated conductors twisted together

Outer Jacket :

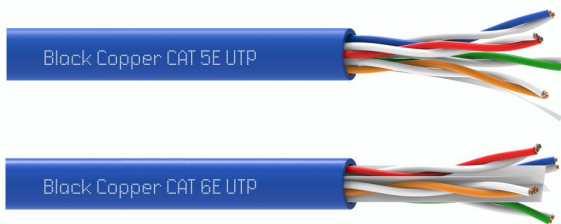
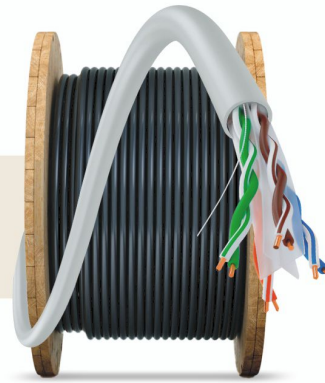
FR PVC

Standard Colours :

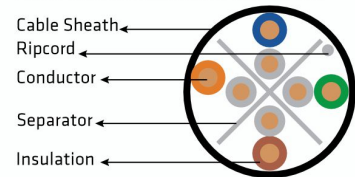
Gray, Blue, Yellows.

Packing :

Available in 305 Mtrs. wooden drum packing.



Cable Cross Section View CAT 6e UTP



		CAT 5e UTP	CAT 6e UTP
		Ultra Enhanced 150 Mhz. LAN Cables Local Area Networking Cable for 'Structured Cabling'	Ultra Enhanced 450 Mhz. LAN Cables Local Area Networking Cable for 'Structured Cabling'
Application		For Backbone	Extended Bandwidth for high Speed Video Data
Construction	Specification	4 Pair 24 AWG.	4 Pair 23 AWG.
	Conductor	Nominal 24 AWG. soft plain copper	Nominal 23 AWG. soft plain copper
	Dielectric	Nominal 0.9 mm polyolefin compound	Nominal 0.95 mm polyolefin compound
	Jacket	Nominal 0.5 mm Thick PVC Compound	Nominal 0.5 mm Thick PVC Compound
Technical Specification	Conductor Resistance (Max.)	185 Ohms./Km.	145 Ohms./Km.
	Cable Attenuation (100 Mhz.)	22.0 dB per 100 mtrs.	19.0 dB per 100 mtrs.
	Next (100 Mhz.)	34.0 dB per 100 mtrs.	39.9 dB per 100 mtrs.
	Return Loss (>100 M Length)	23.0 dB	23.0 dB
	Test Voltage (1 min.)	rms 500 V.	rms 500 V.
Mechanical Date	Cables Coding	Pari 1 Blue-White/Blue Lining	Pari 1 Blue-White/Blue Lining
		Pari 2 Orange-White/Orange Lining	Pari 2 Orange-White/Orange Lining
		Pari 3 Green-White/Green Lining	Pari 3 Green-White/Green Lining
		Pari 3 Brown-White/Brown Lining	Pari 3 Brown-White/Brown Lining

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

The number & diameter of conductor strands are for reference only. The actual size may vary. As per IS-694, if the resistance of a cable is within the specified maximum limit then it is accepted as conforming to the nominal cross-sectional area specified for that size.



Black Copper CCTV Cable

Security Camera Cable with CCTV Video

Application :

CCTV Cables are offered in two types namely 4+1 CCTV Cable and 3+1 CCTV Cable. Coaxial cables form the carrier for video signal and the other '4 cores' or '3 cores' form the carriers for power. Coaxial cables are designed to transmit the complete video frequency range with minimum distortion or attenuation, making them an excellent choice for CCTV.

Conductor :

The central conductor is made of fine wires tin coated electrolytic grade copper.

Insulation :

The insulation provided over the conductor is of HDPE with high dielectric strength and low capacitance.

Sheath :

Coloured PVC Power Cores.

Screen :

Annealed tin coated copper 85% coverage approx.

Separator :

PETP tape.

Sheath :

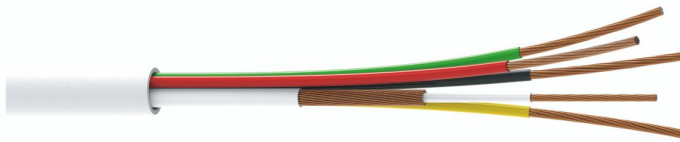
PVC

Standard Colours :

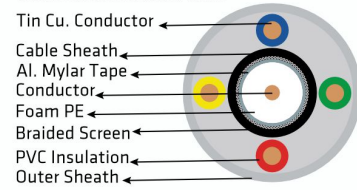
White, Gray, Black

Packing :

Available in 100 mtr. packed in poly pack.
305 mtr. packed in wooden drum.



Cable Cross Section View



Cable Design Parameters

Cable Type	Cable Size Sq. mm	Approx Cable Diameter mm	Power Core Color
CCTV Cable 4+1	4C + 1C x 0.25	6.0	Red, Yellow, Black, Green
CCTV Cable 3+1	3C + 1C x 0.25	6.0	Red, Yellow, Black, Green





Black Copper Tele Cables

Telecommunication and Switchboard Cables

Application :

Made of pure electrolytic grade bright annealed bare copper as per IS:8130 in 0.4, 0.5, 0.6 & 0.7 mm. The insulated cores are twisted to form pairs and bunched to minimize cross talk. The cores are helically wrapped. Non hygroscopic and non wicking polyester tape or tape to form laid up cables. The laid up cables are further jacketed with grey colour and high oxygen index fire retardant PVC.

Black Copper Tele Cables are recommended for switchboard and internal telephone wiring in multi stored buildings, offices, factories, hotels, hospitals, residential complexes, Cables used for Indoor Telephones, Telephone Exchanges, Industrial Plant Communication System, EPBAX Systems, Closed Circuit Security Systems, In-House Telephone wiring & various other equipments involving telephones.

Conductor :

The conductor is made of 99.97% pure solid electrolytic grade copper confirming to IS 1830:2013 of 0.4, 0.5, 0.6, 0.7 dia.

Insulation :

Premium quality grade polyethylene used for insulation with several online testing equipments.

Rip Cord :

A synthetic nylon rip cord is provided in order to safely peel off the jacket without damaging the cores.

Sheath :

The laid up pairs are jacketed with special Flame Retardant (FR) compound to resist fire.

Standard Colours :

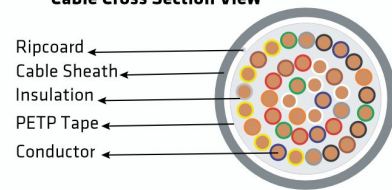
White & Gray

Packing :

Available in 100 mtr. packed in poly pack.



Cable Cross Section View



ELECTRICAL PARAMETERS

Conductor Resistance : 92.20 ohm / km max at 200C
 Mutual Capacitance : 50 nF / km max.
 Insulation Resistance in Air : 10000 M-ohm / km min.
 Capacitance Unbalance – pair to pair : 230 pF / 100m max.
 Capacitance Unbalance – pair to ground : 330 pF / 100m max.
 Resistance Unbalance : 2.5% max.

Conductor Parameters	1 Pairs	2 Pairs	3 Pairs	4 Pairs	5 Pairs	10 Pairs
Conductor (solid annealed bare copper)	0.4mm diameter (nom.) & 0.5mm diameter (nom)					
Insulation Material (0.4 & 0.5 mm dia)	High density polyethylene(HDPE)					
Insulation Thickness (Average) 0.4 mm dia, 0.5mm dia	0.17mm, 0.20mm					
Diameter of insulated Conductor 0.4mm dia, 0.5mm dia	0.74mm, 0.92mm					
Rip cord	Nylon					
Colour Combination	For 0.4mm dia & 0.5mm dia					
1 Pair	--	--	--	--	--	Gray
2 Pairs		--	--	--	--	Gray
3 Pairs			--	--	--	Gray
4 Pairs				--	--	Gray
5 Pairs					--	Gray
6 Pairs						Gray
7 Pairs						Gray
8 Pairs						Gray
9 Pairs						Gray
10 Pairs						Gray

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

The number & diameter of conductor strands are for reference only. The actual size may vary. As per IS-694, if the resistance of a cable is within the specified maximum limit then it is accepted as conforming to the nominal cross-sectional area specified for that size.





Black Copper Speaker Wires

The Perfect Speaker Wire Experience

Application :

Speaker Cable use to make connection between loudspeaker & audio amplifiers with various sound instrument. In today's construction, The new building code (Like for Airports, Railways Platforms, Auditoriums, Office, High-Rise Apartments & Hospitals, etc.) Installation of speaker cables ensure a clear and distortion free voice with very low dB loss.

Cable Construction:

The cables are manufactured with bright annealed plain flexible electrolytic grade copper conductor, bunched compactly, insulated with specially formulated PVC compound. Each core is uniquely designed for easy identification. In order to offer uniform capacitance throughout length the distance between the two conductors is maintained uniformly.

Cable Color :

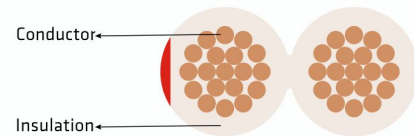
Twin Flat Transparent . Any other colours can be made on specific order.

Packing :

100 meters coils in polywarp packing.



Cable Cross Section View



Conductor		Insulation			Web Dimension (W x H)
Size	Max. Conductor Resistance at 20°C Ω	Thickness of insulation (Nom.)	Width	Hight	
Sq. mm	km.	mm	mm	mm	mm
0.50	39.00	0.60	4.30 x 2.10	4.30 x 2.10	4.30 x 2.10
0.75	26.00	0.60	4.60 x 2.28	4.60 x 2.28	4.60 x 2.28
1.00	21.4	0.70	5.40 x 2.70	5.40 x 2.70	5.40 x 2.70
1.50	13.45	0.70	6.40 x 3.18	6.40 x 3.18	6.40 x 3.18
2.00	9.00	0.75	7.00x3.30	7.00x3.30	7.00x3.30
2.50	7.98	0.75	7.40x3.44	7.40x3.44	7.40x3.44

as per conductor class 5 of IS:8130. For BIS certification details see website "www.bis.org.in". FR indicates Flame Retardant.

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Black Copper

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Actual products may vary in colour, design, description and colour combination etc.
Although every effort has been made to ensure accuracy in the compilation of the technical detail within this publication.
Specifications & performance data are constantly changing. Current details should therefore be checked with Black Copper India

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