



**SHIKSHA<sup>®</sup>**  
[WWW.SHIKSHALIGHTS.COM](http://WWW.SHIKSHALIGHTS.COM)



METER  
MARKING

29%  
OXYGEN  
INDEX

100%  
BUNCHING

TRIPPLE  
LAYER PVC

FRLS

ISO  
9001:2008

ASHCO



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## Company Profile

Welcome to **Rama Electric Industries**, a well known and highly reputed electrical accessories company dealing with PVC Copper Wire, and high quality LED Lights goods & proficient services. There are many reasons to use our high quality products but we kindly ask you first, to browse this catalogue, giving details of our latest products' range and then to contact us with your requirements for high quality products.

Rama Electric Industries established in 1963, with manufacturing of glass lamps in Amritsar. Then started trading from 1983 to 1996 in glass lamps. From 1996 we started in distribution network business. With the distributor of electrical goods like PVC Pipes, PVC Bends, Junction Box, Fan and Conesal Box also flush boxes (like 2M to 18M) wires, copper/aluminium wire and cables. also wiring accessories like Module Switch, Fan, Geyser and MCL etc.

Addition to this, we started LED Lighting Business in 2005. Since we are growing from 1963 to till date, only on the basis of best quality with the support of architect/builders/interior decorators and obviously we are the best but our backbone is dealer network.

### ASPIRATION

“CUSTOMER SATISFACTION IS THE PRIME GOAL OF OUR COMPANY”.

To satisfy our customers we ensure that the products we provide must meet customer requirements and expectations. Customer Satisfaction is not just to deliver products according to set principals, but also it is a way by which we value the requirements of our customers in vigour and we convey the same in the form of our better and improved products each and every time.

### Mission

“Delivering of high quality products is the mission of our company”

We manufacture products with allegiance to quality and commitment. We are well equipped with technical facilities and better machinery at our unit to process and supply against customer requirements on a more efficient basis. Our rigid quality control ensure that every single product that leaves our unit is manufactured to give optimum performance for application for which it was made because we do not compromise on our quality.

### Quality Assurance

Our cable carries ISI standardization mark & quality certification which ensure complete safety, reliability & consistency in performance.

### Timely Delivery

We understand the importance of timely delivery & the long way it goes in establishing the the company as a reliable brand. To achieve this goal, we have set up a flexible production capacity & strong supply chain network, to fulfill the bulk & immediate requirement of our clients. Our delivery department ensures safe and timely delivery of all orders, within the stipulated time frame.

We are absolutely dedicated towards establishing a responsive, mutually beneficial, healthy and long standing trade relations with all our clients.



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friendly

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COPPER

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## SHIKSHA ECO FR

**Flame Retardant wires have high oxygen and temperature index - that prevents the spread of fire even at high temperature.**

0.75 Sq. mm to 95.0 Sq mm FR Multistandard Cable - Plus FR

Plus - FR wires have high oxygen and temperature index - that prevents the spreading of fire even at high temperature. The Plus - FR wire is manufactured using 99.97% pure- electrolytic - grade - bright annealed bare copper with more than 100% conductivity. This wire is insulated with the flame retardant - FR PVC compound with a high oxygen and temperature index - specially formulated and manufactured in house.

**Flame Retardant (FR) Multistrand Single Core Unsheathed Flexible cables in Voltage grade upto 1100 Volts.**

Nom. Cross Sec. area of Conductor Sq. mm.	Num/nom Dia of Wire mm.	Nominal Thickness of Insulation mm.	Overall Diameter (approx) mm.	Current Carrying Capacity 2 Cable, Single Phase		Max. Resistance of Conductor Per Km. @ 20°C
				In Conduit Trunking Amps	Unenclosed Clipped Directly to A Sunoco On Cable Tray Amps.	
0.75	24/0.2**	0.7	2.6	8	9	21.10
1.0	14/0.0*	0.7	2.8	11	12	18.10
1.5	22/0.3*	0.7	3.2	13	16	12.10
2.5	36/0.3*	0.8	3.8	18	22	7.41
4.0	56/0.3*	0.8	4.5	24	29	4.95
6.0	84/0.3**	0.9	5.3	31	37	3.30
10.0	140/0.3**	1.0	6.8	42	51	1.91
16.0	126/0.4**	1.0	7.6	57	68	1.21

Standard packing - 90 meters in attractive cartons.

Colour available - Red, Yellow, Black White, Green (for earthing) & Grey. Confirm To IS-694-1990. ISI license No. CM-L-8659404

\*As per conductor class 2 of IS : 8130/1984.

\*\*As per conductor class 5 of IS : 8130 / 1984 # as per is 3961 (Part -V) - 1968



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## SHIKSHA PLUS FRLS MULTISTANDARD CABLES

**GRO - FRLS** has special flame retardant, low smoke emitting and toxic fumes suppressing properties, in addition to the properties required by IS - 694 : 1990.

In the case of fire, conventional PVC insulated wires give out thick black smoke and toxic fumes of hydrochloric acid gas. This impairs visibility and hampers rescue operation. Gro on the contrary, not only emits very little smoke and toxic gases, but also retards the spreading of fire. It is thus ideal of concealed and conduit wiring in multi-storied high rise buildings such as hotels, banks hospitals, factories, commercial complexes and residential apartments etc.

### Range of FRLS Multistrand Cables - Gro

1.0 Sq. mm to 6.0 Sq. mm FRLS Multistrand Cables - Gro

### Special Features

Superior Fire Retardant Properties	Emits Non- Toxic fumes	Self Extinguishing	Moisture Resistant	Low Oxygen Entrapment	Contains fire fighting molecules
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### Technical Data

Working voltage	: Upto 1100 V.
Temperature range	: 15°C to + 70°C
Sizes	: Available in 1.0, 1.5, 2.5, 4.0 and 6.0 Sq. mm
Colors codes	: Red, Yellow, Blue, Black and Green (for earthing)
Specifications	: IS 169 : 1990
Approvals	: ISI Marked
Packing	: In 90 meter coils in attractive cartons

### Recommended applications

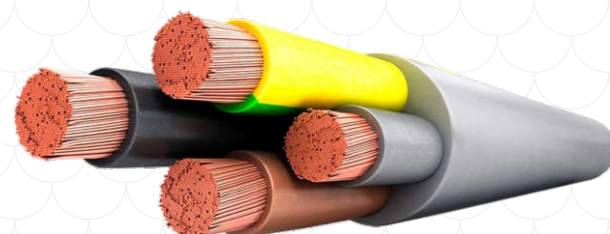
SIZES	: Specification
0.75/1.0 Sq. mm	Panels, Light, Fans
1.5 Sq. mm	: T.V./V.C.R./Cooler /Iron/Mixer/Vaccum Cleaner
2.5 Sq. mm	: Fridge, Microwave / Washing Maching / Geyser
4.0 Sq. mm	: A.C. / Pump Motor
6.0 Sq. mm	: Distribution Board Wiring

### Recommended applications.

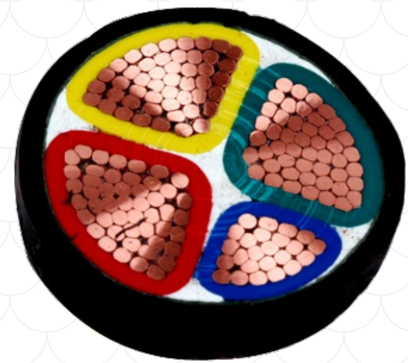
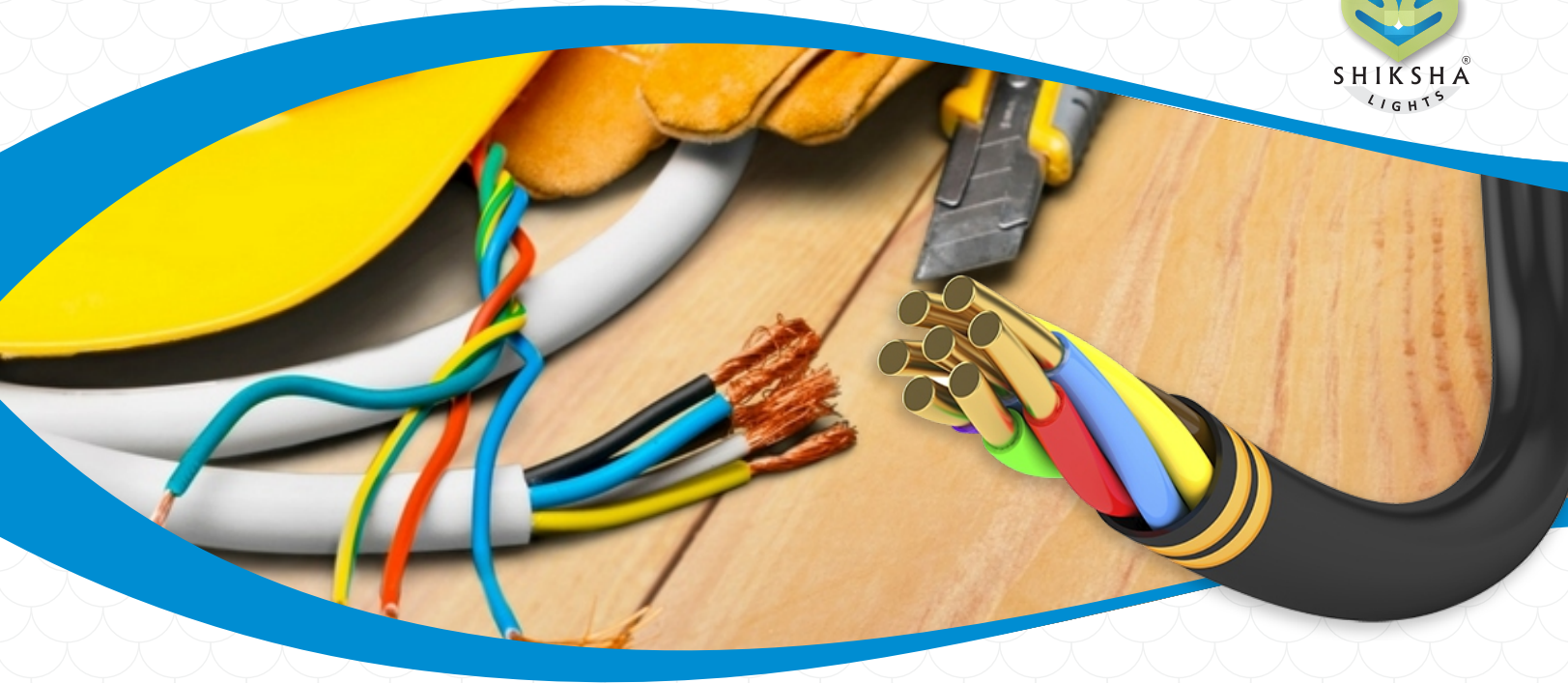
These are recommended application only. Exact load of appliances / machinery should be checked for current requirement and appropriate wire size should be chosen accordingly.

### FR-LSH PROPERTIES (Improved Fire performance, Category C2)

Test	: Specified Values
Critical Oxygen Index	: Oxygen Index minimum 29%
Temperature Index	: Temperature Index min 21% at 250°C
Test for Hologen Acid Gas Evaluation	: Hydrochloric acid gas released 20% maximum by weight







Nom. Cross Sec. area of Conductor	Num/nom Dia of Wire	Nominal Thickness of Insulation	Overall Diameter (approx)	Current Carrying Capacity 2 Cable, Single Phase	Max. Resistance of Conductor Per Km. @ 20°C
				In Conducting Trunking Amps FRLS	
Sq. mm.	mm.	mm.	mm.		
1.0	14/0.0*	0.70	3.2	11	18.10
1.5	22/0.3*	0.70	3.4	13	12.10
2.5	36/0.3*	0.80	4.2	18	7.41
4.0	56/0.3*	0.80	4.8	24	4.95
6.0	84/0.3**	0.80	5.6	31	3.30

# SUBMERSIBLE FLAT CABLES

For trouble free working these connecting cables are just as important as winding wires for the submersible pumps & motors. SHIKSHA 3 Core flat cables are Manufactured keeping in mind the severely difficult conditions in which they are required to operate. The wires are drawn, annealed and bunched properly to ensure long life. Each of these three flexible copper conductors are insulated with a specially formulated PVC compound and the cores are laid-up in flat paralalled position. The outer sheath of the cable is made from special grade of resistant PVC compound impervious to water, greases oil etc. Rigid Test & checks at every stage from raw material through production and finally up to the finished products insure that SHIKSHA cables are of highest quality to meet the Interntional Standard.

## Technical Data

Conductor Area (Nom.) No./Size of Sq. mm		Insulation Sheath (Overall Dimensions)				Conductor Resistance @ 20°C (Max.) ohms/km.	Conductor Carrying @ 40°C (AMP)
		Thickness (Nom.) mm	Thickness (Nom.) mm	Width 'W' mm	Thickness (T) mm		
1.5	22/0.3*	0.6	0.90	11.70	5.40	12.10	14
2.5	36/0.3*	0.7	1.00	13.50	6.20	7.41	18
4.0	56/0.3*	0.8	1.00	15.20	6.50.	4.95	2

\*As per Conductor Class 2 of IS : 8130 : 1984, \*\*As per Conductor Class 5 of IS 8130 : 1984 3 Core Flat Cables generally conforming to IS 694 : 1990

Conductor Area (Nom.) No./Size of Sq. mm		Insulation Sheath (Overall Dimensions)				Conductor Resistance @ 20°C (Max.) ohms/km.	Conductor Carrying @ 40°C (AMP)
		Thickness (Nom.) mm	Thickness (Nom.) mm	Width 'W' mm	Thickness (T) mm		
6.0	84/0.3	1.0	1.15	17.30	7.60	3.30	31
10.0	140/0.3	1.0	1.40	23.70	9.90	1.91	42
16.0	226/0.3	1.0	1.40	28.00	11.40	1.21	57
25.0	345/0.3	1.0	2.00	35.50	14.70	0.780	72

## Selection Guide for 3 Core Flat Cables

1) HP Vs Current : The Full load current for submersible pump motors, 3 phase, 50 cycles, 514~425 V.

Hp	5.0	7.5	10.0	12.5	15.0	17.5	20.0	25.0	30.0	35.0	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0
Amp	7.5	11.0	14.9	18.9	22.5	25.2	28.4	35.6	42.3	50.4	58.0	62.1	67.5	73.8	81.0	87.3	93.6	100.80	108.0

2) Derating Factors : Multiply the current capacity of the cable by factors given below for various ambient temperature.

Ambient Temperature C	30	35	40	45	50
Operating Factor	1.90	1.04	1.00	0.95	0.77

Insulation thickness and overall dimension given in this table are nominal values.

The number of wires is approximate and strand diameter is nominal, they shall be such as to satisfy the Requirements of conductor resistance as per IS : 8130/1984





# SUBMERSIBLE

## Wire & Cables

Are (Nom)  Sq.mm	CONDUCTOR	INSULATION		SHEATH Overall Dimension			Conductor Resistance @ 20°C (Max.) ohms/km.	Conductor Carrying @ 40°C (AMP)
	Number/size of wire mm.	Insulation thickness (Nom.) mm	Core Dia (Nom.) mm.	Thickness (Nom.) mm	Width 'W' mm	Thickness (T) mm		
1.5	22/0.3*	0.8	3.25	1.15	12.8	5.0	12.0	14
2.5	36/0.3*	0.8	3.90	1.15	14.6	6.0	7.40	18
4.0	56/0.3*	0.9	4.65	1.15	17.2	6.7	4.95	26
6.0	84/0.3**	1.0	5.30	1.15	18.7	7.9	3.30	26
10.0	140/0.3	1.0	3.60	1.40	23.7	9.9	1.91	42
16.0	226/0.3	1.0	8.20	1.40	28.0	11.4	1.21	57
25.0	354/0.3	1.0	10.10	2.00	35.5	14.7	0.780	72



# MULTICORE FLEXIBLE ROUND CABLE

## Range of multicore Round Flexible Cable

0.5 Sq mm to 4.0 Sq. mm - 1 core to 24 core Multicore Round Flexible Cables

6.0 Sq mm to 50.0 Sq. mm 1 core to 4 core Multicore Round Flexible Cables

70.0 Sq mm X 1 core Multicore Round Flexible Cable

950 Sq mm X 1 core Multicore Round Flexible Cable

120.0 Sq mm X 1 core Multicore Round Flexible Cable

150.0 Sq mm X 1 core Multicore Round Flexible Cable

## FEATURES

Manufactured from bright annealed 99.99% pure bare copper conductors these cables offer low conductor resistance. These wires are insulated with a special grade PVC compound formulated and manufactured in - house. The tough robust outer PVC jacket protects it from the oils, greasers, various chemicals and abrasions giving long life and electrical safety.

## USES

Multicore Cables are very versatile. They can be used in the following areas :

For Control Panels in Heavy Industries.

For Heavy Machineries

For Air-Conditions, Motor Automobile etc.

## Single Core/Multicore Flexible Cable as per IS-694/1990 Voltage grade up to 1100 Volts.

Area Sq. mm.		0.50	0.75	1.0	1.5	2.5	4.0	6.0	10.0
No. of Size of wire (Nom.) No./mm		16/.2	24/.2	32/.2	48/.2 or 30/0.25	80/.2 or 50/0.25	56/.3	84/.3	140/0.3 80/.40
Conductor Resistance (Max.) @20°C Ohm/Km		39.0	26.0	19.5	13.3	7.98	4.95	3.3	1.91
Current Rating Dc/Ac Amp.		4	7	12	15	20	27	35	46
Insulation Thickness (Nom.)mm		0.6	0.6	0.6	0.6	0.7	0.8	0.8	1.0
Single Core Unhealthd O.D. (Approx mm)		2.00	2.30	2.60	2.90	3.50	4.10	5.0	6.60
Single Core Sheathed 1 Core	Sheath Thickness (Nom. mm)	0.9	0.9	0.9	0.9	0.9	0.9	Multicore Flexible Cable above 4 Sq. mm. are not coverd by IS 694	
	Overall Diamter (Approx. mm)	4.00	4.25	4.50	4.00	5.45	6.30		
2 Core	Sheath Thickness (Nom. mm)	0.9	0.9	0.9	0.9	1.0	1.0		
	Overall Diamter (Approx. mm)	6.10	6.50	7.0	7.60	9.10	10.50		
3 Core	Sheath Thickness (Nom. mm)	0.9	0.9	0.9	0.9	1.0	1.0	1.3	1.40
	Overall Diamter (Approx. mm)	6.50	7.10	7.50	8.10	9.60	11.40	13.40	18.00
3 Core	Sheath Thickness (Nom. mm)	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.4
	Overall Diamter (Approx. mm)	7.20	7.60	8.10	9.10	10.60	12.50	15.70	18.00



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# MULTICORE FLEXIBLE

## *Round Cable*

### Technical Data

Working Voltage	Upto 1100 V
Temprature Range	- 15oC to + 70oC
Sizes	0.5 Sq mm to 4.0 Sq mm - 1 core to 24 core Multicore Round Flexible Cables
	70.0 Sq. mm X 1 Core Multicore Round Flexible Cable
	95.0 Sq. mm X 1 Core Multicore Round Flexible Cable
	220.0 Sq. mm X 1 Core Multicore Round Flexible Cable
	150.0 Sq. mm X 1 Core Multicore Round Flexible Cable
Color code	Black and Greyy outer Sheath
	2 core cable - Red, Black
	3 core cable - Red, Yel, Blue & Yellow / Green for earth
	4 core cable - Red, Yel, Blue , Black & Grey
	Any required colors on specific request
Specification	IS 694 : 1990
Packing	In 90 mtr. coils , Higher sizes on drums

## CO-AXIAL TV CABLES

SHIKSHA coaxial cable for "Coax" is the most common cable used for transmitting video signals. The name "coaxial" refers to the common axis of the two conductors.

**Construction :** A coaxial cable has a solid copper or copper - clad - steel centre conductor surrounded by a nonconductive dielectric, insulating material. The dielectric is surrounded by foil shield/s and/or copper braid/s which form the outer conductor and also shield against electromagnetic interference (EMI). The outer conductor / shield is encased in a PVC jacket. Most coaxial cables for video applications have a nominal impedance of 75 ohms. Their differing electrical and physical characteristics make it important to select the correct type of cable to suit the applications.

Components	RG59		RG 6		RG 11	
	Inches	MM	Inches	MM	Inches	MM
Nominal Center Cond. Diameter	0.032	0.81	0.040	1.02	0.064	1.63
Nominal Diameter Over Dielectric	0.144	3.66	0.180	4.57	0.280	7.11
Nominal Diameter Over First Shield (Tape)	0.151	3.84	0.187	4.75	0.287	7.29
Nominal Diameter Over Jacket	0.240	6.10	0.272	6.91	0.395	10.03
Nominal Jacket Wall Thickness	0.32	0.81	0.030	0.76	0.042	1.07
Nominal Diameter of steel Messenger	0.015 (Single)	1.30	0.051 (Single)	1.30	0.072 (Single)	1.83
	0.072 (Dual)	1.83	0.071 (Dual)	1.83	0.109 (Dual)	2.77

Mechanical Characteristics	RG59	RG 6	RG 11
Minimum Breaking	0.051	0.051	0.072
Strength of Messenger	0.072	0.072	0.109

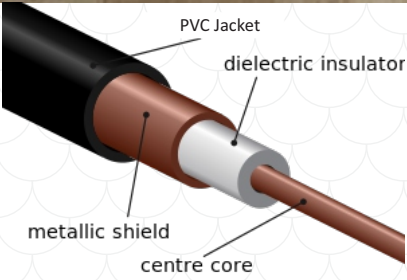
Electrical Characteristics	RG59	RG 6	RG 11
Nominal Impedance	75 ohms	75 ohms	75 ohms
Nominal Velocity of Propagation	85%	85%	85%
Shielding Effectiveness	>100dB	>100dB	>100dB

Attenuation @ 20 Deg. C			
Frequency MHz	RG 59 (Maximum dB/100m)	RG 6 (Maximum dB/100m)	RG 11 (Maximum dB/100m)
211	12.47	10.00	6.23
250	13.45	10.82	6.72
270	14.08	11.12	6.99
300	14.84	11.72	7.37
325	15.45	12.20	7.67
350	15.75	12.63	7.94
400	16.73	13.61	8.53
450	17.72	14.43	9.02
500	18.70	15.09	9.51
550	19.52	16.08	9.97
600	20.34	16.73	10.43
750	22.87	18.54	11.97
875	24.67	20.01	13.05
1000	26.64	21.49	14.27



# CO-AXIAL

## TV Cables



### Gas Injected Physical Foam Jelly Flooded Cable

#### Size

RG-59

RG-6

RG-11

Standard Packing - In 90 Mts. + 90 Mts. In Box

Supplied in 305 Mts. Wooden Drum

# TELEPHONE AND SWITCHBOARD

## ZERO TELEPHONE AND SWITCHBOARD

Low attenuation	No cross talk	Flame retardant jacket	True sound
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Applications	: Recommended for switchboard and internal telephone wiring in high rise buildings, offices, factories, hotels, residential complexes transmission of analog and digital signals, internal wiring in faxes, modems, computers, alarm enunciators
	: data recording / acquisition systems and various communication devices.
Specifications	: ITD-S/WS 113C & 114C, DOT GR / WR 06/02 MAY 94, ITI D 3005 & D2721
Conductor	: The central conductor is made of 99.99% pure solid electrolytic grade copper.
Insulation	: Premium quality grade polyethylene used for insulation with several online testing equipments.
Twisted Pairs	: The cores are carefully twisted with suitable lays and laid up together to form cable. Special attention given to his stage for minimising cross talk.
RipCord	: A nylon rip cord is provided in order to safety peel off the jacket without damaging the cores.
Sheath	: The laid up pairs are jacketed with special Flame Retardant (FR) compound to resist flame.

### ELECTRICAL PARAMETERS

Conductor Resistance	: 92.20 ohm / km at 20°C max.
Mutual Capacitance	: 50 nF / km max.
Insulation Resistance in Air	: 10000 M-ohm / km
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 pair	2 pair	3 pair	4 pair	5 pair	10 pair
Conductor (solid annealed bore copper)		0.4 mm diameter (non). & 0.5 mm diameter (non)					
Insulation Material (0.4 & 0.5 mm dia)		High density polythylen (HDPE)					
Insulation Thickness (Average) 0.4 mm dia, 0.5 mm dia		0.17 mm , 0.20 mm					
Diameter of insulated Conductor 0.4 mm dia, 0.5 mm dia		0.74 mm, 0.92 mm					
Rip card		Nylon					
Colour Combination		For 0.4 mm dia & 0.5 mm dia					
	Part 1	White - Blue	White - Blue	White - Blue	White - Blue	White - Blue	White - Blue
	Part 1		White - Orange	White - Orange	White - Orange	White - Orange	White - Orange
	Part 1			White - Green	White - Green	White - Green	White - Green
	Part 1				White - Brown	White - Brown	White - Brown
	Part 1					White - Grey	White - Grey
	Part 1						White - Blue
	Part 1						White - Orange
	Part 1						White - Green
	Part 1						White - Brown
	Part 1						White - Grey



## CC TV WIRE ———

### CIRCUIT CAMERA TELEVISION WIRE

SHIKSHA CC TV Cable has the Composite structure of Video & Audio Wires. At our plant, we design and manufacturer CC TV Camera Cable as per the customer requirement. The Composite structure of video and audio wires intended to install the cameras with audio system from one point to equipment system. Capacity of carrying video signal of 75 ohms provides crystal clear picture and 12 volts power wire disturbance free audio. In CCTV cable. We use annealed tinned copper wire of best quality in the 40 and 38 standard wire gauge. Keeping the 14 wires of copper in each wire these are made 2+1, 3+1, 4+1 & 6+1 type. Shield provided in alloy or in copper depends on the party requirement.



## CAT 6 ———

CAT 6 LAN cable consists of four balanced twisted pairs of 23 AWG thermoplastic insulated solid conductors enclosed in a thermoplastic jacket. The cable support hi-speed transmission performance operating at a bandwidth of 250 Mhz.

#### Features :

- Verified and exceed performance requirements specified by the EIA/TIA-568-C.2-1.
- 4-Pair unshielded twisted pair (UTP) cable.
- HDPC insulation and FR PVC jacket.
- PE Separator
- RoHS complaint
- Cable support frequencies upto 250 MHz
- Cables supports data transfer speeds upto 1000 Mbps-Gigabit

## FLEXIBLE WIRE ———

### TWIN FLAT, PARALLEL, SPEAKER WIRE & FLEXIBLE ROUND CABLES

Size	: 14/0.052 To 110/0.052
Conductor	: Bright Annealed Bare Copper Conductor
Insulation	: Special Flame Retardant Pvc Compound
Length	: 90 Mtrs. Standard Length





**SHIKSHA<sup>®</sup>**

**High Class Copper Wire & LED Lights**

**RAMA ELECTRIC INDUSTRIES**

INDIA [143006]

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**Dealer:**

