



# Batrahelny<sup>®</sup>

W I R E S & C A B L E S





## Manufacturing Establishment at a Glance

BHC is a standards and technology based manufacturing company furthermore our cables are designed to exceed the most stringent ISI, UL and ISO requirements. In addition, all of our premise and entire range of wires & cables comply with IS 694 & IS 1554 standards. BHC is ISO 9001:2008 certified and is a showcase example of a fully-automated cable manufacturing plant.

Since 1986, BHC has invested over millions of dollars in most sophisticated set of testing & operating instruments, cabling equipment and manufacturing technology. Most recently, a fully automated line of high speed performing machines have been added for both Badarpur and Narela manufacturing units. We offer a full range of data communication and signal grade twisted-pair cables, flexible wires (multicore and singlemode, indoor/outdoor) and electronic cables (coaxial, telecommunications and armoured/unarmoured) to satisfy every need. By using the most up-to-date and technologically advanced equipment, BHC is capable of offering specialty designs that no one else can.



*“ the fearless ... fireless cables ”*



“Batra Henlay Cables is a technology leader providing innovative, state-of-the-art copper flexible wires, control instrumentation, telecommunication cables - to the power, telecommunication, and energy industries. Using modern manufacturing techniques and personnel with experience in a wide array of the electricals sector, Batra Henlay Cable has developed a product line of superior flexible wires, flexible control and instrumentation cables moreover high defined coaxial cables in various forms of insulation.

Since 1955, Our family has provided a wide range of products, superior service and technical assistance to customers throughout the world.

We are unmatched in shipping immediately, from our inventory, a broad range of electrical wire and cable items. In addition, we can quote on unique and other hard to find products, as every year we successfully cater to over several hundreds of different projects. Custom design cables can be manufactured and shipped within a matter of days.”

Batra Henlay Cables was co-founded in 1986 by Mr. Rajesh Batra, who was then the Chief executive officer at CLA Telelinks Pvt. Ltd. India's 2nd manufacturer and sole provider of wire harnessing solutions to M/S Maruti Udyog Ltd. and primary supplier to Escorts Yamaha Group, as well as a professional drummer and Ex-President S.G.T.B Khalsa College, Delhi University '79



# SafCab®



BHC's very own in-house product SafCab which furthermore extends to Safe cable has been especially engineered with the sole intentions at Henlay's Labs, UK to ensure that it not only meets the British standards but moreover also guarantee the objective of a risk-free environment from any fire-hazards imagined possibly and a ground breaking resistance to higher temperature.

### 105 ° C Heat Resistant flame retardant.

Due to Demand of these cables in Volatile conditions, complex appliances and in automotives industry results in reducing the life of the wire. Therefore by taking these factors into consideration at BHC we developed SafCab to ensure its longevity in High-Heat environment through its higher bulk density, improved thermal stability and lower compound viscosity. Our product can practically tolerate a temp. range from below Sub-Zero to over 100°C, furthermore with greater flexibility and tangling properties SafCab is virtually over 3% lower in density than others in its class meeting ease of installation benefits with improved colour retention and greater output per pound.

### SINGLE CORE PVC INSULATED COPPER CONDUCTOR (UNSHEATHED) CABLES 1100 VOLTAGE GRADE CONFORMING TO IS: 694

Nominal Cross Sectional area of Conductor	Number/Nom. Dia of con. Strands*	Thickness of Insulation (Nom)	Approx Overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max Conductor Resistance per KM at 27°C
				Conduit/ Trunking	Unenclosed Clipped	
Sq mm	Mm	Mm	Mm	Amps	Amps	Ohms
0.75	24/0.2	0.7	2.5	8	10	26.00
1	14/0.3	0.7	2.8	13	14	18.10
1.5	22/0.3	0.7	3.1	16	19	12.10
2.5	36/0.3	0.8	3.8	22	26	7.41
4	56/0.3	0.8	4.4	29	35	4.95
6	84/0.3	0.8	5	37	44	3.30

### SINGLE CORE PVC INSULATED COPPER CONDUCTOR (UNSHEATHED) HEAVY DUTY CABLES 1100 VOLTAGE GRADE CONFORMING TO IS: 694

Nominal Cross Sectional area of Conductor	Number/ Nom. Dia of con. Strands*	Thickness of Insulation (Nom)	Approx Overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max Conductor Resistance per KM at 27°C
				Conduit/ Trunking	Unenclosed Clipped directly	
Sq mm	Mm	Mm	Mm	Amps	Amps	Ohms
1	14/0.3	0.7	2.80	13	14	18.10
1.5	22/0.3	0.7	3.10	16	19	12.10
2.5	36/0.3	0.8	3.80	22	26	7.41
4	56/0.3	0.8	4.40	29	35	4.95
6	84/0.3	0.8	5.00	37	44	3.30

### 105 ° C Heat Resistant flame retardant low smoke/Low Smoke Zero Halogen.

These cables greatly reduce the risk of loss of life or corrosion damage to expensive equipment that can occur with commercial grade cables and recommended for auditoriums or crowded area. In fact this product from BHC has become synonymous with confidence and everlasting faith as we jacket the conductor with a compound with virtually no halogen.

### TECHNICAL COMPARISON BETWEEN 105° HRFR 105° HRFRLS & LS0H CABLES

S.No.	Feature	Standard Range 105 HRFR	Special Range	
			HRFRLS	LS0H
1	Insulation Material	Spl. PVC	Spl. PVC	Spl. PVC
2	Insulation Property	Good	Good	Very Good
3	Temperature Rating	105°C	105°C	105°C
4	Thermal Stability	Good	Good	Very Good
5	Flame Retardancy	Very Good	Very Good	Excellent
6	Safety during Burning	Good	Good	Excellent
7	Requirement of critical oxygen index as per ASTM D-2863 to catch fire (%)	> 29	> 29	> 35
8	Temperature Index	> 250°C	> 250°C	> 280°C
9	Light Transmission (Visibility) during Cables as per ASTM D-2843 Burning (%)	NA	> 40	> 80
		-	Good	Excellent
10	Release of Halogen Gas During Burning (%)	NA	< 20	< 2
		-	Good	Excellent
11	Abrasion Resistance During Installation	Good	Good	Good

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

PVC Insulated **Unsheathed** Single Core Cables with Electrolyted Annealed Copper Conductor used for Power and lighting purpose in House Wiring 660/1100 Volts grade confirming to IS :694/1990.

Conductor Area (mm) <sup>2</sup>	Conductor Size (mm)	Nominal Thickness of Insulation (mm)	Over Dia Approximate	Current Rating (AMPS)	
				Copper	Aluminum
1 *	14/.30	0.70	2.70	12	-
1.5	22/.30	0.70	3.10	16	12
2.5	36/.30	0.80	3.80	22	17
4	56/.30	0.80	4.30	29	23
6	84/.30	0.80	5.20	37	29
10	142/.30	1.00	6.30	51	40
16	227/.30	1.00	8.00	68	54
25	354/.30	1.20	9.70	86	69
35	265/.41	1.20	11.00	110	83
50	379/.41	1.40	13.00	145	105
70	343/.51	1.40	15.00	215	125
95	465/.51	1.60	17.50	260	185
120	587/.51	1.60	19.00	305	210
150	738/.51	1.80	21.00	355	240

Note: \* Copper Conductor Only | Current Rating at Ambient Temp. 27° C

Flexible PVC Insulated and **Sheathed** Cables with Electrolyted Annealed Copper Conductor used for power and lighting purpose in House Wiring 660/1100 volts grade Confirming to IS : 694/1990

Nominal cross sectional area of conductor	Nominal Thickness of Insulation	Nominal Thickness of Sheathed/Approx. Overall Dimensions										Current Rating Ambient Temp. 27°C	
		Single Core		Two Core		Circular Twin	Three Core		Four Core				
		Thickness	O.D.	Thickness	O.D.	O.D.	Thickness	O.D.	Thickness	O.D.			
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	amp	amp
0.50	0.60	0.90	4.50	0.90	7.00	7.20	0.90	7.60	0.90	8.20	-	-	
0.75	0.60	0.90	4.70	0.90	7.15	7.80	0.90	8.20	0.90	8.80	-	-	
1.00	0.60	0.90	4.90	0.90	7.70	8.00	0.90	8.60	0.90	9.40	-	-	
1.50	0.60	0.90	5.40	0.90	8.00	8.60	0.90	9.20	1.00	10.50	-	-	
2.50	0.70	1.00	6.20	1.00	8.85	10.50	1.00	11.00	1.00	12.00	-	-	
4.00	0.80	1.00	7.00	1.00	9.00	12.00	1.00	12.50	1.00	14.00	-	-	
6.00	0.80	0.90	7.20	1.10	12.90		1.10	13.70	1.20	16.00	40	36	
10.00	1.00	0.90	8.70	1.20	16.10		1.20	17.10	1.30	19.10	53	47	
16.00	1.00	1.00	10.10	1.30	18.70		1.30	19.90	1.40	22.20	73	66	
25.00	1.20	1.10	12.20	1.40	22.70		1.50	24.30	1.60	27.20	83	72	
35.00	1.20	1.10	13.60	1.50	25.70		1.60	27.60	1.70	30.70	106	92	
50.00	1.40	1.20	16.00	1.60	30.30		1.70	32.40	1.80	36.20	139	122	
70.00	1.40	1.20	18.10	1.80	35.00		1.90	37.50	2.00	41.70	186	168	
95.00	1.60	1.30	20.60	2.00	40.00		2.10	43.00	2.20	47.60	228	198	

Note: \* Copper Conductor Only | Current Rating at Ambient Temp. 27° C





# Telephone Multicore Cable

## Application:

Our range includes cables for domestic and EPABX wiring and other electronic equipments for data processing, Telephone exchanges for telephone, telegraph and transmission purposes.

## Construction:

- Conductor** : Solid annealed tinned copper wire.
- Insulation** : Hard grade PVC Compound.
- Twisted Pairs** : The insulated conductors are twisted into pairs with specified color combinations to provide pairs identification.
- Cable Assembly** : Cables having 25 pairs and less are assembled in a single group. Cables having more than 25 pairs are assembled in units each being identification by color coded unit binders.
- Core Covering** : Polyal or Melinex® tape.
- Jacket** : Polyvinyl chloride

### PVC INSULATED AND PVC SHEATHED PAIR CABLES

<b>Conductor dia</b>	0.51 mm	0.61 mm	0.71 mm
<b>Specifications</b>	S/WS-113C	S/WS-113C	S/WS-114C
<b>Conductor Resistance</b>	98 ohms/km	64 ohms/km	46 ohms/km
<b>Insulation thickness</b>	0.20 mm	0.20 mm	0.28 mm
<b>T.S. Kg/Cm<sup>2</sup> 190</b>	190	190	190
<b>Elongation 125%</b>	125%	125%	125%

Conductor dia (mm)	0.51	0.61	0.71
No. of Pair	Overall dia (mm)		
1 Pair	3.5	3.9	4.3
2 Pair	4.8	5.5	6.0
3 Pair	5.6	6.6	7.0
4 Pair	6.0	6.9	7.9
5 Pair	6.6	7.4	8.2
6 Pair	6.8	7.8	8.8
7 Pair	7.4	8.4	9.6
10 Pair	8.5	9.0	10.4

Conductor dia (mm)	0.51	0.61	0.71
No. of Pair	Overall dia (mm)		
14 Pair	9.6	11.0	12.5
20 Pair	11.0	11.5	14.0
21 Pair	11.2	11.7	14.8
26 Pair	11.4	12.7	15.5
30 Pair	13.2	13.9	16.5
35 Pair	13.6	15.0	17.5
42 Pair	15.0	16.2	18.5
50 Pair	16.2	18.3	21.0
51 Pair	16.2	18.5	21.5
101 Pair	22.8	24.4	26.0

### ARMoured PAIR CABLES

Multicore cables armoured as per IS:1554 (Part-I) 1976 - suitable for laying in trenched for telephones

<b>Conductor dia</b>	0.51 mm	0.61mm	0.71 mm
<b>Specification</b>	S/WS-113C	S/WS-113C	S/WS-114C
<b>Conductor resistance</b>	98 ohms/Km	64 ohms/Km	46 ohms/Km
<b>Insulation thickness</b>	0.20 mm	0.20 mm	0.28mm
<b>Sheath thickness</b>	1.80 mm upto 50 pair 2.00 mm for 100 pair	1.80 mm upto 50 pair 2.00 mm for 100 pair	1.80 mm upto 50pair 2.00 mm for 100 pair
<b>G.I. Wire</b>	1.40 mm	1.40 mm	1.40 mm
<b>T.S.Kg/Cm<sup>2</sup></b>	190	190	190
<b>Elongation</b>	125%	125%	125%

Pair	Overall dia (mm)	Overall dia (mm)	Overall dia (mm)
5 Pair	13.00	13.40	15.00
10 Pair	15.50	15.90	18.20
20 Pair	17.40	18.00	20.90
30 Pair	20.45	21.10	25.00
50 Pair	24.40	25.15	30.10
100 Pair	32.80	34.00	41.20

# Coaxial TV Cable



## Application:

As a medium for transmission of signals it finds use in high frequency equipment, satellite guidance systems, microwave transmission and LAN. It is manufactured as per BR (UR Series), American Military Standard MIL-C17 (RG Series)

## Construction:

- Conductor** : Solid Annealed bare copper wire
- Jacket** : Polyvinyl chloride
- Other Remarks** : Polyethylene Insulated with Core Covering from Polyal tape furthermore shielded with alloy braid, jelly flooded additionally protected with polyester tape.

## TECHNICAL DATA

S.No.	Type	Description
1	Size	RG-59, RG-6, RG-11
2	Inner Conductor	Solid Copper
3	Insulation	Gas Injected Physical Foamed Polyethylene
4	Flooding Compound	Jelly
5	Outer Conductor	Bonded Polyaluminium Tape, Braided with Aluminium Wire
6	Outer Jacket	UV Resistant Black PVC Jacket
7	Marking	Progressive Sequential Length Marking on Every Meter

## ELECTRICAL PARAMETERS

S.No	Type	RG-11 Foam	RG-6 Foam	RG-59 Foam
1	Inner Conductor- Max. Resistance (Phm/km) @ 20 degree C	0.84	2.13	3.55
2	Inner Conductor- Loop Resistance (Phm/km) @ 20 degree C	1.66	2.78	4.64
3	Nom. Capacitance ( pF / mtr )	53.00	53.00	53.00
4	Nom. Impedance (Phm)	75.00	75.00	75.00
5	Nom. Velocity Ratio (%)	85.00	85.00	85.00
6	Nom. Attenuation @ 25 degree (dB/100m)			
	@ 55Mhz	2.82	1.95	6.73
	@ 83Mhz	3.87	6.20	8.04
	@ 187Mhz	5.74	9.15	11.81
	@ 211Mhz	6.23	9.50	12.47
	@ 250Mhz	6.72	10.50	13.45
	@ 300Mhz	7.38	11.50	14.60
	@ 350Mhz	7.94	12.45	15.71
	@ 400Mhz	8.53	13.30	16.73
	@ 450Mhz	9.02	14.35	17.72
	@ 500Mhz	9.51	14.95	18.70
	@ 550Mhz	9.92	15.70	19.52
7	Structural Return Loss (dB/100m)			
	From 30 to 300 Mhz	>26	>28	>30
	From 300 to 550 Mhz	>24	>22	>24
	Bending Radius, min (mm)	75.00	65.00	65.00

## ELECTRICAL PARAMETERS

S.No	Type	RG-11 Foam	RG-6 Foam	RG-59 Foam
1	Inner Conductor	Solid Bare Copper	Solid Bare Copper	Solid Bare Copper
2	Nom. Diameter (mm)	1.63	1.02	0.80
3	Dielectric	Foam PE	Foam PE	Foam PE
4	Nom. Diameter (mm)	7.11	4.57	3.55
5	Outer Conductor - First	Bonded PolyAL Tape	Bonded PolyAL Tape	Bonded PolyAL Tape
6	Outer Conductor - Second	Alloy Braid	Alloy Braid	Alloy Braid
7	Nom. Coverage (%)	60.00	60.00	60.00
8	Jacket	PVC (Black)	PVC (Black)	PVC (Black)
9	Nom. Diameter (mm)	10.00	7.00	6.20

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