

# Products

## Housewiring



One name in house wires which inspires confidence in consultants, architects and builders today is RELEMAC. One of the most sought-after brands of house wires, Relemac has built up a reputation for commercial foresight and solid integrity. Relemac house wires carry a guarantee that far exceeds the ISI Certification they possess. Tested at every stage and supervised by experienced engineers, Relemac house wire are making a name for themselves in both Indian and world markets.

### Conductor

Flexible copper conductors are made from high conductivity Copper rods of 8 mm diameter. The rod is drawn to required sizes of fine wires for the construction of conductors of different areas of cross section. Annealed plain copper conductors used in the flexible cables and cords conform to the requirements of table 3 class 5 of IS:8130-1984. The construction of conductor is also made according to customer specification.

### Insulation

Relemac House wires are mainly available readily in PVC insulations & also manufactured in various other insulations like, FR PVC / FRLS PVC / HR PVC / ZERO HALOGEN & TEFLON (PTFE) with HR PVC.

**PVC Insulation** 'Type A' PVC Compound suitable for a maximum continuous conductor operating temperature of 70°C, as referred in IS:694-1990, is insulated over conductor by extrusion process with required thickness of insulation and conforms to all the requirements of IS: 5831-1984.

**FR Insulation** FR PVC insulation has better fire retardant properties than normal PVC.

**FRLS Insulation** FRLS PVC insulation provides better fire retardant properties than normal PVC & also emits Low Smoke, in case of fire.

**HR PVC Insulation** HR PVC Insulation ensures insulation stability at conductor temperature of 85C & 105C, in case of HR85 & HR 105PVC insulation respectively.

**ZERO HALOGEN Insulation** ZERO HALOGEN Insulation provides better flame retardant properties than HR & FRLS. Zero Halogen required >300 Deg'C temperature to catch fire (with 1% Oxygen).

**TEFLON (PTFE) with HR PVC Insulation** TEFLON (PTFE) with HR105 PVC are designed for high cost and Sensitive installations where fire from electrical short circuits may cause damage to human life & property. PTFE can withstand, operating temperature from -65°C to +260°C.

## Comparative Properties of RELEMAC Wires

Feature	Normal PVC Wire	Heat Resistance HR-PVC	Fire Retardant FR-PVC	Fire Retardant Low Smoke FRLS	Zero Halogen Low Smoke
Insulation Material	PVC	PVC	Spl. PVC	Spl. PVC	Spl. Polymer
Insulation Property	Normal	Good	Good	Good	Very Good
Temperature Rating	70 Deg' C	85 Deg' C	70 Deg' C	70 Deg' C	85 Deg' C
Thermal Stability	Normal	Very Good	Good	Good	Very Good
Flame Retardancy	Good	Good	Very Good	Very Good	Excellent
Safety During Burning	Average	Average	Good	Good	Excellent
Requirement of Oxygen to catch fire (% in air)	>21	>21	>30	>30	>35
Temperature Required to Catch Fire (with 21% oxygen)	Room Temp.	Room Temp.	>250 Deg' C	>250 Deg' C	> 300 Deg' C
Visibility during Cable Burning (%)	<20	<20	<35	>40	>80
Release of Halogen Gas during burning (% by weight)	<20	<20	<20	<20	Zero
Abrasion Resistance During Installation	Good	Good	Good	Good	Good

### Single Core Unsheathed Flexible Cables in voltage grade 1100 Volts

Nominal cross sectional area of Conductor Sq.mm	Number/Nom. Dia. of wire mm	Nominal Thickness of Insulation mm	Overall Diameter (Approx.) mm	Current carrying capacity # 2 cables, single phase		Max. resistance of Conductor per Km @ 20 C Ohms.
				In conduit/ Trunking Amps.	Unenclosed-dipped directly to a surface or on cable tray Amps.	
1.0	14/0.3*	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
Standard Colours: Black, Red, Blue, Yellow, Green. (for earthing) Supplied in 90 metre lengths in attractive cartons. Confirm to IS-694 - 1990. * 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						
6	84/0.3	0.8	5.4	31	37	3.30
10	140/0.3	1.0	6.8	42	51	1.91
16	101/0.45	1.0	8.0	57	68	1.21
25	158/0.45	1.2	10.0	71	86	0.780
35	220/0.45	1.2	11.1	91	110	0.554
50	315/0.45	1.4	13.2	120	140	0.386
Supplied in 90 meters lengths in Polythene & Cloth Packing Standard Colours: Red, Yellow, Blue & Black				Confirm to IS:694/1990. * Sample card available on request. (1 to 4 Sq mm.)		

### Single Core Unsheathed Flexible Cables in voltage grade 1100 Volts

2.0	28/0.3	0.8	3.40	17	20	9.40
4.5	65/0.3	0.9	4.85	28	33	4.08

### Single Core Unsheathed Annealed copper conductor as per BSS-2004/1961 voltage grade 1100 Volts

No. of strand & Size of wire in inch	Size in SWG	Nominal area of Conductor in Sq.mm	Thickness of Insulation in mm	Nominal overall Dia in mm	Current rating Amps
1/0.044*	1/18	1.0	1.05	3.30	5
1/0.046*	1/17	1.1	1.05	3.70	7
3/0.029*	3/22	1.3	1.05	3.50	10
3/0.036	3/20	2.0	1.20	4.85	16
3/0.036*	3/20	2.0	1.05	3.90	15
7/0.029*	7/22	3.0	1.15	4.80	20
7/0.036	7/20	4.5	1.30	6.10	29
7/0.036*	7/20	4.5	1.15	5.20	28
7/0.044	7/18	7.0	1.30	6.50	36
7/0.064	7/16	15.0	1.30	8.70	53
19/0.044	19/18	19.0	1.30	10.40	62
19/0.064	19/16	40.0	1.30	12.70	97
19/0.083	19/14	65.0	1.40	16.50	140
37/0.064	37/16	75.0	1.55	17.30	158
37/0.083	37/14	130.0	1.70	22.50	218
Supplied in 90 meters lengths in Polythene, Carton & Cloth Packing. Standard Colours : White, Red, Yellow, Blue, Black & Green.				* Sample card available on request	