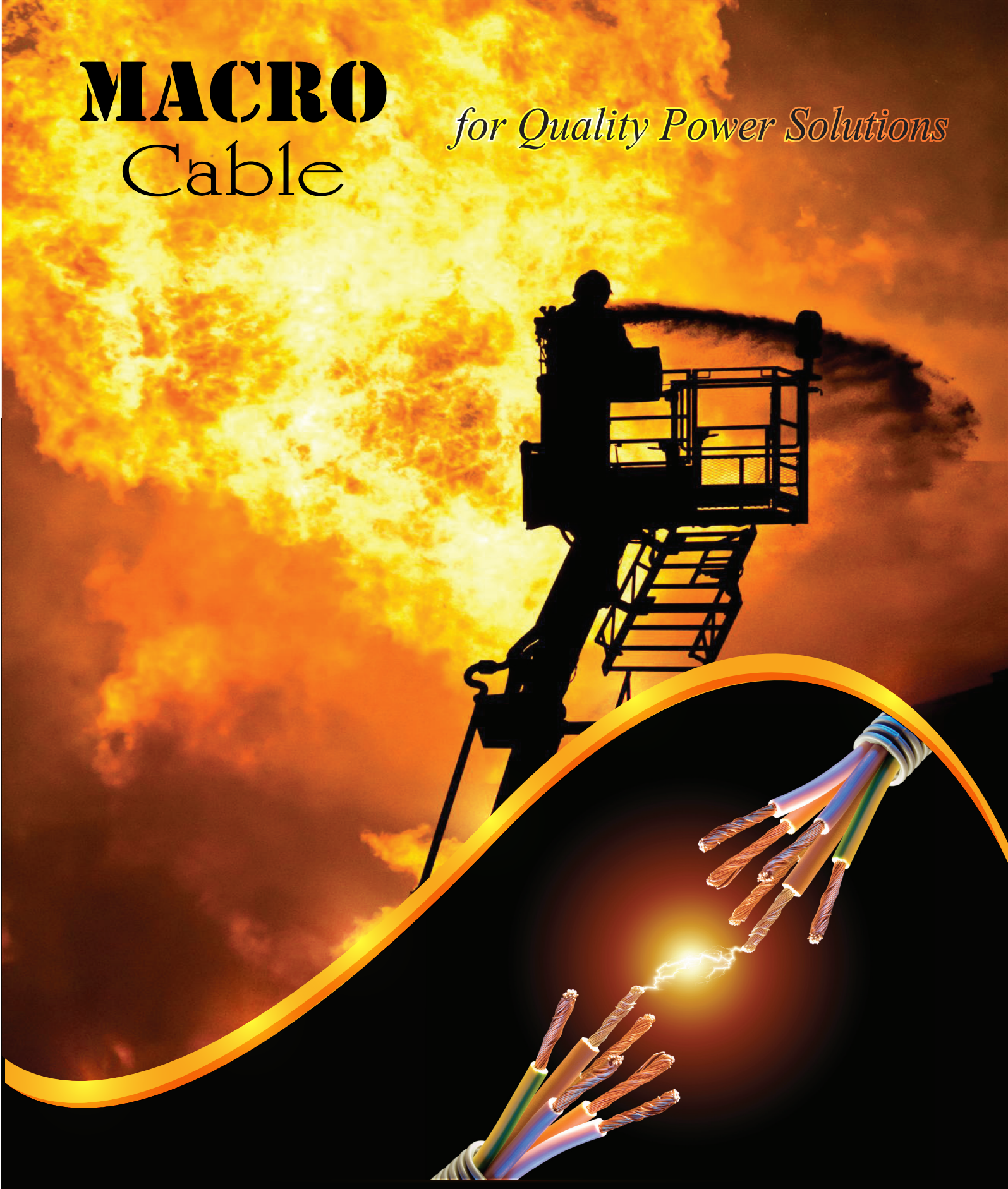
MACRO Cable

for Quality Power Solutions

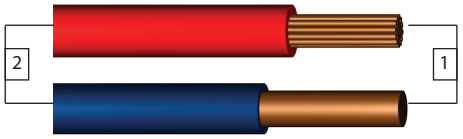


Fire Retardant Cables

to Protect Life & Property

TYPE - BYA : FR-Premium / FRLS-Premium

1. Copper Conductor
2. PVC Insulation
   FR-Premium/FRLS-Premium Grade



Technical Details
Type: BYA: FR-Premium/FRLS-Premium
Standard : BDS-900 and BS-6004
Operating Voltage 450/750 volts

Detail Description or Construction
Plain Annealed Copper Conductor
PVC Insulated (FR-Premium/FRLS-Premium Grade) Non-sheathed Single

Application
FR-Premium/FRLS-Premium Grade cables are ideal for both concealed and conduit wiring, in multi-storied high rise buildings such as hotels, banks, hospitals, factories, commercial and residential complexes, where a massive evacuation is a major challenge due to high concentration of habitat.

Installation
Suitable for install in conduits, raceways, ducts, ladders, walls, direct buried. It is recommended that the installation instructions indicated by the Local Electric Code, or any equivalent, be followed, so that the safeguarding of persons and the integrity of the product will not be affected by deficiencies in the installation.

Nominal Cross Sectional Area of Conductor	No. and Nominal Diameter of Wires	Maximum D.C. Resistance of Conductor at 20°c	Nominal Thickness of Insulation	Approx Overall Diameter	Approx Weight		Current Rating	
					FR-Premium Insulated Cable	FRLS-Premium Insulated Cable	Bunched and Enclosed in Conduits Two Cables Single Phase at 35°C	Clipped to a Surface or on a Cable Tray Bunched & Unenclosed 2 Cables Single Phase at 35°C
mm2	no./mm	ohm/km	mm	mm	kg/km	kg/km	amp	amp
1x0.5 re	1/0.80	36.00	0.6	2.10	10.50	10.54	7	9
1x0.75 re	1/0.98	24.50	0.6	2.35	12.50	12.54	9	12
1x1.0 re	1/1.13	18.10	0.7	2.60	15.50	15.55	13	16
1x1.0 rm	3/0.65	18.10	0.7	2.90	17.50	17.56	13	16
1x1.3 rm	3/0.74	14.03	0.7	3.10	20.50	20.56	15	19
1x1.5 re	1/1.38	12.10	0.7	2.90	21.50	21.56	16	20
1x1.5 rm	3/0.80	12.10	0.7	3.15	22.50	22.56	16	20
1x1.5 rm	7/0.52	12.10	0.7	3.15	22.50	22.56	16	20
1x2.0 rm	3/0.91	9.11	0.8	3.60	30.50	30.60	20	25
1x2.5 re	1/1.78	7.41	0.8	3.50	32.50	32.60	22	28
1x2.5 rm	7/0.67	7.41	0.8	3.70	34.50	34.58	22	28
1x3.0 rm	7/0.74	5.99	0.8	3.90	40.50	40.60	26	31
1x4.0 rm	7/0.85	4.61	0.8	4.30	50.50	50.60	30	37
1x4.5 rm	7/0.91	3.89	0.8	4.50	56.50	56.60	35	41
1x6.0 rm	7/1.05	3.08	0.8	4.95	71.50	71.65	38	47
1x7.0 rm	7/1.12	2.61	1.0	5.50	85.50	85.65	42	51
1x9.5 rm	7/1.32	1.86	1.0	6.15	114.50	114.70	51	62
1x10 rm	7/1.35	1.83	1.0	6.20	117.50	117.70	52	63
1x14.5rm	7/1.63	1.23	1.0	7.05	164.50	164.75	68	83
1x16 rm	7/1.71	1.15	1.0	7.35	178.50	179.50	70	85
1x16 rm	19/1.04	1.15	1.0	7.40	181.50	182.50	70	85
1x25 rm	7/2.14	0.727	1.2	9.00	282.50	283.50	91	110
1x25 rm	19/1.30	0.727	1.2	9.20	284.50	285.50	91	110
1x35 rm	19/1.53	0.524	1.2	10.30	375.00	376.00	112	136
1x50 rm	19/1.83	0.387	1.4	12.20	537.00	538.00	136	164
1x70 rm	19/2.17	0.268	1.4	14.00	740.00	741.00	173	207
1x95 rm	19/2.52	0.193	1.6	16.20	988.00	989.00	216	253
1x120 rm	37/2.03	0.153	1.6	17.60	1224.00	1226.00	244	291
1x150 rm	37/2.27	0.124	1.8	19.70	1531.00	1533.00	-	333

Features of FR-Premium/FRLS-Premium Cables

Safety from fire hazards depends much on quality of cables and workmanship in wiring. As per statistics of "Bangladesh Fire Service" more than 40% fire accidents in Bangladesh occurs due to electrical short circuit. Selection of quality cable is an important factor in building construction to minimize fire hazards specially for places where concentration of people are high like Shopping Mall, Garment Industries, High Rise Apartments, Hospitals and other public places. In order to select appropriate cable, the knowledge base on features on special fire retardant cable is essentially required.

Objective of FR-Premium/FRLS-Premium Cables

The primary objective of FR-Premium and FRLS-Premium cables is to restrain the propagation of fire and smoke, which endangers the people. Improved fire safety depends mainly on five important aspect of cable viz. rate of fire propagation, rate of heat released, intensity of flame, generation of smoke and contents of hazardous gas in the generated smoke. Fire in an enclosed space, trapped people are unable to find the exit due to emission of thick black smoke and lose consciousness due to the inhalation of toxic fumes before they can be evacuated to safety.

How it works

The insulation of FR (Fire Retardant) Premium & FRLS (Fire Retardant Low Smoke) Premium building wires are specially formulated to provide added safety features in regards to fire hazards & longevity of cables. Due to higher oxygen & temperature index, the crack resistance of Fire Retardant Cables is more effective in restraining of propagation of fire thus minimizing short circuit hazards. During a fire, ordinary PVC insulated wires give out thick black smoke and toxic fumes of hydrochloric acid gas. Because of its constituents of Insulation materials, both smoke generation and content of hazardous gas is less in FR-Premium and FRLS-Premium

FR-Premium Insulation

Cables Insulated with FR-Premium compound has special flame retardant features which has the capacity to absorb substantial heat and cutting off the supply of oxygen to the burning polymer, thus restricting the propagation of fire. This FR-Premium Compound has high oxygen and temperature index. These properties help in restricting the spread of fire even at very high temperatures.

FRLS-Premium Insulation

Cables Insulated with FRLS-Premium compound has special flame retardant, low smoke emitting and toxic fumes suppressing features, in addition to all other Fire Retardant features available in FR-Premium insulation. The advantages of low smoke and low acid gas generation are additional and critical features

Test	Function	Specification	Specified Values		
			Normal PVC	FR-Premium	FRLS-Premium
Critical Oxygen Index	To determine the percentage of oxygen required for supporting combustion of insulating material at Room Temperature	ASTM-D-2863 IS 10810 P-58	23%	> 29%	> 29%
Temperature Index	To determine at what temperature normal oxygen content of 21% in air will support combustion of insulating material	ASTM-D-2863 IS 10810 P-64	150°C	> 250°C	> 250°C
Acid Gas Generation	To ascertain the amount of Hydrochloric acid gas evolved from Insulation of wire under FIRE	IEC 60754-1 IS 10810 P-59	45-50%	< 30%	< 20%
Light Transmission (smoke density)	To determine the visibility (Light Transmission) when insulating material is on FIRE	ASTM - D2843	10-15%	35%	> 40%

SMS Genuinity Concept

100% Counterfeit Protection

BDS : 900

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MACRO

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