

Finolex



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**MORE THAN
100%
CONDUCTIVITY**



FLAMEGARD – Flame Retardant Low Smoke Cables



An IS / ISO 9001 Company

FLAMEGARD – FLAME RETARDANT LOW SMOKE ELECTRICAL WIRES

For the first time in India, Finolex brings 'Flamegard' – Flame Retardant Low Smoke (FRLS) electrical wires. Flamegard is manufactured by using electrolytic grade copper to ensure superior conductivity. Insulated with FRLS PVC compound formulated and manufactured in-house, Flamegard has special flame retardant, low smoke emitting and toxic fumes suppressing properties, in addition to the properties required by IS 694 : 1990.

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

Flamegard goes through rigorous tests to ensure the highest standards of quality. It is also backed by the Tariff Advisory Committee and Fire Insurance Approval.

For unique identification these wires are provided with an orange stripe, on request.

These wires are manufactured in our state-of-the-art manufacturing plants at Pimpri (Pune) and Verna (Goa).

FLAME RETARDANT v/s FRLS ELECTRICAL WIRES

Electrical safety is a function of five characteristics viz. smoke, hazardous gas generation, rate of heat release, flame spread and rate of burning. In case of fire in a closed 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.

The advantages of low smoke and low acid gas generation are additional and critical features available with Finolex FRLS Flamegard wires in comparison with FR (Flame Retardant) wires which do not provide these properties.



FLAMEGARD – SINGLE CORE, UNSHEATHED WIRES IN VOLTAGE GRADE 1100 V.

Nominal area of Copper Conductor Sq. mm	Number/ Nominal Diameter of strands mm	Thickness of Insulation (Nominal) mm	Approximate Overall Diameter of wire mm	Current carrying capacity# 2 wires, single phase		Resistance (Max.) per km. @20°C Ohms
				In conduit/ Trunking Amps	Unenclosed — clipped directly to a surface or on a cable tray Amps	
1.0	14/.3*	0.7	2.7	11	12	18.10
1.5	22/.3*	0.7	3.1	13	16	12.10
2.5	36/.3*	0.8	3.7	18	22	7.41
4.0	56/.3**	0.8	4.3	24	29	4.95
6.0	84/.3**	0.8	4.8	31	37	3.30

Standard Base Colours: Black, Red, Blue, Yellow and Green (for earthing), with orange stripe, on request. # As per IS 3961 (Part V) : 1968 Supplied in 90 metre lengths in attractive cartons. Conform to IS 694:1990. BIS licence nos. CM/L-0382242 & CM/L-7306463

*As per conductor Class 2 of IS 8130:1984

**As per conductor Class 5 of IS 8130:1984

THE FLAMEGARD ADVANTAGE

TEST	FUNCTION	SPECIFICATION	TYPICAL VALUES	
			FLAMEGARD	ORDINARY PVC INSULATED WIRES
Critical Oxygen Index	To determine the percentage of oxygen required for supporting combustion of insulating material at room temperature	ASTM-D 2863	More than 29%	23%
Temperature Index	To determine at what temperature normal oxygen content of 21% in air will support combustion of insulating material	ASTM-D 2863 & BICC Handbook Chapter No. 6	More than 250°C	150°C
Light Transmission (Smoke density)	To determine the visibility (Light transmission) when insulating material is on fire	ASTM-D 2843	More than 40%	10-15%
Acid Gas Generation	To ascertain the amount of Hydrochloric acid gas evolved from insulation of wire under fire	IEC 60754-1	Less than 20%	45-50%

Other tests carried out are : Flammability test as per IEC 60332-1