

FLAMEGARD



FLAME RETARDANT LOW SMOKE HALOGEN (FR-LSH) PVC INSULATED INDUSTRIAL CABLES

- ✓ High-Temperature Index
- ✓ Low Smoke Density
- ✓ Low Acid Gas Generation
- ✓ High Critical Oxygen Index



XCEEDS EXPECTATIONS

Finolex Cables Limited

Started in 1958, Finolex Cables Limited is India's largest and leading electrical and telecommunication cables manufacturer. Finolex Cables has always believed in enhancing capabilities and augmenting the product basket. In last few years, besides the cables business the company has forayed into new segments and added new products under the Finolex brand. The company offers Total Electrical Solutions with products like Electrical Wires, 3 Core Flat Cables, Communication Cables, Telecommunication Cables, Flexible Cables, Auto Cables, Conduits, Room Heaters, LED Lights, Switches, Switchgears, Fans, Irons and Water Heaters. Finolex Cables Limited has four manufacturing facilities viz. at Pimpri (Pune), Urse (near Pune), Verna (Goa) and Roorkee (Uttarakhand).

The company is known for their unmatched quality and safety standard which has made it amongst the most reliable brands of the country. Over the six-decade long journey, Finolex Cables has cemented its reputation as an innovative leader and quality manufacturer by continuously upgrading technology, modernizing manufacturing facilities and maintaining the highest standards in quality and service.

Flamegard - Flame Retardant Low Smoke Halogen (FR-LSH) PVC Insulated Industrial Cables

Finolex is the first company to have introduced the Flame Retardant Low Smoke Halogen (FR-LSH) electrical wires in India. The conductor, with its class 5 flexibility as per IS 8130, is manufactured by using the electrolytic grade copper that offers superior conductivity. It is insulated with FR-LSH grade PVC compound, that is formulated and manufactured in-house. In case of fire, Flamegard wires have a special flame retardant, low smoke emitting, and toxic fumes suppressing properties, with improved fire performance for FR-LSH as per IS 694: 2010, backed by the latest amendments.

During a fire, an ordinary PVC insulated wire gives out thick and black smoke along with toxic fumes of hydrochloric acid gas. This impairs visibility and hampers rescue operations. Flamegard wires, on the contrary, not only emit very little smoke and toxic gases but also retards the spread of fire. It is thus ideal for concealed and conduit wiring in multistoried high-rise buildings such as hotels, banks, hospitals, factories, commercial and residential complexes, etc. where the density of people is high. Flamegard wires go through rigorous tests to ensure the highest standards of quality. For unique identification, these wires are provided with an orange stripe. Flamegard wires are manufactured in our state-of-the-art manufacturing plants at Urse (Near Pune), Verna (Goa) and Roorkee (Uttarakhand).

| FLAMEGARD - SINGLE CORE, UNSHEATHED CABLES IN VOLTAGE GRADE 1100V | | | | | |
|---|-----------------------------------|-----------------------------|---|---|--|
| Nominal area of copper conductor Sq. mm | Thickness of insulation (Nom.) mm | Approx. overall diameter mm | Current carrying capacity # 2 wires, single phase | | Max. conductor resistance per km. @20° C Ohms |
| | | | In conduit / Trunking Amps | Unenclosed – clipped directly to a surface or on cable tray Amps | |
| 0.75 | 0.6 | 2.30 | 6 | 7 | 26.0 |
| 1.0 | 0.6 | 2.50 | 11 | 12 | 19.5 |
| 1.5 | 0.6 | 2.70 | 13 | 16 | 13.3 |
| 2.5 | 0.7 | 3.30 | 18 | 22 | 7.98 |
| 4.0 | 0.8 | 4.00 | 24 | 29 | 4.95 |
| 6.0 | 0.8 | 4.50 | 31 | 37 | 3.30 |

Standard Colours: Black, Red, Blue, Yellow and Green (for earthing). # As per IS 3961 (Part V) - 1968

| THE FLAMEGARD ADVANTAGE | | | | |
|-------------------------|--|---------------------------|----------------------------------|------------------------------|
| Test | Function | Test Method Specification | Typical Values | |
| | | | Flamegard Wires | Ordinary Pvc Insulated Wires |
| Critical Oxygen Index | To determine the percentage of oxygen required for supporting the combustion of insulating material at room temperature. | IS 10810 Part 58 | More than 29% | 23% |
| Temperature Index | To determine at what temperature the normal oxygen content of 21% in the air will support the combustion of the insulating material. | IS 10810 Part 64 | More than 250°C | 150°C |
| Acid Gas Generation | To ascertain the amount of hydrochloric acid gas evolved from the insulated wire under fire. | IS 10810 Part 59 | Less than 20% | 45-50% |
| Smoke Density Rating | To determine the density of smoke from the burning of the insulating material. | IS 13360 Part 6 / Sec 9 | Maximum smoke density rating 60% | More than 60% |

Also meets the requirements of the flammability test as per IS 694

Flame Retardant V/s FR-LSH Electrical Wires

Electrical safety is a function of five characteristics viz. smoke, hazardous gas generation, rate of heat release, flame spread and the rate of burning. In case of a fire in a closed space, trapped people are unable to find the exit due to the emission of thick black smoke and loose consciousness due to the inhalation of toxic fumes before they can be evacuated to safety.

The advantage of low smoke and low acid gas generation is the additional and critical feature that is available with the Finolex FR-LSH Flamegard wires in comparison with FR (Flame Retardant) wires which do not provide these properties.



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Finolex Cables Limited

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