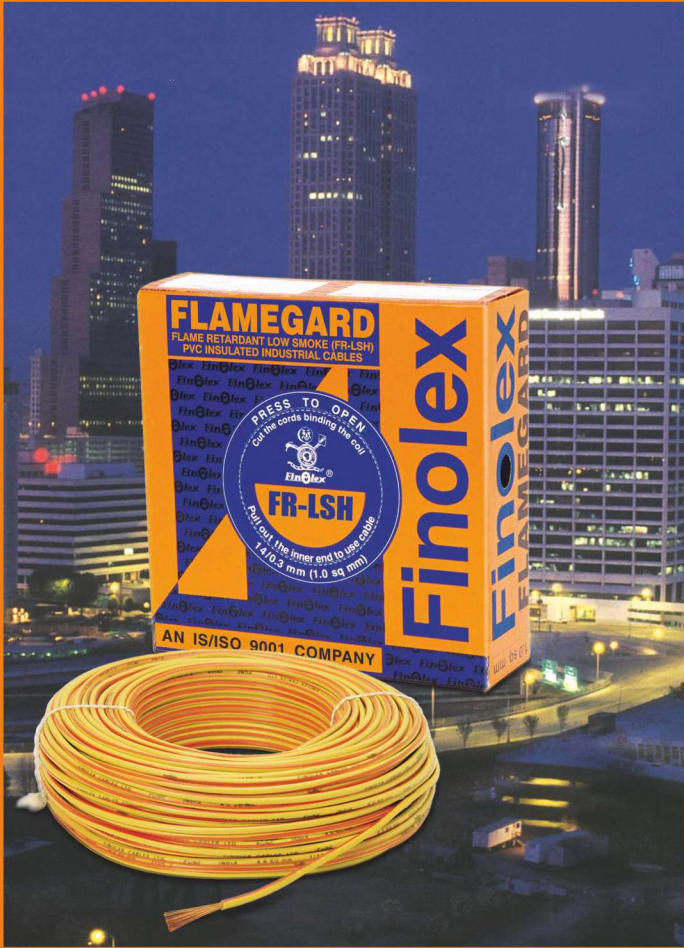


Finolex

Cables Limited

AN IS/ISO 9001 CERTIFIED COMPANY



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

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 cable 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, Copper Rods, CFLs, LED Lighting Range, Premium Electrical Switches & Switchgear and newly launched elegant looking domestic Fans. Finolex Cables Limited has four manufacturing facilities viz. at Pimpri (Pune), Urse (near Pune), Verna (Goa) and Roorkee (Uttarakhand).

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

Finolex is the first company to introduce Flame Retardant Low Smoke Halogen (FR-LSH) electrical wires in India. Flamegard is manufactured by using electrolytic grade copper for conductor to ensure superior conductivity. Insulated with FR-LSH Grade PVC compound formulated and manufactured in-house. In case of fire, Flamegard wires has special flame retardant, low smoke emitting and toxic fumes suppressing properties, with improved fire performance for FR-LSH as per IS 694: 2010 with latest amendments.

During 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 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, on request.

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



Flamegard- Single Core, Unsheathed Cables in Voltage grade 1100V

Nominal area of Conductor	Thickness of Insulation (Nom.)	Approx. Overall Diameter	Current carrying capacity#		Max. Conductor Resistance per km. at 20°C
			In Conduit/ Trunking	Unenclosed directly to surface or on cable tray	
Sq. mm.	mm.	mm.	Amps.	Amps.	Ohms.
0.75	0.6	2.30	6	7	26.0
1.0	0.6	2.52	11	12	19.5
1.5	0.6	2.72	13	16	13.3
2.5	0.7	3.32	18	22	7.98
4.0	0.8	4.04	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		

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 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 loose 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 FR-LSH Flamegard wires in comparison with FR (Flame Retardant) wires which do not provide these properties.

THE FLAMEGARD ADVANTAGE

TEST	FUNCTION	TEST METHOD SPECIFICATION	TYPICAL VALUES	
			FLAMEGARD WIRES	ORDINARY PVC INSULATED WIRES
Critical oxygen index	To determine percentage of oxygen required for supporting combustion of insulating material at room temperature	IS 10810 Part 58	More than 29%	23%
Temperature index	To determine at what temperature normal oxygen content of 21% in air will support combustion of 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 insulation of wire under fire	IS 10810 Part 59	Less than 20%	45-50%
Smoke density Rating	To determine density of smoke from the burning of insulating material	IS 13360	Maximum smoke density rating 60%	More than 60%
Also meets requirements of Flammability test as per IS 694				

IS:694



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Sample card available on request

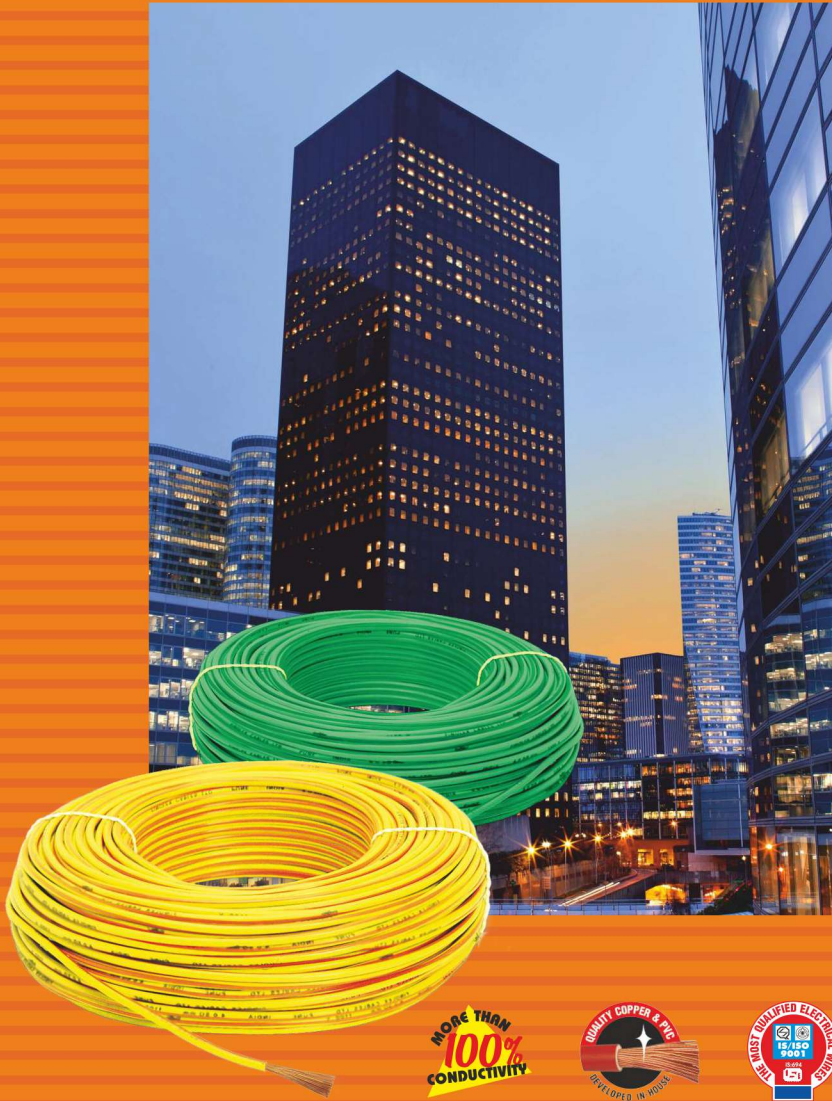


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In order to derive maximum benefit and utilisation of our products, we advise that these products are stored, installed and commissioned as per the norms prevailing in the place of installation.
When decommissioned, these should be disposed using appropriate methods/process specified in respective state / location of use so as not to affect the environment adversely.

Finolex
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180/270 Metres
Special Project Packaging



MORE THAN
100%
CONDUCTIVITY

QUALITY COPPER & PVC
DEVELOPED IN INDIA

THE LATEST QUALIFIED ELECTRICIAN
IS/ISO 9001
2015

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

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 cable 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, Copper Rods, CFLs, LED Lighting Range, Premium Electrical Switches and soon to be launched top-of-the-line Switchgears. Finolex Cables Limited has four manufacturing facilities viz. at Pimpri (Pune), Urse (near Pune), Verna (Goa) and Roorkee (Uttarakhand).

FLAMEGARD - FLAME RETARDANT LOW SMOKE HALOGEN (FR-LSH) PVC INSULATED INDUSTRIAL CABLES 180 / 270 M SPECIAL PROJECT PACKAGING

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

The need of the day is new circuitry and additional points to accommodate modern gadgets. Add to this, large scale projects undertaken nowadays. Since the size of constructions is not only larger but also more widespread, there is a surge in the need for electrical wires of longer lengths. Finolex is a major supplier of electrical wires to such big construction projects. Finolex electrical wires enjoy approvals from Architects, Electrical Contractors, Consultants and Builders, for whom the quality of electrical wires is of utmost importance.

Finolex now introduces two new longer packing lengths - 270 metre coils (triple coils for sizes 1.0, 1.5 and 2.5 sq.mm.) and 180 metre coils (double coils for sizes 4.0 and 6.0 sq.mm.) to suit the requirement of big construction projects.

FR-LSH PROPERTIES (Cables with improved fire performance)	
Test	Specified Values
Oxygen Index	Oxygen Index Minimum 29%
Temperature Index	Temperature Index Minimum 250°C at 21%
Test for Halogen Acid Gas Evolution	Hydrochloric acid gas released 20% maximum by weight
Smoke Density Rating	Max. 60%

Flamegard wires go through rigorous tests to ensure the highest standards of quality. 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 Urse (Near Pune), Verna (Goa) and Roorkee (Uttarakhand). **Flame Retardant Low Smoke Halogen (FR-LSH) PVC Insulated Industrial Cables with longer lengths has many advantages.**

ECONOMICAL

This longer length is more economical as less leftover pieces are generated from each coil after wiring thereby reducing scrap. The inventory of leftover coil length is also reduced to a great extent.

SAFE

In case of bigger construction projects, longer connections are required. With Flame Retardant Low Smoke Halogen (FR-LSH) PVC Insulated Industrial Cables, due to the longer length, the number of joints in electrical conduits are reduced, ensuring safe and jointless wiring in electrical installations. Hence, additional safety in wiring is ensured.

STORAGE SPACE SAVING

Since each coil is of longer length and more compact, more wires can be accommodated in the same storage area, thus making optimum use of available storage space.



FLAMEGARD - FLAME RETARDANT LOW SMOKE HALOGEN (FR-LSH) PVC INSULATED INDUSTRIAL CABLES SINGLE CORE, UNSHEATHED CABLES IN VOLTAGE GRADE 1100V

Nominal area of Conductor	Thickness of Insulation (Nom.)	Approx. Overall Diameter	Current carrying capacity# 2 cables, single phase		Max. Conductor Resistance per km. at 20°C
			In Conduit/Trunking	Unenclosed Clipped directly to surface or on cable tray	
Sq. mm.	mm.	mm.	Amps.	Amps.	Ohms.
1.0	0.6	2.52	11	12	19.5
1.5	0.6	2.72	13	16	13.3
2.5	0.7	3.32	18	22	7.98
4.0	0.8	4.04	24	29	4.95
6.0	0.8	4.50	31	37	3.30

Standard Colours: Black, Red, Blue, Yellow and Green (for Earthing). Supplied in 180/270 meter lengths
As per IS 3961 (Part V) : 1968

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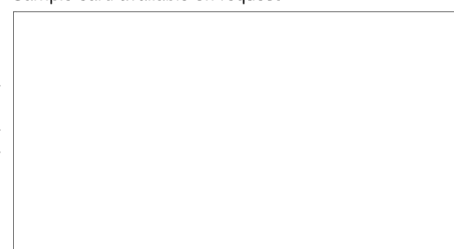
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Sample card available on request



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