Multi Core FR-LSH Cable: Features, Applications and Selection Guide



Electrical systems in commercial buildings, industrial facilities and machinery often require multiple electrical connections in one installation. Running separate wires for every connection can make wiring complicated and difficult to manage. A multi-core cable offers a practical solution by combining multiple insulated conductors within a single outer sheath.

A Multi Core FR-LSH Cable is designed to provide organised electrical connections while offering flame-retardant and low-smoke insulation properties. It is useful in applications where cable flexibility, installation convenience and electrical safety are important considerations.

What Is a Multi-Core Cable?

A multi-core cable contains two or more insulated conductors enclosed within a common outer sheath. Each conductor, or core, carries a separate electrical connection. The number of cores and conductor size depend on the intended application.

Unlike single-core cables, which are installed individually, multi-core cables bring several connections together in one cable assembly. This helps simplify cable routing, reduce wiring clutter and make installations easier to organise.

Multi-core cables are commonly considered for:

- Electrical control panels

- Industrial machinery
- Equipment wiring
- Commercial electrical installations
- Power and control connections

The cable must always be selected according to its electrical rating, core configuration and application requirements.

Understanding FR-LSH Cable Technology

FR-LSH stands for Flame Retardant Low Smoke and Halogen. It describes an insulation or sheathing material designed to resist flame propagation and produce lower smoke and halogen emissions under specified fire-test conditions.

These characteristics can be particularly important in enclosed buildings and workplaces where smoke can affect visibility and evacuation during a fire.

Here are some important characteristics:

Flame retardant: Helps slow the spread of flame along the cable under specified test conditions.

Low smoke: Designed to release less smoke during combustion compared with conventional materials.

Low halogen: Uses materials formulated to reduce the release of halogen-containing gases during combustion.

FR-LSH cables are not fireproof. Their performance depends on the cable construction, material composition and applicable test requirements.

Why Choose a Multi-Core Cable?

Choosing a multi-core cable can make an electrical installation more organised and manageable. Its construction offers several practical advantages.

1. Organised Cable Installation

Multiple conductors are contained within one outer sheath. This reduces the need to route several individual cables separately and helps maintain a cleaner wiring arrangement.

2. Easier Cable Routing

Flexible multi-core cables can be easier to route through suitable cable pathways and around installation bends. Their flexibility depends on conductor class, cable construction and minimum bending radius.

3. Better Connection Management

Each core can serve a designated electrical connection. This makes it easier for electricians and maintenance teams to identify and manage circuits when the cable is properly marked and documented.

4. Flame and Smoke Considerations

FR-LSH insulation is designed to limit flame spread and reduce smoke and halogen emissions under specified conditions. This makes it a relevant consideration when selecting cables for certain enclosed environments.

5. Compact Cable Arrangement

Combining multiple conductors into one cable can help reduce wiring clutter and simplify cable management in equipment and control installations.

Common Applications of Multi-Core FR-LSH Cables

Multi-core cables are used in different electrical environments depending on their voltage rating, number of cores, conductor size and construction.

Industrial equipment: Machinery may require several electrical connections for power, control and auxiliary functions. Multi-core cables can help organise these connections.

Control panels: Control systems often contain multiple circuits that need to be routed between components. Multi-core cables can support organised wiring where the cable specification is suitable.

Commercial buildings: Certain equipment and building systems require multiple conductors within a common cable assembly. The correct cable type should be selected based on the installation design.

Electrical appliances: Some equipment uses multi-core cables to connect internal components or external power and control circuits.

Manufacturing facilities: Production equipment and industrial systems may use multi-core cables for suitable power and control connections.

The cable should not be assumed suitable for every moving-machine, outdoor or high-load application. Environmental conditions and manufacturer specifications must be checked before installation.

Important Factors When Selecting a Multi-Core Cable

Selecting a cable based only on its appearance or price can lead to an unsuitable installation. Buyers and electrical professionals should consider the following factors.

Selection factor	What to check
Number of cores	Match the required electrical connections
Conductor material	Check the specified conductor material and quality
Conductor size	Select according to load and design calculations
Conductor class	Confirm the flexibility and construction requirements
Insulation	Check the FR-LSH material specification
Voltage rating	Ensure it matches the electrical system
Temperature rating	Consider the operating environment
Applicable standard	Verify the relevant product standard and certification

The current-carrying capacity of a cable is not determined by conductor size alone. Installation method, ambient temperature, grouping, insulation and voltage drop also influence cable selection.

A qualified electrical professional should confirm the final specification.

Multi-Core FR-LSH Cable vs Conventional Multi-Core Cable

Both cable types can contain multiple insulated conductors, but their insulation and sheathing characteristics may differ.

A conventional multi-core cable may use standard PVC compounds, depending on its design. An FR-LSH cable uses materials intended to provide flame-retardant and low-smoke, low-halogen characteristics.

The choice depends on the installation environment, fire-safety requirements, applicable standards and project specifications. FR-LSH should not automatically be treated as a replacement for every other cable category.

Kundan Cab Multi-Core FR-LSH Cable

Kundan Cab offers a Multi-Core FR-LSH cable designed for flexible industrial applications. Its product specification lists bright annealed bare copper conductors, FR-LSH PVC insulation and a round-sheathed construction.

The published technical features include:

- Electrolytic-grade annealed bare copper conductor
- 99.97% copper purity
- FR-LSH PVC insulation

- Class 5 copper conductor
- Conductor sizes from 0.5 sq mm to 6.0 sq mm
- 70°C continuous temperature withstand
- Voltage grade of 1,100V / 1.1 kV
- IS 694:2010 standard
- RoHS eco-compliance

These specifications help buyers understand the product's construction and intended operating range. The exact cable configuration should be confirmed with the manufacturer before placing an order.

Final Thoughts

A multi-core cable can simplify electrical installations by bringing several insulated conductors together within one outer sheath. When FR-LSH construction is required, buyers should also consider flame-retardant performance, smoke characteristics and the relevant product specifications.

Before choosing a cable, compare the conductor size, number of cores, insulation grade, voltage rating and installation conditions. A properly selected cable supports organised wiring and dependable electrical performance.

For projects requiring flexible multi-core cable solutions, reviewing the technical specifications of products such as Kundan Cab Multi-Core FR-LSH can help narrow down the available options.