

What Are the Benefits of LSZH Cable?

LSZH stands for low-smoke zero-halogen, describing a cable where the jacketing and insulation compounds are non-halogenated and flame retardant.

LSZH cable is used whenever fire safety is a priority, especially in enclosed spaces. During emergency fire situations, a low smoke factor helps maintain visibility and can reduce respiratory damage, while zero halogen material reduces toxic, halogenated gas production.



What is Low Smoke Cable and what is Halogen Free Cable?

When exposed to fire or high temperatures, Low Smoke Cable produces very little smoke or no smoke at all. The term Halogen Free Cable refers to cables constructed with jackets and insulation that do not emit toxic halogens when exposed to fire or high temperatures.

Halogens - What Are They and Why Are They Used for Flame Retardancy?

Halogens are elements that lack one electron to form a stable molecule, which makes them highly reactive and prone to combining with other elements to gain this missing electron. In water, free hydrogen will combine with halogens to make acids. The most common acid is Hydrochloric acid, a mixture of hydrogen and chlorine.

Hydrogen (present in water) can also be mixed with halogens to form acids. So why are halogens used for flame retardancy? Some polymers can be flame-retardant when Halogen atoms are introduced. A common example is polyvinyl chloride (PVC), which contains chlorine.

When burned the chlorine is released and displaces oxygen from the flame thus helping to smother out the fire. Some flame retardant polyethylenes have bromine, another halogen, added in order to assist with flame retardancy.

LSZH Applications

As LSZH cables produce very little smoke when they come in contact with a flame, they are often used indoors, especially in public areas such as train stations, hospitals, schools, high buildings, and commercial center where the protection of people and equipment from toxic and corrosive gases is critical. They are also used in poorly ventilated areas and hazardous environments.

[Data center products](#) contain large amounts of cables and are usually enclosed spaces with cooling systems that can potentially disperse combustion byproducts through a large area. Other materials burning may also contribute greater amounts of dangerous gases which will outweigh the effect of the cables.

There have been notable fires where cables burning contributed to corrosion, but in some instances, better fire response techniques could have prevented this damage.

Advantages for Using LSZH Cable

Reduces the Spread of Fire

When a low flame-retardant cable catches fire and starts to burn, the cable can spread the flames on to other cables and components close to it.

Also, if the cable runs between rooms or floors in your building, then the cable could help the fire spread. You might find it harder to contain the fire and to minimise the damage it causes.

If your cables have LSZH jackets, it will have more resistance to fire, and be better able to cope with a fire and the spread of fire.

Safer for the Health of People in the Event of Fire

In the event of a fire that affects the installed cables, people in the immediate vicinity can be seriously affected. In this event, they may not be able to quickly get out of harm's way, especially if a cable burns in a room without much ventilation.

As a lot of standard jacketed cables create halogens when they burn, they will produce a lot of dark, dense, and deadly smoke. They will also emit dangerous gases and fumes. The smoke and toxic gases can prevent people from exiting the area and can lead to an otherwise preventable loss of life.

LSZH cables don't create the same environmental dangers if they do catch fire. Although they emit some smoke, it is less dense and dark. People should be able to see through it. Plus, these cables don't contain or create halogens. So they won't produce toxic gases or fumes.

Key Differentiators for DINTEK LSZH Cable

DINTEK LSZH cable is available now at prices very close to PVC jacketed cable, making it now an obvious choice when installing data cables and [fiber optic cables](#).

In addition, our LSZH jacket is compliant to Euro CPR Dca level

Contact us today for more information at sales@dintek.com.tw

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