TRAMCO CORPORATION

Low Smoke Zero Halogen Jacket Compound (LSZH)

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Tramco offers a unique solution to fit many applications. It is a Low Smoke Zero Halogen (LSZH) alternative to traditional wire and cable jacket compounds. Cables with the LSZH jacket provide a useful alternative for industries that require restricted use of halogenated products. Materials that contain halogens emit potentially harmful and corrosive gases when they are burned. Tramco LSZH jacketed cables offer excellent flame resistance, low smoke properties, and reduced toxicity.

Halogen containing polymers, such as polyvinyl chloride (PVC) and fluorinated ethylene propylene (FEP) are widely used in wire and cable applications. PVC and FEP hold many benefits, the most notable being inherent flame retardancy. Some applications require a material where the unique properties of the LSZH, containing no halogens, is a better solution. Applications in which the LSZH jacket is most suitable include instrumentation and control and fiber optic cables, industrial data cables, shipboard cables, and circuit integrity cables.

In Europe and North America, halogen free wire and cable products are used extensively. The change to halogen-free is in response to environmental concerns posed by halogen-containing plastics. The popular concern arose of the possibility, when burned, of halogens harming the ozone layer. Additionally, the non-halogen containing plastics produce low amounts of smoke and acid gas at the time of burning which reduces toxicity and corrosive effects on people and equipment. In the United

States, most wire and cable products still contain halogens. The reason for allowing wire and cable products to contain halogens is because superior flame retardancy can be achieved through the use of halogens.

Tramco cables using the LSZH jacket material carry a CSA FT-4 and UL 1685 Vertical Tray Flame rating. These cables are also able to obtain the TC-LS (Tray Cable- Limited Smoke) rating. PVC is typically unable to achieve the TC-LS rating because of the high halogen content, which can make PVC a poor choice for areas with restricted ventilation.

LSZH jacket materials are more suitable than PVC in environments where nuclear radiation is present. It is also a more suitable choice than PVC when exposed to alcohol, and may be a good choice for direct burial applications.
Low smoke and acid gas properties make Tramco LSZH the ideal choice for industrial application in restricted areas, or where ventilation is limited. The Tramco LSZH jacket materials have many unique resistance properties, which make them a great choice for many industrial applications.

LSZH physical stability against changing temperature

PVC cables become loose and can be stretch and deformed in hot climate during summer time and becomes stiff and hard to bend in cold climate during the winter which causes problem substantial problem for system integrators working in their projects.

Conclusion

LSZH jacket material is capable of meeting the Limited Smoke requirements and is a halogen-free, low acid gas alternative to traditional wire and cable compounds and it is more stable physically. There are many areas where the LSZH jacket compound is a great choice, which include the fiber optic industry, mining industry, shipboard, circuit integrity, industrial data and industrial instrumentation and control applications.

Tramco has made the LSZH jacket as an standard in all its productions and advice to all distributors and assembly line branches to follow this company standard and use LSZH jacket cables in all their products.

References

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