



HALOGEN-FREE CABLES

In order to meet the latest demands for environmentally friendly cables, and those with increased safety in the event of a fire, Lapp Cable has continued to develop its range of halogen-free products. The emphasis is on quality and the materials used are tested to the highest standards to ensure their reliability.

As legislation increases, particularly throughout Europe, there are an increasing number of applications requiring halogen-free, or non-PVC materials, with no specific fire performance characteristics. These are generally specified by the local government or specifying authority, and the products are intended to be 'environmentally' halogen-free, thus preserving our natural habitat by the reduction of harmful pollutants created through the disposal of such products.

In the case of halogen-free and non-PVC based materials, Lapp Cable has produced a wide range of products from alternative insulating and sheathing compounds. These include; Silicone Rubber, Polyurethane and Cross-Linked Polyolefin's. In many cases, a standard product such as the Ölflex® 540 P or Silflex® SiHF can be purchased 'off the shelf', to satisfy the demands of this particular type of installation. These cable ranges can be supplied as single cores with solid or stranded conductors and as multi-cores with stranded conductors. Abrasion resistant versions for use as trailing leads on hand held equipment are also available, as well as tinned copper braid screened cables for areas sensitive to electromagnetic interference.

In addition to the 'environmental' implications of using a halogen-free cable, there is now also an established and growing awareness of the direct dangers posed by the contents of cables when they are exposed to fire. The selection of an appropriate cable may be determined by its performance in a number of tests and standards relating to the risks created when cables are ignited.

Cables can, depending upon their location and method of installation, affect a fire in a number of different ways. Firstly, the cables may propagate (spread) flames from one area to another as they quite often form distinct links between separate offices, floors within a building, or even in some cases between buildings themselves. Secondly, they can also emit, as part of the burning process, a large amount of smoke and toxic and corrosive gases.

The performance of cables in the event of a fire depends upon a number of things, such as; the composition of the original materials, the intake of gases, air flow and speed, as well as the actual temperature at the point of combustion. The resultant breakdown that occurs as a result of combustion will cause organic compounds to release gases and fumes, and it is for this reason that Low Smoke Zero Halogen products have been developed. These are not to be confused with cables which are required to remain operational during fire conditions, and are subject to further tests and standards, although by their nature, these cables may also be low in smoke and halogen-free.

Halogen-free cables must be free of chlorine, fluorine and bromine, and a number of tests have been introduced to assess the performance of such cables under fire conditions. The main areas of interest are flame retardance, flame propagation, toxic gas emission, corrosive gas emission and reduced smoke emission. The performance of cables under fire conditions in respect to these key areas are defined in a number of IEC standards, the outline of which is as follows:-

IEC 332-1 (VDE 0472 part 804 test method B) - Flame Retardant

The ability of a single cable to self-extinguish once the source of flame is removed.

IEC 332-3 (VDE 0472 part 804 test method C) - Flame Propagation

The ability of a bundle of vertically installed cables to self-extinguish once a source of flame is removed.

IEC 754-2 (VDE 0472 part 813) - Corrosive Gases

Limiting of corrosive gases which when mixed with moisture (from sprinklers or fire hoses) may cause wider spread damage.



IEC 1034 (VDE 0472 part 816) - Low Smoke Gas Emission

To calculate the reduction in light transmission caused by smoke emission in the event of a fire.

The Ölflex® 'H' series of halogen-free cables from Lapp, meets all of the requirements of the above standards and is available in oil-resistant versions - Ölflex® 100 H with color coded cores and Ölflex® 110H with number coded cores, and a non oil-resistant version - Ölflex® 115 H also with number coded cores. For applications requiring additional protection against electromagnetic interference, a copper braid screened version, Ölflex® 110 CH, is also available.

In addition to the cables available from Lapp, we are also able to offer glands, marking systems and protective guidance systems manufactured from halogen-free compounds. Whatever the project, whether it is for building services, industrial machinery or underground transportation systems, you can be assured that Lapp will have a low smoke zero halogen product to meet your demands.

The Lapp Group is a leading global manufacturer of control cables and accessories. Many of the Group's brands including ÖLFLEX® control cables, UNITRONIC® Data and Bus cables, SKINTOP® cable glands, EPIC® Cable Connectors, FLEXIMARK® Cable Marking Systems and HITRONIC® Fiber Optic Cables, have set industry and market standards.

