



# C-Lite FR

Meeting the requirements of the Marine & Offshore industry



## New High performance fire resistant cable, C-Lite FR

Tyco Electronics has developed a new halogen-free, light weight, small size, fire resistant cable to exceed the exacting fire resistant requirements of IEC 331 and meet the flame retardant requirements of IEC-332-3 (Cat. A), whilst maintaining significant size and weight savings over conventional materials.

### A WIDE VARIETY OF APPLICATIONS

Tyco Electronics is a major supplier in high performance cable systems to the Aerospace, Defense and Marine markets. Marine and Offshore applications include telecommunications, instrumentation and small power cables which represent approximately 80% of the total cable length on a platform.

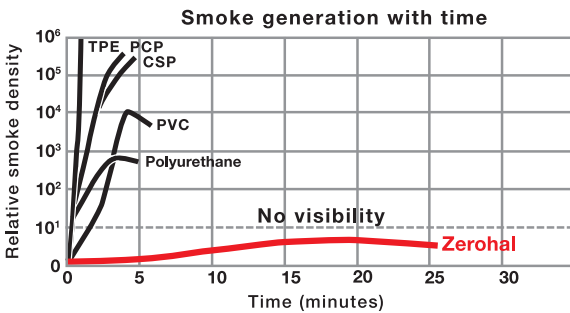
### EASY DESIGN

C-Lite FR cable consists of Raychem primary C-Lite FR Wire with a Zerohal jacket and can be used throughout Marine and Offshore platforms, simplifying the selection of cables for designers and electrical engineers.

sion damage to expensive and vital equipment, hindering evacuation and fire fighting and above all, endangering life.

### BENEFITS OF ZEROHAL CABLE

- Highly flame retarded
- Low smoke generation
- Low toxicity index
- Low acid gas generation
- Operating temperature -30°C up to +90°C
- Low water uptake
- Compatible with Raychem heat-shrink components - heat-shrink tubing, moulded parts and adhesives



The 10% visibility line on the graph indicates the density of smoke (measured in the NBS smoke chamber) which would cause human disorientation and confusion.

### TYCO ELECTRONICS ZEROHAL CABLES GENERATE LESS SMOKE

Zerohal is a halogen-free cable jacket material that combines the good mechanical, environmental and electrical features of some conventional cables with good limited fire hazard performance.

Until recently the flame retarding of cable jackets was achieved by the use of halogenated flame retardants which are effective fire suppressants, but which unfortunately produce dense smoke and corrosive acid gases when burned. These effects are highly undesirable in a fire, causing corro-

### TYCO ELECTRONICS TECHNOLOGY GIVES OUTSTANDING PERFORMANCE

Proven expertise in polymer and radiation chemistry together with precision extrusion and limited fire hazard technology has resulted in a range of high performance cables with thin wall insulation that can cope with the severest environmental conditions.

This results in a dramatic size and weight saving over conventional cables, yet having the same or better electrical and mechanical properties.

This means cables can operate over extended temperature ranges as radiation crosslinked materials do not melt. In the event of a fire, crucial power and signal cables will still be operational including emergency lighting, safety monitoring and vital communications systems.

### BENEFITS

- Small size
- Lightweight
- Tough flexible constructions
- Controlled dimensions
- Resistant to: hot diesel fuels, oils, grease, drilling fluids, and mechanical abuse



## C-Lite FR Smaller cables, larger benefits, less cost

### DESIGNING PLATFORMS

Platforms are becoming smaller and more sophisticated with an ever increasing complexity of electronic systems, sensors, communications and safety equipment. More cables are therefore required to fit into smaller spaces. C-Lite FR small size cable can be a distinct advantage over conventional cables.

### SPACE SAVING WHEN REFURBISHING PLATFORMS

As technology advances, engineers are called upon to update and modify existing systems or fit completely new ones. To provide all the necessary interconnections, hundreds of multicore cables have to run throughout the platform.

These, along with cables for power, lighting and instrumentation, create a severe space problem on cable trays, cable transits through fire walls, marshalling boxes and gland plates. Using C-Lite FR cable installation is easier because the cable

is smaller, lighter, more flexible and has a reduced bend radius than conventional cables.

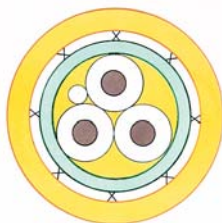
#### Benefits of using C-Lite FR cable

- Cable can be used throughout the platform
- Smaller tray work/more cable per tray
- Lighter supports
- Smaller cable glands/gland plate optimisation
- More cables through transit blocks
- Time saving on installation
- Less cable accessories
- Less inventory
- Lower total installed cost

### LOWER TOTAL INSTALLED COST ON NEW PLATFORMS

Weight is one of the key factors to consider when designing new platforms.

Reduced size and weight in cables allow for smaller and lighter gauge racking needing less support. Also, smaller transits and cable glands reduce material and installation costs. C-Lite FR cable is easier to specify as it meets all the industry's essential requirements in one cable.

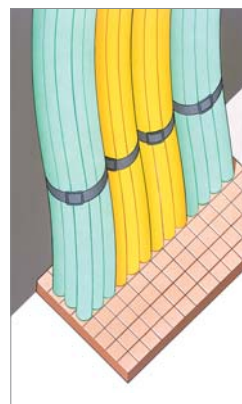


Traditional Fire Resistant Cable

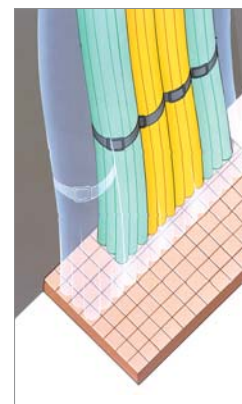


C-Lite FR Cable

The illustration above shows a Tyco Electronics light weight cable on the right compared with a traditional offshore cable having the same cross-sectional area of copper. Both cables have the same number of conductors. A saving in size has been made on the insulation material, but without sacrificing the mechanical or electrical characteristics of the cable.



Transits



Over 40% savings in area



Cable trays



A typical saving in the cable tray volume can exceed 40%

With more than 475 km of cabling on a typical large platform, there are potential savings of up to 105 tons topside by using C-Lite throughout the platform. The total cabling, system together with smaller cable glands, trays and transits can lead to overall weight savings of approximately 165 tons and cost savings in excess of 15%.

## FOR MORE INFORMATION

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