



**Fire, flame, smoke and corrosion test methods**

**Cables' integrity during a fire**

**Fire resistance**

During a fire it is vital that emergency circuits should continue to function. This could be communication circuits, emergency lights, alarms and fire pumps, etc.

On oil rigs and platforms and other confined areas this could be a matter of life and death.

**Cables that will function in a fire ensuring circuit integrity**

**BFOU / BFCU / BU cables**

These cable types have Mica tape applied around the conductors which is then insulated with heat-resistant XLPE and have an outer sheathing of a halogen-free thermoplastic material. BXOI cables have between the insulation and outer sheathing a metal braid armour.

**Test method**

IEC 60331 750°C 3 hours.  
As an option we offer cables to 1000°C for 3 hours with an upgraded IEC 60331 test.

**Flame propagation**

Flame retardant cables must be self-extinguishing when the source of flames dies out.

**Flame retardant cables with built-in self-extinguishing properties**

These cables have sheathing and bedding with hydrated flame retardants that provide resistance to ignition and flame spread.

**Test methods**

IEC 60332 - 1  
IEC 60332 - 3, category A, B and C.

IEC 60332 - 3 Category	Amount of combustible material in litres per metre of cable ladder	Burning time Minutes
A	7	40
B	3,5	40
C	1,5	20

**Smoke risk to personnel**

Smoke evolution is of major significance in situations where escape routes are limited in the event of fire.

**Cables having exceptionally low smoke emission**

All offshore topside cables, halogen-free shipboard cables and fire resistant cables listed in this catalogue, have sheathing and insulation based on halogen-free materials.

To minimise the risk of smoke and toxic gases, each component from conductor tapes to outer sheath has been taken into consideration.



**Test method**

3 m Cube Test for the measurement of smoke density.  
IEC 61034 - 2

**Damage to expensive equipment**

**Corrosion**

Halogen-free cables will not cause corrosion to metals.

When halogen - containing cables burn, the gases generated in combustion of the sheathing and insulation may cause corrosion.

The secondary effects after a fire are often many times larger than the damages caused by the fire itself.

**Test method**

IEC 60754 - 1  
IEC 60754 - 2