

# Fire Performance Cables



## **FIREGUARD**

**Flame Retardant Cables**



## **FIREFUME**

**Flame Retardant  
Low Smoke Cables**



## **FIRETOX**

**Flame Retardant Low  
Smoke Halogen Free  
Cables**



## **FIREFLIX**

**Fire Resistant Low  
Smoke Halogen Free  
Cables**

## **FIREGUARD**

### **Applications**

These cables are designed for use in fire situations where the spread of flames along a cable route need to be retarded. Fireguard cables are designed to reduce the spread of fire along a cable duct or tray. The outer sheath of the cables is flame retardant PVC. These cables are slightly more expensive than normal PVC cables and are widely used without extra costing.

### **Construction**

Conductors : Stranded compacted annealed copper to IEC 60228 or BS 6360

Insulation : PVC/XLPE

Filler ( where applicable ) : Polypropylene yarn

Binder Tape ( where applicable ) : Polyester mylar tape

Bedding ( armoured cable ) : Flame retardant PVC

Armour ( armoured cable ) : Galvanised steel wire armoured ( multicore ) or Aluminium wire armoured ( single core )

Oversheath : Flame retardant PVC

Rated Voltage : 300/500V, 450/750V, 600/1000V

Range of Sizes: 1.5mm<sup>2</sup> to 1000mm<sup>2</sup>

Number of Cores: 1, 2, 3, 4, 7, 12, 19, 27, 37

Core Identification: Single Core; Natural ( Orange for nonsheathed )

Two Core: Red & Black

Three Core: Red, Yellow & Blue

Four Core: Red, Yellow, Blue & Black

Reference Standards: BS 6004 ( single core unsheathed cable )

BS 6346 ( PVC insulated and PVC sheathed cable )

BS 5467 ( XLPE insulated and PVC sheathed armoured cable )

### **Fire Performance**

Flame Retardancy: Pass IEC 60332 Part 1 or BS 4066 Part 1

Flame Propagation: Pass IEC 60332 Part 3 or BS 4066 Part 3

#### **Highlights of Fireguard**

-Fully complying with BS 5467 or BS 6346

-Reduced flame propagation to IEC 60332 Part 3C ( BS 4066 Part 3C ) or IEC 60332 Part 3A ( BS 4066 Part 3A )  
(with special sheath material)

-Fireguard cables will retard the flame propagation.

-Fireguard cables are not designed for maintaining circuit integrity, and will give off large quantities of toxic gas and smoke.

## Fire Performance Cables



### FIREGUARD

Flame Retardant Cables



### FIREFUME

Flame Retardant Low Smoke Cables



### FIRETOX

Flame Retardant Low Smoke Halogen Free Cables



### FIREFLIX

Fire Resistant Low Smoke Halogen Free Cables

## FIREFUME

### Applications

These cables are designed for use in surface mounted or embedded conduits, or closed systems, for areas in which low emission of smoke and acid gas have to be guaranteed in case of fire. FIREFUME cables are designed to reduce the spread of fire along a cable conduit. The outer sheath of the cables is flame retardant low halogen PVC. These cables are slightly more expensive than flame retardant PVC cables and cheaper than LSHF cables.

### Construction

Conductors : Stranded compacted annealed copper to IEC 60228 or BS 6360

Insulation : XLPE ( single core unsheathed conduit wires. )

PVC/XLPE ( single core & multicore sheathed cables. )

Filler ( where applicable ) : Polypropylene yarn

Binder Tape ( where applicable ) : Polyester mylar tape

Bedding ( armoured cable ) : Flame retardant low halogen PVC

Armour ( armoured cable ) : Galvanised steel wire armoured ( multicore ) or Aluminium wire armoured ( single core )

Oversheath : Flame retardant low halogen PVC

Rated Voltage : 300/500V, 450/750V, 600/1000V

Range of Sizes: 1.5mm<sup>2</sup> to 1000mm<sup>2</sup>

Number of Cores: 1, 2, 3, 4, 7, 12, 19, 27, 37

Core Identification: Single Core: Natural ( Orange for nonsheathed )

Two Core: Red & Black

Three Core: Red, Yellow & Blue

Four Core: Red, Yellow, Blue & Black

Reference Standards: BS 7211 ( single core unsheathed cable )

BS 6346 ( PVC insulated and PVC sheathed cable )

BS 5467 ( XLPE insulated and PVC sheathed armoured cable )

BS 6724 ( XLPE insulated and LSHF sheathed armoured cable )

### Fire Performance

Flame Retardancy: Pass IEC 60332 Part 1 or BS 4066 Part 1

Flame Propagation: Pass IEC 60332 Part 3 or BS 4066 Part 3

Corrosive Acid Gas Emission: 5% - 15% to BS 6425 or IEC 60754-1

### Highlights of FIREFUME

-Fully complying with BS 7211, BS 5467 or BS 6346 or BS 6724

-Reduced flame propagation to IEC 60332 Part 3C ( BS 4066 Part 3C ) or IEC 60332 Part 3A ( BS 4066 Part 3A )  
( with special sheath material )

-Low emissions of smoke when tested according to BS 7622 Part 2 or IEC 61034.

-Low emissions of acid gas when tested according to BS 6425 Part 2 or IEC 60754-2;

-Low halogen content (15%) when tested according to IEC 60754-1

# Fire Performance Cables



## FIREGUARD

**Flame Retardant Cables**



## FIREFUME

**Flame Retardant  
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## FIRETOX

**Flame Retardant Low  
Smoke Halogen Free  
Cables**



## FIREFLIX

**Fire Resistant Low  
Smoke Halogen Free  
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## FIRETOX

### Applications

These cables are designed for fixed installation in dry premises for situations in which low emission of smoke and acid gases have to be guaranteed in the case of fire. FIRETOX cables are designed to reduce flame propagation and smoke in those instances where a fire may develop. FIRETOX are highly recommended in the following areas:

- 1) Where large numbers of people may be present ( eg. Cinemas, shopping centres, theatres )
- 2) Where people are confined due to limited access and escape may be difficult during fire. ( eg. Underground railways, high rise buildings, hospitals, tunnels etc. )
- 3) Where expensive equipment has been installed ( eg. Computer rooms, data centres, power stations, switching centre etc )

### Construction

Conductors : Stranded compacted annealed copper to IEC 60228 or BS 6360

Insulation : XLPE complying to BS 7211 ( single core unsheathed conduit wires. ) and BS 6724 ( multicore armoured cables. )

Filler ( where applicable ) : Polypropylene yarn

Binder Tape ( where applicable ) : Polyester mylar tape

Bedding ( armoured cable ) : Low smoke halogen free ( LSHF ) compound

Armour ( armoured cable ) : Galvanised steel wire armoured ( multicore ) or Aluminium wire armoured ( single core )

Oversheath : Low smoke halogen free ( LSHF ) compound

Rated Voltage : 300/500V, 450/750V, 600/1000V

Range of Sizes: 1.5mm<sup>2</sup> to 1000mm<sup>2</sup>

Number of Cores: 1, 2, 3, 4, 7, 12, 19, 27, 37

Core Identification: Single Core: Natural ( Orange for nonsheathed )

Two Core: Red & Black

Three Core: Red, Yellow & Blue

Four Core: Red, Yellow, Blue & Black

Reference Standards: BS 7211 ( single core unsheathed cable )

BS 6724 ( multicore armoured cable )

### Fire Performance

Flame Retardancy: Pass IEC 60332 Part 1 or BS 4066 Part 1

Flame Propagation: Pass IEC 60332 Part 3 or BS 4066 Part 3

Corrosive Acid Gas Emission: < 0.5% to BS 6425 or IEC 60754-1

Toxicity: NES 713

Smoke Emissions: Pass IEC 61034

### Highlights of FIRETOX

-Fully complying with BS 7211 or BS 6724

-Reduced flame propagation to IEC 60332 Part 3C ( BS 4066 Part 3C ) or IEC 60332 Part 3A ( BS 4066 Part 3A )  
( with special sheath material )

-Low emissions of smoke when tested according to BS 7622 Part 2 or IEC 61034

-Low emissions of acid gas when tested according to BS 6425 Part 2 or IEC 60754-2;

-Very low halogen content (0.5%) when tested according to IEC 60754-1

## Fire Performance Cables



### FIREGUARD

Flame Retardant Cables



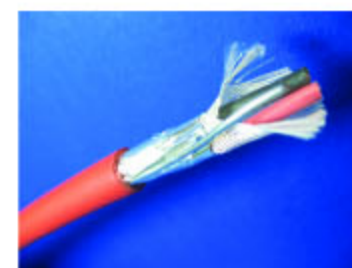
### FIREFUME

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### FIREFLIX

Fire Resistant Low  
Smoke Halogen Free  
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## FIREFLIX

### Applications

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits may be damaged and the associated lighting, power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans. FIREFLIX cables are designed to maintain circuit integrity of these vital emergency services during the fire situation. The individual conductors are wrapped with a layer of fire resisting mica/glass tape which prevents phase to phase and phase to earth contact even after the insulation has been burnt away.

### Construction

Conductors : Plain annealed stranded copper to IEC 60228 or BS 6360

Fire Barrier : Mica/glass tape

Insulation : XLPE

Filler ( where applicable ) : Polypropylene yarn

Binder Tape ( where applicable ) : Polyester mylar tape

Bedding ( armoured cable ) : Low smoke halogen free (LSHF) compound

Armour ( armoured cable ) : Galvanised steel wire armoured (multicore) or Aluminium wire armoured (single core)

Oversheath : Low smoke halogen free ( LSHF ) compound

Rated Voltage : 300/500V, 450/750V, 600/1000V

Range of Sizes: 1.5mm<sup>2</sup> to 1000mm<sup>2</sup>

Number of Cores: 1, 2, 3, 4, 7, 12, 19, 27, 37

Core Identification:

Single Core: Natural (Orange for nonsheathed )

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Four Core: Red, Yellow Blue & Black

Reference Standards: BS 7211 ( single core unsheathed )  
BS 6724 ( multicore armoured cables )

### Fire Performance

Flame Retardancy: Pass IEC 60332 Part 1 or BS 4066 Part 1

Flame Propagation: Pass IEC 60332 Part 3 or BS 4066 Part 3

Corrosive Acid Gas Emission: < 0.5% to BS 6425 or IEC 60754-1

Toxicity: NES 713

Smoke Emissions: Pass IEC 61034

### Circuit Integrity Performance:

Resistance to Fire Alone: IEC 60331-3 hours at 750 °C

BS 6387 Cat C-3 hours at 950 °C

Resistance to Fire with Water Spray:

BS 6387 Cat W-15 mins at 650°C

Plus 15 mins with water spray

Resistance to Fire with mechanical shock:

BS 6387 Cat Z-15 mins at 950°C

Plus 15 mins with water spray & mechanical shock

### Highlights of FIREFLIX

-Surpasses the requirements of BS 6387 CWZ or IEC 60331

-Reduced flame propagation to IEC 60332 Part 3C ( BS 4066 Part 3C ) or IEC 60332 Part 3A ( BS 4066 Part 3A ) ( with special sheath material )

-Low emissions of smoke when tested according to BS 7622 Part 2 or IEC 61034.

-Low emissions of acid gas when tested according to BS 6425 Part 2 or IEC 60754-2;

-Very low halogen content (0.5%) when tested according to IEC 60754-1

## **FIRE PERFORMANCE CABLES**



**FIREGUARD**



**FIREFUME**



**FIRETOX**



**FIREFLIX**

### **ORDERING CODE**

**CCA – BCDE-FG-HI**

#### **A - Cable Series**

FGD = FIREGUARD; FFE = FIREFUME;  
FTX = FIRETOX; FFX = FIREFLIX

#### **B - Insulation**

XP = XLPE; Y = PVC; 2Y = PE; H = LSHF

#### **C - Voltage Rating**

300 = 300/500V; 450 = 450/750V; 600 = 600/1000V; 1900 = 1900/3300V

#### **D - Core Construction**

S = Single Core with Sheathing; SU = Single Core Unsheathed; M = Multicore

#### **E - Armouring**

U = No Armouring; A = Armouring

#### **F - Number of Cores**

2C = 2 Cores; 3C = 3 Cores; 4C = 4 Cores etc.

#### **G - Cross Section Area**

1.5 = 1.5mm<sup>2</sup>; 2.5 = 2.5mm<sup>2</sup> etc.

#### **H - Fire Propagation Level ( Option )**

1 = IEC 60332-1; 3C = IEC 60332-3C; 3A = IEC 60332-3A

#### **I - Fire Resistant Level ( Option )**

331 = IEC 60331; 6387CWZ = BS 6387 CWZ

#### **For Example**

CCFGD-XP300SA-4C25-3C

Fireguard Series, XLPE Insulated, 300/500V, Single Core Armoured, 4 Cores,  
25 mm<sup>2</sup>, fire propagation to IEC 60332-3C.