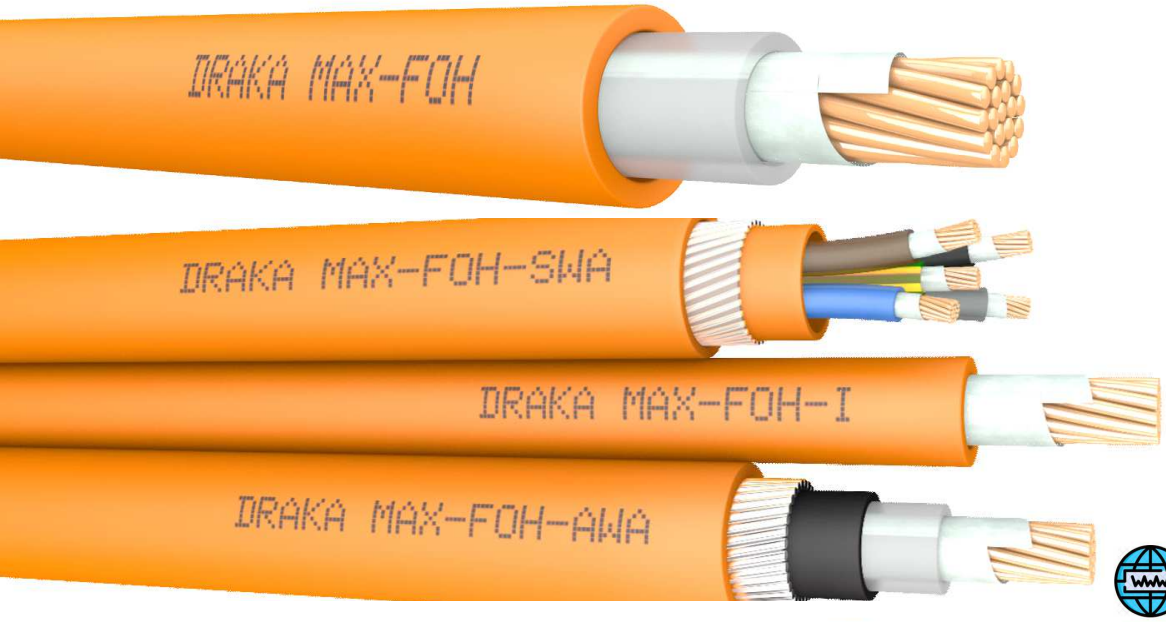
FIRETRADE
ENGINEERING PUBLIC COMPANY LIMITED

# Fire Performance Cables

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# INTRODUCTION

Major accidents which have resulted in the deaths of many innocent people, have taught us that the safety of the occupants and users in public, commercial and industrial environments is of paramount importance. Every possible safety feature designed to prevent and protect against loss of life and damage to property should be specified and installed.

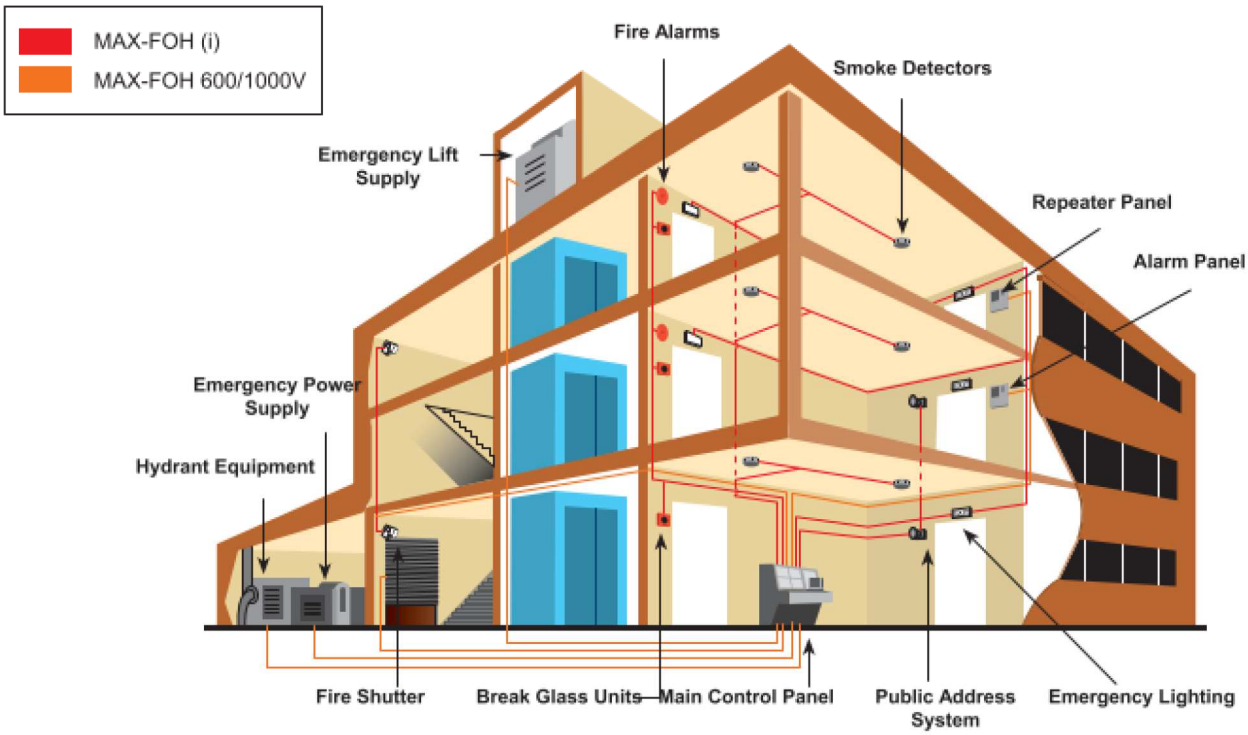
One such safety feature is the use of fire performance cables for critical safety systems, including fire alarms, emergency lighting, PA systems, CCTV systems, emergency power supplies and smoke & fire shutters.

The correct selection and installation of these “life saving” cables helps ensure that in the event of an emergency, vital safety systems will continue to operate to assist an orderly evacuation of the premises and to aid the emergency services in gaining quick and effective entry to deal with the hazard.

Today’s modern architect is constantly aiming to build higher and larger structures, incorporating complex interiors within which we can both live and work. The construction of these new “super” structures inevitably means accommodating more people, with the added responsibility for their safety and well being resting with the specifiers and consultants responsible for the project.

At Draka, we understand what is required from a fire performance cable and we appreciate the pressures faced by specifiers and consultants in selecting the correct cable form the range available. For nearly twenty years, Draka special cables have been servicing the needs of the market by designing and manufacturing the widest range of fire performance cables available today.

# APPLICATION

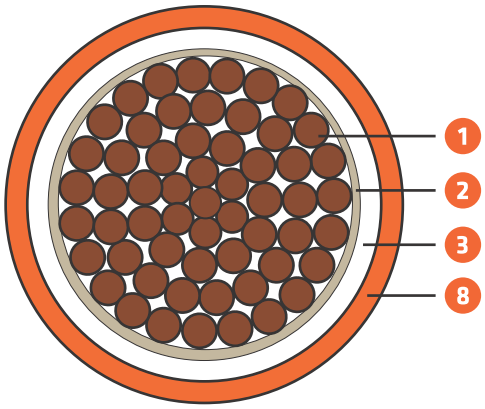



MAX-FOH cables are specially designed to facilitate a quick and orderly evacuation of the building occupants in the event of an emergency. Purpose-designed to maintain circuit integrity within a system of critical safety devices from emergency power supply to fire alarms, MAX-FOH cables are a vital component of building safety.

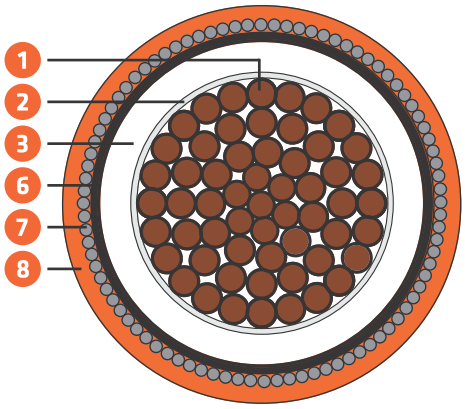
The special characteristics of the MAX-FOH range make it suitable for an almost infinite number of applications and environments.

The diagram below illustrates common safety systems in a building which should be fitted with MAX-FOH cables.

# Construction of Cable



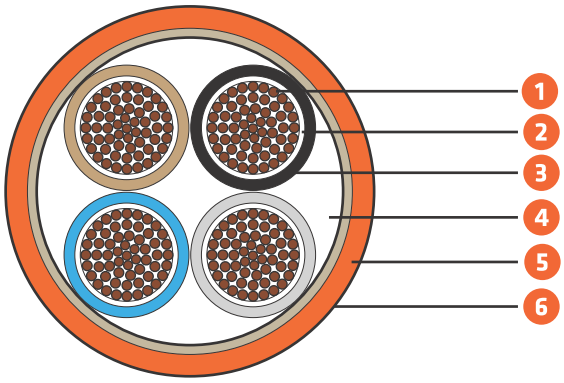

SINGLE CORE, UNARMOURED



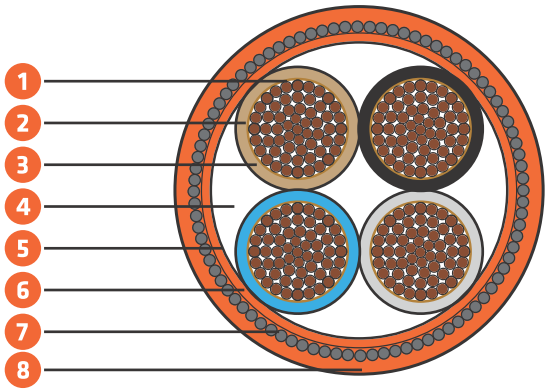

SINGLE CORE, ARMOURED

| # | 1 | 2 | 3 | 4* | 5* | 6* | 7* | 8* |
|---|---|---|---|---|---|---|---|---|
| **Construction** | Conductor | Fire Barrier | Insulation | Filler | Binder Tape | Bedding | Armour | Sheath |
| **Material** | Stranded Annealed Copper | Mica Tape | Low Smoke Halogen-Free (LSHF) / Crosslinked Polyethylene (XLPE) compound | LSHF or Polypropylene Split Yarn | Polyester | LSHF compound | Galvanised Steel or Aluminium Wire (Braiding Optional) | LSHF compound |

*optional to cable construction

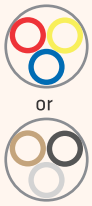
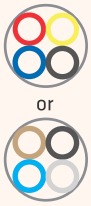
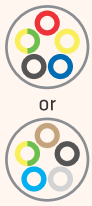



MULTI-CORE, UNARMOURED




MULTI-CORE, ARMOURED

# Core Identification

| Core Numbers | 1 | 2 | 3 | 4 | 5 | 6 and above |
|---|---|---|---|---|---|---|
| **Colour configurations** | White | or  |  or  |  or  |  or  | Black with white numbers |

These are standard configurations. Customisations to any component is available upon request.

# Standards and Approvals

Draka cables are certified by multiple internationally recognised cable standards.
Here are the listed IEC, SS and BS standards categorised by type of fire test.

## Fire Resistance Tests

These tests are used to determine if a cable is capable of maintaining circuit integrity under:

**Fire**

**Fire with water**

**Fire with mechanical shock**

These tests use a number of alternative time and temperature parameters and depending on the level achieved by the cable, a corresponding letter is assigned to denote the category that the cable passes.

| Standard | Part / Category | Resistance to | Temperature | Time |
|---|---|---|---|---|
| **IEC 60331** | 60331-21 | Fire | 750°C | At least 90 mins |
| | 60331-1 | Fire | 850°C | At least 120 mins |
| **BS 6387 : 2013** | Protocol C | Fire | 950°C | For 3 hours |
| | Protocol W | Fire & Water | 650°C | Fire for 15 minutes Fire and water for 15 minutes |
| | Protocol Z | Fire with Mechanical Shock | 950°C | For 15 minutes, with 30 second hammer blows |
| **SS299 : Part 1** | Category C | Fire | 950°C | For 3 hours |
| | Category W | Fire & Water | 650°C | Fire for 15 minutes Fire and water for 15 minutes |
| | Category Z | Fire with Mechanical Shock | 950°C | For 15 minutes, with 30 second hammer blows |

## Flame Propagation Tests

This test defines the ability of bunched cables to restrict vertical flame propagation when laid in trunking, cable trays or conduit. The test comprises of 4 categories each determined by the amount of combustible material in a 1 metre sample.

The cable samples are placed vertically next to one another on a vertical ladder where they are exposed to fire from a ribbon gas burner for the pre-arranged times.

After burning, the samples are cleaned to examine for char (the crumbling) on the cable surface. The charring should not have reached a height exceeding 2.5m above the bottom edge of the burner.

| Standard | Single / Bunched | Standard & Category | Amount of Combustible Material in 1 metre Sample in Litres | Time of Exposure in Minutes |
|---|---|---|---|---|
| **IEC** | Single | 60332-1-2 | - | - |
| | Bunched | 60332-3-22 Category A | 7.0 | 40 |
| | Bunched | 60332-3-23 Category B | 3.5 | 40 |
| | Bunched | 60332-3-24 Category C | 1.5 | 20 |
| | Bunched | 60332-3-25 Category D | 0.5 | 20 |
| **BS** | Single | EN 60332-1-2 | - | - |
| | Bunched | EN 60332-3-22 Category A | 7.0 | 40 |
| | Bunched | EN 60332-3-23 Category B | 3.5 | 40 |
| | Bunched | EN 60332-3-24 Category C | 1.5 | 20 |
| | Bunched | EN 60332-3-25 Category D | 0.5 | 20 |

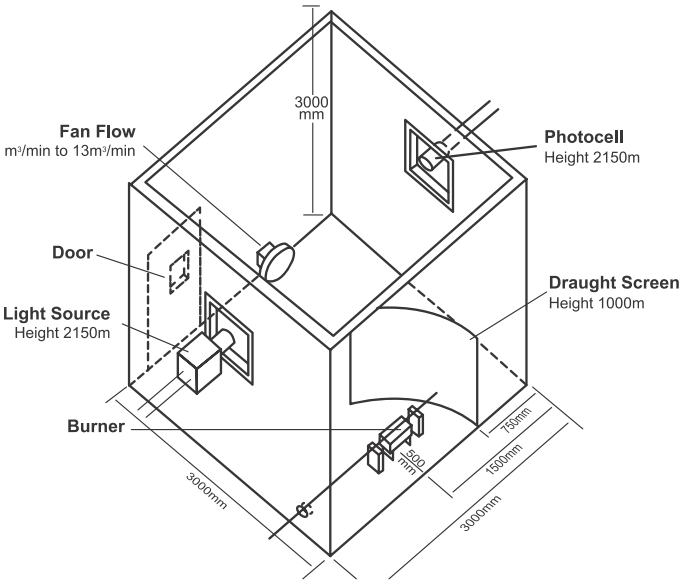
## Corrosive & Acid Gas Emission Test

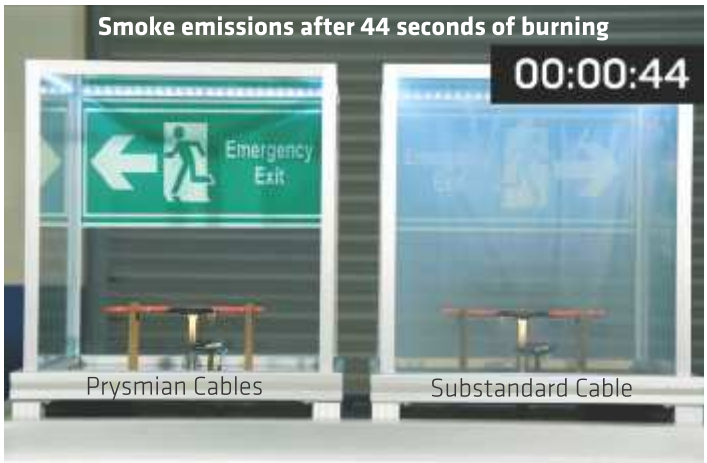
To address the concerns of toxic acid gases which could be produced when cables are burnt, this international test was developed to determine the amount of gas evolved by burning cables.

The recommended values of the test state that the weighted pH value should be more than 4.3, with relation of 1 litre of water. The weighted value of conductivity should not exceed 10μS/cm.

| Standard | Test Item | Standard | Requirement |
|---|---|---|---|
| **IEC** | Acid Gas Emission | 60754-1<br>60754-2 | ≤ 0.5% HCl |
| | Fluorine Content | 60684-2 | ≤ 0.1% |
| | pH Conductivity | EN 60754-2 | pH ≥ 4.3<br>Conductivity ≤ 10 μ S/mm |
| **BS** | Corrosive & Acid Gas | EN 60754-1<br>EN 60754-2 | ≤ 0.5% HCl |

## Smoke Emission Tests




The test is aimed at determining the density of smoke in the process of cable burning under defined conditions.

| Standard | Standard | Requirement |
|---|---|---|
| **IEC** | 61034-2 | ≥ 60% |

# MAX-FOH-I 0.6/1kV
## Insulated, non-sheathed

**Conductor**
- Plain annealed copper
- Class 2
- Circular or compact

**Insulation**
Cross-linked Low Smoke Halogen Free Compound (XLEVA)

**Fire Barrier**
Mica Glass Tape

### Application & Features
For use in most power and control circuits. Halogen-free replacement for PVC insulation to reduce hazardous gas emission and secondary damage.

### Thermal Characteristics

| Operating Temperature | Installation Temperature | Short Circuit Temperature |
|---|---|---|
| **-15°C to 90°C** | **0°C to 50°C** | **250°C** |

### Identification
Insulation colour

### Optional Features
UV Resistance

Anti- Termite

Anti- Rodent

### Bending Radius
Minimum bending radius

**6 x overall diameter**

### Performance Characteristics

Reference Standard:
BSEN 50525-3-41
IEC 60502-1

Circuit Integrity:
IEC 60331
SS 299-1 Cat C, W, Z
BS 6387 -Cat C, W, Z

Flame Retardant:
IEC 60332-1-2
IEC 60332-3-22
IEC 60332-3-23
IEC 60332-3-24

Corrosive gas-free:
IEC 60754-2

Halogen-free:
IEC 60754-1

Low Smoke Density:
IEC 61034-2

| Cable Size | Insulation Thickness | Cable Overall Diameter | Cable Weight | Max Conductor Resistance at 20°C |
|---|---|---|---|---|
| mm² | mm | mm | kg/km | ohm/km |
| 1x1.5 | 0.7 | 3.8 | 28 | 12.10 |
| 1x2.5 | 0.8 | 4.4 | 41 | 7.41 |
| 1x4 | 0.8 | 5.0 | 57 | 4.61 |
| 1x6 | 0.8 | 5.5 | 78 | 3.08 |
| 1x10 | 1.0 | 6.8 | 120 | 1.83 |
| 1x16 | 1.0 | 7.8 | 180 | 1.15 |
| 1x25 | 1.2 | 9.6 | 280 | 0.727 |
| 1x35 | 1.2 | 10.8 | 370 | 0.524 |
| 1x50 | 1.4 | 12.6 | 500 | 0.387 |
| 1x70 | 1.4 | 14.3 | 690 | 0.268 |
| 1x95 | 1.6 | 16.6 | 950 | 0.193 |
| 1x120 | 1.6 | 18.1 | 1100 | 0.153 |
| 1x150 | 1.8 | 20.2 | 1400 | 0.124 |
| 1x185 | 2.0 | 22.4 | 1800 | 0.0991 |
| 1x240 | 2.2 | 25.3 | 2300 | 0.0754 |
| 1x300 | 2.4 | 28.4 | 2900 | 0.0601 |
| 1x400 | 2.6 | 31.7 | 3700 | 0.047 |
| 1x500 | 2.8 | 35.3 | 4700 | 0.0366 |
| 1x630 | 2.8 | 39.1 | 6000 | 0.0283 |

Current Rating refers to EIT Standard 2001-56, Chapter 5 Installation of cables and accessories Table 5-27 (see page 53)
ขนาดกระแสไฟฟ้าของสายไฟฟ้าอ้างอิงบทที่ 5 ข้อกำหนดการเดินสายและวัสดุ ตารางที่ 5-27 (ดูหน้า 53)

PRYSMIAN Draka General Cable

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED

# MAX-FOH 0.6/1kV
## Insulated, sheathed

**Conductor**
- Plain annealed copper
- Class 2
- Circular or compact

**Sheath**
LSHF Compound

**Insulation**
XLPE Compound

**Fire Barrier**
Mica Glass Tape

### Application & Features

For use in most power and control circuits. Features XLPE Insulation for high operating temperatures, thermal short circuit rating and durability.

### Thermal Characteristics

| Operating Temperature | Installation Temperature | Short Circuit Temperature |
|---|---|---|
| **-15°C to 90°C** | **0°C to 50°C** | **250°C** |

### Identification

Outer Sheath

Insulation Colour

### Optional Features

UV Resistance

Anti- Termite

Anti- Rodent

### Performance Characteristics

Reference Standard:
IEC 60502-1
BS 7211

Circuit Integrity:
IEC 60331
SS 299-1 Cat C, W, Z
BS 6387 -Cat C, W, Z

Flame Retardant:
IEC 60332-1-2
IEC 60332-3-22
IEC 60332-3-23
IEC 60332-3-24

Corrosive gas-free:
IEC 60754-2

Halogen-free:
IEC 60754-1

Low Smoke Density:
IEC 61034-2

### Bending Radius

Minimum bending radius

**6 x overall diameter**

| Cable Size | Insulation Thickness | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max Conductor Resistance at 20°C |
|---|---|---|---|---|---|
| mm² | mm | mm | mm | kg/km | ohm/km |
| 1x1.5 | 0.7 | 1.4 | 6.7 | 63 | 12.10 |
| 1x2.5 | 0.7 | 1.4 | 7.1 | 75 | 7.41 |
| 1x4 | 0.7 | 1.4 | 7.7 | 96 | 4.61 |
| 1x6 | 0.7 | 1.4 | 8.2 | 110 | 3.08 |
| 1x10 | 0.7 | 1.4 | 9.1 | 160 | 1.83 |
| 1x16 | 0.7 | 1.4 | 10.2 | 220 | 1.15 |
| 1x25 | 0.9 | 1.4 | 11.9 | 330 | 0.727 |
| 1x35 | 0.9 | 1.4 | 13.3 | 460 | 0.524 |
| 1x50 | 1.0 | 1.4 | 14.7 | 600 | 0.387 |
| 1x70 | 1.1 | 1.4 | 16.7 | 810 | 0.268 |
| 1x95 | 1.1 | 1.5 | 18.8 | 1000 | 0.193 |
| 1x120 | 1.2 | 1.5 | 20.7 | 1300 | 0.153 |
| 1x150 | 1.4 | 1.6 | 22.8 | 1600 | 0.124 |
| 1x185 | 1.6 | 1.7 | 25.3 | 1900 | 0.0991 |
| 1x240 | 1.7 | 1.7 | 28.1 | 2500 | 0.0754 |
| 1x300 | 1.8 | 1.8 | 30.9 | 3200 | 0.0601 |
| 1x400 | 2.0 | 1.9 | 34.5 | 4000 | 0.047 |
| 1x500 | 2.2 | 2.1 | 38.5 | 5000 | 0.0366 |
| 1x630 | 2.4 | 2.2 | 43.1 | 6400 | 0.0283 |

Current Rating refers to EIT Standard 2001-56, Chapter 5 Installation of cables and accessories Table 5-27 and 5-32 (see page 53,56)
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# MAX-FOH 0.6/1kV, multi-core
## Insulated, sheathed

**Conductor**
- Plain annealed copper
- Class 2
- Circular or compact

**Sheath**
LSHF Compound

**Insulation**
XLPE Compound

**Fire Barrier**
Mica Glass Tape

### Application & Features

For use in most power and control circuits. Features XLPE Insulation for high operating temperatures, thermal short circuit rating and durability.

### Thermal Characteristics

| Operating Temperature | Installation Temperature | Short Circuit Temperature |
|---|---|---|
| **-15°C to 90°C** | **0°C to 50°C** | **250°C** |

### Identification

Outer Sheath

2 Cores
3 Cores
4 Cores
5 Cores

### Optional Features

UV Resistance

Anti- Termite

Anti- Rodent

### Performance Characteristics

Reference Standard:
IEC 60502-1
BS 7211

Circuit Integrity:
IEC 60331
SS 299-1 Cat C, W, Z
BS 6387 -Cat C, W, Z

Flame Retardant:
IEC 60332-1-2
IEC 60332-3-22
IEC 60332-3-23
IEC 60332-3-24

Corrosive gas-free:
IEC 60754-2

Halogen-free:
IEC 60754-1

Low Smoke Density:
IEC 61034-2

### Bending Radius

Minimum bending radius

**8 x overall diameter**

| Cable Size | Insulation Thickness | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max Conductor Resistance at 20°C |
|---|---|---|---|---|---|
| mm² | mm | mm | mm | kg/km | ohm/km |
| 2x1.5 | 0.7 | 1.8 | 11.3 | 170 | 12.10 |
| 2x2.5 | 0.7 | 1.8 | 12.1 | 200 | 7.41 |
| 2x4 | 0.7 | 1.8 | 13.2 | 260 | 4.61 |
| 2x6 | 0.7 | 1.8 | 14.3 | 320 | 3.08 |
| 2x10 | 0.7 | 1.8 | 16.2 | 370 | 1.83 |
| 2x16 | 0.7 | 1.8 | 18.3 | 510 | 1.15 |
| 2x25 | 0.9 | 1.8 | 21.8 | 740 | 0.727 |
| 2x35 | 0.9 | 1.8 | 24.6 | 990 | 0.524 |
| 2x50 | 1.0 | 1.8 | 27.5 | 1200 | 0.387 |
| 2x70 | 1.1 | 1.9 | 31.7 | 1700 | 0.268 |
| 2x95 | 1.1 | 2.0 | 35.7 | 2300 | 0.193 |
| 2x120 | 1.2 | 2.1 | 39.5 | 2800 | 0.153 |
| 2x150 | 1.4 | 2.2 | 43.6 | 3500 | 0.124 |
| 2x185 | 1.6 | 2.4 | 46.6 | 4300 | 0.0991 |
| 2x240 | 1.7 | 2.5 | 54.4 | 5600 | 0.0754 |
| 2x300 | 1.8 | 2.7 | 60.1 | 7000 | 0.0601 |
| 2x400 | 2.0 | 2.9 | 66.8 | 8800 | 0.047 |

Current Rating refers to EIT Standard 2001-56, Chapter 5 Installation of cables and accessories Table 5-27 and 5-32 (see page 53,56)
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PRYSMIAN Draka General Cable

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED

# MAX-FOH

## 0.6/1kV, multi-core
## Insulated, sheathed

| Cable Size | Insulation Thickness | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max Conductor Resistance at 20°C |
|---|---|---|---|---|---|
| mm² | mm | mm | mm | kg/km | ohm/km |
| 3x1.5 | 0.7 | 1.8 | 11.9 | 190 | 12.10 |
| 3x2.5 | 0.7 | 1.8 | 12.8 | 240 | 7.41 |
| 3x4 | 0.7 | 1.8 | 13.9 | 300 | 4.61 |
| 3x6 | 0.7 | 1.8 | 15.2 | 380 | 3.08 |
| 3x10 | 0.7 | 1.8 | 17.2 | 480 | 1.83 |
| 3x16 | 0.7 | 1.8 | 19.5 | 680 | 1.15 |
| 3x25 | 0.9 | 1.8 | 23.2 | 1000 | 0.727 |
| 3x35 | 0.9 | 1.8 | 26.2 | 1300 | 0.524 |
| 3x50 | 1.0 | 1.8 | 29.3 | 1800 | 0.387 |
| 3x70 | 1.1 | 1.9 | 33.8 | 2500 | 0.268 |
| 3x95 | 1.1 | 2.1 | 38.3 | 3300 | 0.193 |
| 3x120 | 1.2 | 2.2 | 42.4 | 4100 | 0.153 |
| 3x150 | 1.4 | 2.3 | 46.8 | 5000 | 0.124 |
| 3x185 | 1.6 | 2.5 | 52.1 | 6200 | 0.0991 |
| 3x240 | 1.7 | 2.7 | 58.6 | 8100 | 0.0754 |
| 3x300 | 1.8 | 2.8 | 64.5 | 10000 | 0.0601 |
| 3x400 | 2.0 | 3.1 | 71.9 | 12000 | 0.047 |

| Cable Size | Insulation Thickness | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max Conductor Resistance at 20°C |
|---|---|---|---|---|---|
| mm² | mm | mm | mm | kg/km | ohm/km |
| 4x1.5 | 0.7 | 1.8 | 12.9 | 230 | 12.10 |
| 4x2.5 | 0.7 | 1.8 | 13.9 | 290 | 7.41 |
| 4x4 | 0.7 | 1.8 | 15.2 | 370 | 4.61 |
| 4x6 | 0.7 | 1.8 | 16.5 | 480 | 3.08 |
| 4x10 | 0.7 | 1.8 | 18.8 | 610 | 1.83 |
| 4x16 | 0.7 | 1.8 | 21.4 | 880 | 1.15 |
| 4x25 | 0.9 | 1.8 | 25.5 | 1300 | 0.727 |
| 4x35 | 0.9 | 1.8 | 28.9 | 1700 | 0.524 |
| 4x50 | 1.0 | 1.9 | 32.6 | 2300 | 0.387 |
| 4x70 | 1.1 | 2.0 | 37.6 | 3200 | 0.268 |
| 4x95 | 1.1 | 2.2 | 42.6 | 4300 | 0.193 |
| 4x120 | 1.2 | 2.3 | 47.2 | 5400 | 0.153 |
| 4x150 | 1.4 | 2.5 | 52.2 | 6700 | 0.124 |
| 4x185 | 1.6 | 2.6 | 58.0 | 8200 | 0.0991 |
| 4x240 | 1.7 | 2.8 | 65.2 | 10000 | 0.0754 |
| 4x300 | 1.8 | 3.0 | 71.9 | 13000 | 0.0601 |
| 4x400 | 2.0 | 3.3 | 81.0 | 16000 | 0.047 |

| Cable Size | Insulation Thickness | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max Conductor Resistance at 20°C |
|---|---|---|---|---|---|
| mm² | mm | mm | mm | kg/km | ohm/km |
| 5x1.5 | 0.7 | 1.8 | 14.1 | 230 | 12.10 |
| 5x2.5 | 0.7 | 1.8 | 15.2 | 300 | 7.41 |
| 5x4 | 0.7 | 1.8 | 16.7 | 390 | 4.61 |
| 5x6 | 0.7 | 1.8 | 18.2 | 510 | 3.08 |
| 5x10 | 0.7 | 1.8 | 20.5 | 720 | 1.83 |
| 5x16 | 0.7 | 1.8 | 23.4 | 1000 | 1.15 |
| 5x25 | 0.9 | 1.8 | 28.0 | 1500 | 0.727 |
| 5x35 | 0.9 | 1.9 | 31.7 | 2200 | 0.524 |
| 5x50 | 1.0 | 2.0 | 35.9 | 2900 | 0.387 |
| 5x70 | 1.1 | 2.2 | 41.6 | 4000 | 0.268 |
| 5x95 | 1.1 | 2.3 | 47.0 | 5400 | 0.193 |
| 5x120 | 1.2 | 2.5 | 52.2 | 6800 | 0.153 |
| 5x150 | 1.4 | 2.6 | 57.6 | 8400 | 0.124 |

Current Rating refers to EIT Standard 2001-56, Chapter 5 Installation of cables and accessories Table 5-27 and 5-32 (see page 53,56)
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# MAX-FOH 125 0.6/1kV

## Insulated, sheathed

**Conductor**
- Circular stranded copper
- Class 2
- Circular or compact

**Fire Barrier**
Mica Glass Tape

**Sheath**
LSHF Compound

**Insulation**
Cross-linked Low Smoke Halogen Free Compound (XLEVA, EI3)

### Application & Features

For fixed installation in cable systems with improved fire performance and circuit integrity. Enhanced with XLEVA insulation for a high temperature rating.
Used for Fire Alarm & Detection circuits, Emergency signal/Control circuits, Fire fighting systems, Smoke Exhaust Systems.

### Thermal Characteristics

Maximum operating temperature
**110°C**

Operating Temperature
**-15°C to 110°C**

Installation Temperature
**0°C to 50°C**

Short Circuit Temperature
**250°C**

### Identification

Outer Sheath

Insulation

### Optional Features

UV Resistance

Anti- Termite

Anti- Rodent

### Bending Radius

Minimum bending radius

**8 x overall diameter**

### Performance Characteristics

Reference Standard:
IEC 60502-1
BS 7211

Circuit Integrity:
IEC 60331
SS 299-1 Cat C, W, Z
BS 6387 -Cat C, W, Z

Flame Retardant:
IEC 60332-1-2
IEC 60332-3-22
IEC 60332-3-23
IEC 60332-3-24

Corrosive gas-free:
IEC 60754-2

Halogen-free:
IEC 60754-1

Low Smoke Density:
IEC 61034-2

| Cable Size | Nominal Insulation Thickness | Nominal Sheath Thickness | Approx Cable Overall Diameter | Approx Weight | Max Conductor Resistance at 20°C |
|---|---|---|---|---|---|
| mm² | mm | mm | mm | kg/km | ohm/km |
| 1x1.5 | 0.7 | 1.4 | 6.7 | 68 | 12.10 |
| 1x2.5 | 0.7 | 1.4 | 7.1 | 81 | 7.41 |
| 1x4 | 0.7 | 1.4 | 7.7 | 100 | 4.61 |
| 1x6 | 0.7 | 1.4 | 8.2 | 120 | 3.08 |
| 1x10 | 0.7 | 1.4 | 9.1 | 170 | 1.83 |
| 1x16 | 0.7 | 1.4 | 10.2 | 230 | 1.15 |
| 1x25 | 0.9 | 1.4 | 11.9 | 350 | 0.727 |
| 1x35 | 0.9 | 1.4 | 13.3 | 480 | 0.524 |
| 1x50 | 1.0 | 1.4 | 14.7 | 620 | 0.387 |
| 1x70 | 1.1 | 1.4 | 16.7 | 840 | 0.268 |
| 1x95 | 1.1 | 1.5 | 18.8 | 1100 | 0.193 |
| 1x120 | 1.2 | 1.5 | 20.7 | 1300 | 0.153 |
| 1x150 | 1.4 | 1.6 | 22.8 | 1700 | 0.124 |
| 1x185 | 1.6 | 1.7 | 25.3 | 2000 | 0.0991 |
| 1x240 | 1.7 | 1.7 | 28.1 | 2600 | 0.0754 |
| 1x300 | 1.8 | 1.8 | 30.9 | 3300 | 0.0601 |
| 1x400 | 2.0 | 1.9 | 34.5 | 4100 | 0.047 |
| 1x500 | 2.2 | 2.1 | 38.5 | 5200 | 0.0366 |
| 1x630 | 2.4 | 2.2 | 43.1 | 6600 | 0.0283 |

PRYSMIAN Draka General Cable

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED

Draka

# MAX-FOH-AWA 0.6/1kV

## Insulated, armoured and sheathed

**Conductor**
- Plain annealed coppe r
- Class 2
- Circular or compact

**Fire Barrier**
Mica Glass Tape

**Bedding**
LSHF

**Insulation**
XLPE Compound

**Armouring**
Aluminium Wire AWA

**Shealth**
LSHF

### Application & Features

Features Aluminium Wire Armouring, whose non-magnetic properties prevents eddy currents, reducing chances of overheating in AC electrical systems.

### Identification

Outer Sheath

Insulation Colour

Bedding Colour

### Bending Radius

Minimum bending radius

**10 x overall diameter**

### Thermal Characteristics

| Operating Temperature | Installation Temperature | Short Circuit Temperature |
|---|---|---|
| **-15°C to 90°C** | **0°C to 50°C** | **250°C** |

### Optional Features

UV Resistance

Anti- Termite

Anti- Rodent

### Performance Characteristics

Reference Standard:
IEC 60502-1
BS 7211

Circuit Integrity:
IEC 60331
SS 299-1 Cat C, W, Z
BS 6387 -Cat C, W, Z

Flame Retardant:
IEC 60332-1-2
IEC 60332-3-22
IEC 60332-3-23
IEC 60332-3-24

Corrosive gas-free:
IEC 60754-2

Halogen-free:
IEC 60754-1

Low Smoke Density:
IEC 61034-2

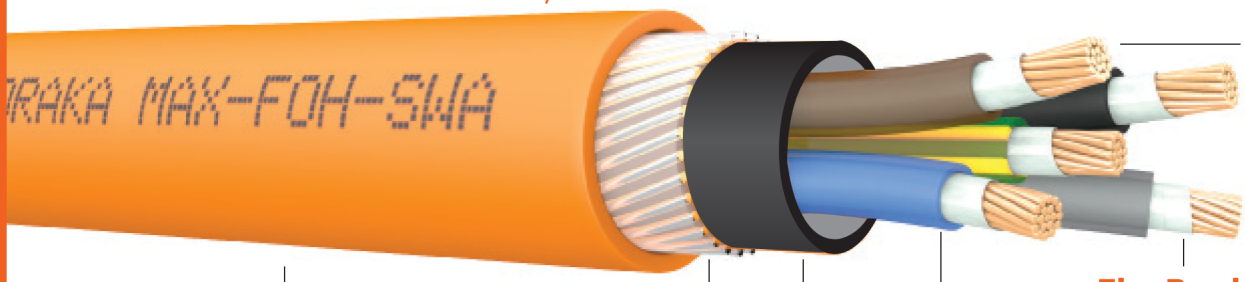
| Cable Size | Insulation Thickness | Diameter After Bedding | Armour Wire Diameter | Diameter After Armour | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max Electrical Resistance |
|---|---|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | mm | mm | kg/km | ohm/km |
| 1x50 | 1.0 | 13.9 | 1.6 | 17.1 | 1.5 | 20.3 | 820 | 0.387 |
| 1x70 | 1.1 | 15.8 | 1.6 | 19.0 | 1.6 | 22.5 | 1000 | 0.268 |
| 1x95 | 1.1 | 17.7 | 1.6 | 20.9 | 1.6 | 24.5 | 1300 | 0.193 |
| 1x120 | 1.2 | 19.4 | 1.6 | 22.6 | 1.7 | 26.3 | 1600 | 0.153 |
| 1x150 | 1.4 | 21.5 | 1.6 | 24.7 | 1.7 | 28.5 | 1900 | 0.124 |
| 1x185 | 1.6 | 23.7 | 1.6 | 26.9 | 1.8 | 30.8 | 2300 | 0.0991 |
| 1x240 | 1.7 | 26.4 | 1.6 | 29.6 | 1.9 | 33.9 | 2900 | 0.0754 |
| 1x300 | 1.8 | 29.3 | 1.6 | 32.5 | 2.0 | 37.0 | 3600 | 0.0601 |
| 1x400 | 2.0 | 33.0 | 2.0 | 37.0 | 2.1 | 41.7 | 4600 | 0.047 |
| 1x500 | 2.2 | 36.6 | 2.0 | 40.6 | 2.2 | 45.5 | 5700 | 0.0366 |
| 1x630 | 2.4 | 40.8 | 2.0 | 44.8 | 2.3 | 50.0 | 7100 | 0.0283 |

For other sizes, please contact company.

PRYSMIAN Draka General Cable

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED

# MAX-FOH-SWA 0.6/1kV, multi-core
## Insulated, armoured and sheathed




**Conductor**
- Plain annealed copper
- Class 2
- Circular or compact

**Fire Barrier**
Mica Glass Tape

**Insulation**
XLPE Compound

**Bedding**
LSHF Compound

**Armouring**
Galvanised Steel Wire

**Shealth**
LSHF

### Application & Features

Features galvanised Steel Wire Armour, which enables cable to withstand high pulling loads. Commonly used in a whole range of industries including building and construction, rail and transport and particularly useful in external or underground projects.

### Thermal Characteristics

| Operating Temperature | Installation Temperature | Short Circuit Temperature |
|---|---|---|
| **-15°C to 90°C** | **0°C to 50°C** | **250°C** |

### Identification

Outer Sheath

Bedding Colour

2 Cores
3 Cores
4 Cores
5 Cores

### Optional Features

UV Resistance

Anti- Termite

Anti- Rodent

### Bending Radius

Minimum bending radius

**10 x overall diameter**

### Performance Characteristics

Reference Standard:
IEC 60502-1
BS 7211

Circuit Integrity:
IEC 60331
SS 299-1 Cat C, W, Z
BS 6387 -Cat C, W, Z

Flame Retardant:
IEC 60332-1-2
IEC 60332-3-22
IEC 60332-3-23
IEC 60332-3-24

Corrosive gas-free:
IEC 60754-2

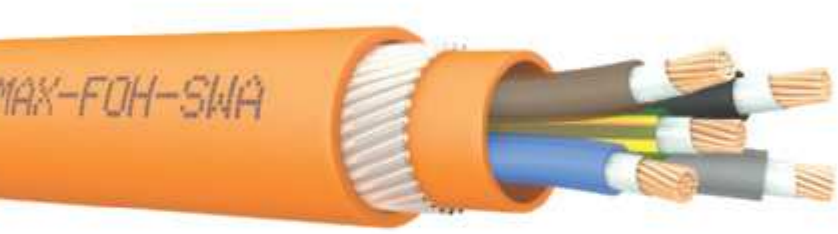
Halogen-free:
IEC 60754-1

Low Smoke Density:
IEC 61034-2

| Cable Size | Insulation Thickness | Diameter After Bedding | Amour Wire Diameter | Diameter After Armour | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max electrical resistance |
|---|---|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | mm | mm | kg/km | ohm/km |
| 2x1.5 | 0.7 | 9.7 | 0.9 | 11.4 | 1.8 | 15.1 | 410 | 12.10 |
| 2x2.5 | 0.7 | 10.5 | 0.9 | 12.3 | 1.8 | 16.0 | 460 | 7.41 |
| 2x4 | 0.7 | 11.6 | 0.9 | 13.3 | 1.8 | 17.0 | 530 | 4.61 |
| 2x6 | 0.7 | 12.7 | 0.9 | 14.5 | 1.8 | 18.2 | 620 | 3.08 |
| 2x10 | 0.7 | 14.6 | 1.25 | 17.0 | 1.8 | 20.7 | 810 | 1.83 |
| 2x16 | 0.7 | 16.7 | 1.25 | 19.2 | 1.8 | 22.9 | 1000 | 1.15 |
| 2x25 | 0.9 | 20.2 | 1.6 | 23.3 | 1.8 | 27.0 | 1400 | 0.727 |
| 2x35 | 0.9 | 22.7 | 1.6 | 25.9 | 1.8 | 29.6 | 1800 | 0.524 |
| 2x50 | 1.0 | 25.8 | 1.6 | 28.9 | 1.9 | 32.9 | 2200 | 0.387 |
| 2x70 | 1.1 | 29.7 | 1.6 | 32.9 | 2.0 | 37.0 | 2800 | 0.268 |
| 2x95 | 1.1 | 34.1 | 2.0 | 38.0 | 2.1 | 42.4 | 3900 | 0.193 |
| 2x120 | 1.2 | 37.4 | 2.0 | 41.4 | 2.2 | 45.9 | 4600 | 0.153 |
| 2x150 | 1.4 | 41.7 | 2.0 | 45.7 | 2.4 | 50.6 | 5500 | 0.124 |
| 2x185 | 1.6 | 46.4 | 2.5 | 51.3 | 2.5 | 56.5 | 7000 | 0.0991 |
| 2x240 | 1.7 | 51.9 | 2.5 | 56.8 | 2.7 | 62.3 | 8600 | 0.0754 |
| 2x300 | 1.8 | 58.0 | 2.5 | 63.0 | 2.9 | 68.9 | 10000 | 0.0601 |
| 2x400 | 2.0 | 64.6 | 2.5 | 69.5 | 3.1 | 75.8 | 11000 | 0.047 |

PRYSMIAN Draka General Cable

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED




# MAX-FOH-SWA

## 0.6/1kV, multi-core Insulated, armoured and sheathed

| Cable Size | Insulation Thickness | Diameter After Bedding | Amour Wire Diameter | Diameter After Armour | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max electrical resistance |
|---|---|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | mm | mm | kg/km | ohm/km |
| 3x1.5 | 0.7 | 10.3 | 0.9 | 12.0 | 1.8 | 15.7 | 440 | 12.10 |
| 3x2.5 | 0.7 | 11.2 | 0.9 | 12.9 | 1.8 | 16.6 | 510 | 7.41 |
| 3x4 | 0.7 | 12.3 | 0.9 | 14.1 | 1.8 | 17.8 | 590 | 4.61 |
| 3x6 | 0.7 | 13.6 | 1.25 | 16.0 | 1.8 | 19.7 | 810 | 3.08 |
| 3x10 | 0.7 | 15.6 | 1.25 | 18.0 | 1.8 | 21.7 | 960 | 1.83 |
| 3x16 | 0.7 | 17.9 | 1.25 | 20.3 | 1.8 | 24.0 | 1200 | 1.15 |
| 3x25 | 0.9 | 21.6 | 1.6 | 24.7 | 1.8 | 28.4 | 1700 | 0.727 |
| 3x35 | 0.9 | 24.3 | 1.6 | 27.4 | 1.8 | 31.2 | 2200 | 0.524 |
| 3x50 | 1.0 | 27.6 | 1.6 | 30.7 | 1.9 | 34.7 | 2700 | 0.387 |
| 3x70 | 1.1 | 32.5 | 2.0 | 36.4 | 2.1 | 40.7 | 3900 | 0.268 |
| 3x95 | 1.1 | 36.5 | 2.0 | 40.5 | 2.2 | 45.0 | 4900 | 0.193 |
| 3x120 | 1.2 | 40.1 | 2.0 | 44.0 | 2.3 | 48.8 | 5800 | 0.153 |
| 3x150 | 1.4 | 45.2 | 2.5 | 50.1 | 2.5 | 55.2 | 7500 | 0.124 |
| 3x185 | 1.6 | 49.8 | 2.5 | 54.7 | 2.6 | 60.0 | 8800 | 0.0991 |
| 3x240 | 1.7 | 56.0 | 2.5 | 60.9 | 2.8 | 66.7 | 11000 | 0.0754 |
| 3x300 | 1.8 | 62.3 | 2.5 | 67.2 | 3.0 | 73.3 | 13000 | 0.0601 |
| 3x400 | 2.0 | 69.3 | 2.5 | 74.2 | 3.3 | 81.0 | 16000 | 0.047 |

| Cable Size | Insulation Thickness | Diameter After Bedding | Amour Wire Diameter | Diameter After Armour | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max electrical resistance |
|---|---|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | mm | mm | kg/km | ohm/km |
| 4x1.5 | 0.7 | 11.3 | 0.9 | 13.0 | 1.8 | 16.7 | 500 | 12.10 |
| 4x2.5 | 0.7 | 12.3 | 0.9 | 14.0 | 1.8 | 17.7 | 570 | 7.41 |
| 4x4 | 0.7 | 13.6 | 1.25 | 16.0 | 1.8 | 19.7 | 790 | 4.61 |
| 4x6 | 0.7 | 14.9 | 1.25 | 17.4 | 1.8 | 21.1 | 930 | 3.08 |
| 4x10 | 0.7 | 17.2 | 1.25 | 19.6 | 1.8 | 23.3 | 1100 | 1.83 |
| 4x16 | 0.7 | 19.8 | 1.25 | 22.9 | 1.8 | 26.6 | 1500 | 1.15 |
| 4x25 | 0.9 | 23.9 | 1.6 | 27.1 | 1.8 | 30.8 | 2100 | 0.727 |
| 4x35 | 0.9 | 27.0 | 1.6 | 30.1 | 1.9 | 34.0 | 2600 | 0.524 |
| 4x50 | 1.0 | 31.1 | 1.6 | 35.0 | 2.1 | 39.3 | 3700 | 0.387 |
| 4x70 | 1.1 | 36.0 | 2.0 | 39.9 | 2.2 | 44.5 | 4700 | 0.268 |
| 4x95 | 1.1 | 40.6 | 2.0 | 44.5 | 2.3 | 49.3 | 6000 | 0.193 |
| 4x120 | 1.2 | 45.0 | 2.0 | 49.9 | 2.5 | 55.0 | 7800 | 0.153 |
| 4x150 | 1.4 | 50.2 | 2.5 | 55.1 | 2.7 | 60.6 | 9400 | 0.124 |
| 4x185 | 1.6 | 55.8 | 2.5 | 60.7 | 2.8 | 66.4 | 11000 | 0.0991 |
| 4x300 | 1.8 | 69.3 | 2.5 | 74.2 | 3.2 | 80.7 | 16000 | 0.0601 |
| 4x400 | 2.0 | 77.6 | 3.15 | 83.8 | 3.5 | 90.9 | 22000 | 0.047 |

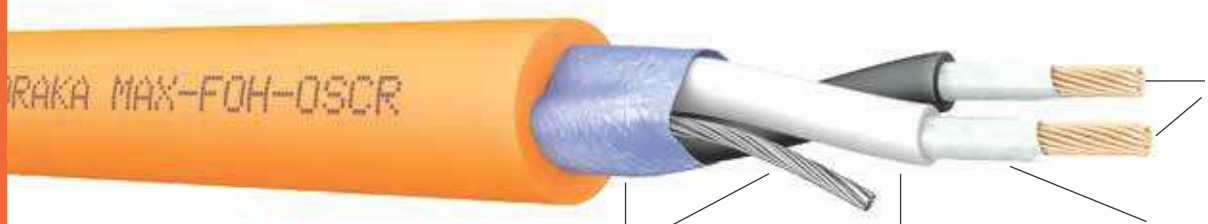
| Cable Size | Insulation Thickness | Diameter After Bedding | Amour Wire Diameter | Diameter After Armour | Sheath Thickness | Cable Overall Diameter | Cable Weight | Max electrical resistance |
|---|---|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | mm | mm | kg/km | ohm/km |
| 5Gx1.5 | 0.7 | 12.5 | 0.9 | 14.2 | 1.8 | 17.9 | 530 | 12.10 |
| 5Gx2.5 | 0.7 | 13.6 | 1.25 | 16.1 | 1.8 | 19.8 | 720 | 7.41 |
| 5Gx4 | 0.7 | 15.1 | 1.25 | 17.5 | 1.8 | 21.2 | 850 | 4.61 |
| 5Gx6 | 0.7 | 16.6 | 1.25 | 19.0 | 1.8 | 22.7 | 1000 | 3.08 |
| 5Gx10 | 0.7 | 18.9 | 1.6 | 22.0 | 1.8 | 25.7 | 1400 | 1.83 |
| 5Gx16 | 0.7 | 21.8 | 1.6 | 24.9 | 1.8 | 28.6 | 1800 | 1.15 |
| 5Gx25 | 0.9 | 26.4 | 1.6 | 29.6 | 1.9 | 33.5 | 2500 | 0.727 |
| 5Gx35 | 0.9 | 29.9 | 1.6 | 33.0 | 2.0 | 37.2 | 3100 | 0.524 |
| 5Gx50 | 1.0 | 34.6 | 2.0 | 38.5 | 2.2 | 43.1 | 4300 | 0.387 |
| 5Gx70 | 1.1 | 39.9 | 2.0 | 43.9 | 2.3 | 48.6 | 5700 | 0.268 |
| 5Gx95 | 1.1 | 45.5 | 2.5 | 50.4 | 2.5 | 55.5 | 7800 | 0.193 |
| 5Gx120 | 1.2 | 50.0 | 2.5 | 54.9 | 2.7 | 60.4 | 9400 | 0.153 |
| 5Gx150 | 1.4 | 56.2 | 2.5 | 61.1 | 2.8 | 66.8 | 11000 | 0.124 |

PRYSMIAN Draka General Cable

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED

# MAX-FOH OSCR 300/500V

## Insulated, shielded, twisted pair




**Conductor**
- Plain annealed stranded copper
- Class 2

**Fire Barrier**
Mica Glass Tape

**Insulation**
XLPE Compound

**Overall Shield**
- Aluminium bonded mylar tape
- Tinned annealed copper wire

**Sheath**
LSHF Compound

## Application & Features

Most widely used fire-resistant speaker and audio/motor control cables, which is highly flexible due to the unique tubing design.

## Thermal Characteristics

| Operating Temperature | Installation Temperature | Short Circuit Temperature |
|---|---|---|
| **-15°C to 90°C** | **0°C to 50°C** | **250°C** |

## Identification

Outer Sheath

Insulation

## Optional Features

UV Resistance

Anti- Termite

Anti- Rodent

Other Sheath colours available

## Bending Radius

Minimum bending radius

**8 x overall diameter**

## Performance Characteristics

Reference Standard:
IEC 60502-1
BS 6360 class 2
BS EN 50288-7

Circuit Integrity:
IEC 60331-21
BS 6387 -Cat C, W, Z

Flame Retardant:
IEC 60332-3-22

Halogen-free:
IEC 60754-1, 60754-2

Low Smoke Density:
IEC 61034-2

| Cable Size | Nominal Insulation Thickness | Nominal Sheath Thickness | Approx Cable Overall Diameter | Approx Weight | Allowable Ampacities in free air at 40°C | Max Conductor Resistance at 20°C |
|---|---|---|---|---|---|---|
| $mm^2$ | mm | mm | mm | kg/km | (Ambient) | ohm/km |
| 1P x1.5 | 0.6 | 0.9 | 9.3 | 89 | 17 A | 12.10 |
| 1P x2.5 | 0.7 | 1.0 | 10.7 | 121 | 31 A | 7.41 |

PRYSMIAN Draka General Cable

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED

Draka

# Project References in Thailand

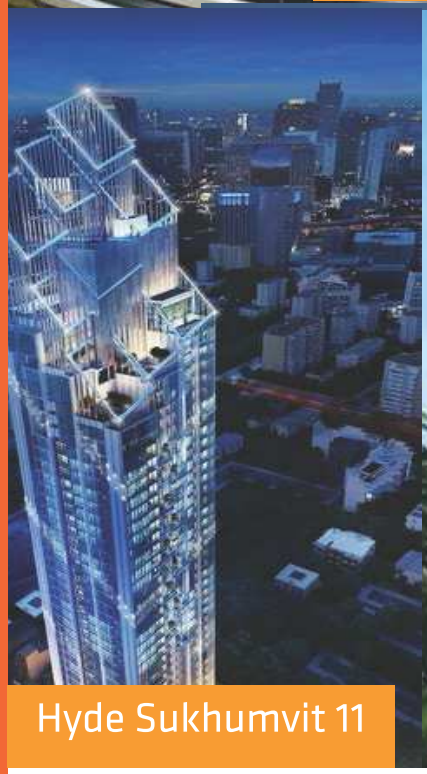
Suvarnbhumi Airport

The Market by Platinum

BTS

MRT

Airport Rail ink



Hyde Sukhumvit 11

Rhythm Phahon-Ari

The Sky Sukhumvit 103

FIRETRADE ENGINEERING PUBLIC COMPANY LIMITED

PRYSMIAN

Draka

General Cable

## Address

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https://www.firetrade.co.th: