



# Caledonian

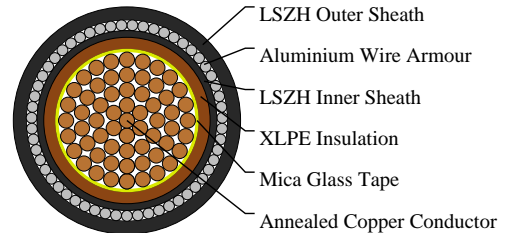
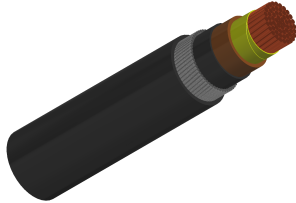
## FIREFLIX Fire Resistant Power & Control Cables

www.caledonian-cables.com

marketing@caledonian-cables.com

### 600/1000V Mica+XLPE Insulated, LSZH Sheathed,Armoured Power Cables to IEC 60502-1 (1C240)

FFX300 1mRZ1MAZ1-R (CU/MGT+XLPE/LSZH/AWA/LSZH 600/1000V Class 2)



### APPLICATIONS

The cables are mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals and high-rise buildings

### STANDARDS

Basic design adapted from IEC 60502-1

### FIRE PERFORMANCE

|   |                                |
|---|--------------------------------|
| Circuit Integrity   | IEC 60331-21; BS 6387; BS 8491 |
| Flame Retardance (Single vertical wire or cable test)                     | IEC 60332-1-2; EN 60332-1-2    |
| Reduced Fire Propagation (Vertically-mounted bundled wires & cables test) | IEC 60332-3-24; EN 60332-3-24  |
| Halogen Free  | IEC 60754-1; EN 50267-2-1      |
| No Corrosive Gas Emission   | IEC 60754-2; EN 50267-2-2      |
| Minimum Smoke Emission  | IEC 61034-2; EN 61034-2        |

### VOLTAGE RATING

600/1000V

### CABLE CONSTRUCTION

Conductor: The conductors shall be class 2 plain or metal-coated annealed copper in accordance with IEC60228. Class 1 and class 5 conductor can be offered as option.

Fire Barrier: Mica glass tape.

Insulation: Thermosetting XLPE compound as per IEC 60502-1.

Inner Covering Option: Thermoplastic halogen free compound ST8 as per IEC 60502-1.

Armouring: Aluminium wire.

Outer Sheath: Thermoplastic halogen free compound ST8 as per IEC 60502-1.

Outer Sheath Option: UV resistance, hydrocarbon resistance, oil resistance, anti-rodent and anti-termite properties can be offered as option.

### COLOUR CODE



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Insulation Colour:Brown or blue; other colours can be offered upon request.

Sheath Colour:Black; other colours can be offered upon request.

### PHYSICAL AND THERMAL PROPERTIES

Maximum temperature range during operation:90°C

Maximum short circuit temperature (5 Seconds):250°C

Minimum bending radius: 6 × Overall Diameter

### DIMENSION AND PARAMETERS

| No. of Cores<br>× Cross-sectional<br>Area | Conductor<br>Class | Nominal<br>Insulation<br>Thickness | Nominal<br>Thickness<br>of Inner<br>Covering | Nominal<br>Sheath<br>Thickness | Nominal<br>Aluminum<br>Wire Armour<br>Diameter | Approx.<br>Overall<br>Diameter | Approx.<br>Weight |
|---|--------------------|------------------------------------|--|--------------------------------|--|--------------------------------|-------------------|
| No.×mm <sup>2</sup>                       |                    | mm                                 | mm   | mm                             | mm   | mm                             | kg/km             |
| 1x240                                     | 2                  | 1.7                                | 1.0  | 1.9                            | 1.6  | 34.5                           | 3380              |

### Current-Carrying Capacities (Amp) according to BS 7671:2008 table 4E3A

| Conductor<br>Cross-<br>sectional<br>Area | Ref.<br>Method C<br>2 cables,<br>1-phase<br>a.c. or d.c.<br>flat and<br>touching | Ref.<br>Method C<br>3/4 cables,<br>3-phase<br>a.c. flat and<br>touching<br>or trefoil | Ref.<br>Method F 2<br>cables, 1-<br>phase a.c.<br>or d.c. flat | Ref.<br>Method F<br>3 cables,<br>3-phase<br>a.c. flat | Ref.<br>Method F<br>3 cables,<br>3-phase<br>a.c. trefoil | Ref.<br>Method F<br>Spaced by<br>on cable<br>diameter 2<br>cables, d.c.<br>Horizontal | Ref.<br>Method F<br>Spaced by<br>on cable<br>diameter<br>2 cables,<br>d.c. Vertical | Ref.<br>Method F<br>Spaced by<br>on cable<br>diameter 2<br>cables, 1-<br>phase a.c.<br>Horizontal | Ref.<br>Method F<br>Spaced by<br>on cable<br>diameter<br>2 cables,<br>1-phase<br>a.c. Vertical | Ref.<br>Method F<br>Spaced by<br>on cable<br>diameter<br>3/4 cables,<br>3-phase<br>a.c.<br>Horizontal | Ref.<br>Method F<br>Spaced by<br>on cable<br>diameter<br>3/4 cables,<br>3-phase<br>a.c. Vertical |
|--|--|---|--|---|--|---|---|---|--|---|--|
| mm <sup>2</sup>                          | A  | A   | A  | A   | A  | A   | A   | A   | A  | A   | A  |
| 240                                      | 656  | 579   | 689  | 612   | 625  | 815   | 782   | 749   | 714  | 715   | 666  |

### Voltage Drop (Per Amp Per Meter) according to BS 7671:2008 table 4E3B

| Conductor Cross-<br>sectional Area | 2 cables d.c. | Ref. Methods C,F 2<br>cables, 1-phase a.c.<br>(Cables touching) | Ref. Methods C,F<br>2 cables, 1-phase<br>a.c. (Cables spaced) | Ref. Methods C,F<br>3 or 4 cables, 3-<br>phase a.c. (Cables<br>touching,Trefoil) | Ref. Methods C,F<br>3 or 4 cables, 3-<br>phase a.c. (Cables<br>touching,Flat) | Ref. Methods C,F<br>3 or 4 cables, 3-<br>phase a.c. (Cables<br>spaced,Flat) |
|------------------------------------|---------------|---|---|--|---|---|
| mm <sup>2</sup>                    | mV/A/m        | mV/A/m  | mV/A/m  | mV/A/m   | mV/A/m  | mV/A/m  |
| 240                                | 0.195         | r:0.21 x:0.180 z:0.28   | r:0.24 x:0.26 z:0.35  | r:0.180<br>x:0.155 z:0.24  | r:0.21 x:0.22 z:0.30  | r:0.24 x:0.28 z:0.37  |



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Rated voltage



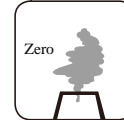
Circuit Integrity  
IEC 60331-21/BS6387/BS 8491



Flame Retardancy  
BS/EN/IEC 60332-1-2



Flame Retardancy  
BS/EN/IEC 60332-3-24



Halogen Free  
IEC 60754-1



IEC60502-1



Low Corrosivity  
IEC 60754-2



Low Smoke Emission  
IEC 61034-2