600/1000V Mica+XLPE Insulated, LSZH Sheathed Power Cables to IEC 60502-1(1C500)

FFX300 1mRZ1-R (CU/MGT+XLPE/LSZH 600/1000V Class 2)

- Annealed Copper Conductor
- LSZH Outer Sheath
- XLPE Insulation
- Mica Glass Tape
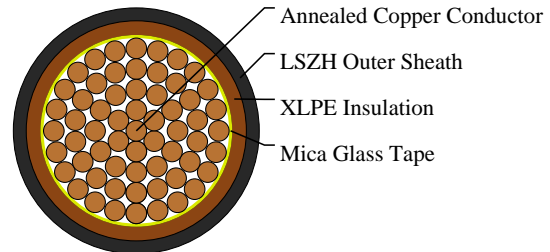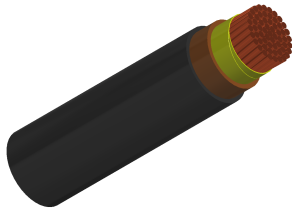
APPLICATIONS

These XLPE insulated and LSZH sheathed cables are generally used for fixed installation. Suitable for building wiring, especially in areas where smoke and fume emissions may cause a potential threat to life but not for burial in the ground, either directly or in ducts.

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.

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

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:

circular copper conductors OD<=25mm: 4 × Overall Diameter

circular copper conductors OD>25mm: 6 × Overall Diameter

shaped copper conductors: 8 × Overall Diameter

Electrical Properties

Conductor operating temperature: 90°C

Ambient temperature: 30°C

DIMENSION AND PARAMETERS

No. of Cores × Cross-sectional Area	Conductor Class	Nominal Insulation Thickness	Nominal Sheath Thickness	Approx. Overall Diameter	Approx. Weight
No.×mm²		mm	mm	mm	kg/km
1×500	2	2.2	2.0	38.2	5535

Current-Carrying Capacities (Amp) according to BS 7671:2008 table 4E1A

Conductor Cross-sectional Area	Ref. Method B 2 cables, 1-phase a.c. or d.c	Ref. Method B 3/4 cables, 3-phase a.c.	Ref. Method C 2 cables, 1-phase a.c. or d.c. flat and touching	Ref. Method C 3/4 cables, 3-phase a.c. flat and touching or trefoil	Ref. Method F 2 cables, 1-phase a.c. or d.c. flat	Ref. Method F 3 cables, 3-phase a.c. flat	Ref. Method F 3 cables, 3-phase a.c. trefoil	Ref. Method G 2 cables, 1-phase a.c. or d.c. or 3 cables 3-phase a.c. Horizontal	Ref. Method G 2 cables, 1-phase a.c. or d.c. or 3 cables 3-phase a.c. Vertical
mm²	A	A	A	A	A	A	A	A	A
500	783	666	990	904	1083	998	946	1253	1169

Voltage Drop (Per Amp Per Meter) according to BS 7671:2008 table 4E1B

Conductor Cross-sectional Area	2 cables d.c.	Ref. Methods A,B 2 cables, 1-phase a.c.	Ref. Methods C,F,G 2 cables, 1-phase a.c. (Cables touching)	Ref. Methods C,F,G 2 cables, 1-phase a.c. (Cables spaced)	Ref. Methods A,B 3 or 4 cables, 3-phase a.c.	Ref. Methods C,F,G 3 or 4 cables, 3-phase a.c. (Cables touching,Trefoil)	Ref. Methods C,F,G 3 or 4 cables, 3-phase a.c. (Cables touching,Flat)	Ref. Methods C,F,G 3 or 4 cables, 3-phase a.c. (Cables spaced,Flat)
mm²	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m
500	0.093	r:0.120 x:0.25 z:0.28	r:0.105 x:0.155 z:0.185	r:0.098 x:0.24 z:0.26	r:0.100 x:0.22 z:0.24	r:0.090 x:0.135 z:0.160	r:0.088 x:0.160 z:0.180	r:0.085 x:0.24 z:0.25

Caledonian

FIREFLIX Fire Resistant Power & Control Cables

www.caledonian-cables.com   marketing@caledonian-cables.com
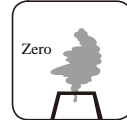
600/1000V **Rated voltage**	**Circuit Integrity** IEC 60331-21/BS6387/BS 8491	**Flame Retardancy** IEC 60332-1-2	Zero **Halogen Free** IEC 60754-1	**N** IEC60502-1	**Low Corrosivity** IEC 60754-2
Low Smoke Emission IEC 61034-2	**Reduced Fire Propagation** IEC 60332-3-24				