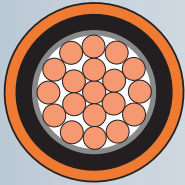


FR-MI 110 / Single Core / Double Insulated

BETAflam® Fire Resistant Safety Cables 0.6/1 kV, acc. to BS 6387 C.W.Z., LSOH



Advantages

- High safety standard: BS 6387 C.W.Z, fully tested by LPCB
- Halogen and silicone free
- Operating temperature 110 °C
- In compliance with RoHS directive
- Mineral filled fire resistant materials
- Space saving installation due to small outer diameter

Application

Power cable 0.6/1 kV for fixed installation in cable systems with improved fire performance and circuit integrity.

Use for: Fire Alarm circuits, Fire Detection circuits, Emergency signal/Control circuits, Fire fighting systems (water pumps), Smoke Exhaust Systems etc.

Especially recommended in areas where human and animal live as well as valuable property are exposed to high risk in case of fire.

Construction

- **Conductor:** Bare annealed copper, acc. IEC 60228 class 2
- **Flame barrier:** MICA tape
- **Insulation:** BETAflam® mineral copolymer, cross-linked
- **Core identification:** White, Black or Green-Yellow (other colours on request)
- **Sheath:** BETAflam® mineral copolymer, Orange (other colours on request)

Technical specification

- **Rated voltage:** U_0/U 0.6/1 kV
- **Test voltage:** 4 kV/50 Hz
- **Temperature range:**
 - Operation temperature from -30 °C to +110 °C
 - Laying temperature from -5 °C to +70 °C
 - Short circuit temperature +280 °C (temperature peak ≤ 5 s)

Bending radius:

During laying > 10 × outer Ø

Fixed installed > 6 × outer Ø

- **Laying conditions:** For fixed installation indoor, in air, trays or dry tubes/ducts. Outdoor laying only when protected from direct sunlight and other external impacts.

Material properties

- **Halogen free:** IEC 60754-1; BS EN 50267-2-1; VDE 0482-267-2-1
- **No corrosive gases:** IEC 60754-2; BS EN 50267-2-2; VDE 0482-267-2-2
- **No toxic gases:** NES 02-713; NF C20-454; BS EN 50267-2-1
- **Low smoke density:** IEC 61034-1 & -2; BS EN 61034-2; VDE 0482-1034-1 & -2

Fire performance

- **Flame retardant:** IEC 60332-1; BS EN 60332-1; VDE 0482-332-1
- **No flame propagation:** IEC 60332-3-24; EN 60332-3-24; VDE 0482-266-1 & -2-4
- **Circuit integrity:**
 - BS 6387 C.W.Z./Ø ≤ 20 mm
 - IEC 60331-21; VDE 0472-814

| Cross section | Part no. | Core colour | Conductor stranding | Nominal thickness insulation | Nominal diameter core | Nominal thickness sheath | Nominal diameter cable | Approx. weight | Current Rating ¹ | | AC Voltage Drop | | Fire Load |
|-----------------|----------|-------------|---------------------|------------------------------|-----------------------|--------------------------|------------------------|----------------|-----------------------------|----------------------|-----------------|----------------|-----------|
| | | | | | | | | | 1 phase ² | 3 phase ³ | 1 phase system | 3 phase system | |
| mm ² | LSA | | n × Ø mm | mm | Ø mm | mm | Ø mm | kg / km | A | A | mV / Am | mV / Am | kWh / m |
| 1.5 | 301766 | white | 7 × 0.53 | 0.60 | 3.45 | 0.95 | 5.35 | 46 | 32 | 30 | 24.90 | 21.52 | 0.11 |
| 1.5 | 215060 | black | 7 × 0.53 | 0.60 | 3.45 | 0.95 | 5.35 | 46 | 32 | 30 | 24.90 | 21.52 | 0.11 |
| 1.5 | 301767 | g/y | 7 × 0.53 | 0.60 | 3.45 | 0.95 | 5.35 | 46 | 32 | 30 | 24.90 | 21.52 | 0.11 |
| 2.5 | 301768 | white | 7 × 0.68 | 0.68 | 4.00 | 1.00 | 6.00 | 63 | 43 | 40 | 15.32 | 13.22 | 0.13 |
| 2.5 | 215038 | black | 7 × 0.68 | 0.68 | 4.00 | 1.00 | 6.00 | 63 | 43 | 40 | 15.32 | 13.22 | 0.13 |
| 2.5 | 301769 | g/y | 7 × 0.68 | 0.68 | 4.00 | 1.00 | 6.00 | 63 | 43 | 40 | 15.32 | 13.22 | 0.13 |
| 4 | 301770 | white | 7 × 0.85 | 0.78 | 4.65 | 1.05 | 6.75 | 78 | 57 | 52 | 9.55 | 8.27 | 0.16 |
| 4 | 215061 | black | 7 × 0.85 | 0.78 | 4.65 | 1.05 | 6.75 | 78 | 57 | 52 | 9.55 | 8.27 | 0.16 |
| 4 | 301771 | g/y | 7 × 0.85 | 0.78 | 4.65 | 1.05 | 6.75 | 78 | 57 | 52 | 9.55 | 8.27 | 0.16 |
| 6 | 301772 | white | 7 × 1.04 | 0.83 | 5.15 | 1.05 | 7.25 | 108 | 74 | 67 | 6.47 | 5.56 | 0.19 |
| 6 | 215062 | black | 7 × 1.04 | 0.83 | 5.15 | 1.05 | 7.25 | 108 | 74 | 67 | 6.47 | 5.56 | 0.19 |
| 6 | 301773 | g/y | 7 × 1.04 | 0.83 | 5.15 | 1.05 | 7.25 | 108 | 74 | 67 | 6.47 | 5.56 | 0.19 |
| 10 | 301774 | white | 7 × 1.32 | 1.05 | 6.65 | 1.40 | 9.45 | 177 | 104 | 94 | 3.92 | 3.35 | 0.31 |
| 10 | 215063 | black | 7 × 1.32 | 1.05 | 6.65 | 1.40 | 9.45 | 177 | 104 | 94 | 3.92 | 3.35 | 0.31 |
| 10 | 301775 | g/y | 7 × 1.32 | 1.05 | 6.65 | 1.40 | 9.45 | 177 | 104 | 94 | 3.92 | 3.35 | 0.31 |
| 16 | 301776 | white | 7 × 1.72 | 1.05 | 7.50 | 1.40 | 10.30 | 250 | 137 | 123 | 2.53 | 2.14 | 0.35 |
| 16 | 215064 | black | 7 × 1.72 | 1.05 | 7.50 | 1.40 | 10.30 | 250 | 137 | 123 | 2.53 | 2.14 | 0.35 |
| 16 | 301777 | g/y | 7 × 1.72 | 1.05 | 7.50 | 1.40 | 10.30 | 250 | 137 | 123 | 2.53 | 2.14 | 0.35 |
| 25 | 301778 | white | 7 × 2.15 | 1.20 | 9.05 | 1.40 | 11.85 | 355 | 183 | 163 | 1.66 | 1.39 | 0.43 |
| 25 | 214904 | black | 7 × 2.15 | 1.20 | 9.05 | 1.40 | 11.85 | 355 | 183 | 163 | 1.66 | 1.39 | 0.43 |
| 25 | 301779 | g/y | 7 × 2.15 | 1.20 | 9.05 | 1.40 | 11.85 | 355 | 183 | 163 | 1.66 | 1.39 | 0.43 |
| 35 | 301780 | white | 7 × 2.52 | 1.20 | 10.20 | 1.40 | 13.00 | 456 | 224 | 200 | 1.24 | 1.03 | 0.49 |
| 35 | 215065 | black | 7 × 2.52 | 1.20 | 10.20 | 1.40 | 13.00 | 456 | 224 | 200 | 1.24 | 1.03 | 0.49 |
| 35 | ∅ | g/y | 7 × 2.52 | 1.20 | 10.20 | 1.40 | 13.00 | 456 | 224 | 200 | 1.24 | 1.03 | 0.49 |
| 50 | 301781 | white | 19 × 1.79 | 1.40 | 11.90 | 1.40 | 14.70 | 600 | 274 | 242 | 0.96 | 0.78 | 0.60 |
| 50 | 214906 | black | 19 × 1.79 | 1.40 | 11.90 | 1.40 | 14.70 | 600 | 274 | 242 | 0.96 | 0.78 | 0.60 |
| 50 | ∅ | g/y | 19 × 1.79 | 1.40 | 11.90 | 1.40 | 14.70 | 600 | 274 | 242 | 0.96 | 0.78 | 0.60 |
| 70 | 301782 | white | 19 × 2.15 | 1.40 | 13.60 | 1.50 | 16.60 | 813 | 345 | 308 | 0.71 | 0.57 | 0.72 |
| 70 | 214908 | black | 19 × 2.15 | 1.40 | 13.60 | 1.50 | 16.60 | 813 | 345 | 308 | 0.71 | 0.57 | 0.72 |
| 70 | ∅ | g/y | 19 × 2.15 | 1.40 | 13.60 | 1.50 | 16.60 | 813 | 345 | 308 | 0.71 | 0.57 | 0.72 |
| 95 | 301783 | white | 19 × 2.52 | 1.60 | 15.80 | 1.60 | 19.00 | 1'101 | 428 | 379 | 0.55 | 0.43 | 0.91 |
| 95 | 214909 | black | 19 × 2.52 | 1.60 | 15.80 | 1.60 | 19.00 | 1'101 | 428 | 379 | 0.55 | 0.43 | 0.91 |
| 95 | ∅ | g/y | 19 × 2.52 | 1.60 | 15.80 | 1.60 | 19.00 | 1'101 | 428 | 379 | 0.55 | 0.43 | 0.91 |
| 120 | 301784 | white | 37 × 2.02 | 1.60 | 17.50 | 1.65 | 20.80 | 1'372 | 501 | 444 | 0.47 | 0.36 | 1.03 |
| 120 | 214911 | black | 37 × 2.02 | 1.60 | 17.50 | 1.65 | 20.80 | 1'372 | 501 | 444 | 0.47 | 0.36 | 1.03 |
| 120 | ∅ | g/y | 37 × 2.02 | 1.60 | 17.50 | 1.65 | 20.80 | 1'372 | 501 | 444 | 0.47 | 0.36 | 1.03 |
| 150 | 301785 | white | 37 × 2.23 | 1.80 | 19.50 | 1.70 | 22.90 | 1'645 | 577 | 509 | 0.41 | 0.31 | 1.23 |
| 150 | 214913 | black | 37 × 2.23 | 1.80 | 19.50 | 1.70 | 22.90 | 1'645 | 577 | 509 | 0.41 | 0.31 | 1.23 |
| 150 | ∅ | g/y | 37 × 2.23 | 1.80 | 19.50 | 1.70 | 22.90 | 1'645 | 577 | 509 | 0.41 | 0.31 | 1.23 |
| 185 | 301786 | white | 37 × 2.49 | 2.00 | 21.70 | 1.80 | 25.30 | 2'021 | 669 | 589 | 0.36 | 0.27 | 1.47 |
| 185 | 214915 | black | 37 × 2.49 | 2.00 | 21.70 | 1.80 | 25.30 | 2'021 | 669 | 589 | 0.36 | 0.27 | 1.47 |
| 185 | ∅ | g/y | 37 × 2.49 | 2.00 | 21.70 | 1.80 | 25.30 | 2'021 | 669 | 589 | 0.36 | 0.27 | 1.47 |
| 240 | 301787 | white | 61 × 2.23 | 2.20 | 24.50 | 1.90 | 28.30 | 2'598 | 800 | 700 | 0.31 | 0.22 | 1.81 |
| 240 | 214917 | black | 61 × 2.23 | 2.20 | 24.50 | 1.90 | 28.30 | 2'598 | 800 | 700 | 0.31 | 0.22 | 1.81 |
| 240 | ∅ | g/y | 61 × 2.23 | 2.20 | 24.50 | 1.90 | 28.30 | 2'598 | 800 | 700 | 0.31 | 0.22 | 1.81 |
| 300 | 301788 | white | 61 × 2.52 | 2.45 | 28.30 | 2.00 | 32.30 | 3'440 | 941 | 820 | 0.28 | 0.20 | 2.31 |
| 300 | 215043 | black | 61 × 2.52 | 2.45 | 28.30 | 2.00 | 32.30 | 3'440 | 941 | 820 | 0.28 | 0.20 | 2.31 |
| 300 | ∅ | g/y | 61 × 2.52 | 2.45 | 28.30 | 2.00 | 32.30 | 3'440 | 941 | 820 | 0.28 | 0.20 | 2.31 |

∅ = On request
g/y = Green/Yellow

1 AC circuit, max. conductor temperature 90 °C
2 Free in air, spaced
3 Open tray, touching

| Cross section | Part no. | Core colour | Conductor stranding | Nominal thickness insulation | Nominal diameter core | Nominal thickness sheath | Nominal diameter cable | Approx. weight | Current Rating ¹ | | AC Voltage Drop | | Fire Load |
|-----------------|----------|-------------|---------------------|------------------------------|-----------------------|--------------------------|------------------------|----------------|-----------------------------|----------------------|-----------------|----------------|-----------|
| | | | | | | | | | 1 phase ² | 3 phase ³ | 1 phase system | 3 phase system | |
| mm ² | LSA | | n × Ø mm | mm | Ø mm | mm | Ø mm | kg / km | A | A | mV / Am | mV / Am | kWh / m |
| 400 | Ø | white | 61 × 2.85 | 2.65 | 31.70 | 2.15 | 36.00 | 4'394 | 1'104 | 961 | 0.25 | 0.17 | 2.65 |
| 400 | 215044 | black | 61 × 2.85 | 2.65 | 31.70 | 2.15 | 36.00 | 4'394 | 1'104 | 961 | 0.25 | 0.17 | 2.65 |
| 400 | Ø | g/y | 61 × 2.85 | 2.65 | 31.70 | 2.15 | 36.00 | 4'394 | 1'104 | 961 | 0.25 | 0.17 | 2.65 |
| 500 | Ø | white | 61 × 3.20 | 2.85 | 35.30 | 2.30 | 39.90 | 5'435 | 1'288 | 1'121 | 0.23 | 0.16 | 3.36 |
| 500 | 214898 | black | 61 × 3.20 | 2.85 | 35.30 | 2.30 | 39.90 | 5'435 | 1'288 | 1'121 | 0.23 | 0.16 | 3.36 |
| 500 | Ø | g/y | 61 × 3.20 | 2.85 | 35.30 | 2.30 | 39.90 | 5'435 | 1'288 | 1'121 | 0.23 | 0.16 | 3.36 |
| 630 | Ø | white | 127 × 2.52 | 3.05 | 39.70 | 2.40 | 44.50 | 6'965 | 1'526 | 1'311 | 0.21 | 0.14 | 4.06 |
| 630 | 214899 | black | 127 × 2.52 | 3.05 | 39.70 | 2.40 | 44.50 | 6'965 | 1'526 | 1'311 | 0.21 | 0.14 | 4.06 |
| 630 | Ø | g/y | 127 × 2.52 | 3.05 | 39.70 | 2.40 | 44.50 | 6'965 | 1'526 | 1'311 | 0.21 | 0.14 | 4.06 |

Ø = On request
g/y = Green/Yellow

1 AC circuit, max. conductor temperature 90 °C
2 Free in air, spaced
3 Open tray, touching