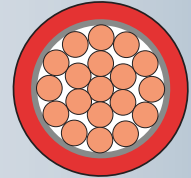


FR-MI 110 / Single Core / Single Insulated

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

Single cores for use in cable wiring systems with improved fire performance and circuit integrity.

For use: 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 (other colours on request)
- **Core identification:** Red, Black or Green-Yellow (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:** Use for electrical installations in control cabinets, switchboards, or other closed cable wiring systems

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 | Partno. | Core colour | Conductor stranding | Nominal thickness insulation | Nominal diameter core | 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×Ømm | mm | Ømm | kg / km | A | A | mV / Am | mV / Am | kWh / m |
| 1.5 | 218945 | red | 7×0.53 | 0.60 | 3.45 | 25 | 27 | 26 | 25.05 | 21.60 | 0.03 |
| 1.5 | 303590 | brown | 7×0.53 | 0.60 | 3.45 | 25 | 27 | 26 | 25.05 | 21.60 | 0.03 |
| 1.5 | 218946 | black | 7×0.53 | 0.60 | 3.45 | 25 | 27 | 26 | 25.05 | 21.60 | 0.03 |
| 1.5 | 303589 | blue | 7×0.53 | 0.60 | 3.45 | 25 | 27 | 26 | 25.05 | 21.60 | 0.03 |
| 1.5 | 301742 | g/y | 7×0.53 | 0.60 | 3.45 | 25 | 27 | 26 | 25.05 | 21.60 | 0.03 |
| 2.5 | 218947 | red | 7×0.68 | 0.68 | 4.00 | 37 | 38 | 36 | 15.47 | 13.30 | 0.04 |
| 2.5 | 303592 | brown | 7×0.68 | 0.68 | 4.00 | 37 | 38 | 36 | 15.47 | 13.30 | 0.04 |
| 2.5 | 218948 | black | 7×0.68 | 0.68 | 4.00 | 37 | 38 | 36 | 15.47 | 13.30 | 0.04 |
| 2.5 | 303591 | blue | 7×0.68 | 0.68 | 4.00 | 37 | 38 | 36 | 15.47 | 13.30 | 0.04 |
| 2.5 | 220893 | g/y | 7×0.68 | 0.68 | 4.00 | 37 | 38 | 36 | 15.47 | 13.30 | 0.04 |
| 4 | 215212 | red | 7×0.85 | 0.78 | 4.65 | 55 | 51 | 48 | 9.74 | 8.34 | 0.05 |
| 4 | 303593 | brown | 7×0.85 | 0.78 | 4.65 | 55 | 51 | 48 | 9.74 | 8.34 | 0.05 |
| 4 | 215544 | black | 7×0.85 | 0.78 | 4.65 | 55 | 51 | 48 | 9.74 | 8.34 | 0.05 |
| 4 | 215142 | g/y | 7×0.85 | 0.78 | 4.65 | 55 | 51 | 48 | 9.74 | 8.34 | 0.05 |
| 6 | 215889 | red | 7×1.04 | 0.83 | 5.15 | 75 | 65 | 62 | 6.61 | 5.63 | 0.06 |
| 6 | 215214 | black | 7×1.04 | 0.83 | 5.15 | 75 | 65 | 62 | 6.61 | 5.63 | 0.06 |
| 6 | 219233 | g/y | 7×1.04 | 0.83 | 5.15 | 75 | 65 | 62 | 6.61 | 5.63 | 0.06 |
| 10 | 215800 | red | 7×1.32 | 1.05 | 6.65 | 121 | 90 | 85 | 4.05 | 3.42 | 0.11 |
| 10 | 217300 | black | 7×1.32 | 1.05 | 6.65 | 121 | 90 | 85 | 4.05 | 3.42 | 0.11 |
| 10 | 220894 | g/y | 7×1.32 | 1.05 | 6.65 | 121 | 90 | 85 | 4.05 | 3.42 | 0.11 |
| 16 | 215801 | red | 7×1.72 | 1.05 | 7.50 | 181 | 121 | 114 | 2.66 | 2.21 | 0.12 |
| 16 | 301743 | black | 7×1.72 | 1.05 | 7.50 | 181 | 121 | 114 | 2.66 | 2.21 | 0.12 |
| 16 | 301744 | g/y | 7×1.72 | 1.05 | 7.50 | 181 | 121 | 114 | 2.66 | 2.21 | 0.12 |
| 25 | 216106 | red | 7×2.15 | 1.20 | 9.05 | 276 | 163 | 155 | 1.79 | 1.46 | 0.17 |
| 25 | 301745 | black | 7×2.15 | 1.20 | 9.05 | 276 | 163 | 155 | 1.79 | 1.46 | 0.17 |
| 25 | 301746 | g/y | 7×2.15 | 1.20 | 9.05 | 276 | 163 | 155 | 1.79 | 1.46 | 0.17 |
| 35 | 216758 | red | 7×2.52 | 1.20 | 10.20 | 369 | 202 | 190 | 1.37 | 1.10 | 0.19 |
| 35 | 301747 | black | 7×2.52 | 1.20 | 10.20 | 369 | 202 | 190 | 1.37 | 1.10 | 0.19 |
| 35 | 301748 | g/y | 7×2.52 | 1.20 | 10.20 | 369 | 202 | 190 | 1.37 | 1.10 | 0.19 |
| 50 | 216759 | red | 19×1.79 | 1.40 | 11.90 | 502 | 245 | 232 | 1.09 | 0.85 | 0.26 |
| 50 | 301749 | black | 19×1.79 | 1.40 | 11.90 | 502 | 245 | 232 | 1.09 | 0.85 | 0.26 |
| 50 | 301750 | g/y | 19×1.79 | 1.40 | 11.90 | 502 | 245 | 232 | 1.09 | 0.85 | 0.26 |
| 70 | 301751 | red | 19×2.15 | 1.40 | 13.60 | 699 | 315 | 295 | 0.84 | 0.64 | 0.31 |
| 70 | 301752 | black | 19×2.15 | 1.40 | 13.60 | 699 | 315 | 295 | 0.84 | 0.64 | 0.31 |
| 70 | 301753 | g/y | 19×2.15 | 1.40 | 13.60 | 699 | 315 | 295 | 0.84 | 0.64 | 0.31 |
| 95 | 216760 | red | 19×2.52 | 1.60 | 15.80 | 959 | 388 | 365 | 0.68 | 0.50 | 0.41 |
| 95 | ∅ | black | 19×2.52 | 1.60 | 15.80 | 959 | 388 | 365 | 0.68 | 0.50 | 0.41 |
| 95 | 301754 | g/y | 19×2.52 | 1.60 | 15.80 | 959 | 388 | 365 | 0.68 | 0.50 | 0.41 |
| 120 | 219394 | red | 37×2.02 | 1.60 | 17.50 | 1'208 | 455 | 434 | 0.60 | 0.43 | 0.46 |
| 120 | ∅ | black | 37×2.02 | 1.60 | 17.50 | 1'208 | 455 | 434 | 0.60 | 0.43 | 0.46 |
| 120 | 301755 | g/y | 37×2.02 | 1.60 | 17.50 | 1'208 | 455 | 434 | 0.60 | 0.43 | 0.46 |
| 150 | 219395 | red | 37×2.23 | 1.80 | 19.50 | 1'483 | 521 | 495 | 0.54 | 0.38 | 0.57 |
| 150 | ∅ | black | 37×2.23 | 1.80 | 19.50 | 1'483 | 521 | 495 | 0.54 | 0.38 | 0.57 |
| 150 | 301756 | g/y | 37×2.23 | 1.80 | 19.50 | 1'483 | 521 | 495 | 0.54 | 0.38 | 0.57 |
| 185 | 219396 | red | 37×2.49 | 2.00 | 21.70 | 1'845 | 606 | 572 | 0.49 | 0.33 | 0.71 |
| 185 | ∅ | black | 37×2.49 | 2.00 | 21.70 | 1'845 | 606 | 572 | 0.49 | 0.33 | 0.71 |
| 185 | 301760 | g/y | 37×2.49 | 2.00 | 21.70 | 1'845 | 606 | 572 | 0.49 | 0.33 | 0.71 |

∅ = 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. LSA | Core colour | Conductor stranding | Nominal thickness insulation | Nominal diameter core | Approx. weight | Current Rating ¹ | | AC Voltage Drop | | Fire Load |
|-----------------|--------------|-------------|---------------------|------------------------------|-----------------------|----------------|-----------------------------|----------------------|-----------------|----------------|-----------|
| | | | | | | | 1 phase ² | 3 phase ³ | 1 phase system | 3 phase system | |
| mm ² | | | n × Ø mm | mm | Ø mm | kg / km | A | A | mV / Am | mV / Am | kWh / m |
| 240 | 219397 | red | 61 × 2.23 | 2.20 | 24.50 | 2'418 | 723 | 681 | 0.44 | 0.29 | 0.88 |
| 240 | ∅ | black | 61 × 2.23 | 2.20 | 24.50 | 2'418 | 723 | 681 | 0.44 | 0.29 | 0.88 |
| 240 | 301761 | g/y | 61 × 2.23 | 2.20 | 24.50 | 2'418 | 723 | 681 | 0.44 | 0.29 | 0.88 |
| 300 | 300945 | red | 61 × 2.52 | 2.45 | 28.30 | 3'109 | 852 | 804 | 0.41 | 0.26 | 1.14 |
| 300 | ∅ | black | 61 × 2.52 | 2.45 | 28.30 | 3'109 | 852 | 804 | 0.41 | 0.26 | 1.14 |
| 300 | 301762 | g/y | 61 × 2.52 | 2.45 | 28.30 | 3'109 | 852 | 804 | 0.41 | 0.26 | 1.14 |
| 400 | 301763 | red | 61 × 2.85 | 2.65 | 31.70 | 3'948 | 996 | 929 | 0.38 | 0.24 | 1.38 |
| 400 | ∅ | black | 61 × 2.85 | 2.65 | 31.70 | 3'948 | 996 | 929 | 0.38 | 0.24 | 1.38 |
| 400 | ∅ | g/y | 61 × 2.85 | 2.65 | 31.70 | 3'948 | 996 | 929 | 0.38 | 0.24 | 1.38 |
| 500 | 301764 | red | 61 × 3.20 | 2.85 | 35.30 | 4'955 | 1'164 | 1'095 | 0.36 | 0.22 | 1.66 |
| 500 | ∅ | black | 61 × 3.20 | 2.85 | 35.30 | 4'955 | 1'164 | 1'095 | 0.36 | 0.22 | 1.66 |
| 500 | ∅ | g/y | 61 × 3.20 | 2.85 | 35.30 | 4'955 | 1'164 | 1'095 | 0.36 | 0.22 | 1.66 |
| 630 | 301765 | red | 127 × 2.52 | 3.05 | 39.70 | 6'384 | 1'367 | 1'266 | 0.34 | 0.21 | 2.01 |
| 630 | ∅ | black | 127 × 2.52 | 3.05 | 39.70 | 6'384 | 1'367 | 1'266 | 0.34 | 0.21 | 2.01 |
| 630 | ∅ | g/y | 127 × 2.52 | 3.05 | 39.70 | 6'384 | 1'367 | 1'266 | 0.34 | 0.21 | 2.01 |

∅ = On request
g/y = Green/Yellow

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