# BiTflame®AS FE180/PH120/E90

RoHS 2015/863/EU

LVD 2014/35/EU

24 months warranty

Fire resistant, halogen-free cable







internal application | EN 60332-1 | IEC 60332-3 EN 60332-3 | halogen-free EN 60754 | low smoke emission EN 61034 | insulation resistance to fire 180 min. | PH120 fire integrity function | E90 fire integrity function | sprinklers zone

## Technical data:

***Thermal parameters:***

**Temperature range:**
operating temperature: -25 °C to 70 °C
min. instalation temp: -5 °C

***Electrical parameters:***

**Operating voltage:** 225 V
**Test voltage:**
AC 1500 V
DC 2250 V
**Insulation resistance (minimum):**
500 MΩ x km
**Pair loop resistance at 20 °C (maximum):**
0,8 mm - 75 Ω/km
1,0 mm - 48 Ω/km
1,4 mm - 26,6 Ω/km
1,8 mm - 14,96 Ω/km
2,3 mm - 9,6 Ω/km
2,8 mm - 6,4 Ω/km
**Capacitance of pair at 1 kHz (max.):**
120nF/km
**Inductance (max.):** 0,7 mH/km

***Mechanical parameters:***

**Min. bending radius:** 10 x Ø

## Design:

| | |
|---|---|
| **Conductors:** | solid copper conductor |
| **Insulation:** | mica tape wrapping and halogen-free compound |
| **Core colours:** | acc. to table „conductor insulation colour" in Technical Data chapter |
| **Cores arrangement:** | pairs twisted parallelly |
| **Wrapping:** | polyester tape |
| **Outer sheath:** | halogen-free polymer compound; colour: red |

## Application:

Fire resistant, halogen-free cables designed for emergency lighting installations, alarm-, signalling-, and teletransmission systems, in sound alarm systems as well as in fire warning systems, fire automation and other safety ensuring installations. Under fire conditions those cables ensure proper operation of installations for at least 120 minutes (PH120) and durability of conductors insulation for 180 minutes (FE180). During burning cables do not emit corrosive gases or dense smoke. Cables are suitable for fixed installations inside buildings. BiTflame®AS FE180/PH120/E90 cables have been tested in accordance with the requirements of DIN 4102 p.12 and can be installed in E90 cable support systems as their elements (installation on clamps located every 30 cm and 60 cm).
The declared E90 functional integrity classification applies to complete systems consisting of the cable and the certified cable support system with which the cable has been tested. The use of the cable with any other cable support system requires separate verification of compliance.
For further information regarding selection and application, please contact our technical support team: wsparcie.techniczne@bitner.com.pl.

## Tests:

| | |
|---|---|
| Flame propagation test for a single insulated cable: | EN 60332-1-2, IEC 60332-1-2, VDE 0482-332-1 |
| Flame propagation test for vertically-mounted bunched cables: | EN 60332-3-22, IEC 60332-3-22, VDE 0482-332-3-22 |
| Test on corrosive gases emitted during burning: | EN 60754-2, IEC 60754-2, VDE 0482-754-2 |
| Smoke density emission during burning: | EN 61034-2, IEC 61034-2, VDE 0482-1034-2 |
| Insulation resistance to long term fire exposure FE180: | IEC 60331-21, VDE 0472-814 |
| Fire integrity function of cable support system E90: | DIN 4102-12 |
| Fire integrity function of cable installation (PH120): | EN 50200 |

## Cable characteristics:

- fire resistant
- halogen-free
- flame retardant
- no corrosive gases
- low smoke emission
- increased insulation resistance (FE180)
- fire integrity function (PH120)
- low fire load (calorific value)

# BiTflame®AS FE180/PH120/E90

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| Pair number | Core insulation colours | |
|---|---|---|
| | core a | core b |
| 1 | white | blue |
| 2 | | orange |
| 3 | | green |
| 4 | | brown |
| 5 | | grey |
| 6 | red | blue |
| 7 | | orange |
| 8 | | green |

| Cat. no. | nx2xmm | Approximate outer diameter [mm] | Calculated cable weight [kg/km] |
|---|---|---|---|
| B11000 | 1x2x0,8 | 5,4 | 32,8 |
| B11001 | 2x2x0,8 | 7,9 | 67,7 |
| B11002 | 3x2x0,8 | 8,7 | 77,6 |
| B11003 | 4x2x0,8 | 10,3 | 99,7 |
| B11004 | 1x2x1,0 | 6,0 | 42,0 |
| B11005 | 2x2x1,0 | 8,9 | 87,4 |
| B11006 | 3x2x1,0 | 9,8 | 102,9 |
| B11007 | 4x2x1,0 | 11,4 | 132,1 |
| B11008 | 1x2x1,4 | 7,1 | 62,8 |
| B11009 | 2x2x1,4 | 10,5 | 137,9 |
| B11010 | 3x2x1,4 | 11,7 | 161,0 |
| B11011 | 1x2x1,8 | 8,5 | 97,1 |
| B11012 | 1x2x2,3 | 9,7 | 135,6 |
| B11013 | 1x2x2,8 | 10,9 | 182,9 |

Cable Factory BITNER reserves the right to modify specifications without prior notification
Note: on customer's request other cross sections or number of cores can be produced