



## CONTACT

Markets and Products Information  
[rollingstock.business@lynxeogroup.com](mailto:rollingstock.business@lynxeogroup.com)

## HIGH TEMPERATURE FLEXIBLE POWER CABLES

FLAMEX® EN 50382-2 F power cables are designed and dedicated to be used on rolling stock equipment where high operating temperature is required to save cable weight. Thanks to its high flexibility, these cables with low bending radius are frequently installed on locomotive equipment.

## STANDARDS

**Product** EN 45545-2 (HL3); EN 50382-2; IEC 60228

## DESIGN

### 1. Conductor

Flexible class 5 copper according to IEC 60228

- tinned copper for 120°C Class
- plain copper for 150°C Class

Separator: Unweaved tape

### 2. Insulation

Cross-linked silicone type EI 111 according to EN 50382-1

Colour: black outer layer

Example of marking: FLAMEX SI - EN 50382-2 - Voltage rate (1800V or 3600V) - cross-section mm<sup>2</sup> - F - temperature class (120°C or 150°C) - LYNXEO 279 - week/year

## GUIDE TO USE

- Cabling rules are given in EN 50343 and EN 50355
- Permissible current carrying capacities: values and calculation method are given in EN 50343
- Bending radius:
  - Static use: 4 x outer cable diameter
  - For installation and occasional movements: 6 x outer cable diameter
- Pulling tensible force (dynamic) during installation: 50 N/mm<sup>2</sup> of copper size
- Mechanical static tensible force: 15N/mm<sup>2</sup> of copper size



Conductor flexibility  
Flexible class 5



Halogen free  
EN 60754-1 & EN 60684-2



Rated Voltage U<sub>0</sub>/U  
(Um)  
3.6 / 6 (7.2) kV



Flame retardant  
EN 60332-1-2



Fire retardant  
EN IEC 60332-3-24  
(cat C); EN IEC 60332-3-25  
(EN50305)



Smoke density  
EN/IEC 61034-2



Gases toxicity  
EN 50305-9.2



Operating temp.  
-50 ... 120 °C

**CHARACTERISTICS****Construction characteristics**

|                       |                           |
|-----------------------|---------------------------|
| Conductor material    | Plain copper              |
| Conductor flexibility | Flexible class 5          |
| Insulation            | High temperature silicone |
| Halogen free          | EN 60754-1 & EN 60684-2   |

**Dimensional characteristics**

|                         |                     |
|-------------------------|---------------------|
| Conductor cross-section | 2.5 mm <sup>2</sup> |
| Conductor diameter      | 1.95 mm             |
| Nominal outer diameter  | - mm                |
| Minimum outer diameter  | 7.6 mm              |
| Maximum outer diameter  | 8.9 mm              |
| Approximate weight      | 94 kg/km            |

**Electrical characteristics**

|   |                  |
|---|------------------|
| Rated Voltage U <sub>o</sub> /U (U <sub>m</sub> ) | 3.6 / 6 (7.2) kV |
|---|------------------|

**Usage characteristics**

|                                       |  |
|---------------------------------------|--|
| Flame retardant                       | EN 60332-1-2   |
| Fire retardant                        | EN IEC 60332-3-24 (cat C); EN IEC 60332-3-25 (EN50305) |
| Smoke density                         | EN/IEC 61034-2   |
| Gases toxicity                        | EN 50305-9.2   |
| Operating temperature, range          | -50 ... 120 °C   |
| Max. conductor temperature in service | 150 °C   |
| Overload maximum core temperature     | 170 °C   |
| Chemical resistance                   | Good   |
| Fire load                             | - kWh/m  |