



## CONTACT

Markets and Products Information  
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## 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	70 mm <sup>2</sup>
Conductor diameter	11.0 mm
Nominal outer diameter	- mm
Minimum outer diameter	16.1 mm
Maximum outer diameter	18.9 mm
Approximate weight	784 kg/km

**Electrical characteristics**

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