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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 mm² - 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/mm² of copper size
- Mechanical static tensible force: 15N/mm² of copper size



Conductor flexibility
 Flexible class 5



Halogen free
 EN 60754-1 & EN 60684-2



Rated Voltage U₀/U
 (Um)
 1.8 / 3 (3.6) 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	Tin plated copper
Conductor flexibility	Flexible class 5
Insulation	High temperature silicone
Halogen free	EN 60754-1 & EN 60684-2

Dimensional characteristics

Conductor cross-section	4 mm ²
Conductor diameter	2.5 mm
Nominal outer diameter	7.7 mm
Minimum outer diameter	7.3 mm
Maximum outer diameter	8.5 mm
Approximate weight	83 kg/km

Electrical characteristics

Rated Voltage U _o /U (U _m)	1.8 / 3 (3.6) 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	120 °C
Overload maximum core temperature	140 °C
Chemical resistance	Good
Fire load	0.181 kWh/m