



**Reference:** 10143433  
**Country Ref.:** 2PH480

#### CONTACT

Markets and Products Information  
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## MULTICORES CONTROL CABLES

Strictly halogen free, FLAMEX EN 50306-3 & -4 control cables combine the advantages of small size, lightweight, high chemical resistance, high mechanical properties. They are recommended for installation in railway vehicles (locomotives, trains, trolleybuses...).

### STANDARDS

**Product** EN 45545-2 (HL3); EN 50264-1

**Test** EN 50305; EN 50306

### DESIGN

#### 1. Conductor

Stranded tinned copper wires  
Colour: white, numbered 1 to n

#### 2. Insulation

Thin wall, cross-linked halogen free material acc. EN 50306-2

#### 3. Screen(for screened versions)

Tinned copper braid with optional polyester tape

#### 4. Outer sheath

Cross-linked halogen free material  
Colour: black

Example of marking: FLAMEX 239 EN 50306-3 - 300 V - number of cores x cross-section - MM-S-90 - week/year batch number

### GUIDE TO USE

- Cabling rules are given in EN 50343
- Permissible current carrying capacities: values and calculation method are given in EN 50343
- Bending radius
  - Static use: 5 x outer diameter
  - For installation and occasional movements: 10 x outer diameter



Conductor flexibility  
Flexible stranded



Halogen free  
EN 60754-1 & EN 60684-2



Rated Voltage U<sub>o</sub>/U  
(Um)  
300/500 V



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



Electro magnetic  
interference  
resistance  
No



Gases toxicity  
EN 50305-9.2

**CHARACTERISTICS****Construction characteristics**

Type of cable	EN 50306-4 5P
Conductor material	Tin plated copper
Conductor flexibility	Flexible stranded
Insulation colour	-
Outer sheath	Cross-linked compound
Halogen free	EN 60754-1 & EN 60684-2

**Dimensional characteristics**

Conductor cross-section	0.5 mm <sup>2</sup>
Conductor diameter	1.0 mm
Maximum outer diameter	12.0 mm
Minimum outer diameter	10.7 mm
Approximate weight	159 kg/km
Diameter over insulation, range	1.15 ... 1.45 mm
Number of cores	4

**Electrical characteristics**

Rated Voltage U <sub>o</sub> /U (U <sub>m</sub> )	300/500 V
Max. DC resistance of the conductor at 20°C	40.1 Ohm/km

**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
Electro magnetic interference resistance	No
Gases toxicity	EN 50305-9.2
Operating temperature, range	-40 ... 90 °C
Max. conductor temperature in service	90 °C
Overload maximum core temperature	120 °C
Chemical resistance	Excellent