



### CONTACT

Markets and Products Information  
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### COMMUNICATION CABLES

FLAMEX® ETHERNET are intended for the train backbone and the connection to the different devices. They are designed to operate in harsh environmental conditions. FLAMEX® ETHERNET are designed to improve the protection against electromagnetic noises and provides the highest level of reliability and robustness required by the railway industry.

### STANDARDS

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

### DESIGN

#### 1. Conductor

Stranded tinned copper

#### 2. Insulation

Polyethylene (PE)  
Quad or Pairs assemblies

#### 3. Screen

Tinned copper braid  
Separator tape

#### 4. Outer sheath

Cross-linked material EM 104 or EM 101 acc. EN 50264-1  
Oil, diesel, ozone and UV resistant  
Colour: black or blue

Example of marking: FLAMEX 239 - [4(2xAWG26/19 10Gigabit CAT7)]M S - EDE  
XXXX - week/year / batch number

### ADDITIONAL INFORMATION

- Bending radius:
  - Static use: 5 x outer cable diameter
  - For installation and occasional movements: 10 x outer cable diameter



Conductor flexibility  
Flexible stranded



Halogen free  
EN 60754-1 & EN  
60684-2



Flame retardant  
EN 60332-1-2



Fire retardant  
EN IEC 60332-3-25  
(cat D)



Smoke density  
EN/IEC 61034-2



Gases toxicity  
EN 50305-9.2



Electro magnetic  
interference  
resistance  
Yes



Chemical  
resistance  
Good

## CHARACTERISTICS

## Construction characteristics

Conductor material	Tin plated copper
Conductor flexibility	Flexible stranded
Outer sheath	Cross-linked compound
Screen	Tinned copper braid
Halogen free	EN 60754-1 & EN 60684-2

## Usage characteristics

Flame retardant	EN 60332-1-2
Fire retardant	EN IEC 60332-3-25 (cat D)
Smoke density	EN/IEC 61034-2
Gases toxicity	EN 50305-9.2
Electro magnetic interference resistance	Yes
Chemical resistance	Good

## FLAMEX® ETHERNET CAT.7A

Reference	Country Ref.	Construction type	Core identification	Nom. outer diam. [mm]	Approx. weight [kg/km]	Minimum operating temperature [°C]	Sheath colour
10272559	2PM617	4 x (2 x 0.25 <sup>2</sup> )	A	8.5	85	-40	Black

## FLAMEX® ETHERNET CAT.7

Reference	Country Ref.	Construction type	Core identification	Nom. outer diam. [mm]	Approx. weight [kg/km]	Minimum operating temperature [°C]	Sheath colour
10272118	2PM615	4 x (2 x 0.25 <sup>2</sup> )	A	8.5	82	-40	Blue
10271919	2PM622	4 x (2 x AWG 24/7)	A	8.1	71	-40	Black
10273639	2PM697	4 x (2 x AWG 26/7)	A	7.1	55	-40	Black

## FLAMEX® ETHERNET CAT.6A

Reference	Country Ref.	Construction type	Core identification	Nom. outer diam. [mm]	Approx. weight [kg/km]	Minimum operating temperature [°C]	Sheath colour
	2PM577	4 x (2 x 0.25 <sup>2</sup> )	A	8.5	80	-40	Blue
10285695	2PN189	4 x (2 x 0.25 <sup>2</sup> )	A	8.5	80	-40	Blue
	2PM578	4 x (2 x 0.50 <sup>2</sup> )	A	11.9	147	-40	Blue
10285696	2PN260	4 x (2 x 0.50 <sup>2</sup> )	A	11.9	147	-40	Blue

## FLAMEX® ETHERNET CAT.5E

Reference	Country Ref.	Construction type	Core identification	Nom. outer diam. [mm]	Approx. weight [kg/km]	Minimum operating temperature [°C]	Sheath colour
10263380	2PC912	2 x (2 x 0.25 <sup>2</sup> )	A	6.5	55	-25	Black
	2PI232	2 x (2 x 0.50 <sup>2</sup> )	B	9.7	120	-40	Black
10171573	2PI232	2 x (2 x 0.50 <sup>2</sup> )	B	9.7	120	-40	Black
10211641	2PK592	2 x (2 x 0.50 <sup>2</sup> )	B	9.7	120	-25	Black
10218857	2PK699	4 x 0.25 <sup>2</sup>	C	6.7	65	-40	Blue
10206077	2PK319	4 x 0.25 <sup>2</sup>	C	6.7	65	-25	Blue
10218856	2PK698	4 x 0.50 <sup>2</sup>	C	8.5	96	-40	Blue
10200793	2PK211	4 x 0.50 <sup>2</sup>	C	8.5	96	-25	Blue
10276147	2PM676	4 x AWG 22/7 (0,34 <sup>2</sup> )	C	6.5	62	-40	Blue
10255286	2PM022	4 x AWG 22/7 (0,34 <sup>2</sup> )	C	6.5	62	-25	Blue
10225080	2PK847	4 x AWG 22/7 (0,34 <sup>2</sup> )	D	6.5	62	-40	Black
10146257	2PG229	4 x AWG 22/7 (0,34 <sup>2</sup> )	D	6.5	62	-25	Black

## SELLING AND DELIVERY INFORMATION

**A: Color coding for pairs**

N°1: white + blue  
 N°2: white + orange  
 N°3: white + green  
 N°4: white + brown

**B: Color coding for pairs:** N°1: white + blue    N°2: yellow + orange

**C: Color coding for quads:** N°1: white + blue    N°2: yellow + orange

**D: Color coding for quads:** N°1: white + yellow    N°2: red + black