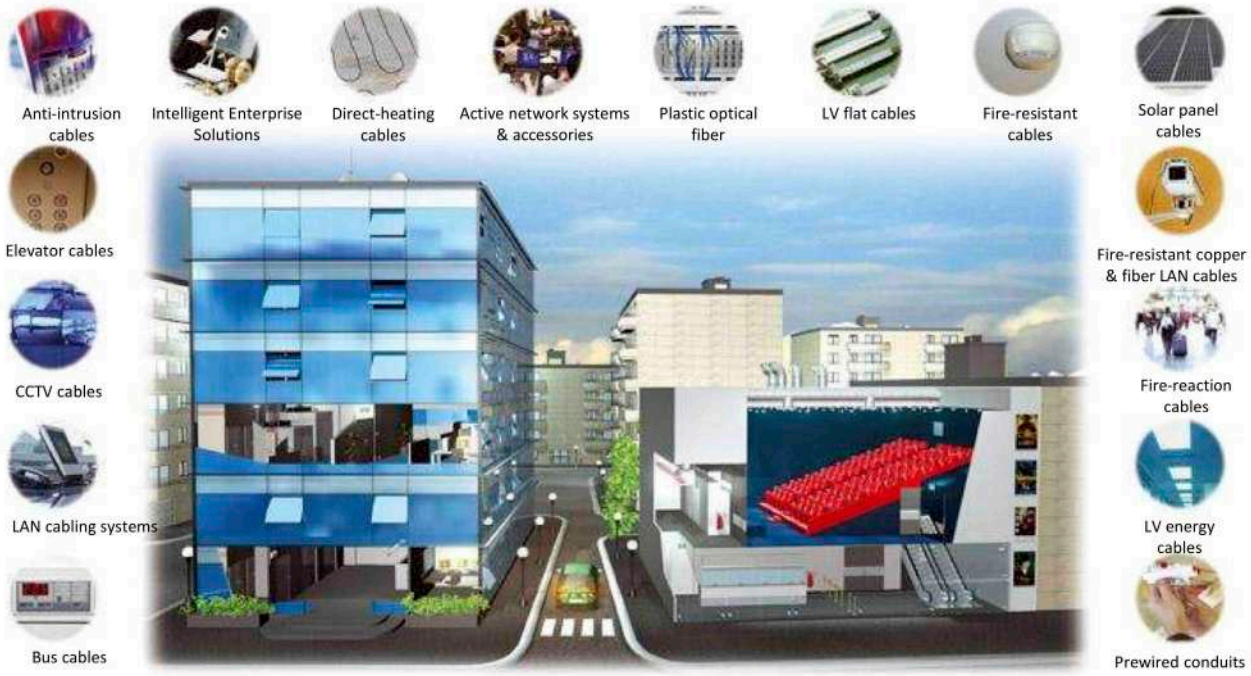
Multi-Distribution Services Co.,Ltd.

Nexans

Electrification is in our DNA

We are Nexans. We electrify the future

cable solutions for public and office buildings



LAN Cabling Solutions

Fire Performance Cables
a life investment

ENERGYFLEX™,
Guarantees long-term photovoltaic performance

Fire Safety Cables

Safety cables are installed in :

- Publics areas
  (hospitals, schools, subways, cinemas, stadiums, etc)
- Commercial Buildings
- Residential
- Subways & Industry

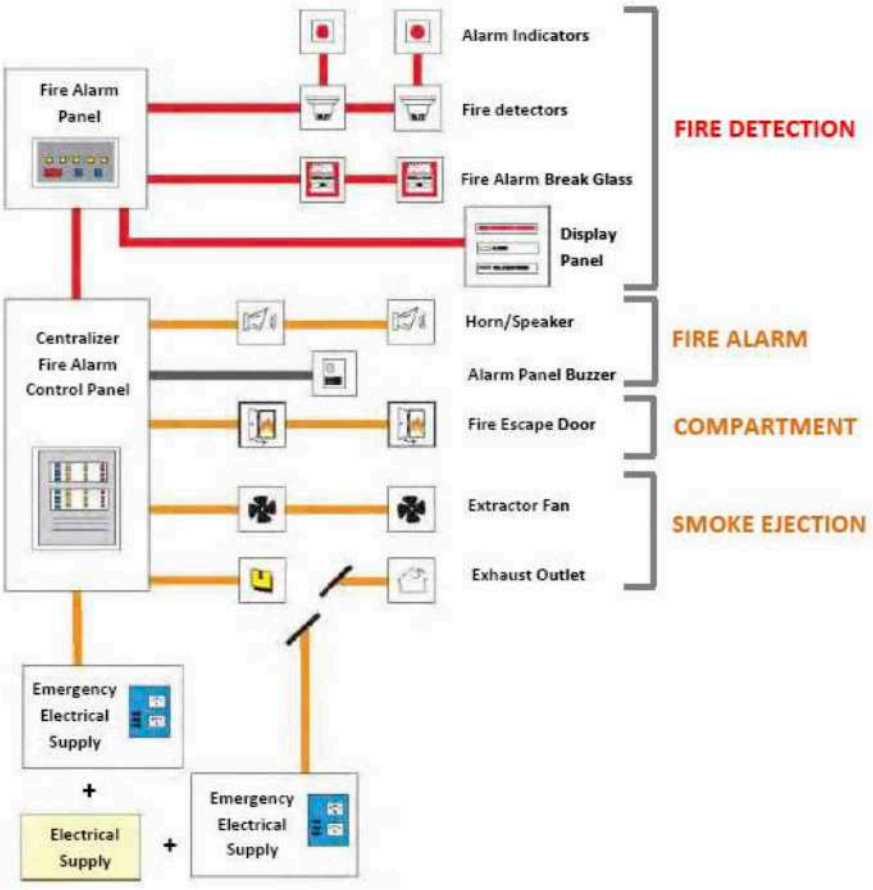
Safety Lighting Circuit

Safety Circuit

- Smoke extractor
- Sprinkling Pumps
- Lifts, Elevators

Fire Alarm systems

- Manual Alarm
- Central Alarm



Building

Whatever the rate of construction, a number of trends are clearly emerging among our cable customers, often expressed in new expectations and demands. As a builder, promoter, designer, installer, or system integrator of residential, public and office buildings, or industrial plants, you would like to see :

Fire safety

- Fire safety starts with cables

Electrical cables can warrant the supply of energy and the transmission of information

The main cause of casualties in indoor fire are smoke and hazardous emissions which significantly reduce the chance to escape and extend the damage to goods far behind the burned area. The contribution of cables is key both in active and passive protection. Electrical cables can warrant the supply of energy and the transmission of information. They can contribute to improve the time to escape the fire.

Cables are not dangerous on their own if adapted for the scope and correctly installed but present everywhere in large quantities.

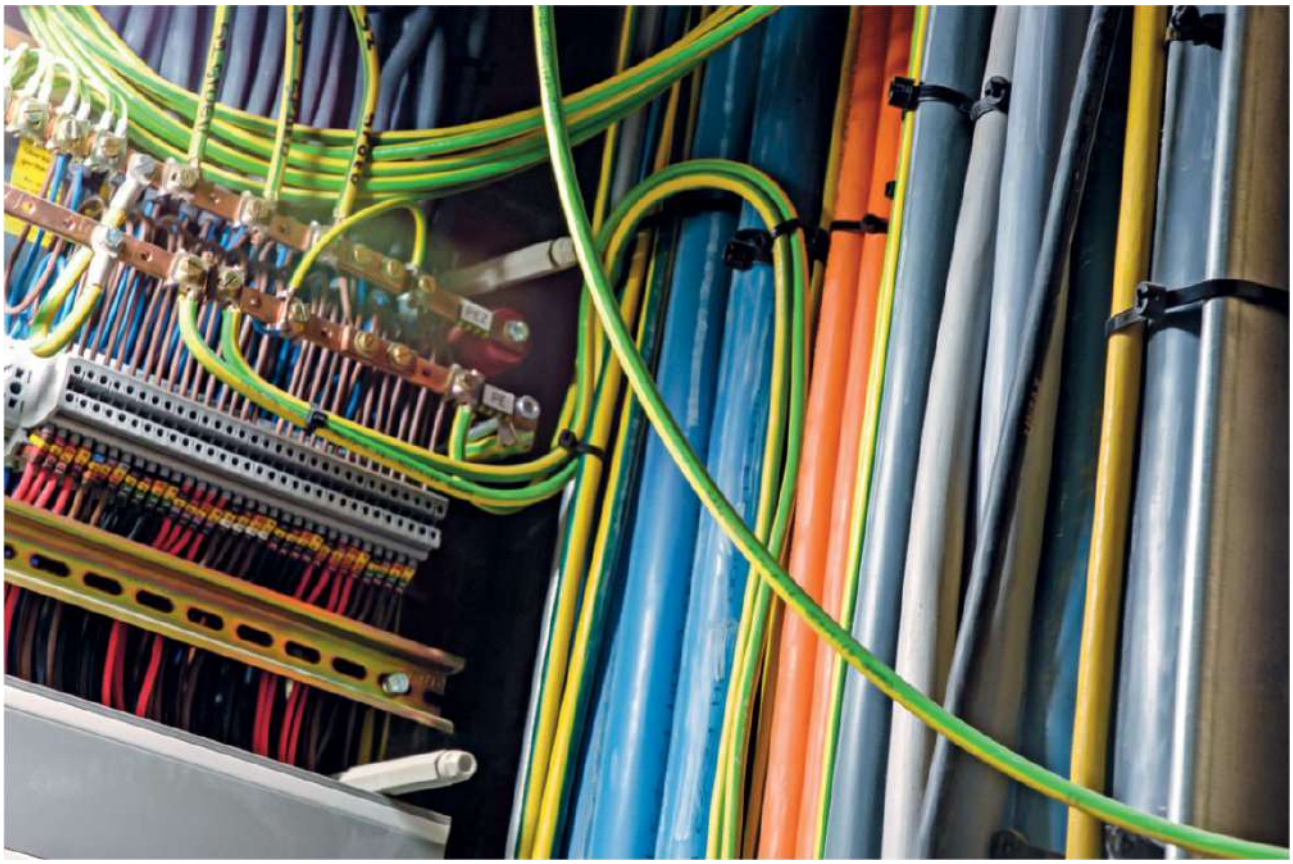
- Omnipresence: Cables – like pipes and air conditioning conduits – are everywhere around us, and most of the time not visible once they are installed. They link rooms and floors and go through the walls without interruption. In the event of a fire, cables can therefore be a vector of propagation of fire.
- Large quantity: The sheer volume of cables in modern buildings due to the rapid technological evolution (electrical appliances, telephones, computer connections...) can be astonishing. In many office and shopping centres, new cables are added, to upgraded IT networks or new electrical security standards. All theses cables represent a significant quantity of fuel for fire.

According to the behaviour of fire safety cables during fire, they can be classified in two categories:

- Low fire-hazard cables: lower smoke opacity and gases emissions, even prevent flame from spreading and reduce heat release.

- Fire resistant cables: ensure integrity of function during a fire.

Regulators, architects, engineering offices, contractors, wholesalers, cables manufacturers, etc. everyone should play an active role in the use of fire safety cables.



The majority of deaths in a fire are due to inhaling dangerous gases. It is vital to reduce the exposure time to these gases by facilitating safe evacuation with the best possible visibility.

Low Fire-Hazard cables ensure lower smoke opacity and gases emissions, prevent flame from spreading and reduce heat release.

A low level of opacity of smoke produced and acidity of the effluent are basic criteria in the selection of materials that, in the event of fire, make it possible to reduce the presence of dangerous gases and to facilitate escape. It is essential that the production of opaque smoke and harmful emissions is as low as possible during a fire.

Research has proven that cables could contribute strongly to contain a fire and to reduce smoke, toxic gases and heat release (Simulation of critical evacuation conditions for a fire scenario involving cables and comparison of two different cables - Patrick van Hees, Daniel Nilsson, Emil Berggren - Department of Fire Safety Engineering and System Safety - Lund University, Sweden - Brandteknik och Riskhantering. Lunds tekniska hogskola. Lunds universitet - Report 3147, Lund 2010)

Fire resistant cables are an essential component of any alarm circuit.
During fires, buildings should remain functional to help in the evacuation process. People's safety is the priority: fire safety equipments like warning systems, smoke detector, smoke extractor, emergency exits, and fire lighting equipment are key and must remain functional. Electrical cables are the backbone of all these equipments.

Alsecure range: Low Fire Hazard cables

Reduce smoke production and harmful emissions

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Restrict the propagation of fire and the heat release

Cables can be the means of propagation of a fire from one room to adjacent rooms; so the control of fire propagation along cable runs has been required in some National Regulations for many years in order to reduce this hazard.
Benefits of ALSECURE wires and cables

- Significantly delay the propagation of a fire, thus gaining precious time for evacuation and fire-fighting
- Reduce to a minimum opaque smoke and acid gases, the prime cause of fire-related deaths, and damage to equipment and structures
- A wide range fitting the different country regulations, building types and electrical applications.

The ALSECURE range is already available and can already contribute to changing the level of safety in your projects. Anticipate the future adopting the new generation of safe cables ALSECURE by Nexans.

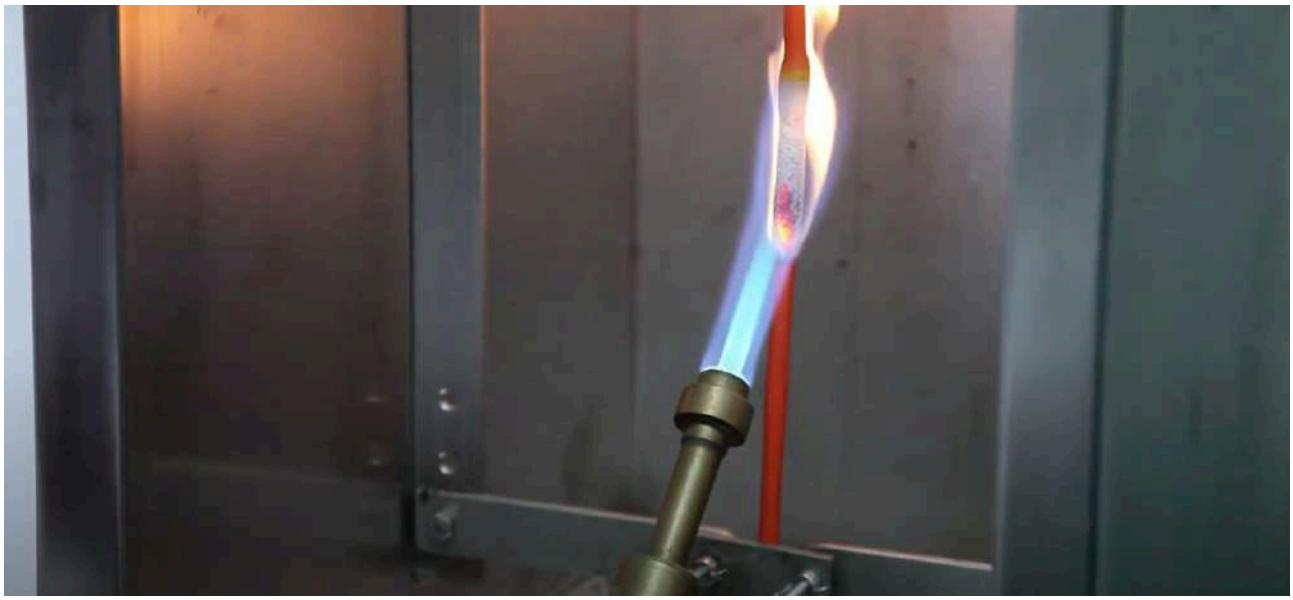
Alsecure Plus & Alsecure Premium: Fire resistant cables

Fire resistant cables ensure integrity of function during a fire by enabling the security systems (video surveillance, smoke ventilation, audio alarms...) to continue functioning for a certain time after the fire has started. Nexans ALSECURE cables comply with these requirements..
Alsecure Plus is Nexans' full range of Fire resistant cable based on different technologies (silicone rubber or mica tape) in accordance with the national standards.

Recently Nexans broaden its cable range with a new product bringing exceptional mechanical performance, making the installation easier: the Alsecure Premium range, based on the patented INFIT insulation technology.

It delivers the same fire-performance characteristics as its predecessors; however, it adds new value to your installations by creating important time-saving and thus cost-saving advantages

IEC 60332-1




At the result of test,
blackened part of the cable is measured.

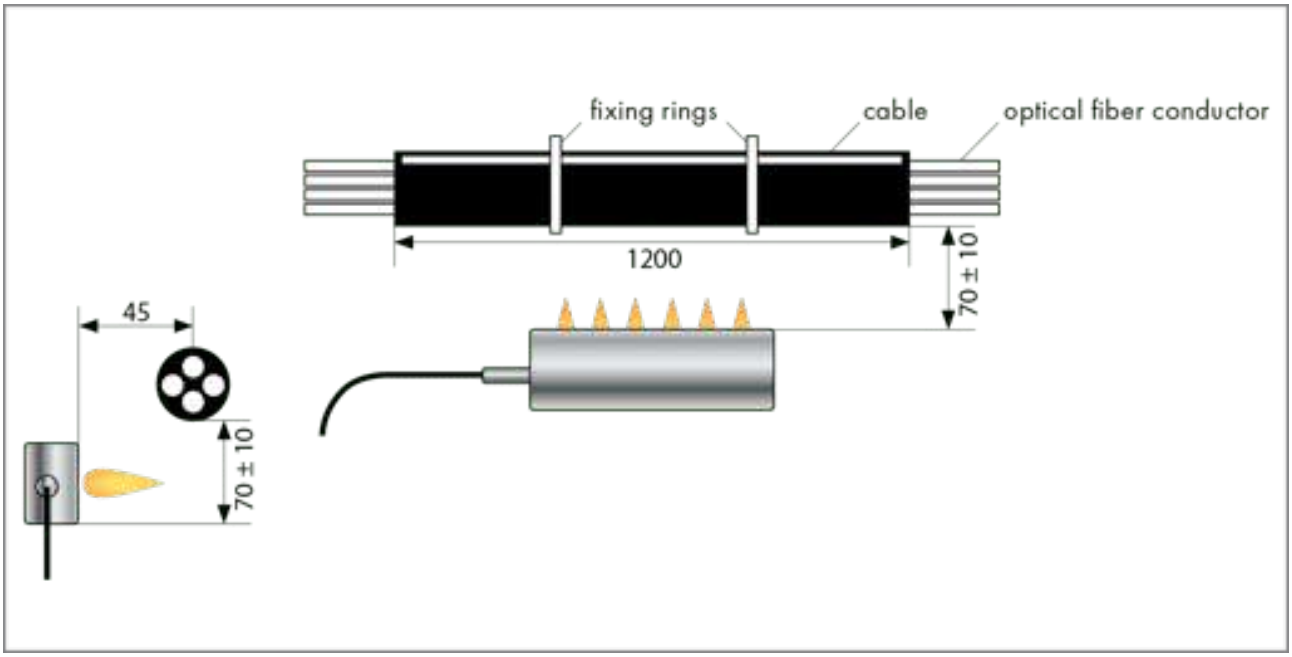
IEC 60332-3


IEC 60332-3
Vertical Flame Test On
Bunched Cables


The test is done in 4 categories as A, B, C, D.

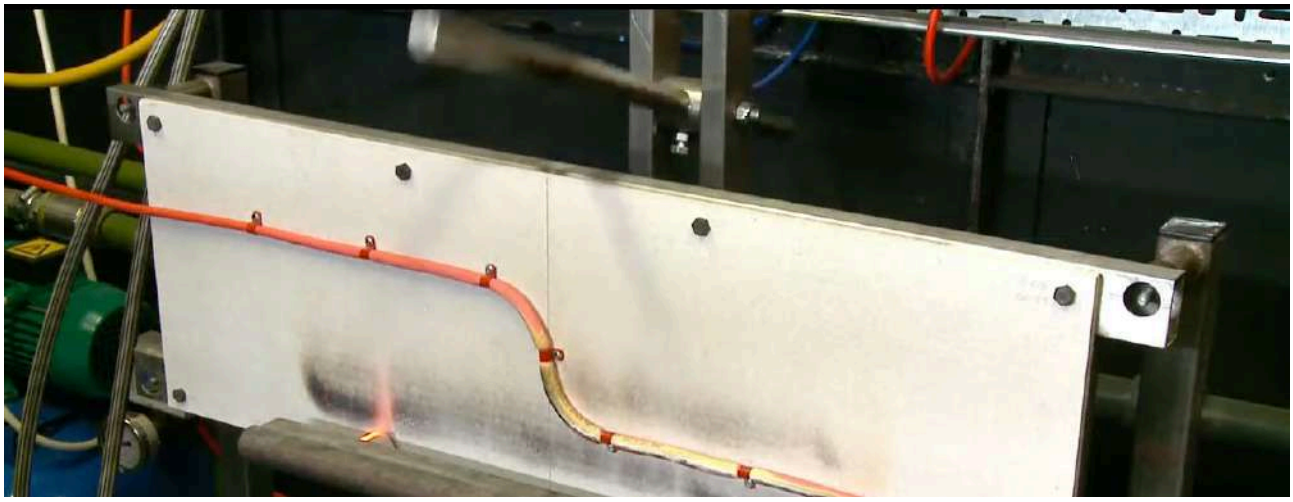
FIRE RESISTANCE IEC60331

Tests for electric cables under fire conditions

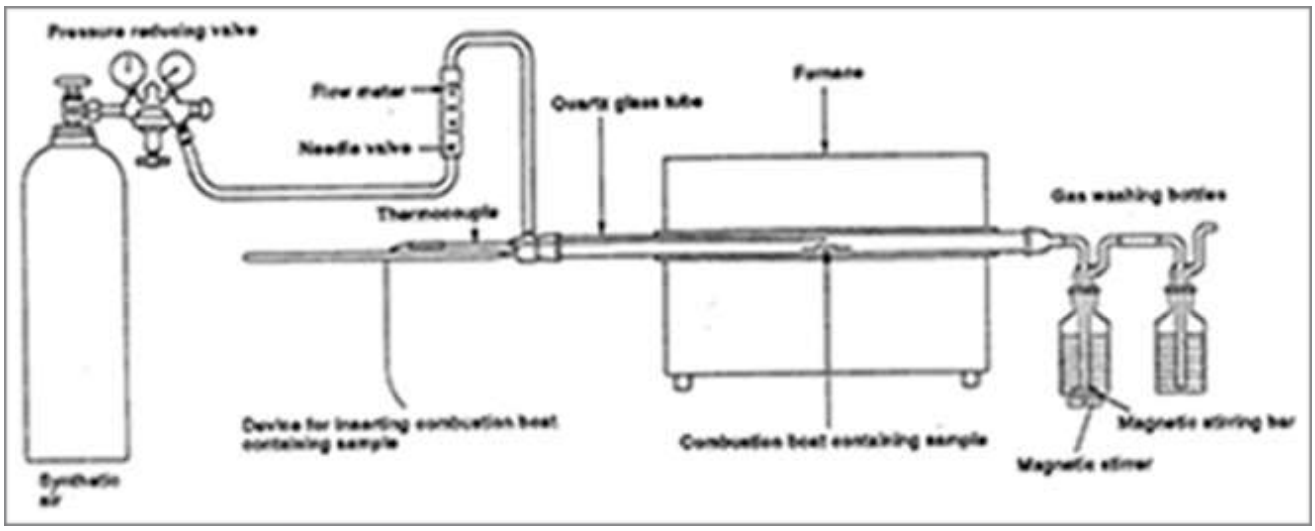


FIRE RESISTANCE BS6387 Cat W

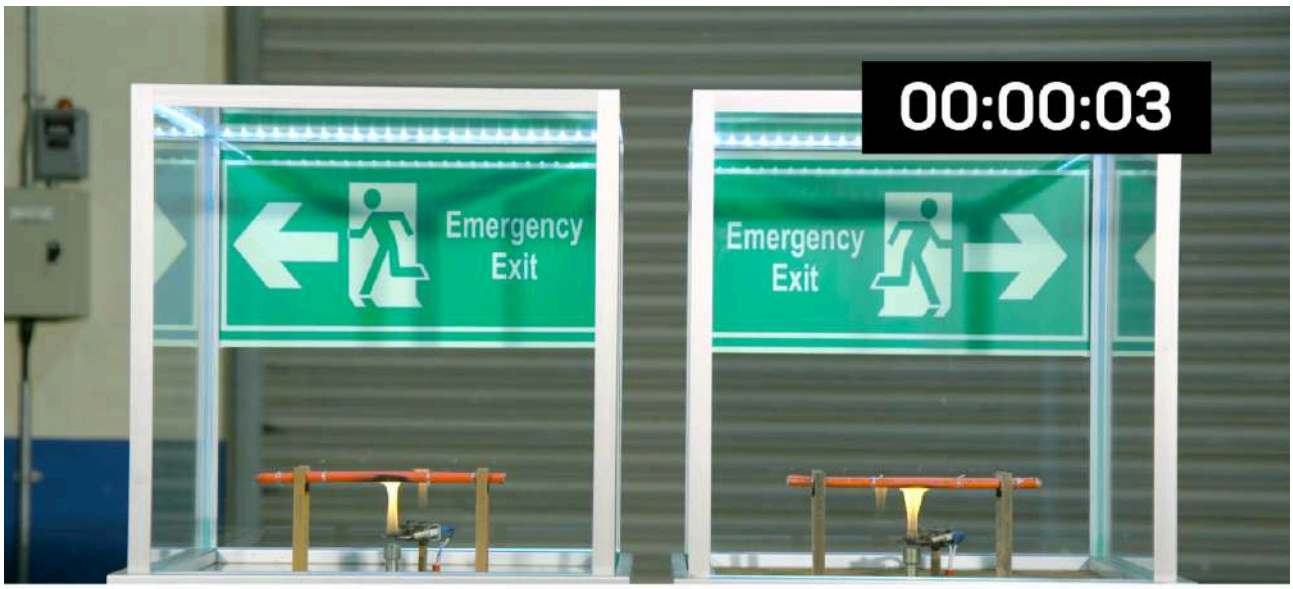
FIRE RESISTANCE BS6387 Cat Z



Acids and Corrosive Gas Emission IEC60754



IEC 61034 - BS IEC 61034-2



LSZH
2 x 1.5mm²

Market Sourced Cable
2 x 1.5mm²

LSZH
2 x 1.5mm²

Market Sourced Cable
2 x 1.5mm²

1 Application

The Low Smoke Zero Halogen Cable is used in fixed installations with mechanical protection, within switchgear and control gear.

2 Standard & specification

Cable design Refer to BS EN 50525-3-41, IEC 60332-1
IEC 60332-3-24, IEC 60754-1 and 2, IEC 61034-2

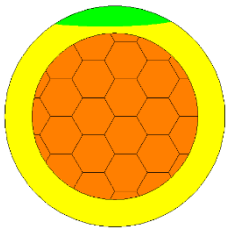
Conductor

Plain annealed stranded circular copper conductor in accordance with EN 60228 Class 2

Insulation

Extruded Halogen-free crosslinked polyolefin compound of Type EI 5 comply with EN 50363-5

Color: Y/G or other colors



Cable marking-Inkjet

For example:

NEXANS Cu/LSZH 0.6/1kV 1C×95 SQMM Refer to BS EN 50525-3-41 2022 ****M

"****M" meter marking by inkjet with increased sequence with numbering, only overall above 6 mm available

3 Overall design

Nominal cross section area	Conductor		LSZH Insulation nominal	Overall diameter (±10% Approx.)	Approx. weight
	Type	Diameter			
mm2	-	mm	mm	mm	kg/km
1.5	Class 2	1.56	0.7	3.0	22
2.5	Class 2	1.98	0.8	3.6	34
4	Class 2	2.5	0.8	4.1	49
6	Class 2	3.0	0.8	4.6	68
10	Class 2	4.0	1.0	6.0	114
16	Class 2	5.1	1.0	7.1	172
25	Class 2	6.4	1.2	8.8	266
35	Class 2	7.0	1.2	9.4	356
50	Class 2	8.3	1.4	11.1	481
70	Class 2	9.7	1.4	12.5	674

Note: NEXANS reserves the right to change specifications without prior notice


Conductor flexibility Stranded class 2

Lead free


Rated Voltage Uo/U 0.6/1


Max. conductor temp. in service 90°C

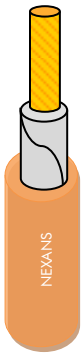

Smoke density IEC 61034-1

Halogen free IEC 60754-1&2


Flame retardant IEC 60332-3-24

1 Application

These cables are specified for use in populated public building, large multi-storey and complex buildings areas, Such as stadia, airports, hospitals, universities, hi-rise offices, residential.



2 Design

- **Conductor**

  Fine annealed stranded copper wires to IEC 60228, Class 2

- **Fire barrier**

  High fire resistant performance mica tape

- **Insulation**

  Extruded, cross-linked, Low smoke halogen free compounds
  Color: according to customer requirements

- **Cable marking**

  Print

  ALSECURE PLUS MIC 600/1000V CU/MICA/LSZH 1×*** BS6387:2013 WW/YYYY NEXANS **** Meter mark

  Where
  ***---- Nominal cross section area of the conductor
  WW/YYYY----Week/Year of manufacture
  ****----Inkjet meter mark with increased sequence with numbering
  * ----In accordance to BS 6387:2013

Type approval certificate

TUV certificate no: J50359920 0001

BS 6387
IEC 60502-1
IEC 60332-3-24
IEC 60754-1 and 2
IEC 61034-2

3 Cable data sheet

No of cores and nominal cross section area	Conductor		Insulation	Overall diameter Approximate	Weight Approximate
	Strands	Diameter			
N ×mm2	-	mm	mm	mm	kg/km
1×1.5	7	1.6	0.7	3.6	21
1×2.5	7	2.0	0.7	4.0	31
1×4	7	2.5	0.7	4.9	46
1×6	7	3.0	0.7	5.4	65
1×10	7	4.0	0.7	6.4	105

Note: NEXANS reserves the right to change specifications without prior notice


Conductor flexibility Class 2

Lead free


Rated Voltage Uo/U (Um) 0.6/1


Max. conductor temperature in service 90°C


Fire resistance BS 6387 CWZ*

1 Application

For used in control systems for analogue or digital signal transmission.

2 Standard & specification

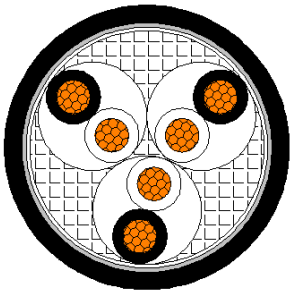
Cable design comply with BS 6387, EN 50288-7,IEC 61034, IEC 60754-1/2

Conductor

Plain annealed stranded circular copper conductor in accordance with IEC 60228 Class 2

Fire resistant layer

High fire-resistant performance mica tape



Insulation

Extruded XLPE compound comply with EN 50288-7

Identification*:
Pair: Black, White
*each pair or triple is printed with number

Cabling elements

Insulated cores twisted together to form a pair

Assembly and filler(optional)

The interstices between pairs filled with non-hygroscopic polypropylene yarn to form substantially circular shape with a suitable binder tape

Collective screen

Aluminum-polyester tape applied over assembly cores, the metallic side down in electrical contact with a drain wire (0.5mm^2) throughout the length

Over sheath

Extruded LSZH compound comply with EN 50288-7
Color: Orang or other colors available upon request

Cable marking-Inkjet

For example:

NEXANS CU/MICA/XLPE/OSCR/LSZH 300/500V 1P1.5 SQMM TO BS6387:2013 CWZ* WW/YYYY **** M

Where:
****M---- meter marking by inkjet with increased sequence with numbering
WW/YYYY----Week/Year of manufacture
* ----In accordance to BS 6387:2013

Note: NEXANS reserves the right to change specifications without prior notice

GENFIRE606

GENFIRE® 606

P5/P12 BFOU Fire & Mud Resistant Armoured Low Voltage Power and Control 0.6/1 kV

STANDARDS:

CONSTRUCTION: IEC 60092-353 / IEC 60092-360 / NEK TS 606
FIRE PERFORMANCE: IEC 60331-21 / IEC 60331-1 and -2 / IEC 60332-1-2
IEC 60332-3-22 / IEC 60754-1 / IEC 60754-2
IEC 61034-2

CONSTRUCTION:

1. **CONDUCTOR:**
Tinned copper class 2 to IEC 60228.
Option in flexible class 5 available on request.

2. **MICA TAPE**

3. **INSULATION:**
Ethylene Propylene Rubber (EPR). IEC 60092-360.
Core identification: see page 21.

4. **INNER COVERING:**
Halogen-free compound.

5. **ARMOUR:**
Tinned copper wire braid.

6. **OUTER SHEATH:**
Halogen-free Mud resistant cross-linked compound (SHF Mud). NEK TS 606.

APPLICATIONS:

Armoured cables for installation in offshore applications with special performances on flame spread and low emission of smoke and fumes.
Halogen-free, fire, oil and mud resistant.
Maximum rated conductor temperature in normal operation: 90 °C.
Minimum handling & laying temperature: -15 °C.
Minimum working temperature -20 °C.

Multi-Distribution Services Co.,Ltd.
10/9 Soi Srinakarin 57, Nongbon, Prawet, Bangkok 10250 Thailand.
TEL. +66 (0) 2 125 2958 FAX +66 (0) 2 351 0153 E-Mail sales_team@mds2you.com

www.multidistributor.com