



**FIRE RESISTANT  
AND LOW SMOKE  
HALOGEN FREE CABLES**







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## Thai-Yazaki Electric Wire Co.ltd.

Our global operations harness the corporate credo “**A corporation in step with the world**” and “**A corporation needed by society**”, which serves as the basis of our value proposition to our customers. Yazaki is also the largest market provider for building wire solutions in Japan and the largest electric wire and cable solutions supplier in Thailand. Founded in Japan, Yazaki group has a legacy of **high quality products** that are the destination for customers who require **high and reliable performance**.

With more than half a century of experience in electric wire production, the Yazaki Group has also made significant achievements in the development of construction saving and environmentally friendly products.





## MAIN PRODUCT

Our products, generally known as “Electric Wire and Cable”, actually consist of variety products range from power transmission wire and cable, low~high power distribution cable to the control cable, Instrumentation cable, etc. Thai-Yazaki Electric Wire not only produces these general electric wire and cable but also keeps focus on creating new design to meet the various needs of our customers. As the no.1 manufacturer in this field in Thailand more than half a century, we continue to introduce technology from abroad and provide our products under strict quality control to our customers.

- Building Wire and Cable
- Low voltage Power Cable
- Medium and High Voltage Power Cable
- Control Cable and Instrument Cable
- Bare Conductors
- Special cable
  - Low Smoke & Halogen Free cable
  - Fire Resistant Cable
  - Flame Retardant Cable
  - Vermin Proof Cable
  - Armoured Cable



## Quality Product

Yazaki’s products are well known in the market for, High performance, Wide selection, Long life, and Reliability, which are elements to underline our Quality value.

Yazaki is proud to have repeated customers that appreciate our maintenance free and high performance products, that are delivered on-time. Customer satisfaction is achieved by delivering quality products that does what is expected to do.

Yazaki’s vertically integrated supply chain from copper melting to final assembly enables us to take full control of all the process steps in our value chain to guarantee the highest quality performance ratings in the market.



## INTRODUCTION

This catalogue contains technical information for the specification of fire resistant cable, flame retardant cable and flame retardant with low smoke and non-halogen cable. The catalogue is divided into sections by cable construction. Performance standard and cable application.

## REFERENCE STANDARD

The cables shall be manufactured and tested in accordance with the following standards ;

Publications	Description
IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1.2 kV) up to 30 kV (Um = 36 kV) - Part 1 : Cables for rated voltages of 1 kV (Um = 1.2 kV) and 3 kV (Um = 3.6 kV)
IEC 60228 (Equivalent BS EN 60228)	Conductors of insulated cables.
BS EN 50525-3-41	Electric cables. Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U). Cables with special fire performance. Single core non-sheathed cables with halogen-free cross-linked insulation and low emission of smoke.
BS 6724	Electric cables. 600/1000V and 1900/3300V armoured electric cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire.
BS 7846	Electric cables. 600/1000V armoured fire-resistant cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire.
IEC 60332-1-2 (Equivalent BS EN 60332-1-2)	Tests on a single vertical insulated wire or cables.
IEC 60332-3 (Equivalent BS EN IEC 60332-3)	Tests on electric cables under fire conditions Part 3 : Test for vertical flame, spread of vertically-mounted bunched wires or cables
BS 6387	Test method for resistance to fire of cables required to maintain circuit integrity under fire conditions

## REFERENCE STANDERD

Publications	Description
IEC 60754-1 (Equivalent BS EN 60754-1)	Test on gases evolved during combustion of materials from cables Part 1 : Determination of the halogen acid gas content.
IEC 60754-2 (Equivalent BS EN 60754-2)	Test on gases evolved during combustion of materials from cables Part 1 : Determination of acidity (By pH measurement) and conductivity.
IEC 61034-2 (Equivalent BS EN 61034-2)	Measurement of smoke density of cables burning under defined conditions Part 2 : Test procedure and requirements.
Defence Standard 02-713 (NES 713)	Determination of the toxicity index of the products of combustion from small specimens of materials

## CLASSIFICATION

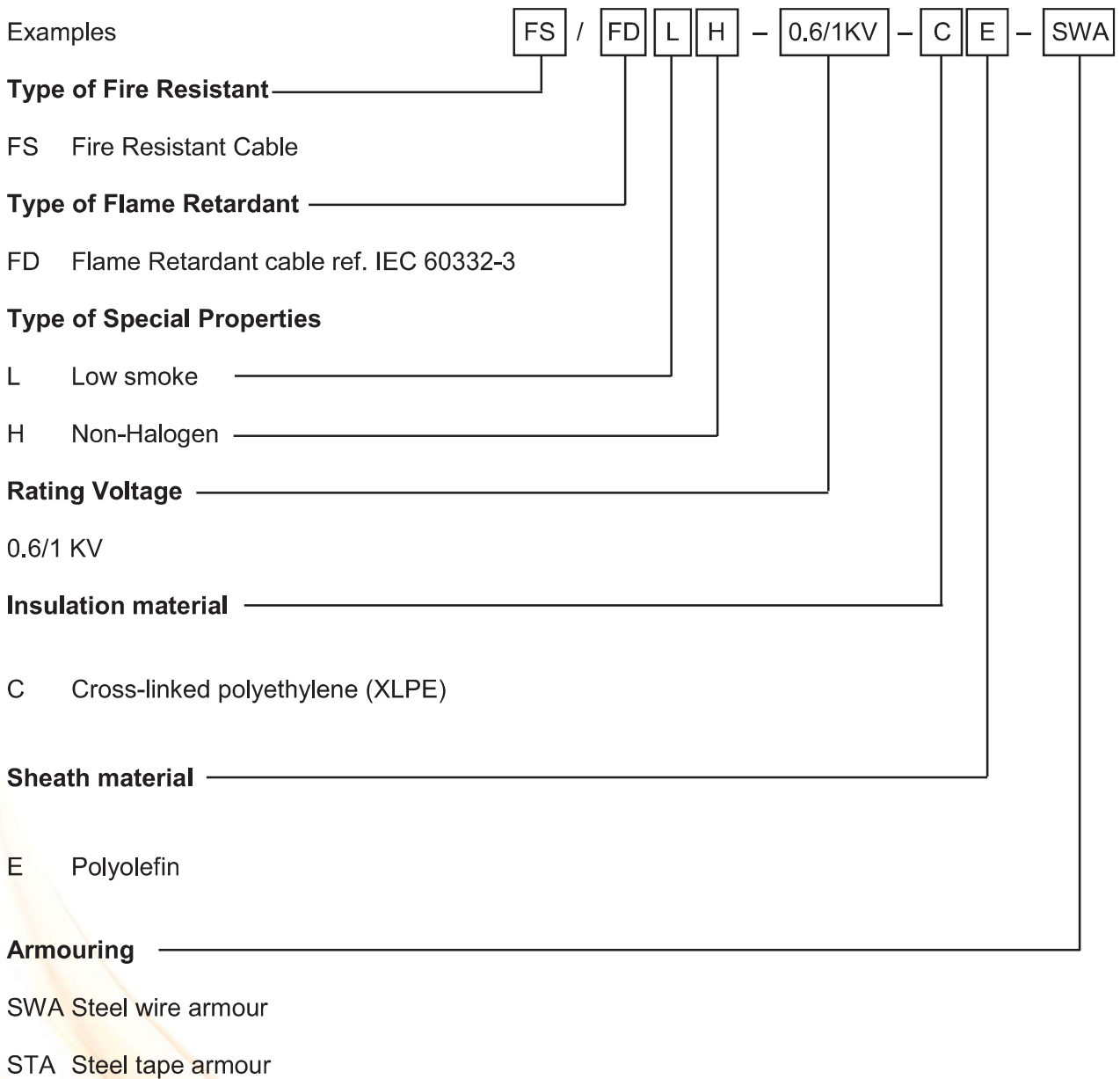
Conditions	Temperature (°C)
Normal operation	90
Emergency over load	130
Short circuit	250

## COLOUR OF IDENTIFICATION

Number of cores	Insulation	Outer sheath
Single-core	Transparent (Black or Orange for non-sheathed cable)	N/A
2-Cores	Blue, Brown	Black or Orange
3-Cores	Brown, Black, Grey	
4-Cores	Blue, Brown, Black, Grey	
Ground core (PE)	Green/Yellow	



## DEFINITION OF THAI YAZAKI CODE



## FLAME RETARDANT CABLE

### Overview

The cable with flame retardant thermoplastic sheath can reduce flame propagation and self-extinguish. This will cause minimal propagation of fire to the other areas during the fire.

Various type of cable such as power cable, control cable and communication cable can be applied with applied with flame retardant thermoplastic. This cable can use in anyplace depend on the characteristic of the cables.

### Application of cables

This kind of cable is suitable to uses in places where riskily catch on fire and suitable for open area installation or use for short and little congest building because the sheath of cable is not low smoke and zero halogen type.

## FLAME RETARDANT PROPERTY

### REFERENCE STANDARD

**IEC 60332-1 : Test on a single vertical insulated wire or cables.**

**IEEE 383 : Test on a single vertical insulated wire or cables on tray.**

**IEC 60332-3 : Tests on electric cables under fire conditions - Part 3 : Test for vertical flame, spread of vertically-mounted bunched wires or cables. The test as show in the table below :**

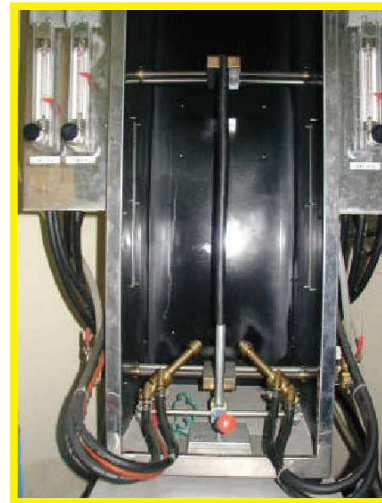
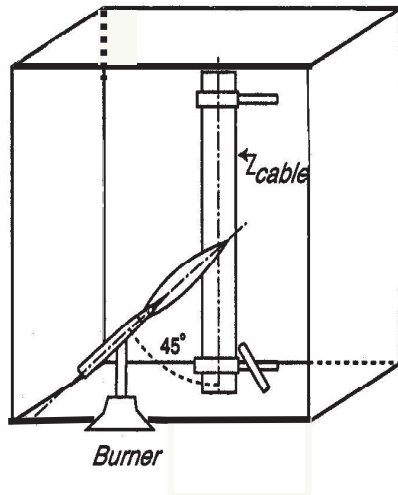
CATEGORY	A	B	C	*D
Volume of non-metallic materials in a 1 metre sample (L/m)	7	3.5	1.5	0.5
Flame application time (minute)	40	40	20	20

\*Category D is intended for use with small cables (Overall diameter 12 mm or smaller) where very low volumes of non-metallic material are required to be evaluated.

## IEC 60332-1 : Test on a single vertical insulated wire or cables.

### Scope :

This section describes the flame retardant test method on single vertical.



### Condition of test :

Overall diameter of test piece (D) (mm.)	Time for flame application (S)
D ≤ 25	60
25 ≤ D ≤ 50	120
50 ≤ D ≤ 75	240
D 75	480



### Test Apparatus :

The test procedure defined in this part shall be carried out using the test apparatus i.e. burner, metallic screen cable support.

### Test Procedure :

Fix the 550 mm test piece with the cable support and align it very vertically within a three sided metallic screen. Ignite the burner which is at an angle of 45° to the vertical axis of the sample. The period of time corresponding to the diameter shown in table above.

### Evaluation :

When the time is up, the burner shall be ceased, After the test piece is extinguish, the distance from the lower edge of the top support to the onset of charring shall be measured to the nearest millimeter.

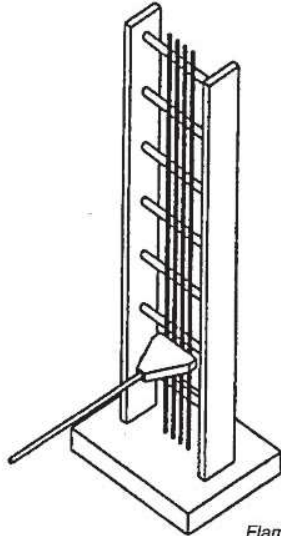
The measured distance must not less than 50 mm.



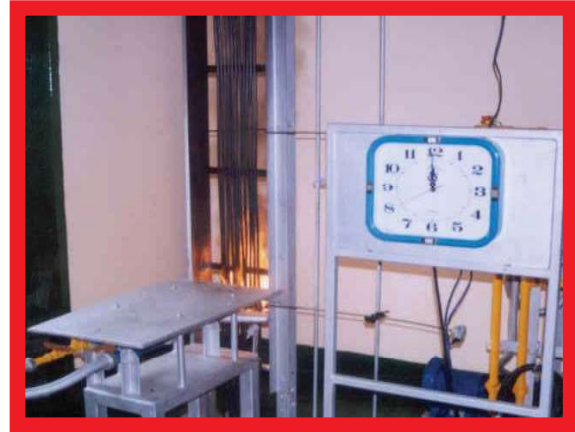
## IEEE 383 : Test on a single vertical insulated wire or cables on tray.

### Scope :

This section describes the method for type testing of grouped cables via the vertical open tray flame test to determine their ability to resist fire.



Flame Propagation Test



### Criteria :

The test should demonstrate that cable does not propagate fire even if its outer covering and insulation have been destroyed in the area of flame impingement.

### Test Apparatus :

**Test Room:** Should be a naturally ventilated room or enclosure free from excessive drafted and spurious air currents.

**Vertical Tray:** for test sample establishing. The tray should be vertical, Metal, Ladder type 3 inch deep, 12 inch wide and 8 ft. long.

**Flame Sources:** shall be 10 inch wide, ribbon gas burner mounted 3 inch behind and approximately 2 ft. above the bottom of vertical tray. The flame temperature should be approximately 816°C located about 1/8 inch spacing from the surface of the test specimens.

### Test Procedure :

1. Prepare the test sample in the vertical tray. Multiple lengths of cable should be arranged in a single layer filling at least the center six inch portion of the tray with a separation of approximately  $\frac{1}{2}$  the cable diameter between each cable
2. Ignite the burner and allow it to burn for 20 minutes at the temperature approximately 816°C.
3. Record temperature during at point of impingement throughout the duration of the test, length of time flame continues to burn after the gas burner is shut off, jacket char distance and distance insulation is damaged.

### Evaluation :

Cable which self-extinguish when the flame source is removed and do not burned to the total height of the tray above the flame source pass the test.

## IEC 60332-3 : Tests on electric cables under fire conditions - Part 3 : Test for vertical flame, spread of vertically-mounted bunched wires or cables.

### Scope :

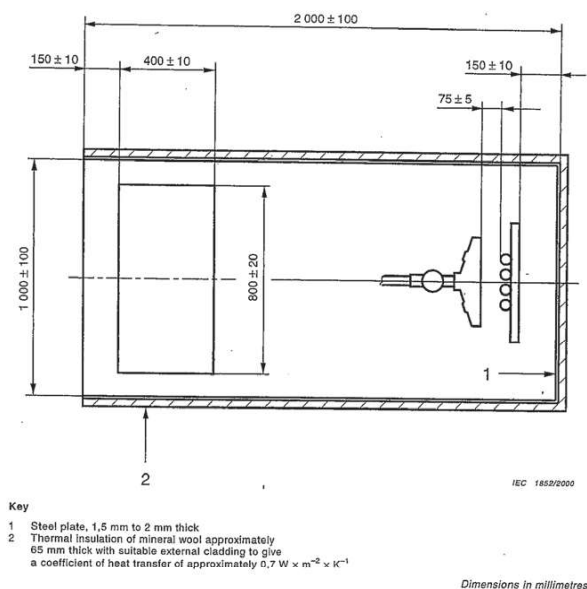
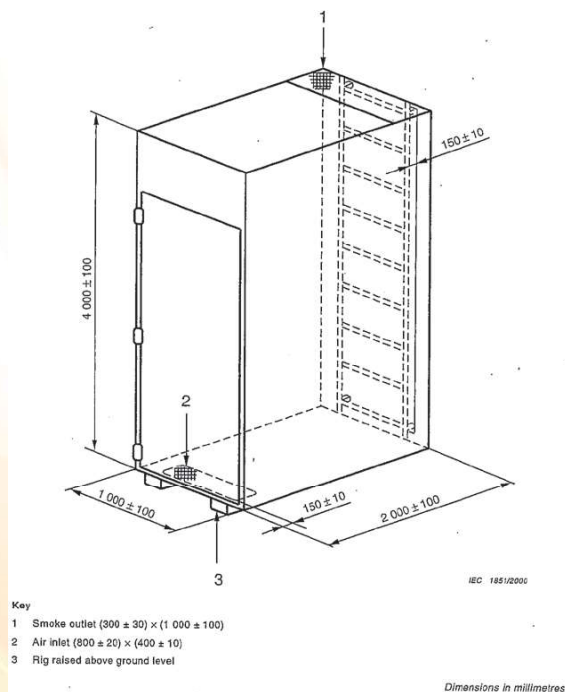
This section describes the method for type testing to define the ability of bunched cables to restrain flame propagation in defined conditions regardless of their application.

### Categories :

Four categories are defined and distinguished by test duration, and the volume of non-metallic material of the sample under test.

Standard Category	Condition	
	Volume of non-metallic materials in a 1 metre sample (L/m)	Flame application time (minute)
IEC 60332-3-22; Category A	7	40
IEC 60332-3-23; Category B	3.5	40
IEC 60332-3-24; Category C	1.5	20
*IEC 60332-3-25; Category D	0.5	20

\* **IEC 60332-3-25 Category D** is intended for use with small cables (Overall diameter 12 mm or smaller) where very low volumes of non-metallic material are required to be evaluated.



**IEC 60332-3 : Tests on electric cables under fire conditions - Part 3 : Test for vertical flame, spread of vertically-mounted bunched wires or cables.**



**Test Procedure :**

The test shall be carried in a chamber having the required dimensions.

The cable specimens shall be attached vertically next to each other on a vertical ladder tray and then operate the ribbon burner for the appropriate time.

**Evaluation :**

After the removal of the flame, the cable specimens must be wiped clean, and the charred or affected portion should not have reached a height exceeding 2.5 meters above the bottom edge of the burner.





## **FLAME RETARDANT CABLE WITH LOW SMOKE & NON-HALOGEN CABLE**

### **Overview**

The loss of human life in case of fire in public building is always in a tragically number, in the advent of fire, people are confronted by smoke, heat and toxic fumes. The sight of smoke and the smell of pungent fumes undoubtedly contribute greatly to panic, making save evacuation difficult and severely hampering firefighting efforts.

Our company has realized on these problems, and are working on the development of our flame retardant cable, low smoke, Non-halogen and reduced flame propagation. The contribution towards achieving these conditions has been the introduction of flame retardant and non-halogenated materials.

### **Application of cables**

These cables are designed to have the special properties such as low smoke and non-halogen. These cables are suitable to use in crowded building like hotel, hospital, underground railways, train station, theatre and airport.

### **Reference standard**

<b>Test Property</b>	<b>Reference Standard</b>
Flame Retardant Test	IEC 60332-1, IEC 60332-3
Acid Gas Emission Test	IEC 60754-1 (Equivalent BS EN 60754-1) IEC 60754-2 (Equivalent BS EN 60754-2)
Smoke Density Test	IEC 61034-2 (Equivalent BS EN 61034-2)

## NON-HALOGEN PROPERTY

### IEC 60754-1 : Test on gases evolved during combustion of materials from cables

#### Part 1 : Determination of the halogen acid gas content.

##### Scope :

This test specifies test method for determination of halogen acid gas evolved during combustion of compounds taken from cable constructions.

##### Non-Halogen Definition :

IEC 60754-1 is recommended for the performance standard of defining "Zero-Halogen".

##### Recommended Values :

The amount of halogen acid expressed as milligrams of hydrochloric acid per gram of sample taken shall be not more than 5 mg/g (0.5%)

### IEC 60754-2 : Test on gases evolved during combustion of materials from cables

#### Part 1 : Determination of acidity (By pH measurement) and conductivity.

##### Scope :

This test determine the degree of acidity of gases evolved during the combustion of compounds taken from cable components.

##### Non-Halogen Definition :

IEC 60754-2 is recommended for the performance standard of defining "Zero-Halogen".

##### Test Apparatus :

**Furnace:** Shall be electric heating system

**Combustion boats:** These are recommended to be either in porcelain, fused quartz or soap stone and should have the dimensions of 45-100 mm. long. 12-30 mm, wide 5-10 mm. deep.

**Bubbling devices for gases:** At the exit of the tube, the gases pass from the furnace through a bottle containing 1,000 ml. of distilled or demineralized water. A magnetic stirrer shall be introduce in the bottle (on the first bottle, where two bottles are used) to get a good swirling motion and a better absorbance of the combustion gases.

##### Air supply system :

The gas used for combustion is air, and the gas flow in the tube shall be adjusted between 15 to 30 liters/h.

Remark : Use of synthetic air ( compressed air in the bottle as delivered), compressed air supplied in the laboratory, or use the ambient air of the laboratory, after having fill suitably, (in that case, the mixture of air and combustion gas is sucked by a pump.) are possible used in this operation,

**Test Procedure :**

1. The test pieces shall consist of 1,000 mg. of the material to be tested, and shall be cut into small pieces and put into the combustion boat.
2. The boat containing the test pieces shall be inserted into the tube of the furnace and the timer shall be started
3. The temperature at the position of the boat shall be not less than 935 °C, the combustion procedure shall be continued for 30 min, in the furnace
4. The pH value and conductivity shall determine at the end of the test

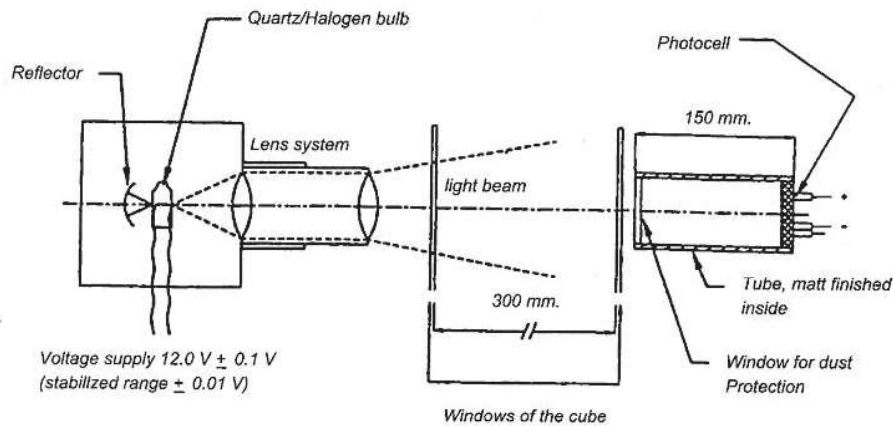
**Recommended Values :**

The weighted pH value should not be less than 4.3, when related to 1 liters of water. The weighted value of conductivity shall not exceed 10  $\mu\text{s}/\text{mm}$ . ( $s=1/\Omega$ )



## LOW-SMOKE PROPERTY

### IEC 61034-2 : Measurement of smoke density of cables burning under defined conditions Part 2 : Test procedure and requirements.



#### Scope :

This part provides details of the test procedure to be employed for the measurement of smoke density emitted from cables burning under defined conditions.

#### Test Apparatus :

The test procedure defined in this part shall be carried out using the test apparatus, i.e. test enclosure, photometric system and standard fire source.

#### Test Procedure :

The equipment shall comprise a cubic enclosure with inside dimensions of 3,000 mm. One side shall have a door, with a glass inspection window. Transparent sealed windows shall be provided on two opposite sides to permit the transmission of a beam of light from the horizontal photometric system

The receptor photocell shall be connected to a potentiometric recorder to produce a linear proportional output.

The standard fire source shall be 1.00 liters of alcohol.

The sample of cable shall be 1.00 meters long and the number shall depend on the diameter of cable. The sample shall be carefully straightened and shall be laid touching in a horizontal position and centered above the tray containing the alcohol. Then start the air circulation and ignite the alcohol.

The minimum light transmittance shall be recorded.

#### Evaluation :

The record light transmission shall not less than the value that standard recommended.

## **FIRE RESISTANT WITH LOW SMOKE & NON-HALOGEN CABLE**

### **Overview**

The major importance of safety system in case of fire in places as high public building industrial factory, underground area is to protect the human life. More requirements for electrical cables with minimum propagation of fire are coming into effect with primary emphasis to ensure safe and controlled evacuation in a fire situation.

Thai Yazaki fire resistant cables are strictly designed and produced to meet the performance requirements of BS 6387

### **Properties**

1. Easy application, can be made either on tray or in conduit.
2. Easy for installation with no special terminations requiring no special tools or ferrules.
3. Non-pollution at fire impact, as the cables are constructed from zero halogen materials.

### **Application of Fire Resistant Cable**

Fire Resistant Cable are provided to ensure the ability of emergency support systems to function, i.e. emergency lighting, smoke spill fans, fire alarms & sprinkler, emergency evacuation intercommunication system etc., under fire condition.



## **FIRE RESISTANT PROPERTY**

**BS 6387 : Test method for resistance to fire of cables required to maintain circuit integrity under fire conditions.**

### **Scope :**

This standard specifies those requirements of the cables related to characteristics required to enable circuit integrity to be maintained under fire conditions.

### **Type and categories of cables :**

Cable shall be categorized by a letter symbol according to the requirements for fire resistant characteristics which they meet, the test temperatures selected and the duration of test. The tested cable is required to pass 3 different tests categorized by letter symbol CWZ which represents

- C : Resistance to fire alone
- W : Resistance to fire with water
- Z : Resistance to fire with mechanical shock

### **Apparatus :**

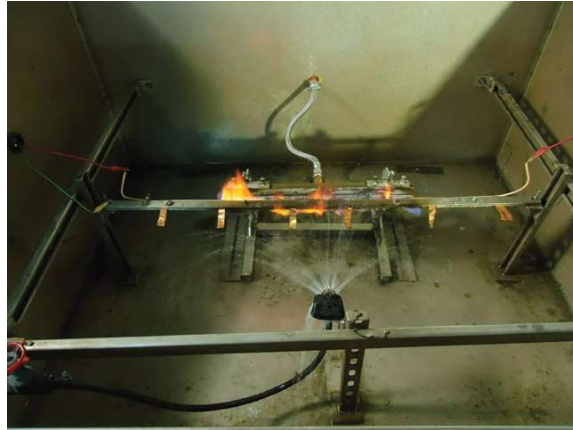
- Cable support system
- Continuity checking arrangement: During the test a current is passed through all cores of cable and this is provided by a three-phase star-connected transformer or three single-phase transformer.
- Source of heat shall be a burner

### **Test Procedure :**

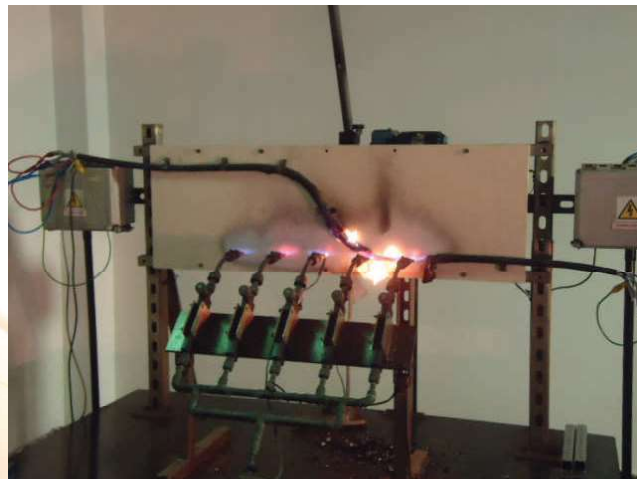
**Resistance to fire alone (Category C) :** The sample shall not less than 1200 mm. mounted the sample in the cable support system then connect the transformers to the conductors at one end of the cable to a separate phase of the transformer output with a 3 A fuse or circuit breaker in each phase. At the other end of the cable, connect one terminal of a lamp. Switch on the electricity supply and adjust the voltage between phases to the rated voltage. The cables shall be positioned parallel with the burner and the lower surface of the cable is 75mm above the burner. Start the test with condition and duration for the appropriate category.



**Resistance to fire with water (Category W):** Connect the cable to the transformer same as the procedure mentioned above then attach the cable sample to the steel support then switch on the electrical supply and adjust the voltage between phases to the rated voltage. Turn on the gas supply and ignite the burner after 15 min of burning turn on the water supply. Continue the flame and water spray for the further 15 min.



**Resistance to fire with mechanical shock (Category Z):** The sample shall be bent to form two approximately equal horizontal lengths with a double bend in the middle. The internal radius of each bend shall be approximately  $6D$  where  $D$  is the overall diameter of the cable. The cable shall be bent into the Z shape. Connected the cable to the transformer same as the procedure mentioned above then switch on the electricity supply and adjust the voltage between the rated voltage. Start the shock producing device and ignite the burner. Continue the test for 15 min.




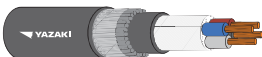




### Evaluation


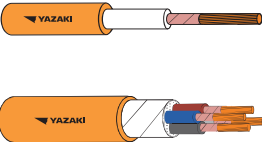




The samples tested in accordance to the type and categories above shall be no breakdown of insulation or sheath occur during the test




## PRODUCT LIST

Cable name	Reference Standard	Description	Application	Page
<b>0.6/1KV-FRLH-IE</b> 	<b>Construction :</b> BS EN 50525-3-41 <b>Flame retardant :</b> BS EN 60332-1-2 BS EN IEC 60332-3-22 Category A BS EN IEC 60332-3-23 Category B BS EN IEC 60332-3-24 Category C <b>Acid gas emission :</b> BS EN 60754-1, BS EN 60754-2 <b>Smoke emission :</b> BS EN 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	600/1000 V 90°C Cross-Linked Polyethylene Insulated Flame Retardant with Low Smoke and Zero Halogen Power Cable	For fixed installation in cabinet, conduit and wire way which provide flame retardant, low smoked and non-toxic emission under fire.	19-20
<b>FDLH-0.6/1KV-CE</b>  	<b>Construction :</b> IEC 60502-1 <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Cross-Linked Polyethylene Insulated and Polyolefin Sheathed Flame Retardant with Low Smoke and Zero Halogen Power Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non-toxic emission under fire.	21-25
<b>FDLH-0.6/1KV-CE-SWA</b> 	<b>Construction :</b> IEC 60502-1, BS 6724 <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Cross-Linked Polyethylene Insulated Multi-core Cables with Armour and Polyolefin Sheathed Flame Retardant with Low Smoke and Zero Halogen Power Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non-toxic emission under fire.	26-28
<b>FDLH-0.6/1KV-CCE</b> 	<b>Construction :</b> IEC 60502-1 <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Cross-Linked Polyethylene Insulated and Polyolefin Sheathed Flame Retardant with Low Smoke and Zero Halogen Control Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non-toxic emission under fire.	29-31,35
<b>FDLH-0.6/1KV-CCE-S</b> 	<b>Construction :</b> IEC 60502-1 <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Cross-Linked Polyethylene Insulated and Polyolefin Sheathed Flame Retardant with Low Smoke and Zero Halogen Shielded Control Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non-toxic emission under fire	32-35

## PRODUCT LIST

Cable name	Reference Standard	Description	Application	Page
<b>FS/LH-0.6/1KV-XLPE ( C )</b>  	<b>Construction :</b> BS EN 50525-3-41 <b>Circuit integrity :</b> BS 6387 Category C,W,Z <b>Flame retardant :</b> BS EN 60332-1-2 BS EN IEC 60332-3-22 Category A BS EN IEC 60332-3-23 Category B BS EN IEC 60332-3-24 Category C <b>Acid gas emission :</b> BS EN 60754-1, BS EN 60754-2 <b>Smoke emission :</b> BS EN 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	600/1000 V 90°C Mica Tape Cross-Linked Polyethylene Insulated Fire Resistant, Flame Retardant with Low Smoke and Zero Halogen Power Cable	For fixed installation in cabinet, conduit and wire way which provide fire resistant, flame retardant, low smoked and non-toxic emission and maintain circuit integrity in case of fire.	36-37
<b>FS/FDLH-0.6/1KV-CE</b>  	<b>Construction :</b> IEC 60502-1 <b>Circuit integrity :</b> BS 6387 Category C,W,Z <b>Flame retardant :</b> BS EN 60332-1-2 BS EN IEC 60332-3-22 Category A BS EN IEC 60332-3-23 Category B BS EN IEC 60332-3-24 Category C <b>Acid gas emission :</b> BS EN 60754-1, BS EN 60754-2 <b>Smoke emission :</b> BS EN 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Mica Tape Cross-Linked Polyethylene Insulated and Polyolefin Sheathed Fire Resistant, Flame Retardant with Low Smoke and Zero Halogen Power Cable	For fixed installation in cabinet, conduit and wire way which provide fire resistant, flame retardant, low smoked and non-toxic emission and maintain circuit integrity in case of fire.	38-42
<b>FS/FDLH-0.6/1KV-CE-SWA</b>  	<b>Construction :</b> IEC 60502-1 <b>Circuit integrity :</b> BS 6387 Category C,W,Z <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Mica Tape Cross-Linked Polyethylene Insulated Multi-core Cables with Armour and Polyolefin Sheathed Fire Resistant, Flame Retardant with Low Smoke and Zero Halogen Power Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non-toxic emission under fire.	43-45
<b>FS/FDLH-0.6/1KV-CE- AWA</b>  	<b>Construction :</b> IEC 60502-1 <b>Circuit integrity :</b> BS 6387 Category C,W,Z <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Mica Tape Cross-Linked Polyethylene Insulated and Polyolefin Sheathed with Aluminium Wire Armored Fire Resistant Flame Retardant ,Low Smoke and Zero Halogen Shielded Control Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non-toxic emission under fire.	46-47
<b>FS/FDLH-0.6/1KV-CCE</b>  	<b>Construction :</b> IEC 60502-1 <b>Circuit integrity :</b> BS 6387 Category C,W,Z <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Mica Tape Cross-Linked Polyethylene Insulated and Polyolefin Sheathed Fire Resistant, Flame Retardant with Low Smoke and Zero Halogen Control Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide fire resistant, flame retardant, low smoked and non toxic emission and maintain circuit integrity in case of fire.	48-50, 54
<b>FS/FDLH-0.6 /1KV-CCE-S</b>  	<b>Construction :</b> IEC 60502-1 <b>Circuit integrity :</b> BS 6387 Category C,W,Z <b>Flame retardant :</b> IEC 60332-1-2 IEC 60332-3-22 Category A IEC 60332-3-23 Category B IEC 60332-3-24 Category C <b>Acid gas emission :</b> IEC 60754-1, IEC 60754-2 <b>Smoke emission :</b> IEC 61034-2 <b>Non-toxic gases :</b> Defence standard 02-713	0.6/1 kV 90°C Mica Tape Cross-Linked Polyethylene Insulated and Polyolefin Sheathed Fire Resistant, Flame Retardant with Low Smoke and Zero Halogen Shielded Control Cable	For installation into tray, conduit, underground duct trench or direct burial in ground which provide fire resistant, flame retardant, low smoked and non toxic emission and maintain circuit integrity in case of fire.	51-54

## PRODUCT LIST

Cable name	Reference Standard	Description	Application	Page
<p><b>FS/FDLH-0.6/1KV-CCE-SLA</b></p> 	<p><b>Construction</b> : IEC 60502-1  <b>Circuit integrity</b> :            BS 6387 Category C,W,Z  <b>Flame retardant</b> : IEC 60332-1-2            IEC 60332-3-22 Category A            IEC 60332-3-23 Category B            IEC 60332-3-24 Category C  <b>Acid gas emission</b> : IEC 60754-1,            IEC 60754-2  <b>Smoke emission</b> : IEC 61034-2  <b>Non-toxic gases</b> :            Defence standard 02-713</p>	<p>0.6/1 kV 90°C Mica Tape            Cross-Linked Polyethylene            Insulated and Polyolefin            Sheathed Fire Resistant,            Flame Retardant with Low            Smoke and Zero Halogen            Shielded Control Cable</p>	<p>For installation into tray,            conduit, underground duct            trench or direct burial in            ground which provide fire            resistant, flame retardant,            low smoked and non toxic            emission and maintain            circuit integrity in case of            fire.</p>	<p>55-57</p>

# 0.6/1KV-FRLH-IE



600/1000V 90 °C CROSS-LINKED POLYETHYLENE INSULATED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-compacted and compacted round annealed copper
- Insulation** : Flame retardant Low smoke & halogen free Cross-linked polyethylene (LSHF-XLPE : EI5)
- Core identification**  
Single-cores : Black or Orange

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90 °C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
: 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference standard**
- Construction** : BS EN 50525-3-41
- Flame retardant** : IEC 60332-1-2  
BS EN IEC 60332-3-22 Category A  
BS EN IEC 60332-3-23 Category B  
BS EN IEC 60332-3-24 Category C
- Acid gas emission** : BS EN 60754-1, BS EN 60754-2
- Smoke emission** : BS EN 61034-2
- Non-toxic gases** : Defence standard 02-713

## APPLICATION

For fixed installation in electrical cabinet, conduit and wire way which provide flame retardant, low smoke and non toxic emission under fire.

Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 90°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A) Continuous current rating in conduit in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)		
									1 Phase	3 Phase
1.5	Non-Compacted	0.7	3.2	12.1	0.0100	29	21	18	22	1000/D
2.5	Non-Compacted	0.8	4.0	7.41	0.0090	39	28	25	35	1000/D
4	Non-Compacted	0.8	4.5	4.61	0.0077	52	38	34	50	1000/D
6	Non-Compacted	0.8	5.1	3.08	0.0065	66	49	44	70	1000/D
10	Compacted	1.0	6.0	1.83	0.0065	90	68	60	110	1000/D
16	Compacted	1.0	7.0	1.15	0.0050	120	91	80	170	1000/D
25	Compacted	1.2	8.6	0.727	0.0050	161	121	106	260	1000/D
35	Compacted	1.2	9.7	0.524	0.0043	199	149	131	360	1000/D
50	Compacted	1.4	11.5	0.387	0.0043	243	180	159	480	1000/D
70	Compacted	1.4	13.0	0.268	0.0035	308	230	202	650	1000/D
95	Compacted	1.6	15.5	0.193	0.0035	385	278	245	950	1000/D
120	Compacted	1.6	17.0	0.153	0.0032	449	322	284	1,200	1000/D
150	Compacted	1.8	18.5	0.124	0.0032	515	358	311	1,500	1000/D
185	Compacted	2.0	21.0	0.0991	0.0032	598	409	349	1,800	1000/D
240	Compacted	2.2	24.0	0.0754	0.0032	716	480	410	2,400	1000/D
300	Compacted	2.4	26.0	0.0601	0.0030	830	549	468	3,000	1000/D
400	Compacted	2.6	29.0	0.0470	0.0028	970	622	531	3,800	1000/D
500	Compacted	2.8	33.0	0.0366	0.0028	1138	713	606	4,900	500/D
630	Compacted	2.8	37.0	0.0283	0.0025	1333	819	695	6,000	500/D

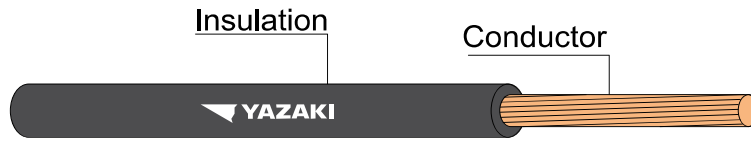
D : Packing in drum



# 0.6/1KV-FRLH-IE



600/1000V 90 °C CROSS-LINKED POLYETHYLENE INSULATED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-compacted and compacted round annealed copper
- Insulation** : Flame retardant Low smoke & halogen free Cross-linked polyethylene (LSHF-XLPE : EI5)
- Core identification**  
Single-cores : Black or Orange

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90 °C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
: 1,000 Volts between Line to Line
- Testing voltage** : 3,500
- Reference standard**
- Construction** : BS EN 50525-3-41
- Flame retardant** : IEC 60332-1-2  
BS EN IEC 60332-3-22 Category A  
BS EN IEC 60332-3-23 Category B  
BS EN IEC 60332-3-24 Category C
- Acid gas emission** : BS EN 60754-1, BS EN 60754-2
- Smoke emission** : BS EN 61034-2
- Non-toxic gases** : Defence standard 02-713

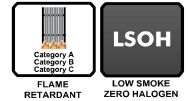
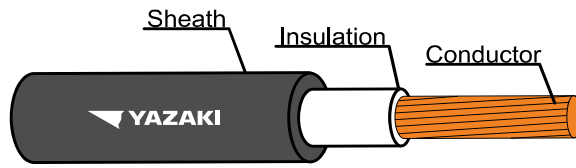
## APPLICATION

For fixed installation in electrical cabinet, conduit and wire way which provide flame retardant, low smoke and non toxic emission under fire.

Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	A.C.Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
1.5	Non-Compacted	15.4287	0.5276	0.1657	15.4292
2.5	Non-Compacted	9.4485	0.5253	0.1650	9.4499
4	Non-Compacted	5.8782	0.5013	0.1575	5.8803
6	Non-Compacted	3.9273	0.4860	0.1527	3.9303
10	Compacted	2.3335	0.4844	0.1522	2.3384
16	Compacted	1.4665	0.4674	0.1468	1.4738
25	Compacted	0.9272	0.4630	0.1455	0.9384
35	Compacted	0.6684	0.4544	0.1427	0.6834
50	Compacted	0.4938	0.4430	0.1392	0.5129
70	Compacted	0.3422	0.4339	0.1363	0.3682
95	Compacted	0.2468	0.4343	0.1364	0.2817
120	Compacted	0.1960	0.4260	0.1338	0.2370
150	Compacted	0.1592	0.4261	0.1339	0.2077
185	Compacted	0.1278	0.4263	0.1339	0.1847
240	Compacted	0.0980	0.4225	0.1327	0.1645
300	Compacted	0.0790	0.4210	0.1323	0.1536
400	Compacted	0.0630	0.4192	0.1317	0.1454
500	Compacted	0.4880	0.4168	0.1309	0.1398
630	Compacted	0.0388	0.4122	0.1295	0.1352

# FDLH-0.6/1KV-CE

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE**



## CABLE STRUCTURE

**Conductor** : Non-Compacted and compacted round annealed copper

**Insulation** : Cross-Linked polyethylene (XLPE)

**Core identification**  
Single-core : Natural (Translucent)

**Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**  
**Construction** : IEC 60502-1  
**Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C

**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

## APPLICATION

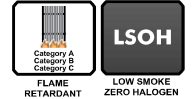
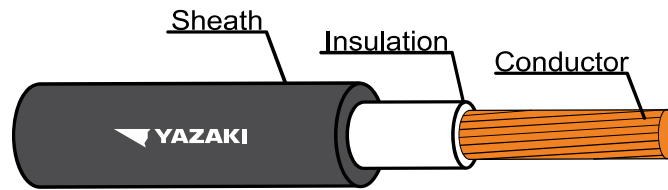
For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)			Continuous current rating in free air at 40°C maximum (A)		Cable weight approx. (kg/km)	Standard Length (m)
								Spaced	Touching	Trefoil	1 Phase	3 Phase		
1	1.5	Non-Compacted	0.7	1.4	6.5	12.1	2,500	31	24	23	21	18	55	500/D
	2.5	Non-Compacted	0.7	1.4	7.0	7.41	2,100	42	32	31	28	25	65	500/D
	4	Non-Compacted	0.7	1.4	7.5	4.61	1,700	54	42	41	38	34	85	500/D
	6	Non-Compacted	0.7	1.4	8.0	3.08	1,450	68	53	52	49	44	110	500/D
	10	Compacted	0.7	1.4	9.5	1.83	1,250	90	73	71	68	60	150	500/D
	16	Compacted	0.7	1.4	9.5	1.15	1,000	124	95	93	91	80	210	500/D
	25	Compacted	0.9	1.4	11.5	0.727	1,050	166	128	123	121	106	310	500/D
	35	Compacted	0.9	1.4	12.5	0.524	900	206	160	154	149	131	400	500/D
	50	Compacted	1.0	1.4	14.0	0.387	850	250	197	188	180	159	500	500/D
	70	Compacted	1.1	1.4	15.5	0.268	800	321	254	244	230	202	750	500/D
	95	Compacted	1.1	1.5	18.0	0.193	650	391	311	298	278	245	1000	500/D
	120	Compacted	1.2	1.5	19.5	0.153	650	455	364	349	322	284	1200	500/D
	150	Compacted	1.4	1.6	21.5	0.124	700	525	422	404	358	311	1500	500/D
	185	Compacted	1.6	1.7	24.0	0.0991	700	602	485	464	409	349	1900	500/D
	240	Compacted	1.7	1.8	27.0	0.0754	650	711	577	552	480	410	2500	500/D
	300	Compacted	1.8	1.9	29.5	0.0601	600	821	670	640	549	468	3100	500/D
	400	Compacted	2.0	2.0	33.0	0.0470	600	987	790	749	622	531	3900	500/D
	500	Compacted	2.2	2.1	36.5	0.0366	600	1140	908	861	713	606	5000	500/D
	630	Compacted	2.4	2.2	41.0	0.0283	550	1298	1064	1014	819	695	6500	500/D
	800	Compacted	2.6	2.4	45.5	0.0221	550	1494	1220	1156	965	820	8000	500/D
1000	Compacted	2.8	2.6	51.5	0.0176	500	1712	1391	1307	1014	862	10500	300/D	

D : Packing in drum

# FDLH-0.6/1KV-CE

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE**



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
Single-core : Natural (Translucent)
- Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**  
**Construction** : IEC 60502-1  
**Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

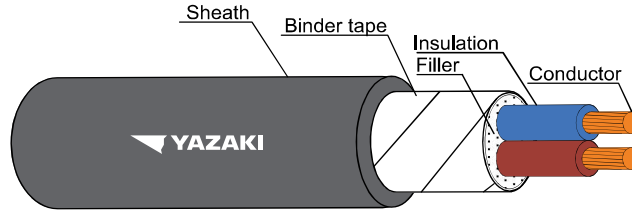
## APPLICATION

For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	A.C.Resistance R (Ω/km)			Inductance L (mH/km)			Reactance XL (Ω/km)			Impedance Z (Ω/km)		
		Space	Touching	Trefoil	Space	Touching	Trefoil	Space	Touching	Trefoil	Space	Touching	Trefoil
1	1.5	15.4287	15.4287	15.4287	0.7969	0.6582	0.6120	0.2503	0.2068	0.1923	15.4307	15.4301	15.4299
	2.5	9.4485	9.4485	9.4485	0.7483	0.6097	0.5635	0.2351	0.1915	0.1770	9.4514	9.4504	9.4502
	4	5.8782	5.8782	5.8782	0.7056	0.5670	0.5208	0.2217	0.1781	0.1636	5.8824	5.8809	5.8805
	6	3.9273	3.9273	3.9273	0.6620	0.5234	0.4772	0.2080	0.1644	0.1499	3.9328	3.9308	3.9302
	10	2.3335	2.3335	2.3335	0.6263	0.4877	0.4415	0.1968	0.1532	0.1387	2.3418	2.3385	2.3376
	16	1.4664	1.4664	1.4664	0.5817	0.4431	0.3969	0.1827	0.1392	0.1247	1.4778	1.4730	1.4717
	25	0.9271	0.9271	0.9271	0.5313	0.3927	0.3465	0.1669	0.1234	0.1088	0.9420	0.9353	0.9335
	35	0.6683	0.6683	0.6684	0.5160	0.3773	0.3311	0.1621	0.1185	0.1040	0.6877	0.6788	0.6764
	50	0.4937	0.4937	0.4938	0.4943	0.3556	0.3094	0.1553	0.1117	0.0972	0.5175	0.5062	0.5033
	70	0.3420	0.3421	0.3422	0.4879	0.3492	0.3030	0.1533	0.1097	0.0952	0.3748	0.3593	0.3552
	95	0.2465	0.2467	0.2468	0.4744	0.3358	0.2895	0.1490	0.1055	0.0910	0.2880	0.2683	0.2630
	120	0.1956	0.1958	0.1960	0.4668	0.3282	0.2820	0.1467	0.1031	0.0886	0.2445	0.2213	0.2151
	150	0.1587	0.1590	0.1593	0.4633	0.3246	0.2784	0.1455	0.1020	0.0875	0.2154	0.1889	0.1817
	185	0.1271	0.1275	0.1278	0.4623	0.3236	0.2774	0.1452	0.1017	0.0871	0.1930	0.1631	0.1547
	240	0.0972	0.0977	0.0981	0.4545	0.3159	0.2697	0.1428	0.0992	0.0847	0.1727	0.1392	0.1296
	300	0.0779	0.0786	0.0791	0.4501	0.3115	0.2653	0.1414	0.0979	0.0833	0.1615	0.1255	0.1149
	400	0.0616	0.0624	0.0631	0.4478	0.3092	0.2630	0.1407	0.0971	0.0826	0.1536	0.1155	0.1039
	500	0.0487	0.0498	0.0507	0.4436	0.3049	0.2587	0.1394	0.0958	0.0813	0.1476	0.1080	0.0958
630	0.0387	0.0401	0.0412	0.4404	0.3017	0.2555	0.1383	0.0948	0.0803	0.1437	0.1029	0.0902	
800	0.0314	0.0331	0.0344	0.4366	0.2980	0.2518	0.1372	0.0936	0.0791	0.1407	0.0993	0.0863	
1000	0.0263	0.0282	0.0298	0.4323	0.2937	0.2474	0.1358	0.0923	0.0777	0.1383	0.0965	0.0833	

# FDLH-0.6/1KV-CE

**0.6/1 kV 90 °C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE**



## CABLE STRUCTURE

**Conductor** : Non-Compacted and compacted round annealed copper

**Insulation** : Cross-Linked polyethylene (XLPE)

**Core identification**  
2 Cores : Blue, Brown

**Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**  
**Construction** : IEC 60502-1  
**Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C

**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Non-Compacted	0.7	1.8	11.0	12.1	2,500	28	20	130	500/D
	2.5	Non-Compacted	0.7	1.8	12.0	7.41	2,100	38	27	160	500/D
	4	Non-Compacted	0.7	1.8	13.0	4.61	1,700	49	36	200	500/D
	6	Non-Compacted	0.7	1.8	14.0	3.08	1,450	63	46	260	500/D
	10	Compacted	0.7	1.8	15.0	1.83	1,250	84	63	350	500/D
	16	Compacted	0.7	1.8	18.0	1.15	1,000	111	83	490	500/D
	25	Compacted	0.9	1.8	21.0	0.727	1,050	147	108	700	500/D
	35	Compacted	0.9	1.8	23.5	0.524	900	181	133	900	500/D
	50	Compacted	1.0	1.8	26.5	0.387	850	219	159	1200	500/D
	70	Compacted	1.1	1.9	30.0	0.268	800	275	201	1700	500/D
	95	Compacted	1.1	2.0	33.5	0.193	650	340	241	2200	500/D
	120	Compacted	1.2	2.1	37.0	0.153	650	394	278	2700	500/D
	150	Compacted	1.4	2.2	41.0	0.124	700	449	304	3400	500/D
	185	Compacted	1.6	2.4	46.0	0.0991	700	518	349	4200	500/D
	240	Compacted	1.7	2.6	51.5	0.0754	650	614	418	5500	500/D
	300	Compacted	1.8	2.7	56.5	0.0601	600	565	484	7000	500/D
400	Compacted	2.0	3.0	64.0	0.0470	600	791	569	8500	500/D	

Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
2	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9273	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6684	0.2567	0.0807	0.6733
	50	0.4938	0.2435	0.0765	0.4997
	70	0.3423	0.2395	0.0752	0.3504
	95	0.2468	0.2331	0.0732	0.2575
	120	0.1960	0.2289	0.0719	0.2088
	150	0.1593	0.2302	0.0723	0.1749
	185	0.1278	0.2338	0.0734	0.1474
	240	0.0981	0.2281	0.0717	0.1215
	300	0.0791	0.2260	0.0710	0.1063
400	0.0630	0.2259	0.0710	0.0949	

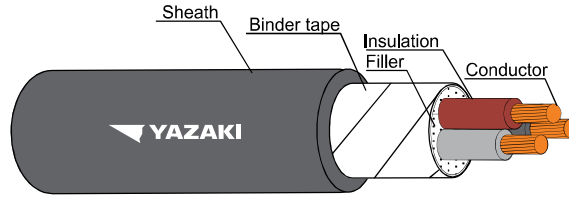
D : Packing in drum



# FDLH-0.6/1KV-CE



**0.6/1 kV 90 °C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE**



## CABLE STRUCTURE

**Conductor** : Non-Compacted and compacted round annealed copper  
**Insulation** : Cross-Linked polyethylene (XLPE)  
**Core identification**  
 3 Cores : Brown, Black, Grey  
**Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
 : Circuit voltage not exceeding 1,200 Volts  
**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line  
**Testing voltage** : 3,500 Volts  
**Reference Standard**  
**Construction** : IEC 60502-1  
**Flame retardant** : IEC 60332-1-2  
 IEC 60332-3-22 Category A  
 IEC 60332-3-23 Category B  
 IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

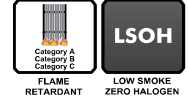
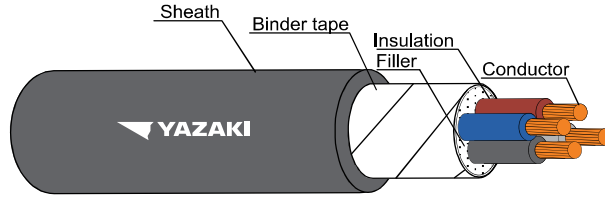
Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
3	1.5	Non-Compacted	0.7	1.8	11.5	12.1	2,500	21	18	150	500/D
	2.5	Non-Compacted	0.7	1.8	12.5	7.41	2,100	29	24	190	500/D
	4	Non-Compacted	0.7	1.8	13.5	4.61	1,700	38	32	250	500/D
	6	Non-Compacted	0.7	1.8	15.0	3.08	1,450	49	40	330	500/D
	10	Compacted	0.7	1.8	16.0	1.83	1,250	68	55	450	500/D
	16	Compacted	0.7	1.8	19.0	1.15	1,000	91	73	650	500/D
	25	Compacted	0.9	1.8	22.5	0.727	1,050	116	96	950	500/D
	35	Compacted	0.9	1.8	25.0	0.524	900	144	116	1300	500/D
	50	Compacted	1.0	1.8	28.0	0.387	850	175	140	1600	500/D
	70	Compacted	1.1	1.9	32.0	0.268	800	224	177	2300	500/D
	95	Compacted	1.1	2.1	36.0	0.193	650	271	212	3100	500/D
	120	Compacted	1.2	2.2	40.0	0.153	650	315	244	3900	500/D
	150	Compacted	1.4	2.3	44.0	0.124	700	363	273	4800	500/D
	185	Compacted	1.6	2.5	49.5	0.0991	700	415	309	6000	500/D
	240	Compacted	1.7	2.7	55.5	0.0754	650	490	362	8000	500/D
	300	Compacted	1.8	2.9	61.0	0.0601	600	565	414	9500	300/D
400	Compacted	2.0	3.1	68.5	0.0470	600	678	488	12000	300/D	

Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
3	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6685	0.2567	0.0807	0.6733
	50	0.4939	0.2435	0.0765	0.4998
	70	0.3424	0.2395	0.0752	0.3506
	95	0.2471	0.2331	0.0732	0.2577
	120	0.1964	0.2289	0.0719	0.2091
	150	0.1597	0.2302	0.0723	0.1753
	185	0.1282	0.2338	0.0734	0.1478
	240	0.0987	0.2281	0.0717	0.1219
	300	0.0798	0.2260	0.0710	0.1068
400	0.0639	0.2259	0.0710	0.0955	

D : Packing in drum

# FDLH-0.6/1KV-CE

0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

**Conductor** : Non-Compacted and compacted round annealed copper

**Insulation** : Cross-Linked polyethylene (XLPE)

**Core identification**  
4 Cores : Blue, Brown, Black, Grey

**Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**  
**Construction** : IEC 60502-1  
**Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C

**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

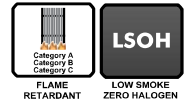
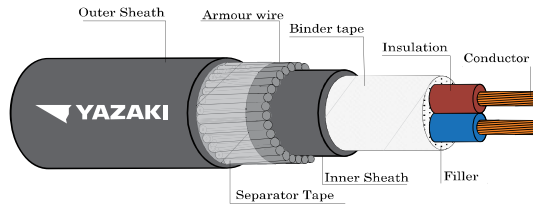
Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
4	1.5	Non-Compacted	0.7	1.8	12.0	12.1	2,500	21	18	180	500/D
	2.5	Non-Compacted	0.7	1.8	13.5	7.41	2,100	29	24	240	500/D
	4	Non-Compacted	0.7	1.8	15.0	4.61	1,700	38	32	310	500/D
	6	Non-Compacted	0.7	1.8	16.5	3.08	1,450	49	40	410	500/D
	10	Compacted	0.7	1.8	18.0	1.83	1,250	68	55	550	500/D
	16	Compacted	0.7	1.8	20.5	1.15	1,000	91	73	800	500/D
	25	Compacted	0.9	1.8	24.5	0.727	1,050	116	96	1200	500/D
	35	Compacted	0.9	1.8	27.0	0.524	900	144	116	1600	500/D
	50	Compacted	1.0	1.9	31.0	0.387	850	175	140	2200	500/D
	70	Compacted	1.1	2.0	35.0	0.268	800	224	177	3000	500/D
	95	Compacted	1.1	2.2	40.0	0.193	650	271	212	4000	500/D
	120	Compacted	1.2	2.3	44.0	0.153	650	315	244	5000	500/D
	150	Compacted	1.4	2.5	49.0	0.124	700	363	273	6500	500/D
	185	Compacted	1.6	2.7	55.0	0.0991	700	415	309	8000	500/D
	240	Compacted	1.7	2.9	61.5	0.0754	650	490	362	10000	300/D
	300	Compacted	1.8	3.1	68.0	0.0601	600	565	414	12500	300/D
400	Compacted	2.0	3.4	76.5	0.0470	600	678	488	16000	200/D	

Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
4	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6685	0.2567	0.0807	0.6733
	50	0.4939	0.2435	0.0765	0.4998
	70	0.3424	0.2395	0.0752	0.3506
	95	0.2471	0.2331	0.0732	0.2577
	120	0.1964	0.2289	0.0719	0.2091
	150	0.1597	0.2302	0.0723	0.1753
	185	0.1282	0.2338	0.0734	0.1478
	240	0.0987	0.2281	0.0717	0.1219
	300	0.0798	0.2260	0.0710	0.1068
400	0.0639	0.2259	0.0710	0.0955	

D : Packing in drum

# FDLH-0.6/1KV-CE-SWA

0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH GALVANIZED STEEL WIRE ARMORED FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-compacted and compacted round annealed copper
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
2 Cores : Blue, Brown
- Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)
- Armor** : Galvanized steel wires
- Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**
- Construction** : IEC 60502-1, BS 6724
- Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C
- Acid gas emission** : IEC 60754-1, IEC 60754-2
- Smoke emission** : IEC 61034-2
- Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Diameter of steel wire armor nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ·km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in ground at 30°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Non-Compacted	0.7	1.2	9.5	0.90	1.8	15.5	12.1	2,500	30	35	360	500/D
	2.5	Non-Compacted	0.7	1.2	10.5	0.90	1.8	16.5	7.41	2,100	39	46	410	500/D
	4	Non-Compacted	0.7	1.2	11.5	1.25	1.8	18.5	4.61	1,700	51	59	600	500/D
	6	Non-Compacted	0.7	1.2	13.0	1.25	1.8	19.5	3.08	1,450	66	74	700	500/D
	10	Compacted	0.7	1.2	14.0	1.25	1.8	20.5	1.83	1,250	88	98	800	500/D
	16	Compacted	0.7	1.2	16.0	1.60	1.8	23.5	1.15	1,000	116	126	1100	500/D
	25	Compacted	0.9	1.2	19.5	1.60	1.8	26.5	0.727	1,050	154	162	1500	500/D
	35	Compacted	0.9	1.2	21.5	1.60	1.8	29.0	0.524	900	188	194	1800	500/D
	50	Compacted	1.0	1.2	24.5	2.00	2.0	33.0	0.387	850	228	230	2400	500/D
	70	Compacted	1.1	1.2	28.0	2.00	2.1	37.0	0.268	800	285	281	3000	500/D
	95	Compacted	1.1	1.2	31.5	2.00	2.2	41.0	0.193	650	350	336	3800	500/D
	120	Compacted	1.2	1.2	35.0	2.00	2.4	45.0	0.153	650	404	381	4500	500/D
	150	Compacted	1.4	1.3	39.0	2.50	2.5	50.0	0.124	700	458	426	6000	500/D
	185	Compacted	1.6	1.4	43.5	2.50	2.7	55.0	0.0991	700	528	479	7000	500/D
	240	Compacted	1.7	1.5	49.5	2.50	2.9	61.0	0.0754	650	622	552	8500	500/D
	300	Compacted	1.8	1.6	54.5	2.50	3.1	67.0	0.0601	600	710	618	10000	300/D
400	Compacted	2.0	1.7	61.0	2.50	3.3	73.5	0.0470	600	815	693	12500	300/D	

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
2	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9273	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6684	0.2567	0.0807	0.6733
	50	0.4938	0.2435	0.0765	0.4997
	70	0.3423	0.2395	0.0752	0.3504
	95	0.2468	0.2331	0.0732	0.2575
	120	0.1960	0.2289	0.0719	0.2088
	150	0.1593	0.2302	0.0723	0.1749
	185	0.1278	0.2326	0.0731	0.1472
	240	0.0981	0.2281	0.0717	0.1215
	300	0.0791	0.2260	0.0710	0.1063
400	0.0630	0.2259	0.0710	0.0949	

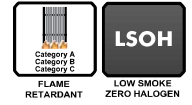
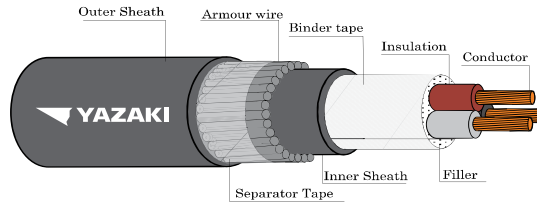
**Remark** : Thermal resistivity of soil 1.2 K.m/W or °C.m/W  
Deep of laying (For cable laid direct in ground) 0.8 m

D : Packing in drum

# FDLH-0.6/1KV-CE-SWA



0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH GALVANIZED STEEL WIRE ARMORED FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

## TECHNICAL DATA

**Conductor** : Non-compacted and compacted round annealed copper

**Insulation** : Cross-Linked polyethylene (XLPE)

**Core identification**  
3 Cores : Brown, Black, Grey

**Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)

**Armor** : Galvanized steel wires

**Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)

**Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**  
**Construction** : IEC 60502-1, BS 6724  
**Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C

**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-oxic gases** : Defence standard 02-713

## APPLICATION

For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Diameter of steel wire armor nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in ground at 30°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
3	1.5	Non-Compacted	0.7	1.2	10.0	0.90	1.8	16.0	12.1	2,500	26	30	400	500/D
	2.5	Non-Compacted	0.7	1.2	11.0	1.25	1.8	18.0	7.41	2,100	34	39	550	500/D
	4	Non-Compacted	0.7	1.2	12.5	1.25	1.8	19.0	4.61	1,700	45	51	650	500/D
	6	Non-Compacted	0.7	1.2	13.5	1.25	1.8	20.5	3.08	1,450	57	63	750	500/D
	10	Compacted	0.7	1.2	14.5	1.25	1.8	21.5	1.83	1,250	76	83	950	500/D
	16	Compacted	0.7	1.2	17.0	1.60	1.8	24.5	1.15	1,000	100	107	1300	500/D
	25	Compacted	0.9	1.2	20.5	1.60	1.8	28.0	0.727	1,050	132	137	1800	500/D
	35	Compacted	0.9	1.2	23.0	2.00	1.9	31.5	0.524	900	162	164	2400	500/D
	50	Compacted	1.0	1.2	26.0	2.00	2.0	35.0	0.387	850	196	194	2900	500/D
	70	Compacted	1.1	1.2	30.0	2.00	2.2	39.5	0.268	800	246	236	3800	500/D
	95	Compacted	1.1	1.2	34.0	2.00	2.3	43.5	0.193	650	301	282	4800	500/D
	120	Compacted	1.2	1.3	38.0	2.50	2.5	49.0	0.153	650	348	320	6000	500/D
	150	Compacted	1.4	1.4	42.0	2.50	2.6	53.0	0.124	700	397	356	7500	500/D
	185	Compacted	1.6	1.5	47.5	2.50	2.8	59.0	0.0991	700	455	400	9000	500/D
	240	Compacted	1.7	1.6	53.0	2.50	3.0	65.5	0.0754	650	535	459	11000	300/D
	300	Compacted	1.8	1.7	58.5	2.50	3.2	71.0	0.0601	600	608	511	13500	300/D
400	Compacted	2.0	1.8	65.5	3.15	3.5	80.0	0.0470	600	699	574	17500	200/D	

Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R	Inductance L	Reactance XL	Impedance Z
		(Ω/km)	(mH/km)	(Ω/km)	(Ω/km)
3	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6685	0.2567	0.0807	0.6733
	50	0.4939	0.2435	0.0765	0.4998
	70	0.3424	0.2395	0.0752	0.3506
	95	0.2471	0.2331	0.0732	0.2577
	120	0.1964	0.2289	0.0719	0.2091
	150	0.1597	0.2302	0.0723	0.1753
	185	0.1283	0.2326	0.0731	0.1476
	240	0.0987	0.2281	0.0717	0.1219
	300	0.0798	0.2260	0.0710	0.1068
400	0.0639	0.2259	0.0710	0.0955	

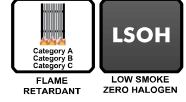
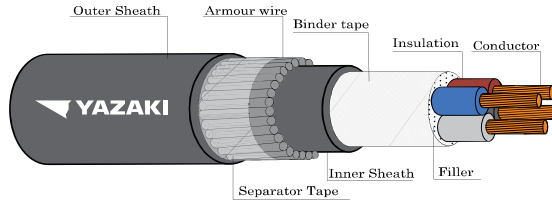
**Remark** : Thermal resistivity of soil 1.2 K.m/W or °C.m/W  
Deep of laying (For cable laid direct in ground) 0.8 m

D : Packing in drum



# FDLH-0.6/1KV-CE-SWA

0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH GALVANIZED STEEL WIRE ARMORED FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-compacted and compacted round annealed copper
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
4 Cores : Blue, Brown, Black, Grey
- Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)
- Armor** : Galvanized steel wires
- Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**  
**Construction** : IEC 60502-1, BS 6724  
**Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C
- Acid gas emission** : IEC 60754-1, IEC 60754-2
- Smoke emission** : IEC 61034-2
- Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installed into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoke and non toxic emission under fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Diameter of steel wire armor nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ·km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in ground at 30°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
4	1.5	Non-Compacted	0.7	1.2	11.0	0.90	1.8	16.5	12.1	2,500	26	30	440	500/D
	2.5	Non-Compacted	0.7	1.2	12.0	1.25	1.8	19.0	7.41	2,100	34	39	650	500/D
	4	Non-Compacted	0.7	1.2	13.5	1.25	1.8	20.0	4.61	1,700	45	51	750	500/D
	6	Non-Compacted	0.7	1.2	15.0	1.25	1.8	21.5	3.08	1,450	57	63	900	500/D
	10	Compacted	0.7	1.2	16.0	1.60	1.8	23.5	1.83	1,250	76	83	1200	500/D
	16	Compacted	0.7	1.2	18.5	1.60	1.8	26.0	1.15	1,000	100	107	1600	500/D
	25	Compacted	0.9	1.2	22.5	2.00	1.9	31.0	0.727	1,050	132	137	2300	500/D
	35	Compacted	0.9	1.2	15.5	2.00	2.0	34.0	0.524	900	162	164	2900	500/D
	50	Compacted	1.0	1.2	29.0	2.00	2.1	38.0	0.387	850	196	194	3600	500/D
	70	Compacted	1.1	1.2	33.0	2.00	2.3	42.5	0.268	800	246	236	4600	500/D
	95	Compacted	1.1	1.3	37.5	2.50	2.5	48.5	0.193	650	301	282	6500	500/D
	120	Compacted	1.2	1.4	42.0	2.50	2.6	53.5	0.153	650	348	320	7500	500/D
	150	Compacted	1.4	1.5	47.0	2.50	2.8	58.5	0.124	700	397	356	9000	300/D
	185	Compacted	1.6	1.6	52.5	2.50	3.0	65.0	0.0991	700	455	400	11000	300/D
	240	Compacted	1.7	1.7	59.0	2.50	3.2	72.0	0.0754	650	535	459	14000	300/D
	300	Compacted	1.8	1.8	65.5	3.15	3.5	80.0	0.0601	600	608	511	18000	200/D
400	Compacted	2.0	2.0	73.5	3.15	3.7	88.5	0.0470	600	699	574	22000	200/D	

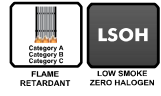
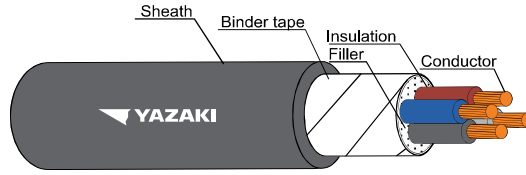
Number of core	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
4	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6685	0.2567	0.0807	0.6733
	50	0.4939	0.2435	0.0765	0.4998
	70	0.3424	0.2395	0.0752	0.3506
	95	0.2471	0.2331	0.0732	0.2577
	120	0.1964	0.2289	0.0719	0.2091
	150	0.1597	0.2302	0.0723	0.1753
	185	0.1283	0.2326	0.0731	0.1476
	240	0.0987	0.2281	0.0717	0.1219
	300	0.0798	0.2260	0.0710	0.1068
400	0.0639	0.2259	0.0710	0.0955	

**Remark** : Thermal resistivity of soil 1.2 K.m/W or °C.m/W  
Deep of laying (For cable laid direct in ground) 0.8 m

D : Packing in drum

# FDLH-0.6/1KV-CCE

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE**



## CABLE STRUCTURE

**Conductor** : Stranded annealed copper

**Insulation** : Cross-Linked polyethylene (XLPE)

**Core identification**

2 cores : Blue, Brown

3 cores : Brown, Black, Grey

4 cores : Blue, Brown, Black, Grey

More than 4 cores : White with marking numbers, colored black, printed continuously throughout the whole length of insulated wires for the propose of core identification

**Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

## APPLICATION

For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non toxic emission under fire.

## TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
Circuit voltage not exceeding 1,200 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**

**Construction** : IEC 60502-1  
**Flame retardant** : IEC 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-oxic gases** : Defence standard 02-713

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Stranded	0.7	1.8	11.0	12.1	2,500	130	300/D
	2.5	Stranded	0.7	1.8	12.0	7.41	2,100	160	300/D
	4	Stranded	0.7	1.8	13.0	4.61	1,700	200	300/D
	6	Stranded	0.7	1.8	14.0	3.08	1,450	260	300/D
3	1.5	Stranded	0.7	1.8	11.5	12.1	2,500	150	300/D
	2.5	Stranded	0.7	1.8	12.5	7.41	2,100	190	300/D
	4	Stranded	0.7	1.8	13.0	4.61	1,700	250	300/D
4	6	Stranded	0.7	1.8	15.0	3.08	1,450	330	300/D
	1.5	Stranded	0.7	1.8	12.0	12.1	2,500	180	300/D
	2.5	Stranded	0.7	1.8	13.5	7.41	2,100	240	300/D
5	4	Stranded	0.7	1.8	15.0	4.61	1,700	310	300/D
	6	Stranded	0.7	1.8	16.5	3.08	1,450	410	300/D
	1.5	Stranded	0.7	1.8	13.0	12.1	2,500	200	300/D
6	2.5	Stranded	0.7	1.8	14.0	7.41	2,100	270	300/D
	4	Stranded	0.7	1.8	15.5	4.61	1,700	360	300/D
	6	Stranded	0.7	1.8	17.0	3.08	1,450	480	300/D
7	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
8	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
9	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
10	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
11	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
12	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
13	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
14	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
15	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
16	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
17	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
18	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
19	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
20	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
21	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
22	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
23	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
24	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
25	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
26	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
27	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
28	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D
29	2.5	Stranded	0.7	1.8	15.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	17.0	4.61	1,700	420	300/D
30	6	Stranded	0.7	1.8	18.5	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	240	300/D

D : Packing in drum

## FDLH-0.6/1KV-CCE

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE**

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx. (kg/km)	Standard Length (m)
	(mm <sup>2</sup> )					maximum (Ω/km)	minimum (MΩ-km)		
8	1.5	Stranded	0.7	1.8	15.0	12.1	2,500	300	300/D
	2.5	Stranded	0.7	1.8	16.5	7.41	2,100	390	300/D
	4	Stranded	0.7	1.8	18.0	4.61	1,700	530	300/D
	6	Stranded	0.7	1.8	20.0	3.08	1,450	720	300/D
9	1.5	Stranded	0.7	1.8	16.0	12.1	2,500	320	300/D
	2.5	Stranded	0.7	1.8	17.5	7.41	2,100	440	300/D
	4	Stranded	0.7	1.8	19.0	4.61	1,700	600	300/D
	6	Stranded	0.7	1.8	21.5	3.08	1,450	810	300/D
10	1.5	Stranded	0.7	1.8	17.0	12.1	2,500	360	300/D
	2.5	Stranded	0.7	1.8	19.0	7.41	2,100	490	300/D
	4	Stranded	0.7	1.8	21.0	4.61	1,700	670	300/D
	6	Stranded	0.7	1.8	23.0	3.08	1,450	920	300/D
11	1.5	Stranded	0.7	1.8	17.0	12.1	2,500	380	300/D
	2.5	Stranded	0.7	1.8	19.0	7.41	2,100	510	300/D
	4	Stranded	0.7	1.8	21.0	4.61	1,700	700	300/D
	6	Stranded	0.7	1.8	23.0	3.08	1,450	970	300/D
12	1.5	Stranded	0.7	1.8	17.5	12.1	2,500	410	300/D
	2.5	Stranded	0.7	1.8	19.5	7.41	2,100	560	300/D
	4	Stranded	0.7	1.8	21.5	4.61	1,700	770	300/D
	6	Stranded	0.7	1.8	24.0	3.08	1,450	1,050	300/D
13	1.5	Stranded	0.7	1.8	18.0	12.1	2,500	450	300/D
	2.5	Stranded	0.7	1.8	20.0	7.41	2,100	590	300/D
	4	Stranded	0.7	1.8	22.5	4.61	1,700	820	300/D
	6	Stranded	0.7	1.8	25.0	3.08	1,450	1,130	300/D
14	1.5	Stranded	0.7	1.8	18.0	12.1	2,500	450	300/D
	2.5	Stranded	0.7	1.8	20.0	7.41	2,100	590	300/D
	4	Stranded	0.7	1.8	22.5	4.61	1,700	820	300/D
	6	Stranded	0.7	1.8	25.0	3.08	1,450	1,130	300/D
15	1.5	Stranded	0.7	1.8	19.0	12.1	2,500	480	300/D
	2.5	Stranded	0.7	1.8	21.0	7.41	2,100	660	300/D
	4	Stranded	0.7	1.8	23.0	4.61	1,700	920	300/D
	6	Stranded	0.7	1.8	26.0	3.08	1,450	1,270	300/D
16	1.5	Stranded	0.7	1.8	19.0	12.1	2,500	500	300/D
	2.5	Stranded	0.7	1.8	21.0	7.41	2,100	700	300/D
	4	Stranded	0.7	1.8	23.0	4.61	1,700	970	300/D
	6	Stranded	0.7	1.8	26.0	3.08	1,450	1,330	300/D
17	1.5	Stranded	0.7	1.8	20.0	12.1	2,500	550	300/D
	2.5	Stranded	0.7	1.8	22.5	7.41	2,100	750	300/D
	4	Stranded	0.7	1.8	25.0	4.61	1,700	1,050	300/D
	6	Stranded	0.7	1.8	28.0	3.08	1,450	1,440	300/D
18	1.5	Stranded	0.7	1.8	20.0	12.1	2,500	580	300/D
	2.5	Stranded	0.7	1.8	22.5	7.41	2,100	790	300/D
	4	Stranded	0.7	1.8	25.0	4.61	1,700	1,050	300/D
	6	Stranded	0.7	1.8	28.0	3.08	1,450	1,440	300/D
19	1.5	Stranded	0.7	1.8	20.0	12.1	2,500	580	300/D
	2.5	Stranded	0.7	1.8	22.5	7.41	2,100	790	300/D
	4	Stranded	0.7	1.8	25.0	4.61	1,700	1,050	300/D
	6	Stranded	0.7	1.8	28.0	3.08	1,450	1,440	300/D
20	1.5	Stranded	0.7	1.8	20.5	12.1	2,500	610	300/D
	2.5	Stranded	0.7	1.8	23.0	7.41	2,100	830	300/D
	4	Stranded	0.7	1.8	25.5	4.61	1,700	1,170	300/D
	6	Stranded	0.7	1.8	29.0	3.08	1,450	1,630	300/D

D : Packing in drum

### FDLH-0.6/1KV-CCE

0.6/1 kV 90 °C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE

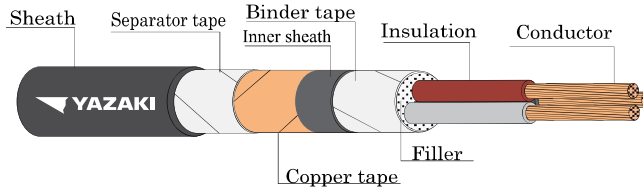
Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx.	Standard Length
	(mm <sup>2</sup> )		(mm)	(mm)		(mm)	(Ω/km)		
21	1.5	Stranded	0.7	1.8	21.0	12.1	2,500	640	300/D
	2.5	Stranded	0.7	1.8	23.5	7.41	2,100	870	300/D
	4	Stranded	0.7	1.8	26.0	4.61	1,700	1,230	300/D
	6	Stranded	0.7	1.8	29.5	3.08	1,450	1,700	300/D
22	1.5	Stranded	0.7	1.8	22.0	12.1	2,500	680	300/D
	2.5	Stranded	0.7	1.8	25.0	7.41	2,100	930	300/D
	4	Stranded	0.7	1.8	27.5	4.61	1,700	1,300	300/D
	6	Stranded	0.7	1.9	31.0	3.08	1,450	1,820	300/D
23	1.5	Stranded	0.7	1.8	22.0	12.1	2,500	680	300/D
	2.5	Stranded	0.7	1.8	25.0	7.41	2,100	930	300/D
	4	Stranded	0.7	1.8	27.5	4.61	1,700	1,300	300/D
	6	Stranded	0.7	1.9	31.0	3.08	1,450	1,820	300/D
24	1.5	Stranded	0.7	1.8	23.0	12.1	2,500	730	300/D
	2.5	Stranded	0.7	1.8	26.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	1.8	29.0	4.61	1,700	1,400	300/D
	6	Stranded	0.7	2.0	33.0	3.08	1,450	1,970	300/D
25	1.5	Stranded	0.7	1.8	23.0	12.1	2,500	730	300/D
	2.5	Stranded	0.7	1.8	26.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	1.8	29.0	4.61	1,700	1,400	300/D
	6	Stranded	0.7	2.0	33.0	3.08	1,450	1,970	300/D
26	1.5	Stranded	0.7	1.8	23.0	12.1	2,500	730	300/D
	2.5	Stranded	0.7	1.8	26.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	1.8	29.0	4.61	1,700	1,400	300/D
	6	Stranded	0.7	2.0	33.0	3.08	1,450	1,970	300/D
27	1.5	Stranded	0.7	1.8	23.5	12.1	2,500	800	300/D
	2.5	Stranded	0.7	1.8	26.5	7.41	2,100	1,100	300/D
	4	Stranded	0.7	1.9	30.0	4.61	1,700	1,550	300/D
28	1.5	Stranded	0.7	1.8	24.0	12.1	2,500	850	300/D
	2.5	Stranded	0.7	1.8	27.5	7.41	2,100	1,150	300/D
	4	Stranded	0.7	1.9	31.0	4.61	1,700	1,660	300/D
29	1.5	Stranded	0.7	1.8	24.0	12.1	2,500	850	300/D
	2.5	Stranded	0.7	1.8	27.5	7.41	2,100	1,150	300/D
	4	Stranded	0.7	1.9	31.0	4.61	1,700	1,660	300/D
30	1.5	Stranded	0.7	1.8	24.0	12.1	2,500	850	300/D
	2.5	Stranded	0.7	1.8	27.5	7.41	2,100	1,150	300/D
	4	Stranded	0.7	1.9	31.0	4.61	1,700	1,660	300/D

D : Packing in drum



## FDLH-0.6/1KV-CCE-S

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE**



### CABLE STRUCTURE

**Conductor** : Stranded annealed copper  
**Insulation** : Cross-Linked polyethylene (XLPE)  
**Core identification**  
 2 cores : Blue, Brown  
 3 cores : Brown, Black, Grey  
 4 cores : Blue, Brown, Black, Grey

More than 4 cores : White with marking numbers, colored black, printed continuously throughout the whole length of insulated wires for the purpose of core identification

**Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

**Shield** : Copper tape

**Outer Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)

### TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
 Circuit voltage not exceeding 1,200 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

#### Reference Standard

**Construction** : IEC 60502-1, BS 6724  
**Flame retardant** : IEC 60332-1-2  
 IEC 60332-3-22 Category A  
 IEC 60332-3-23 Category B  
 IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-oxic gases** : Defence standard 02-713

### APPLICATION

For installation into tray, conduit, underground duct trench or direct burial in ground which provides flame retardant, low smoked and non toxic emission under fire.

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Inner Sheath thickness nominal	Dia. of Inner Sheath approx.	Sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 20°C minimum	Cable weight approx.	Standard Length
	(mm <sup>2</sup> )										
2	1.5	Stranded	0.7	1.2	9.0	1.8	13.5	12.1	2,500	150	300/D
	2.5	Stranded	0.7	1.2	10.0	1.8	14.5	7.41	2,100	180	300/D
	4	Stranded	0.7	1.2	11.0	1.8	15.5	4.61	1,700	230	300/D
	6	Stranded	0.7	1.2	12.0	1.8	16.5	3.08	1,450	290	300/D
3	1.5	Stranded	0.7	1.2	9.5	1.8	14.0	12.1	2,500	180	300/D
	2.5	Stranded	0.7	1.2	11.0	1.8	15.0	7.41	2,100	230	300/D
	4	Stranded	0.7	1.2	12.0	1.8	16.0	4.61	1,700	300	300/D
	6	Stranded	0.7	1.2	13.0	1.8	17.0	3.08	1,450	360	300/D
4	1.5	Stranded	0.7	1.2	10.0	1.8	15.0	12.1	2,500	220	300/D
	2.5	Stranded	0.7	1.2	11.5	1.8	16.0	7.41	2,100	280	300/D
	4	Stranded	0.7	1.2	13.0	1.8	17.5	4.61	1,700	360	300/D
	6	Stranded	0.7	1.2	14.0	1.8	18.5	3.08	1,450	460	300/D
5	1.5	Stranded	0.7	1.2	11.5	1.8	16.0	12.1	2,500	260	300/D
	2.5	Stranded	0.7	1.2	13.0	1.8	17.0	7.41	2,100	330	300/D
	4	Stranded	0.7	1.2	14.0	1.8	18.5	4.61	1,700	440	300/D
	6	Stranded	0.7	1.2	16.0	1.8	20.0	3.08	1,450	560	300/D
6	1.5	Stranded	0.7	1.2	12.0	1.8	16.5	12.1	2,500	300	300/D
	2.5	Stranded	0.7	1.2	14.0	1.8	18.0	7.41	2,100	390	300/D
	4	Stranded	0.7	1.2	15.0	1.8	20.0	4.61	1,700	520	300/D
	6	Stranded	0.7	1.2	17.0	1.8	21.5	3.08	1,450	650	300/D
7	1.5	Stranded	0.7	1.2	12.0	1.8	16.5	12.1	2,500	320	300/D
	2.5	Stranded	0.7	1.2	14.0	1.8	18.0	7.41	2,100	420	300/D
	4	Stranded	0.7	1.2	15.0	1.8	20.0	4.61	1,700	560	300/D
	6	Stranded	0.7	1.2	17.0	1.8	21.5	3.08	1,450	720	300/D

D : Packing in drum

### FDLH-0.6/1KV-CCE-S

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE**

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx. (kg/km)	Standard Length (m)
								maximum (Ω/km)	minimum (MΩ·km)		
8	1.5	Stranded	0.7	1.2	13.0	1.8	18.0	12.1	2,500	380	300/D
	2.5	Stranded	0.7	1.2	15.0	1.8	19.0	7.41	2,100	480	300/D
	4	Stranded	0.7	1.2	16.5	1.8	21.0	4.61	1,700	640	300/D
9	6	Stranded	0.7	1.2	18.5	1.8	23.0	3.08	1,450	830	300/D
	1.5	Stranded	0.7	1.2	14.0	1.8	19.0	12.1	2,500	420	300/D
	2.5	Stranded	0.7	1.2	16.0	1.8	20.5	7.41	2,100	530	300/D
10	4	Stranded	0.7	1.2	18.0	1.8	22.0	4.61	1,700	730	300/D
	6	Stranded	0.7	1.2	20.0	1.8	24.5	3.08	1,450	930	300/D
	1.5	Stranded	0.7	1.2	15.0	1.8	20.0	12.1	2,500	480	300/D
11	2.5	Stranded	0.7	1.2	17.0	1.8	22.0	7.41	2,100	600	300/D
	4	Stranded	0.7	1.2	19.0	1.8	24.0	4.61	1,700	820	300/D
	6	Stranded	0.7	1.2	22.0	1.8	26.0	3.08	1,450	1,050	300/D
12	1.5	Stranded	0.7	1.2	15.0	1.8	20.0	12.1	2,500	490	300/D
	2.5	Stranded	0.7	1.2	17.0	1.8	22.0	7.41	2,100	630	300/D
	4	Stranded	0.7	1.2	19.0	1.8	24.0	4.61	1,700	850	300/D
13	6	Stranded	0.7	1.2	22.0	1.8	26.0	3.08	1,450	1,100	300/D
	1.5	Stranded	0.7	1.2	16.0	1.8	20.0	12.1	2,500	530	300/D
	2.5	Stranded	0.7	1.2	18.0	1.8	22.0	7.41	2,100	690	300/D
14	4	Stranded	0.7	1.2	20.0	1.8	24.0	4.61	1,700	930	300/D
	6	Stranded	0.7	1.2	22.5	1.8	27.0	3.08	1,450	1,200	300/D
	1.5	Stranded	0.7	1.2	17.0	1.8	21.0	12.1	2,500	570	300/D
15	2.5	Stranded	0.7	1.2	19.0	1.8	23.0	7.41	2,100	740	300/D
	4	Stranded	0.7	1.2	21.0	1.8	25.5	4.61	1,700	1,000	300/D
	6	Stranded	0.7	1.2	24.0	1.8	28.0	3.08	1,450	1,300	300/D
16	1.5	Stranded	0.7	1.2	17.0	1.8	21.0	12.1	2,500	580	300/D
	2.5	Stranded	0.7	1.2	19.0	1.8	23.0	7.41	2,100	750	300/D
	4	Stranded	0.7	1.2	21.0	1.8	25.5	4.61	1,700	1,030	300/D
17	6	Stranded	0.7	1.2	24.0	1.8	28.0	3.08	1,450	1,340	300/D
	1.5	Stranded	0.7	1.2	17.5	1.8	22.0	12.1	2,500	620	300/D
	2.5	Stranded	0.7	1.2	19.5	1.8	24.0	7.41	2,100	810	300/D
18	4	Stranded	0.7	1.2	22.0	1.8	26.0	4.61	1,700	1,100	300/D
	6	Stranded	0.7	1.2	24.5	1.8	29.0	3.08	1,450	1,450	300/D
	1.5	Stranded	0.7	1.2	18.0	1.8	22.0	12.1	2,500	650	300/D
19	2.5	Stranded	0.7	1.2	20.0	1.8	24.0	7.41	2,100	840	300/D
	4	Stranded	0.7	1.2	22.5	1.8	27.0	4.61	1,700	1,150	300/D
	6	Stranded	0.7	1.2	25.0	1.8	30.0	3.08	1,450	1,530	300/D
20	1.5	Stranded	0.7	1.2	18.5	1.8	23.0	12.1	2,500	720	300/D
	2.5	Stranded	0.7	1.2	21.0	1.8	25.5	7.41	2,100	920	300/D
	4	Stranded	0.7	1.2	23.5	1.8	28.0	4.61	1,700	1,250	300/D
21	6	Stranded	0.7	1.2	26.5	1.9	31.0	3.08	1,450	1,650	300/D
	1.5	Stranded	0.7	1.2	18.5	1.8	23.0	12.1	2,500	740	300/D
	2.5	Stranded	0.7	1.2	21.0	1.8	25.5	7.41	2,100	930	300/D
22	4	Stranded	0.7	1.2	23.5	1.8	28.0	4.61	1,700	1,300	300/D
	6	Stranded	0.7	1.2	26.5	1.9	31.0	3.08	1,450	1,700	300/D
	1.5	Stranded	0.7	1.2	18.5	1.8	23.0	12.1	2,500	740	300/D
23	2.5	Stranded	0.7	1.2	21.0	1.8	25.5	7.41	2,100	960	300/D
	4	Stranded	0.7	1.2	23.5	1.8	28.0	4.61	1,700	1,330	300/D
	6	Stranded	0.7	1.2	26.5	1.9	31.0	3.08	1,450	1,750	300/D
24	1.5	Stranded	0.7	1.2	19.0	1.8	23.5	12.1	2,500	780	300/D
	2.5	Stranded	0.7	1.2	22.0	1.8	26.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	1.2	24.0	1.8	29.0	4.61	1,700	1,400	300/D
25	6	Stranded	0.7	1.2	27.0	1.9	32.0	3.08	1,450	1,800	300/D

D : Packing in drum

### FDLH-0.6/1KV-CCE-S

**0.6/1 kV 90 °C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE**

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx. (kg/km)	Standard Length (m)
	(mm <sup>2</sup> )							maximum (Ω/km)	minimum (MΩ-km)		
21	1.5	Stranded	0.7	1.2	19.5	1.8	24.0	12.1	2,500	820	300/D
	2.5	Stranded	0.7	1.2	22.0	1.8	27.0	7.41	2,100	1,050	300/D
	4	Stranded	0.7	1.2	25.0	1.8	29.0	4.61	1,700	1,500	300/D
	6	Stranded	0.7	1.2	28.0	1.9	33.0	3.08	1,450	1,900	300/D
22	1.5	Stranded	0.7	1.2	20.5	1.8	25.0	12.1	2,500	860	300/D
	2.5	Stranded	0.7	1.2	23.5	1.8	28.0	7.41	2,100	1,100	300/D
	4	Stranded	0.7	1.2	26.0	1.9	31.0	4.61	1,700	1,600	300/D
23	6	Stranded	0.7	1.2	29.5	2.0	34.0	3.08	1,450	2,000	300/D
	1.5	Stranded	0.7	1.2	20.5	1.8	25.0	12.1	2,500	890	300/D
	2.5	Stranded	0.7	1.2	23.5	1.8	28.0	7.41	2,100	1,200	300/D
24	4	Stranded	0.7	1.2	26.0	1.9	31.0	4.61	1,700	1,600	300/D
	6	Stranded	0.7	1.2	29.5	2.0	34.0	3.08	1,450	2,100	300/D
	1.5	Stranded	0.7	1.2	22.0	1.8	26.0	12.1	2,500	930	300/D
	2.5	Stranded	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1,200	300/D
25	4	Stranded	0.7	1.2	27.5	1.9	32.0	4.61	1,700	1,700	300/D
	6	Stranded	0.7	1.2	31.0	2.1	36.0	3.08	1,450	2,200	300/D
	1.5	Stranded	0.7	1.2	22.0	1.8	26.0	12.1	2,500	960	300/D
	2.5	Stranded	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1,200	300/D
26	4	Stranded	0.7	1.2	27.5	1.9	32.0	4.61	1,700	1,700	300/D
	6	Stranded	0.7	1.2	31.0	2.1	36.0	3.08	1,450	2,300	300/D
	1.5	Stranded	0.7	1.2	22.0	1.8	26.0	12.1	2,500	1,000	300/D
	2.5	Stranded	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1,300	300/D
27	4	Stranded	0.7	1.2	27.5	1.9	32.0	4.61	1,700	1,800	300/D
	6	Stranded	0.7	1.2	31.0	2.1	36.0	3.08	1,450	2,400	300/D
	1.5	Stranded	0.7	1.2	22.0	1.8	26.5	12.1	2,500	1,000	300/D
	2.5	Stranded	0.7	1.2	25.0	1.8	29.5	7.41	2,100	1,350	300/D
28	4	Stranded	0.7	1.2	28.0	2.0	33.0	4.61	1,700	1,900	300/D
	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	1,100	300/D
	2.5	Stranded	0.7	1.2	26.0	1.9	31.0	7.41	2,100	1,400	300/D
29	4	Stranded	0.7	1.2	29.0	2.0	34.0	4.61	1,700	2,000	300/D
	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	1,100	300/D
	2.5	Stranded	0.7	1.2	26.0	1.9	31.0	7.41	2,100	1,400	300/D
30	4	Stranded	0.7	1.2	29.0	2.0	34.0	4.61	1,700	2,000	300/D
	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	1,100	300/D
	2.5	Stranded	0.7	1.2	26.0	1.9	31.0	7.41	2,100	1,500	300/D
30	4	Stranded	0.7	1.2	29.0	2.0	34.0	4.61	1,700	2,100	300/D

D : Packing in drum

**FDLH-0.6-1KV-CCE or FDLH-0.6-1KV-CCE-S**

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE**  
**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE**

**ARRANGEMENT OF CORES**

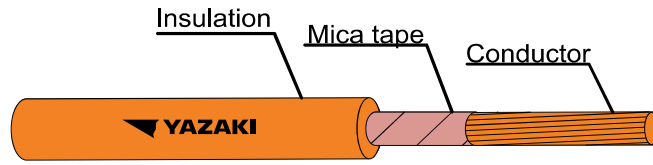
 2 CORES	 3 CORES	 4 CORES	 5 CORES	 6 CORES
 7 CORES	 8 CORES	 9 CORES	 10 CORES	 11 CORES
 12 CORES	 13 CORES	 14 CORES	 15 CORES	 16 CORES
 17 CORES	 18 CORES	 19 CORES	 20 CORES	 21 CORES
 22 CORES	 23 CORES	 24 CORES	 25 CORES	 26 CORES
 27 CORES	 28 CORES	 29 CORES	 30 CORES	

**NOTE :** Fillers are necessary to fill the cable a substantially circular cross section.  
 (If the stranded cores be circle enough, fillers shall not be necessary)



# FS/LH-0.6/1KV-XLPE (C)

600/1000V 90 °C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Flame retardant Low smoke & halogen free Cross-linked polyethylene (LSHF-XLPE : EI5)
- Core identification**  
Single-cores : Orange

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90 °C  
: Circuit voltage not exceeding 600/1000 Volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**
- Construction** : BS EN 50525-3-41
- Circuit integrity** : BS 6387 Category C,W,Z
- Flame retardant** : BS EN 60332-1-2  
BS EN IEC 60332-3-22 Category A  
BS EN IEC 60332-3-23 Category B  
BS EN IEC 60332-3-24 Category C
- Acid gas emission** : BS EN 60754-1, BS EN 60754-2
- Smoke emission** : BS EN 61034-2
- Non-toxic gases** : Defence standard 02-713

## APPLICATION

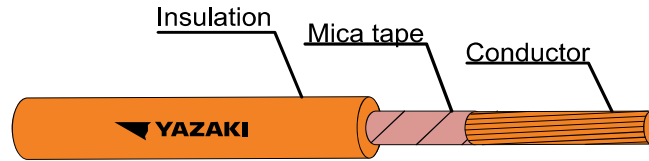
For fixed installation in electrical cabinet, conduit, trench and tray which provide flame retardant, low smoke & corrosive gases properties and main circuit integrity under fire.

Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 90°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)		Cable weight approx. (kg/km)	Standard Length (m)
							1 Phase	3 Phase		
1.5	Non-Compacted	0.7	4.3	12.1	0.0100	31	21	18	30	500/D
2.5	Non-Compacted	0.8	4.8	7.41	0.0090	41	28	25	40	500/D
4	Non-Compacted	0.8	5.3	4.61	0.0077	54	38	34	60	500/D
6	Non-Compacted	0.8	5.9	3.08	0.0065	69	49	44	80	500/D
10	Compacted	1.0	6.6	1.83	0.0065	93	68	60	120	500/D
16	Compacted	1.0	7.6	1.15	0.0050	123	91	80	180	500/D
25	Compacted	1.2	9.2	0.727	0.0050	164	121	106	270	500/D
35	Compacted	1.2	10.5	0.524	0.0043	202	149	131	360	500/D
50	Compacted	1.4	12.0	0.387	0.0043	246	180	159	490	500/D
70	Compacted	1.4	13.5	0.268	0.0035	311	230	202	700	500/D
95	Compacted	1.6	16.0	0.193	0.0035	388	278	245	950	500/D
120	Compacted	1.6	17.5	0.153	0.0032	452	322	284	1200	500/D
150	Compacted	1.8	19.0	0.124	0.0032	518	358	311	1500	500/D
185	Compacted	2.0	22.0	0.0991	0.0032	601	409	349	1800	500/D
240	Compacted	2.2	24.0	0.0754	0.0032	719	480	410	2400	500/D
300	Compacted	2.4	27.0	0.0601	0.0030	833	549	468	3000	500/D
400	Compacted	2.6	30.0	0.0470	0.0028	973	622	531	3800	500/D
500	Compacted	2.8	34.0	0.0366	0.0028	1141	713	606	4900	500/D
630	Compacted	2.8	37.0	0.0283	0.0025	1336	819	695	6000	500/D

D : Packing in drum

## FS/LH-0.6/1KV-XLPE (C)

600/1000V 90 °C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



### CABLE STRUCTURE

**Conductor** : Non-Compacted and compacted round annealed copper

**Fire barrier tape** : Mica tape

**Insulation** : Flame retardant Low smoke & halogen free Cross-linked polyethylene (LSHF-XLPE : EI5)

**Core identification**  
Single-cores : Orange

### TECHNICAL DATA

**Classification** : Maximum conductor temperature 90 °C  
: Circuit voltage not exceeding 600/1000 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**  
**Construction** : BS EN 50525-3-41  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : BS EN 60332-1-2  
BS EN IEC 60332-3-22 Category A  
BS EN IEC 60332-3-23 Category B  
BS EN IEC 60332-3-24 Category C

**Acid gas emission** : BS EN 60754-1, BS EN 60754-2  
**Smoke emission** : BS EN 61034-2  
**Non-toxic gases** : Defence standard 02-713

### APPLICATION

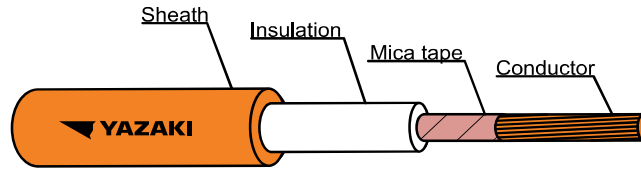
For fixed installation in electrical cabinet, conduit, trench and tray which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity under fire.

Nominal cross sectional area  (mm <sup>2</sup> )	Conductor type	A.C.Resistance R  (Ω/km)	Inductance L  (mH/km)	Reactance XL  (Ω/km)	Impedance Z  (Ω/km)
1.5	Non-Compacted	15.4287	0.5276	0.1657	15.4292
2.5	Non-Compacted	9.4485	0.5253	0.1650	9.4499
4	Non-Compacted	5.8782	0.5013	0.1575	5.8803
6	Non-Compacted	3.9273	0.4860	0.1527	3.9303
10	Compacted	2.3335	0.4844	0.1522	2.3384
16	Compacted	1.4665	0.4674	0.1468	1.4738
25	Compacted	0.9272	0.4630	0.1455	0.9384
35	Compacted	0.6684	0.4544	0.1427	0.6834
50	Compacted	0.4938	0.4430	0.1392	0.5129
70	Compacted	0.3422	0.4339	0.1363	0.3682
95	Compacted	0.2468	0.4343	0.1364	0.2817
120	Compacted	0.1960	0.4260	0.1338	0.2370
150	Compacted	0.1592	0.4261	0.1339	0.2077
185	Compacted	0.1278	0.4263	0.1339	0.1847
240	Compacted	0.0980	0.4225	0.1327	0.1645
300	Compacted	0.0790	0.4210	0.1323	0.1536
400	Compacted	0.0630	0.4192	0.1317	0.1454
500	Compacted	0.4880	0.4168	0.1309	0.1398
630	Compacted	0.0388	0.4122	0.1295	0.1352

# FS/FDLH-0.6/1KV-CE



0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANCE FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
Single-core : Natural (Translucent)
- Sheath** : Orange low smoke and zero halogen flame retardant polyolefin(ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**
  - Construction** : IEC 60502-1
  - Circuit integrity** : BS 6387 Category C,W,Z
  - Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C
  - Acid gas emission** : IEC 60754-1, IEC 60754-2
  - Smoke emission** : IEC 61034-2
  - Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

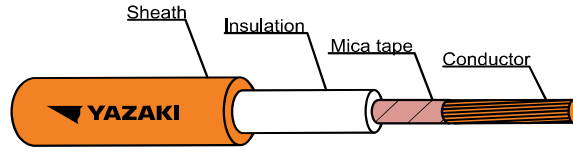
Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ·km)	Continuous current rating in free air at 40°C maximum (A)			Continuous current rating in conduit in free air at 40°C maximum (A)		Cable weight approx. (kg/km)	Standard Length (m)
								Spaced	Touching	Trefoil	1 Phase	3 Phase		
1	1.5	Non-Compacted	0.7	1.4	7.5	12.1	2,500	36	30	29	21	18	65	500/D
	2.5	Non-Compacted	0.7	1.4	8.0	7.41	2,100	47	39	38	28	25	75	500/D
	4	Non-Compacted	0.7	1.4	8.5	4.61	1,700	62	50	49	38	34	95	500/D
	6	Non-Compacted	0.7	1.4	9.0	3.08	1,450	77	62	61	49	44	120	500/D
	10	Compacted	0.7	1.4	9.5	1.83	1,250	102	82	80	68	60	160	500/D
	16	Compacted	0.7	1.4	10.5	1.15	1,000	134	106	103	91	80	220	500/D
	25	Compacted	0.9	1.4	12.0	0.727	1,050	173	135	131	121	106	330	500/D
	35	Compacted	0.9	1.4	13.5	0.524	900	212	166	161	149	131	410	500/D
	50	Compacted	1.0	1.4	14.5	0.387	850	256	201	195	180	159	550	500/D
	70	Compacted	1.1	1.5	17.0	0.268	800	324	257	249	230	202	750	500/D
	95	Compacted	1.1	1.5	18.5	0.193	650	400	318	308	278	245	1000	500/D
	120	Compacted	1.2	1.6	20.5	0.153	650	464	371	359	322	284	1300	500/D
	150	Compacted	1.4	1.6	22.5	0.124	700	530	426	412	358	311	1600	500/D
	185	Compacted	1.6	1.7	25.0	0.0991	700	613	495	479	409	349	1900	500/D
	240	Compacted	1.7	1.8	27.5	0.0754	650	731	592	572	480	410	2500	500/D
	300	Compacted	1.8	1.9	30.5	0.0601	600	843	686	661	549	468	3100	500/D
	400	Compacted	2.0	2.0	33.5	0.0470	600	985	803	773	622	531	3900	500/D
500	Compacted	2.2	2.1	37.5	0.0366	600	1150	939	900	713	606	5000	500/D	
630	Compacted	2.4	2.3	42.0	0.0283	550	1340	1094	1043	819	695	6500	500/D	
800	Compacted	2.6	2.4	46.5	0.0221	550	1542	1255	1188	965	820	8000	500/D	
1000	Compacted	2.8	2.6	52.5	0.0176	500	1764	4130	1344	1014	862	10500	300/D	

D : Packing in drum

# FS/FDLH-0.6/1KV-CE



0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANCE FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
Single-core : Natural (Translucent)
- Sheath** : Orange low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth
- Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**
- Construction** : IEC 60502-1
- Circuit integrity** : BS 6387 Category C,W,Z
- Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C
- Acid gas emission** : IEC 60754-1, IEC 60754-2
- Smoke emission** : IEC 61034-2
- Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

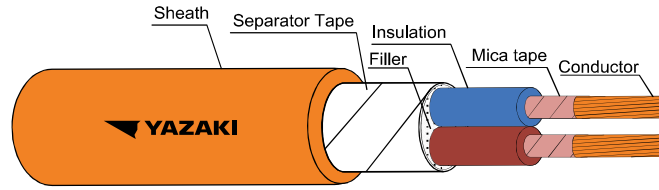
Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C.Resistance R (Ω/km)			Inductance L (mH/km)			Reactance XL (Ω/km)			Impedance Z (Ω/km)		
		Space	Touching	Trefoil	Space	Touching	Trefoil	Space	Touching	Trefoil	Space	Touching	Trefoil
1	1.5	15.4287	15.4287	15.4287	0.7969	0.6582	0.6120	0.2503	0.2068	0.1923	15.4307	15.4301	15.4299
	2.5	9.4485	9.4485	9.4485	0.7483	0.6097	0.5635	0.2351	0.1915	0.1770	9.4514	9.4504	9.4502
	4	5.8782	5.8782	5.8782	0.7056	0.5670	0.5208	0.2217	0.1781	0.1636	5.8824	5.8809	5.8805
	6	3.9273	3.9273	3.9273	0.6620	0.5234	0.4772	0.2080	0.1644	0.1499	3.9328	3.9308	3.9302
	10	2.3335	2.3335	2.3335	0.6263	0.4877	0.4415	0.1968	0.1532	0.1387	2.3418	2.3385	2.3376
	16	1.4664	1.4664	1.4664	0.5817	0.4431	0.3969	0.1827	0.1392	0.1247	1.4778	1.4730	1.4717
	25	0.9271	0.9271	0.9271	0.5313	0.3927	0.3465	0.1669	0.1234	0.1088	0.9420	0.9353	0.9335
	35	0.6683	0.6683	0.6684	0.5160	0.3773	0.3311	0.1621	0.1185	0.1040	0.6877	0.6788	0.6764
	50	0.4937	0.4937	0.4938	0.4943	0.3556	0.3094	0.1553	0.1117	0.0972	0.5175	0.5062	0.5033
	70	0.3420	0.3421	0.3422	0.4879	0.3492	0.3030	0.1533	0.1097	0.0952	0.3748	0.3593	0.3552
	95	0.2465	0.2467	0.2468	0.4744	0.3358	0.2895	0.1490	0.1055	0.0910	0.2880	0.2683	0.2630
	120	0.1956	0.1958	0.1960	0.4668	0.3282	0.2820	0.1467	0.1031	0.0886	0.2445	0.2213	0.2151
	150	0.1587	0.1590	0.1593	0.4633	0.3246	0.2784	0.1455	0.1020	0.0875	0.2154	0.1889	0.1817
	185	0.1271	0.1275	0.1278	0.4623	0.3236	0.2774	0.1452	0.1017	0.0871	0.1930	0.1631	0.1547
	240	0.0972	0.0977	0.0981	0.4545	0.3159	0.2697	0.1428	0.0992	0.0847	0.1727	0.1392	0.1296
	300	0.0779	0.0786	0.0791	0.4501	0.3115	0.2653	0.1414	0.0979	0.0833	0.1615	0.1255	0.1149
	400	0.0616	0.0624	0.0631	0.4478	0.3092	0.2630	0.1407	0.0971	0.0826	0.1536	0.1155	0.1039
500	0.0487	0.0498	0.0507	0.4436	0.3049	0.2587	0.1394	0.0958	0.0813	0.1476	0.1080	0.0958	
630	0.0387	0.0401	0.0412	0.4404	0.3017	0.2555	0.1383	0.0948	0.0803	0.1437	0.1029	0.0902	
800	0.0314	0.0331	0.0344	0.4366	0.2980	0.2518	0.1372	0.0936	0.0791	0.1407	0.0993	0.0863	
1000	0.0263	0.0282	0.0298	0.4323	0.2937	0.2474	0.1358	0.0923	0.0777	0.1383	0.0965	0.0833	



# FS/FDLH-0.6/1KV-CE



0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANCE FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
2 Cores : Blue, Brown
- Sheath** : Orange low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**
  - Construction** : IEC 60502-1
  - Circuit integrity** : BS 6387 Category C,W,Z
  - Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C
  - Acid gas emission** : IEC 60754-1, IEC 60754-2
  - Smoke emission** : IEC 61034-2
  - Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Non-Compacted	0.7	1.8	12.5	12.1	2,500	28	20	160	500/D
	2.5	Non-Compacted	0.7	1.8	13.5	7.41	2,100	38	27	190	500/D
	4	Non-Compacted	0.7	1.8	15.0	4.61	1,700	49	36	240	500/D
	6	Non-Compacted	0.7	1.8	16.0	3.08	1,450	63	46	290	500/D
	10	Compacted	0.7	1.8	17.5	1.83	1,250	84	63	390	500/D
	16	Compacted	0.7	1.8	19.5	1.15	1,000	111	83	650	500/D
	25	Compacted	0.9	1.8	23.0	0.727	1,050	147	108	750	500/D
	35	Compacted	0.9	1.8	25.0	0.524	900	181	133	950	500/D
	50	Compacted	1.0	1.8	28.0	0.387	850	219	159	1300	500/D
	70	Compacted	1.1	1.8	31.5	0.268	800	275	201	1700	500/D
	95	Compacted	1.1	1.8	35.5	0.193	650	340	241	2300	500/D
	120	Compacted	1.2	2.2	39.0	0.153	650	394	278	2800	500/D
	150	Compacted	1.4	2.3	43.0	0.124	700	449	304	3400	500/D
	185	Compacted	1.6	2.4	48.0	0.0991	700	518	349	4200	500/D
	240	Compacted	1.7	2.6	53.5	0.0754	650	614	418	5500	500/D
	300	Compacted	1.8	2.8	59.0	0.0601	600	705	484	7000	500/D
400	Compacted	2.0	3.0	65.5	0.0470	600	814	569	8500	500/D	

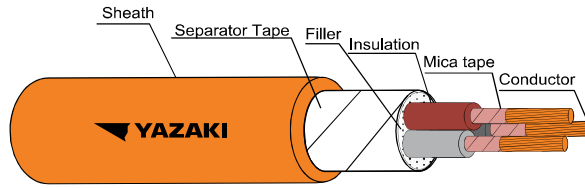
Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
2	1.5	15.4287	0.4018	0.1262	15.4292
	2.5	9.4485	0.3769	0.1184	9.4492
	4	5.8782	0.3492	0.1097	5.8793
	6	3.9273	0.3303	0.1038	3.9287
	10	2.3335	0.3124	0.0982	2.3356
	16	1.4665	0.2936	0.0922	1.4694
	25	0.9272	0.2782	0.0874	0.9313
	35	0.6684	0.2695	0.0847	0.6737
	50	0.4938	0.2546	0.0800	0.5002
	70	0.3422	0.2490	0.0782	0.3511
	95	0.2468	0.2414	0.0758	0.2582
	120	0.1960	0.2364	0.0743	0.2096
	150	0.1592	0.2369	0.0744	0.1758
	185	0.1278	0.2385	0.0749	0.1481
	240	0.0980	0.2334	0.0733	0.1224
	300	0.0790	0.2308	0.0725	0.1072
400	0.0630	0.2302	0.0723	0.0959	

D : Packing in drum

# FS/FDLH-0.6/1KV-CE



**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANCE FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE**



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
3 Cores : Brown, Black, Grey
- Sheath** : Orange low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**  
**Construction** : IEC 60502-1  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C
- Acid gas emission** : IEC 60754-1, IEC 60754-2
- Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
3	1.5	Non-Compacted	0.7	1.8	13.5	12.1	2,500	24	18	190	500/D
	2.5	Non-Compacted	0.7	1.8	14.5	7.41	2,100	32	24	230	500/D
	4	Non-Compacted	0.7	1.8	15.5	4.61	1,700	43	32	290	500/D
	6	Non-Compacted	0.7	1.8	17.0	3.08	1,450	54	40	370	500/D
	10	Compacted	0.7	1.8	18.5	1.83	1,250	72	55	490	500/D
	16	Compacted	0.7	1.8	20.5	1.15	1,000	96	73	700	500/D
	25	Compacted	0.9	1.8	24.5	0.727	1,050	127	96	1000	500/D
	35	Compacted	0.9	1.8	27.0	0.524	900	155	116	1300	500/D
	50	Compacted	1.0	1.8	30.0	0.387	850	193	140	1700	500/D
	70	Compacted	1.1	1.8	34.0	0.268	800	238	177	2400	500/D
	95	Compacted	1.1	2.1	38.0	0.193	650	293	212	3100	500/D
	120	Compacted	1.2	2.3	42.0	0.153	650	341	244	4000	500/D
	150	Compacted	1.4	2.4	46.0	0.124	700	389	273	4900	500/D
	185	Compacted	1.6	2.6	51.5	0.0991	700	449	309	6000	500/D
	240	Compacted	1.7	2.8	57.5	0.0754	650	534	362	8000	500/D
	300	Compacted	1.8	2.9	63.0	0.0601	600	614	414	9500	300/D
400	Compacted	2.0	3.2	70.5	0.0470	600	710	488	12000	300/D	

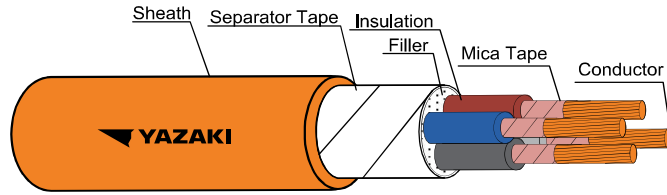
Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R	Inductance L	Reactance XL	Impedance Z
		(Ω/km)	(mH/km)	(Ω/km)	(Ω/km)
3	1.5	15.4287	0.4018	0.1262	15.4292
	2.5	9.4485	0.3769	0.1184	9.4492
	4	5.8782	0.3492	0.1097	5.8793
	6	3.9273	0.3303	0.1038	3.9287
	10	2.3335	0.3124	0.0982	2.3356
	16	1.4665	0.2936	0.0922	1.4694
	25	0.9272	0.2782	0.0874	0.9313
	35	0.6685	0.2695	0.0847	0.6738
	50	0.4939	0.2546	0.0800	0.5003
	70	0.3424	0.2490	0.0782	0.3512
	95	0.2470	0.2414	0.0758	0.2584
	120	0.1963	0.2364	0.0743	0.2099
	150	0.1596	0.2369	0.0744	0.1761
	185	0.1282	0.2385	0.0749	0.1485
	240	0.0986	0.2334	0.0733	0.1228
	300	0.0797	0.2308	0.0725	0.1077
400	0.0638	0.2302	0.0723	0.0964	

D : Packing in drum

# FS/FDLH-0.6/1KV-CE



0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANCE FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

**Conductor** : Non-Compacted and compacted round annealed copper

**Fire barrier tape** : Mica tape

**Insulation** : Cross-Linked polyethylene (XLPE)

**Core identification**  
4 Cores : Blue, Brown, Black, Grey

**Sheath** : Orange low smoke and zero halogen flame retardant polyolefin (ST8)

## TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**

**Construction** : IEC 60502-1

**Circuit integrity** : BS 6387 Category C,W,Z

**Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C

**Acid gas emission** : IEC 60754-1, IEC 60754-2

**Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

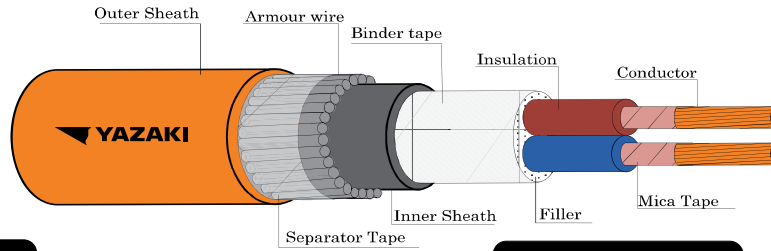
Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
4	1.5	Non-Compacted	0.7	1.8	14.5	12.1	2,500	24	18	230	500/D
	2.5	Non-Compacted	0.7	1.8	15.5	7.41	2,100	32	24	280	500/D
	4	Non-Compacted	0.7	1.8	17.5	4.61	1,700	43	32	360	500/D
	6	Non-Compacted	0.7	1.8	18.5	3.08	1,450	54	40	450	500/D
	10	Compacted	0.7	1.8	20.0	1.83	1,250	72	55	600	500/D
	16	Compacted	0.7	1.8	22.5	1.15	1,000	96	73	750	500/D
	25	Compacted	0.9	1.8	27.0	0.727	1,050	127	96	1300	500/D
	35	Compacted	0.9	1.8	29.5	0.524	900	155	116	1700	500/D
	50	Compacted	1.0	1.8	33.0	0.387	850	193	140	2200	500/D
	70	Compacted	1.1	2.1	37.5	0.268	800	238	177	3100	500/D
	95	Compacted	1.1	2.3	42.0	0.193	650	293	212	4100	500/D
	120	Compacted	1.2	2.4	46.5	0.153	650	341	244	5000	500/D
	150	Compacted	1.4	2.6	51.5	0.124	700	389	273	6500	500/D
	185	Compacted	1.6	2.8	57.5	0.0991	700	449	309	8000	500/D
	240	Compacted	1.7	3.0	64.5	0.0754	650	534	362	10500	300/D
	300	Compacted	1.8	3.2	70.5	0.0601	600	614	414	13000	300/D
400	Compacted	2.0	3.4	78.5	0.0470	600	710	488	16000	200/D	

Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
4	1.5	15.4287	0.4018	0.1262	15.4292
	2.5	9.4485	0.3769	0.1184	9.4492
	4	5.8782	0.3492	0.1097	5.8793
	6	3.9273	0.3303	0.1038	3.9287
	10	2.3335	0.3124	0.0982	2.3356
	16	1.4665	0.2936	0.0922	1.4694
	25	0.9272	0.2782	0.0874	0.9313
	35	0.6685	0.2695	0.0847	0.6738
	50	0.4939	0.2546	0.0800	0.5003
	70	0.3424	0.2490	0.0782	0.3512
	95	0.2470	0.2414	0.0758	0.2584
	120	0.1963	0.2364	0.0743	0.2099
	150	0.1596	0.2369	0.0744	0.1761
	185	0.1282	0.2385	0.0749	0.1485
	240	0.0986	0.2334	0.0733	0.1228
	300	0.0797	0.2308	0.0725	0.1077
400	0.0638	0.2302	0.0723	0.0964	

D : Packing in drum

# FS/FDLH-0.6/1KV-CE-SWA

0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH GALVANIZED STEEL WIRE ARMORED  
 FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
2 Cores : Blue, Brown
- Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)
- Armor** : Galvanized steel wires
- Sheath** : Orange low smoke and zero halogen flame retardant polyolefin(ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
: 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**  
**Construction** : IEC 60502-1, BS 7846  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : BS EN 60332-1-2  
 IEC 60332-3-22 Category A  
 IEC 60332-3-23 Category B  
 IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Diameter of steel wire armor nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in ground at 30°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Non-Compacted	0.7	1.2	11.0	1.25	1.8	18.0	12.1	2,500	30	35	500	500/D
	2.5	Non-Compacted	0.7	1.2	12.0	1.25	1.8	18.5	7.41	2,100	39	46	600	500/D
	4	Non-Compacted	0.7	1.2	13.0	1.25	1.8	20.0	4.61	1,700	51	59	700	500/D
	6	Non-Compacted	0.7	1.2	14.5	1.25	1.8	21.0	3.08	1,450	66	74	750	500/D
	10	Compacted	0.7	1.2	15.5	1.25	1.8	22.0	1.83	1,250	88	98	900	500/D
	16	Compacted	0.7	1.2	17.5	1.60	1.8	25.0	1.15	1,000	116	126	1200	500/D
	25	Compacted	0.9	1.2	21.0	1.60	1.8	28.5	0.727	1,050	154	162	1600	500/D
	35	Compacted	0.9	1.2	23.0	2.00	1.9	31.5	0.524	900	188	194	2100	500/D
	50	Compacted	1.0	1.2	26.0	2.00	2.0	35.0	0.387	850	228	230	2500	500/D
	70	Compacted	1.1	1.2	29.5	2.00	2.2	39.0	0.268	800	285	281	3200	500/D
	95	Compacted	1.1	1.2	33.0	2.00	2.3	42.5	0.193	650	350	336	3900	500/D
	120	Compacted	1.2	1.3	37.0	2.50	2.5	48.0	0.153	650	404	381	5000	500/D
	150	Compacted	1.4	1.3	40.5	2.50	2.6	51.5	0.124	700	458	426	6000	500/D
	185	Compacted	1.6	1.4	45.5	2.50	2.7	57.0	0.0991	700	528	479	7000	500/D
	240	Compacted	1.7	1.5	51.0	2.50	2.9	63.0	0.0754	650	622	552	8500	500/D
	300	Compacted	1.8	1.6	56.0	2.50	3.1	68.5	0.0601	600	710	618	10500	300/D
400	Compacted	2.0	1.8	62.5	3.15	3.4	77.0	0.0470	600	815	693	13500	300/D	

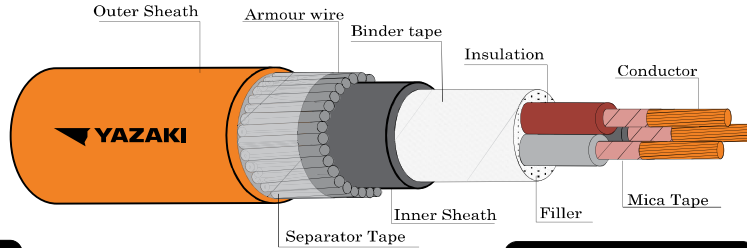
Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R	Inductance L	Reactance XL	Impedance Z
		(Ω/km)	(mH/km)	(Ω/km)	(Ω/km)
2	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9273	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6684	0.2567	0.0807	0.6733
	50	0.4938	0.2435	0.0765	0.4997
	70	0.3423	0.2395	0.0752	0.3504
	95	0.2468	0.2331	0.0732	0.2575
	120	0.1960	0.2289	0.0719	0.2088
	150	0.1593	0.2302	0.0723	0.1749
	185	0.1278	0.2326	0.0731	0.1472
	240	0.0981	0.2281	0.0717	0.1215
	300	0.0791	0.2260	0.0710	0.1063
400	0.0630	0.2259	0.0710	0.0949	

**Remark** : Thermal resistivity of soil 1.2 K.m/W or °C.m/W  
 Deep of laying (For cable laid direct in ground) 0.8 m

D : Packing in drum

# FS/FDLH-0.6/1KV-CE-SWA

0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH GALVANIZED STEEL WIRE ARMORED  
FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
3 Cores : Brown, Black, Grey
- Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)
- Armor** : Galvanized steel wires
- Sheath** : Orange low smoke and zero halogen flame retardant polyolefin(ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
: 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**  
**Construction** : IEC 60502-1, BS 7846  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Diameter of steel wire armor nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in ground at 30°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
3	1.5	Non-Compacted	0.7	1.2	12.0	1.25	1.8	18.5	12.1	2,500	26	30	600	500/D
	2.5	Non-Compacted	0.7	1.2	12.5	1.25	1.8	19.5	7.41	2,100	34	39	650	500/D
	4	Non-Compacted	0.7	1.2	14.0	1.25	1.8	20.5	4.61	1,700	45	51	750	500/D
	6	Non-Compacted	0.7	1.2	15.0	1.25	1.8	22.0	3.08	1,450	57	63	850	500/D
	10	Compacted	0.7	1.2	16.5	1.60	1.8	24.0	1.83	1,250	76	83	1200	500/D
	16	Compacted	0.7	1.2	18.5	1.60	1.8	26.0	1.15	1,000	100	107	1400	500/D
	25	Compacted	0.9	1.2	22.5	2.00	1.9	31.0	0.727	1,050	132	137	2100	500/D
	35	Compacted	0.9	1.2	24.5	2.00	2.0	33.5	0.524	900	162	164	2500	500/D
	50	Compacted	1.0	1.2	28.0	2.00	2.1	37.0	0.387	850	196	194	3100	500/D
	70	Compacted	1.1	1.2	31.5	2.00	2.2	41.0	0.268	800	246	236	3900	500/D
	95	Compacted	1.1	1.2	35.5	2.00	2.4	45.5	0.193	650	301	282	4900	500/D
	120	Compacted	1.2	1.3	39.5	2.50	2.5	50.5	0.153	650	348	320	6500	500/D
	150	Compacted	1.4	1.4	43.5	2.50	2.7	55.0	0.124	700	397	356	7500	500/D
	185	Compacted	1.6	1.5	49.0	2.50	2.9	61.0	0.0991	700	455	400	9000	500/D
	240	Compacted	1.7	1.6	55.0	2.50	3.1	67.5	0.0754	650	535	459	11500	300/D
	300	Compacted	1.8	1.7	60.5	2.50	3.3	73.0	0.0601	600	608	511	13500	300/D
400	Compacted	2.0	1.8	67.5	3.15	3.5	82.0	0.0470	600	699	574	17500	200/D	

Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R	Inductance L	Reactance XL	Impedance Z
		(Ω/km)	(mH/km)	(Ω/km)	(Ω/km)
3	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6685	0.2567	0.0807	0.6733
	50	0.4939	0.2435	0.0765	0.4998
	70	0.3424	0.2395	0.0752	0.3506
	95	0.2471	0.2331	0.0732	0.2577
	120	0.1964	0.2289	0.0719	0.2091
	150	0.1597	0.2302	0.0723	0.1753
	185	0.1283	0.2326	0.0731	0.1476
	240	0.0987	0.2281	0.0717	0.1219
	300	0.0798	0.2260	0.0710	0.1068
400	0.0639	0.2259	0.0710	0.0955	

**Remark** : Thermal resistivity of soil 1.2 K.m/W or °C.m/W  
Deep of laying (For cable laid direct in ground) 0.8 m

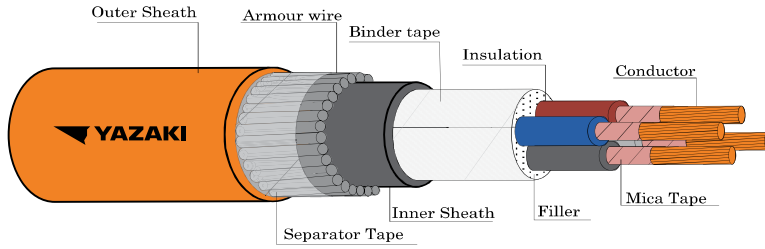
D : Packing in drum



# FS/FDLH-0.6/1KV-CE-SWA



0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH GALVANIZED STEEL WIRE ARMORED  
FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



## CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
4 Cores : Blue, Brown, Black, Grey
- Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin(ST8)
- Armor** : Galvanized steel wires
- Sheath** : Orange low smoke and zero halogen flame retardant polyolefin(ST8)

## TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 Volts
- Rated voltage** : 600 Volts between Line to Earth  
: 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**  
**Construction** : IEC 60502-1, BS 7846  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

## APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Diameter of steel wire armor nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)	Continuous current rating in ground at 30°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
4	1.5	Non-Compacted	0.7	1.2	13.0	1.25	1.8	19.5	12.1	2,500	26	30	650	500/D
	2.5	Non-Compacted	0.7	1.2	14.0	1.25	1.8	20.5	7.41	2,100	34	39	750	500/D
	4	Non-Compacted	0.7	1.2	15.5	1.25	1.8	22.0	4.61	1,700	45	51	850	500/D
	6	Non-Compacted	0.7	1.2	16.5	1.60	1.8	24.0	3.08	1,450	57	63	1100	500/D
	10	Compacted	0.7	1.2	18.0	1.60	1.8	25.5	1.83	1,250	76	83	1300	500/D
	16	Compacted	0.7	1.2	20.5	1.60	1.8	28.0	1.15	1,000	100	107	1700	500/D
	25	Compacted	0.9	1.2	24.5	2.00	2.0	33.5	0.727	1,050	132	137	2500	500/D
	35	Compacted	0.9	1.2	27.5	2.00	2.1	36.5	0.524	900	162	164	3000	500/D
	50	Compacted	1.0	1.2	30.5	2.00	2.2	40.0	0.387	850	196	194	3700	500/D
	70	Compacted	1.1	1.2	35.0	2.00	2.3	44.5	0.268	800	246	236	4800	500/D
	95	Compacted	1.1	1.3	39.5	2.50	2.5	50.5	0.193	650	301	282	6500	500/D
	120	Compacted	1.2	1.4	44.0	2.50	2.7	55.5	0.153	650	348	320	8000	500/D
	150	Compacted	1.4	1.5	49.0	2.50	2.9	60.5	0.124	700	397	356	9500	300/D
	185	Compacted	1.6	1.6	54.5	2.50	3.1	67.0	0.0991	700	455	400	11500	300/D
	240	Compacted	1.7	1.7	61.0	2.50	3.3	74.0	0.0754	650	535	459	14000	300/D
	300	Compacted	1.8	1.8	67.0	3.15	3.5	81.5	0.0601	600	608	511	18000	200/D
400	Compacted	2.0	2.0	75.5	3.15	3.8	90.5	0.0470	600	699	574	22000	200/D	

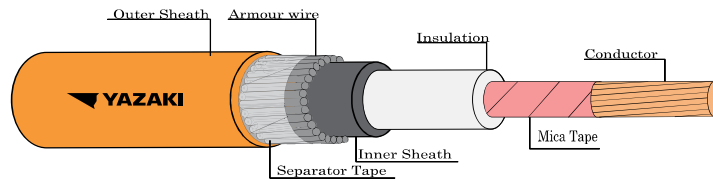
Number of cores	Nominal cross sectional area (mm <sup>2</sup> )	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
4	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	1.4665	0.2614	0.0821	1.4688
	25	0.9272	0.2637	0.0829	0.9309
	35	0.6685	0.2567	0.0807	0.6733
	50	0.4939	0.2435	0.0765	0.4998
	70	0.3424	0.2395	0.0752	0.3506
	95	0.2471	0.2331	0.0732	0.2577
	120	0.1964	0.2289	0.0719	0.2091
	150	0.1597	0.2302	0.0723	0.1753
	185	0.1283	0.2326	0.0731	0.1476
	240	0.0987	0.2281	0.0717	0.1219
	300	0.0798	0.2260	0.0710	0.1068
400	0.0639	0.2259	0.0710	0.0955	

**Remark** : Thermal resistivity of soil 1.2 K.m/W or °C.m/W  
Deep of laying (For cable laid direct in ground) 0.8 m

D : Packing in drum

## FS/FDLH-0.6/1KV-CE-AWA

**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH ALUMINIUM WIRE ARMORED FIRE RESISTANT FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE**



### CABLE STRUCTURE

**Conductor** : Non-Compacted and compacted round annealed copper  
**Fire barrier tape** : Mica tape  
**Insulation** : Cross-Linked polyethylene (XLPE)

**Core identification**  
 Single-core : Natural (Translucent)

**Inner Sheath**: Black Low smoke and zero halogen flame retardant polyolefin (ST8)

**Aarmor** : Aluminium wires

**Outer Sheath** : Orange Low smoke and zero halogen flame retardant polyolefin (ST8)

### TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
 : Circuit voltage not exceeding 1,200 volts

**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line

**Testing voltage** : 3,500 Volts

**Reference Standard**

**Construction** : IEC 60502-1  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : BS EN 60332-1-2  
 IEC 60332-3-22 Category A  
 IEC 60332-3-23 Category B  
 IEC 60332-3-24 Category C

**Acid gas emission** : IEC 60754-1, IEC 60754-2

**Smoke emission** : IEC 61034-2

**Non-toxic gases** : Defence standard 02-713

### APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

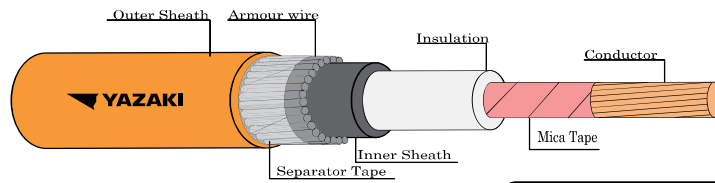
Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Dia. of aluminium wire armor nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (A)			Continuous current rating in ground at 30°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
											Spaced	Touching	Trefoil			
1	1.5	Non-Compacted	0.7	1.2	7.0	1.25	1.8	13.5	12.1	2,500	36	30	29	32	200	500/D
	2.5	Non-Compacted	0.7	1.2	7.5	1.25	1.8	14.0	7.41	2,100	48	39	38	41	220	500/D
	4	Non-Compacted	0.7	1.2	8.0	1.25	1.8	14.5	4.61	1,700	62	51	50	53	250	500/D
	6	Non-Compacted	0.7	1.2	8.5	1.25	1.8	15.0	3.08	1,450	78	64	63	65	280	500/D
	10	Compacted	0.7	1.2	9.0	1.25	1.8	15.5	1.83	1,250	104	85	83	86	330	500/D
	16	Compacted	0.7	1.2	10.0	1.25	1.8	16.5	1.15	1,000	136	112	109	110	410	500/D
	25	Compacted	0.9	1.2	11.5	1.25	1.8	18.5	0.727	1,050	179	147	143	141	550	500/D
	35	Compacted	0.9	1.2	13.0	1.25	1.8	19.5	0.524	900	217	179	174	169	650	500/D
	50	Compacted	1.0	1.2	14.0	1.25	1.8	21.0	0.387	850	261	216	210	199	800	500/D
	70	Compacted	1.1	1.2	16.0	1.60	1.8	23.0	0.268	800	327	270	262	243	1,000	500/D
	95	Compacted	1.1	1.2	18.0	1.60	1.8	25.0	0.193	650	404	334	325	292	1,400	500/D
	120	Compacted	1.2	1.2	19.5	1.60	1.8	27.0	0.153	650	467	387	376	331	1,600	500/D
	150	Compacted	1.4	1.2	21.5	1.60	1.8	28.5	0.124	700	532	442	429	371	2,000	500/D
	185	Compacted	1.6	1.2	23.5	2.00	1.8	32.0	0.0991	700	617	515	499	421	2,500	500/D
	240	Compacted	1.7	1.2	26.0	2.00	1.9	35.0	0.0754	650	733	613	594	487	3,100	500/D
	300	Compacted	1.8	1.2	28.5	2.00	2.0	37.5	0.0601	600	844	707	684	549	3,700	500/D
400	Compacted	2.0	1.2	31.5	2.00	2.2	41.0	0.0470	600	979	822	794	622	4,700	500/D	

**Remark** : Thermal resistivity of soil 1.2 K.m/W or °C.m/W  
 Deep of laying (For cable laid direct in ground) 0.8 m

D : Packing in drum

## FS/FDLH-0.6/1KV-CE-AWA

**0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED, WITH ALUMINIUM WIRE ARMORED FIRE RESISTANT FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE**



### CABLE STRUCTURE

- Conductor** : Non-Compacted and compacted round annealed copper
- Fire barrier tape** : Mica tape
- Insulation** : Cross-Linked polyethylene (XLPE)
- Core identification**  
Single-core : Natural (Translucent)
- Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)
- Armor** : Aluminium wires
- Outer Sheath** : Orange Low smoke and zero halogen flame retardant polyolefin (ST8)

### TECHNICAL DATA

- Classification** : Maximum conductor temperature 90°C  
: Circuit voltage not exceeding 1,200 volts
- Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line
- Testing voltage** : 3,500 Volts
- Reference Standard**
- Construction** : IEC 60502-1
- Circuit integrity** : BS 6387 Category C,W,Z
- Flame retardant** : BS EN 60332-1-2  
IEC 60332-3-22 Category A  
IEC 60332-3-23 Category B  
IEC 60332-3-24 Category C
- Acid gas emission** : IEC 60754-1, IEC 60754-2
- Smoke emission** : IEC 61034-2
- Non-toxic gases** : Defence standard 02-713

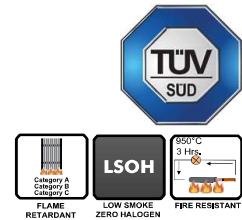
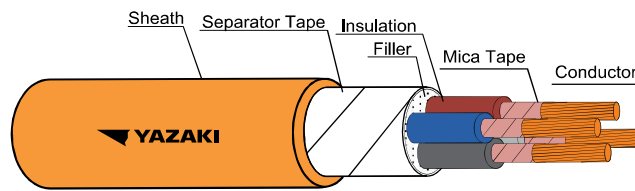
### APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	A.C.Resistance R (Ω/km)			Inductance L (mH/km)			Reactance XL (Ω/km)			Impedance Z (Ω/km)		
		Space	Touching	Trefoil	Space	Touching	Trefoil	Space	Touching	Trefoil	Space	Touching	Trefoil
1	1.5	15.4287	15.4287	15.4287	0.7969	0.6582	0.6120	0.2503	0.2068	0.1923	15.4307	15.4301	15.4299
	2.5	9.4485	9.4485	9.4485	0.7483	0.6097	0.5635	0.2351	0.1915	0.1770	9.4514	9.4504	9.4502
	4	5.8782	5.8782	5.8782	0.7056	0.5670	0.5208	0.2217	0.1781	0.1636	5.8824	5.8809	5.8805
	6	3.9273	3.9273	3.9273	0.6620	0.5234	0.4772	0.2080	0.1644	0.1499	3.9328	3.9308	3.9302
	10	2.3335	2.3335	2.3335	0.6263	0.4877	0.4415	0.1968	0.1532	0.1387	2.3418	2.3385	2.3376
	16	1.4664	1.4664	1.4664	0.5817	0.4431	0.3969	0.1827	0.1392	0.1247	1.4778	1.4730	1.4717
	25	0.9271	0.9271	0.9271	0.5313	0.3927	0.3465	0.1669	0.1234	0.1088	0.9420	0.9353	0.9335
	35	0.6683	0.6683	0.6684	0.5160	0.3773	0.3311	0.1621	0.1185	0.1040	0.6877	0.6788	0.6764
	50	0.4937	0.4937	0.4938	0.4943	0.3556	0.3094	0.1553	0.1117	0.0972	0.5175	0.5062	0.5033
	70	0.3420	0.3421	0.3422	0.4879	0.3492	0.3030	0.1533	0.1097	0.0952	0.3748	0.3593	0.3552
	95	0.2465	0.2467	0.2468	0.4744	0.3358	0.2895	0.1490	0.1055	0.0910	0.2880	0.2683	0.2630
	120	0.1956	0.1958	0.1960	0.4668	0.3282	0.2820	0.1467	0.1031	0.0886	0.2445	0.2213	0.2151
	150	0.1587	0.1590	0.1593	0.4633	0.3246	0.2784	0.1455	0.1020	0.0875	0.2154	0.1889	0.1817
	185	0.1271	0.1275	0.1278	0.4623	0.3236	0.2774	0.1452	0.1017	0.0871	0.1930	0.1631	0.1547
240	0.0972	0.0977	0.0981	0.4545	0.3159	0.2697	0.1428	0.0992	0.0847	0.1727	0.1392	0.1296	
300	0.0779	0.0786	0.0791	0.4501	0.3115	0.2653	0.1414	0.0979	0.0833	0.1615	0.1255	0.1149	
400	0.0616	0.0624	0.0631	0.4478	0.3092	0.2630	0.1407	0.0971	0.0826	0.1536	0.1155	0.1039	

## FS/FDLH-0.6/1KV-CCE

**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE**



### CABLE STRUCTURE

**Conductor** : Stranded annealed copper  
**Fire barrier tape** : Mica tape  
**Insulation** : Cross-Linked polyethylene (XLPE)  
**Core identification**  
 2 cores : Blue, Brown  
 3 cores : Brown, Black, Grey  
 4 cores : Blue, Brown, Black, Grey  
 More than 4 cores : White with marking numbers, colored black, printed continuously throughout the whole length of insulated wires for the propose of core identification  
**Sheath** : Orange Low smoke and zero halogen flame retardant polyolefin (ST8)

### TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
 : Circuit voltage not exceeding 1,200 volts  
**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line  
**Testing voltage** : 3,500 Volts  
**Reference Standard**  
**Construction** : IEC 60502-1  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : IEC 60332-1-2  
 IEC 60332-3-22 Category A  
 IEC 60332-3-23 Category B  
 IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

### APPLICATION

For installation into tray, conduit, underground duct trench or direct burial in ground which provide flame retardant, low smoked and non toxic emission under fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Stranded	0.7	1.8	12.0	12.1	2,500	130	300/D
	2.5	Stranded	0.7	1.8	13.0	7.41	2,100	160	300/D
	4	Stranded	0.7	1.8	14.0	4.61	1,700	200	300/D
3	6	Stranded	0.7	1.8	15.0	3.08	1,450	260	300/D
	1.5	Stranded	0.7	1.8	13.0	12.1	2,500	150	300/D
	2.5	Stranded	0.7	1.8	13.5	7.41	2,100	190	300/D
4	4	Stranded	0.7	1.8	15.0	4.61	1,700	250	300/D
	6	Stranded	0.7	1.8	16.0	3.08	1,450	330	300/D
	1.5	Stranded	0.7	1.8	14.0	12.1	2,500	180	300/D
5	2.5	Stranded	0.7	1.8	14.5	7.41	2,100	240	300/D
	4	Stranded	0.7	1.8	16.0	4.61	1,700	310	300/D
	6	Stranded	0.7	1.8	17.0	3.08	1,450	410	300/D
6	1.5	Stranded	0.7	1.8	15.0	12.1	2,500	200	300/D
	2.5	Stranded	0.7	1.8	16.0	7.41	2,100	270	300/D
	4	Stranded	0.7	1.8	18.0	4.61	1,700	360	300/D
7	6	Stranded	0.7	1.8	19.0	3.08	1,450	480	300/D
	1.5	Stranded	0.7	1.8	16.0	12.1	2,500	240	300/D
	2.5	Stranded	0.7	1.8	17.0	7.41	2,100	310	300/D
8	4	Stranded	0.7	1.8	19.0	4.61	1,700	420	300/D
	6	Stranded	0.7	1.8	21.0	3.08	1,450	570	300/D
	1.5	Stranded	0.7	1.8	16.0	12.1	2,500	240	300/D
9	2.5	Stranded	0.7	1.8	17.0	7.41	2,100	310	300/D
	4	Stranded	0.7	1.8	19.0	4.61	1,700	420	300/D
	6	Stranded	0.7	1.8	21.0	3.08	1,450	570	300/D

D : Packing in drum

## FS/FDLH-0.6/1KV-CCE

**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE**

Number of core	Nominal cross sectional area  (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal  (mm)	Sheath thickness nominal  (mm)	Overall diameter approx.  (mm)	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx.  (kg/km)	Standard Length  (m)
						maximum  (Ω/km)	minimum  (MΩ-km)		
8	1.5	Stranded	0.7	1.8	17.0	12.1	2,500	300	300/D
	2.5	Stranded	0.7	1.8	18.5	7.41	2,100	390	300/D
	4	Stranded	0.7	1.8	20.5	4.61	1,700	530	300/D
9	6	Stranded	0.7	1.8	22.0	3.08	1,450	720	300/D
	1.5	Stranded	0.7	1.8	18.0	12.1	2,500	320	300/D
	2.5	Stranded	0.7	1.8	20.0	7.41	2,100	440	300/D
10	4	Stranded	0.7	1.8	22.0	4.61	1,700	600	300/D
	6	Stranded	0.7	1.8	24.0	3.08	1,450	810	300/D
	1.5	Stranded	0.7	1.8	20.0	12.1	2,500	360	300/D
11	2.5	Stranded	0.7	1.8	21.0	7.41	2,100	490	300/D
	4	Stranded	0.7	1.8	24.0	4.61	1,700	670	300/D
	6	Stranded	0.7	1.8	26.0	3.08	1,450	920	300/D
12	1.5	Stranded	0.7	1.8	20.0	12.1	2,500	380	300/D
	2.5	Stranded	0.7	1.8	21.0	7.41	2,100	510	300/D
	4	Stranded	0.7	1.8	24.0	4.61	1,700	700	300/D
13	6	Stranded	0.7	1.8	26.0	3.08	1,450	970	300/D
	1.5	Stranded	0.7	1.8	21.0	12.1	2,500	410	300/D
	2.5	Stranded	0.7	1.8	22.0	7.41	2,100	560	300/D
14	4	Stranded	0.7	1.8	25.0	4.61	1,700	770	300/D
	6	Stranded	0.7	1.8	27.0	3.08	1,450	1,050	300/D
	1.5	Stranded	0.7	1.8	22.0	12.1	2,500	450	300/D
15	2.5	Stranded	0.7	1.8	23.0	7.41	2,100	590	300/D
	4	Stranded	0.7	1.8	26.0	4.61	1,700	820	300/D
	6	Stranded	0.7	1.8	28.0	3.08	1,450	1,130	300/D
16	1.5	Stranded	0.7	1.8	22.0	12.1	2,500	450	300/D
	2.5	Stranded	0.7	1.8	23.0	7.41	2,100	590	300/D
	4	Stranded	0.7	1.8	26.0	4.61	1,700	820	300/D
17	6	Stranded	0.7	1.8	28.0	3.08	1,450	1,130	300/D
	1.5	Stranded	0.7	1.8	22.0	12.1	2,500	480	300/D
	2.5	Stranded	0.7	1.8	24.0	7.41	2,100	660	300/D
18	4	Stranded	0.7	1.8	27.0	4.61	1,700	920	300/D
	6	Stranded	0.7	1.9	29.0	3.08	1,450	1,270	300/D
	1.5	Stranded	0.7	1.8	23.0	12.1	2,500	500	300/D
19	2.5	Stranded	0.7	1.8	24.5	7.41	2,100	700	300/D
	4	Stranded	0.7	1.8	27.0	4.61	1,700	970	300/D
	6	Stranded	0.7	1.9	30.0	3.08	1,450	1,330	300/D
20	1.5	Stranded	0.7	1.8	24.0	12.1	2,500	550	300/D
	2.5	Stranded	0.7	1.8	26.0	7.41	2,100	750	300/D
	4	Stranded	0.7	1.9	29.0	4.61	1,700	1,050	300/D
21	6	Stranded	0.7	2.0	32.0	3.08	1,450	1,440	300/D
	1.5	Stranded	0.7	1.8	24.0	12.1	2,500	580	300/D
	2.5	Stranded	0.7	1.8	26.0	7.41	2,100	790	300/D
22	4	Stranded	0.7	1.9	29.0	4.61	1,700	1,050	300/D
	6	Stranded	0.7	2.0	32.0	3.08	1,450	1,440	300/D
	1.5	Stranded	0.7	1.8	24.5	12.1	2,500	610	300/D
23	2.5	Stranded	0.7	1.8	26.5	7.41	2,100	830	300/D
	4	Stranded	0.7	1.9	30.0	4.61	1,700	1,170	300/D
	6	Stranded	0.7	2.0	33.0	3.08	1,450	1,630	300/D

D : Packing in drum



## FS/FDLH-0.6/1KV-CCE

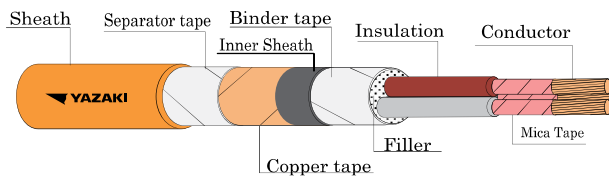
**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE**

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx.	Standard Length
	(mm <sup>2</sup> )					maximum	minimum		
21	1.5	Stranded	0.7	1.8	25.0	12.1	2,500	640	300/D
	2.5	Stranded	0.7	1.8	27.0	7.41	2,100	870	300/D
	4	Stranded	0.7	1.9	31.0	4.61	1,700	1,230	300/D
	6	Stranded	0.7	2.0	33.5	3.08	1,450	1,700	300/D
22	1.5	Stranded	0.7	1.8	26.0	12.1	2,500	680	300/D
	2.5	Stranded	0.7	1.9	29.0	7.41	2,100	930	300/D
	4	Stranded	0.7	2.0	32.5	4.61	1,700	1,300	300/D
	6	Stranded	0.7	2.1	35.0	3.08	1,450	1,820	300/D
23	1.5	Stranded	0.7	1.8	26.0	12.1	2,500	680	300/D
	2.5	Stranded	0.7	1.9	29.0	7.41	2,100	930	300/D
	4	Stranded	0.7	2.0	32.5	4.61	1,700	1,300	300/D
	6	Stranded	0.7	2.1	35.0	3.08	1,450	1,820	300/D
24	1.5	Stranded	0.7	1.8	28.0	12.1	2,500	730	300/D
	2.5	Stranded	0.7	1.9	30.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	2.0	34.0	4.61	1,700	1,400	300/D
	6	Stranded	0.7	2.1	37.0	3.08	1,450	1,970	300/D
25	1.5	Stranded	0.7	1.8	28.0	12.1	2,500	730	300/D
	2.5	Stranded	0.7	1.9	30.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	2.0	34.0	4.61	1,700	1,400	300/D
	6	Stranded	0.7	2.1	37.0	3.08	1,450	1,970	300/D
26	1.5	Stranded	0.7	1.8	28.0	12.1	2,500	730	300/D
	2.5	Stranded	0.7	1.9	30.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	2.0	34.0	4.61	1,700	1,400	300/D
	6	Stranded	0.7	2.1	37.0	3.08	1,450	1,970	300/D
27	1.5	Stranded	0.7	1.9	29.0	12.1	2,500	800	300/D
	2.5	Stranded	0.7	1.9	31.0	7.41	2,100	1,100	300/D
	4	Stranded	0.7	2.1	35.0	4.61	1,700	1,550	300/D
28	1.5	Stranded	0.7	1.9	30.0	12.1	2,500	850	300/D
	2.5	Stranded	0.7	2.0	32.5	7.41	2,100	1,150	300/D
	4	Stranded	0.7	2.1	36.5	4.61	1,700	1,660	300/D
29	1.5	Stranded	0.7	1.9	30.0	12.1	2,500	850	300/D
	2.5	Stranded	0.7	2.0	32.5	7.41	2,100	1,150	300/D
	4	Stranded	0.7	2.1	36.5	4.61	1,700	1,660	300/D
30	1.5	Stranded	0.7	1.9	30.0	12.1	2,500	850	300/D
	2.5	Stranded	0.7	2.0	32.5	7.41	2,100	1,150	300/D
	4	Stranded	0.7	2.1	36.5	4.61	1,700	1,660	300/D

D : Packing in drum

## FS/FDLH-0.6/1KV-CCE-S

**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE**



### CABLE STRUCTURE

**Conductor** : Stranded annealed copper  
**Fire barrier tape** : Mica tape  
**Insulation** : Cross-Linked polyethylene (XLPE)  
**Core identification**  
 2 cores : Blue, Brown  
 3 cores : Brown, Black, Grey  
 4 cores : Blue, Brown, Black, Grey  
 More than 4 cores : White with marking numbers, colored black, printed continuously throughout the whole length of insulated wires for the propose of core identification  
**Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)  
**Shield** : Copper tape  
**Outer Sheath** : Orange Low smoke and zero halogen flame retardant polyolefin (ST8)

### TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
 : Circuit voltage not exceeding 1,200 volts  
**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line  
**Testing voltage** : 3,500 Volts  
**Reference Standard**  
**Construction** : IEC 60502-1  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : IEC 60332-1-2  
 IEC 60332-3-22 Category A  
 IEC 60332-3-23 Category B  
 IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

### APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Stranded	0.7	1.2	10.5	1.8	15.0	12.1	2,500	150	300/D
	2.5	Stranded	0.7	1.2	11.5	1.8	16.0	7.41	2,100	180	300/D
	4	Stranded	0.7	1.2	13.0	1.8	17.0	4.61	1,700	230	300/D
	6	Stranded	0.7	1.2	14.0	1.8	18.0	3.08	1,450	290	300/D
3	1.5	Stranded	0.7	1.2	11.0	1.8	16.0	12.1	2,500	180	300/D
	2.5	Stranded	0.7	1.2	12.0	1.8	16.5	7.41	2,100	230	300/D
	4	Stranded	0.7	1.2	13.0	1.8	18.0	4.61	1,700	300	300/D
4	6	Stranded	0.7	1.2	14.5	1.8	19.0	3.08	1,450	360	300/D
	1.5	Stranded	0.7	1.2	12.0	1.8	17.0	12.1	2,500	220	300/D
	2.5	Stranded	0.7	1.2	13.0	1.8	17.5	7.41	2,100	280	300/D
5	4	Stranded	0.7	1.2	15.0	1.8	19.0	4.61	1,700	360	300/D
	6	Stranded	0.7	1.2	16.0	1.8	20.0	3.08	1,450	460	300/D
	1.5	Stranded	0.7	1.2	13.5	1.8	18.0	12.1	2,500	260	300/D
6	2.5	Stranded	0.7	1.2	14.5	1.8	19.0	7.41	2,100	330	300/D
	4	Stranded	0.7	1.2	16.0	1.8	20.0	4.61	1,700	440	300/D
	6	Stranded	0.7	1.2	17.5	1.8	22.0	3.08	1,450	560	300/D
7	1.5	Stranded	0.7	1.2	15.0	1.8	19.0	12.1	2,500	300	300/D
	2.5	Stranded	0.7	1.2	16.0	1.8	20.0	7.41	2,100	390	300/D
	4	Stranded	0.7	1.2	18.0	1.8	22.0	4.61	1,700	520	300/D
7	6	Stranded	0.7	1.2	19.0	1.8	24.0	3.08	1,450	650	300/D
	1.5	Stranded	0.7	1.2	15.0	1.8	19.0	12.1	2,500	320	300/D
	2.5	Stranded	0.7	1.2	16.0	1.8	20.0	7.41	2,100	420	300/D
7	4	Stranded	0.7	1.2	18.0	1.8	22.0	4.61	1,700	560	300/D
	6	Stranded	0.7	1.2	19.0	1.8	24.0	3.08	1,450	720	300/D

D : Packing in drum

### FS/FDLH-0.6/1KV-CCE-S

0.6/1 kV 90 °C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx. (kg/km)	Standard Length (m)
	(mm <sup>2</sup> )							maximum (Ω/km)	minimum (MΩ-km)		
8	1.5	Stranded	0.7	1.2	16.0	1.8	20.0	12.1	2,500	380	300/D
	2.5	Stranded	0.7	1.2	17.0	1.8	21.0	7.41	2,100	480	300/D
	4	Stranded	0.7	1.2	19.0	1.8	24.0	4.61	1,700	640	300/D
9	1.5	Stranded	0.7	1.2	17.0	1.8	22.0	12.1	2,500	420	300/D
	2.5	Stranded	0.7	1.2	19.0	1.8	23.0	7.41	2,100	530	300/D
	4	Stranded	0.7	1.2	21.0	1.8	25.0	4.61	1,700	730	300/D
10	1.5	Stranded	0.7	1.2	18.5	1.8	23.0	12.1	2,500	480	300/D
	2.5	Stranded	0.7	1.2	20.0	1.8	24.5	7.41	2,100	600	300/D
	4	Stranded	0.7	1.2	22.0	1.8	27.0	4.61	1,700	820	300/D
11	1.5	Stranded	0.7	1.2	18.5	1.8	23.0	12.1	2,500	490	300/D
	2.5	Stranded	0.7	1.2	20.0	1.8	24.5	7.41	2,100	630	300/D
	4	Stranded	0.7	1.2	22.0	1.8	27.0	4.61	1,700	850	300/D
12	1.5	Stranded	0.7	1.2	19.0	1.8	24.0	12.1	2,500	530	300/D
	2.5	Stranded	0.7	1.2	21.0	1.8	25.0	7.41	2,100	690	300/D
	4	Stranded	0.7	1.2	23.0	1.8	28.0	4.61	1,700	930	300/D
13	1.5	Stranded	0.7	1.2	20.0	1.8	25.0	12.1	2,500	570	300/D
	2.5	Stranded	0.7	1.2	22.0	1.8	26.0	7.41	2,100	740	300/D
	4	Stranded	0.7	1.2	25.0	1.9	29.0	4.61	1,700	1,000	300/D
14	1.5	Stranded	0.7	1.2	20.0	1.8	25.0	12.1	2,500	580	300/D
	2.5	Stranded	0.7	1.2	22.0	1.8	26.0	7.41	2,100	750	300/D
	4	Stranded	0.7	1.2	25.0	1.9	29.0	4.61	1,700	1,030	300/D
15	1.5	Stranded	0.7	1.2	21.0	1.8	25.0	12.1	2,500	620	300/D
	2.5	Stranded	0.7	1.2	23.0	1.8	27.0	7.41	2,100	810	300/D
	4	Stranded	0.7	1.2	25.5	1.9	30.0	4.61	1,700	1,100	300/D
16	1.5	Stranded	0.7	1.2	21.0	1.8	26.0	12.1	2,500	650	300/D
	2.5	Stranded	0.7	1.2	23.0	1.8	28.0	7.41	2,100	840	300/D
	4	Stranded	0.7	1.2	26.0	1.9	31.0	4.61	1,700	1,150	300/D
17	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	720	300/D
	2.5	Stranded	0.7	1.2	24.5	1.9	29.0	7.41	2,100	920	300/D
	4	Stranded	0.7	1.2	27.5	2.0	32.0	4.61	1,700	1,250	300/D
18	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	720	300/D
	2.5	Stranded	0.7	1.2	24.5	1.9	29.0	7.41	2,100	930	300/D
	4	Stranded	0.7	1.2	27.5	2.0	32.0	4.61	1,700	1,300	300/D
19	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	740	300/D
	2.5	Stranded	0.7	1.2	24.5	1.9	29.0	7.41	2,100	960	300/D
	4	Stranded	0.7	1.2	27.5	2.0	32.0	4.61	1,700	1,330	300/D
20	1.5	Stranded	0.7	1.2	23.0	1.8	27.5	12.1	2,500	780	300/D
	2.5	Stranded	0.7	1.2	25.0	1.9	30.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	1.2	28.0	2.0	33.0	4.61	1,700	1,400	300/D

D : Packing in drum

### FS/FDLH-0.6/1KV-CCE-S

.6/1 kV 90 °C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW MOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx. (kg/km)	Standard Length (m)
	(mm <sup>2</sup> )							maximum (Ω/km)	minimum (MΩ-km)		
21	1.5	Stranded	0.7	1.2	24.0	1.8	28.0	12.1	2,500	820	300/D
	2.5	Stranded	0.7	1.2	26.0	1.9	30.5	7.41	2,100	1,050	300/D
	4	Stranded	0.7	1.2	29.0	2.0	34.0	4.61	1,700	1,500	300/D
22	1.5	Stranded	0.7	1.2	25.0	1.9	30.0	12.1	2,500	860	300/D
	2.5	Stranded	0.7	1.2	27.0	2.0	32.0	7.41	2,100	1,100	300/D
	4	Stranded	0.7	1.2	31.0	2.1	36.0	4.61	1,700	1,600	300/D
23	1.5	Stranded	0.7	1.2	33.0	2.2	39.0	3.08	1,450	2,000	300/D
	2.5	Stranded	0.7	1.2	25.0	1.9	30.0	12.1	2,500	890	300/D
	4	Stranded	0.7	1.2	27.0	2.0	32.0	7.41	2,100	1,200	300/D
24	1.5	Stranded	0.7	1.2	31.0	2.1	36.0	4.61	1,700	1,600	300/D
	2.5	Stranded	0.7	1.2	33.0	2.2	39.0	3.08	1,450	2,100	300/D
	4	Stranded	0.7	1.2	33.0	2.2	39.0	3.08	1,450	2,100	300/D
25	1.5	Stranded	0.7	1.2	26.0	1.9	31.0	12.1	2,500	930	300/D
	2.5	Stranded	0.7	1.2	29.0	2.0	34.0	7.41	2,100	1,200	300/D
	4	Stranded	0.7	1.2	32.0	2.1	37.0	4.61	1,700	1,700	300/D
26	1.5	Stranded	0.7	1.2	35.0	2.2	41.0	3.08	1,450	2,200	300/D
	2.5	Stranded	0.7	1.2	26.0	1.9	31.0	12.1	2,500	960	300/D
	4	Stranded	0.7	1.2	29.0	2.0	34.0	7.41	2,100	1,200	300/D
27	1.5	Stranded	0.7	1.2	32.0	2.1	37.0	4.61	1,700	1,700	300/D
	2.5	Stranded	0.7	1.2	35.0	2.2	41.0	3.08	1,450	2,300	300/D
	4	Stranded	0.7	1.2	35.0	2.2	41.0	3.08	1,450	2,300	300/D
28	1.5	Stranded	0.7	1.2	26.0	1.9	31.0	12.1	2,500	1,000	300/D
	2.5	Stranded	0.7	1.2	29.0	2.0	34.0	7.41	2,100	1,300	300/D
	4	Stranded	0.7	1.2	32.0	2.1	37.0	4.61	1,700	1,800	300/D
29	1.5	Stranded	0.7	1.2	35.0	2.2	41.0	3.08	1,450	2,400	300/D
	2.5	Stranded	0.7	1.2	27.0	2.0	32.0	7.41	2,100	1,000	300/D
	4	Stranded	0.7	1.2	29.5	2.0	34.0	7.41	2,100	1,350	300/D
30	1.5	Stranded	0.7	1.2	33.0	2.2	38.0	4.61	1,700	1,900	300/D
	2.5	Stranded	0.7	1.2	28.0	2.0	33.0	12.1	2,500	1,100	300/D
	4	Stranded	0.7	1.2	31.0	2.1	36.0	7.41	2,100	1,400	300/D
31	1.5	Stranded	0.7	1.2	34.0	2.2	40.0	4.61	1,700	2,000	300/D
	2.5	Stranded	0.7	1.2	28.0	2.0	33.0	12.1	2,500	1,100	300/D
	4	Stranded	0.7	1.2	31.0	2.1	36.0	7.41	2,100	1,400	300/D
32	1.5	Stranded	0.7	1.2	34.0	2.2	40.0	4.61	1,700	2,000	300/D
	2.5	Stranded	0.7	1.2	28.0	2.0	33.0	12.1	2,500	1,100	300/D
	4	Stranded	0.7	1.2	31.0	2.1	36.0	7.41	2,100	1,500	300/D
33	1.5	Stranded	0.7	1.2	28.0	2.0	33.0	12.1	2,500	1,100	300/D
	2.5	Stranded	0.7	1.2	31.0	2.1	36.0	7.41	2,100	1,500	300/D
	4	Stranded	0.7	1.2	34.0	2.2	40.0	4.61	1,700	2,100	300/D

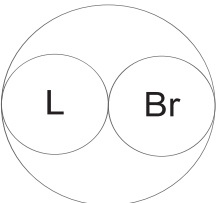
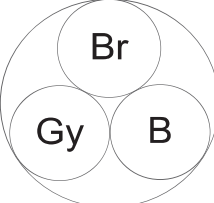
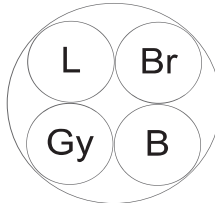
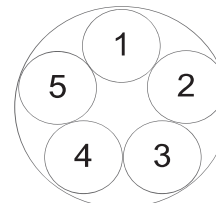
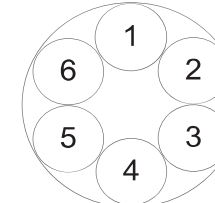
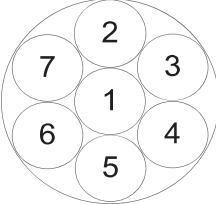
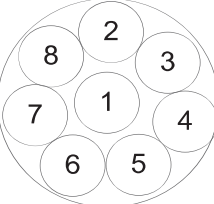
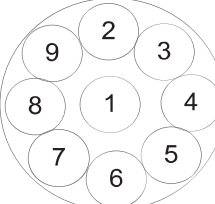
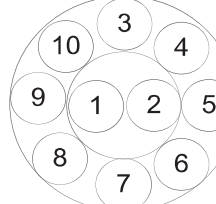
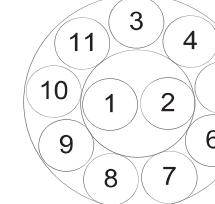
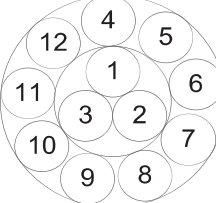
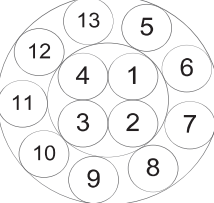
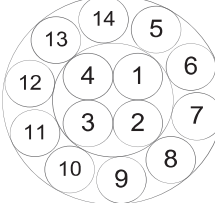
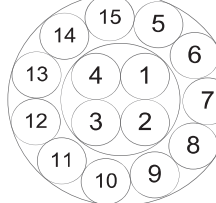
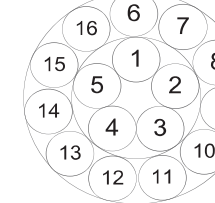
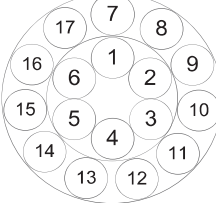
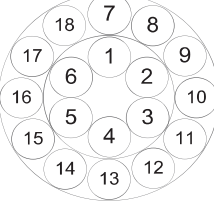
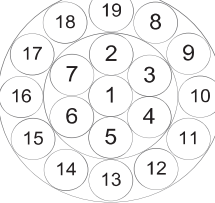
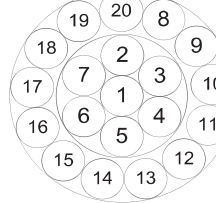
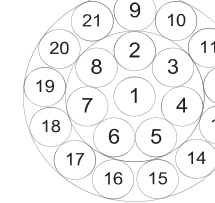
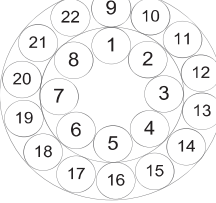
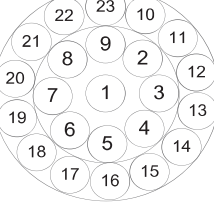
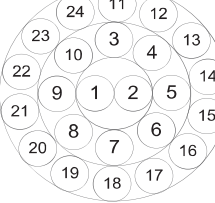
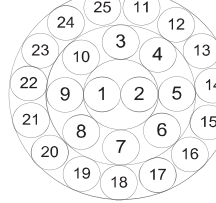
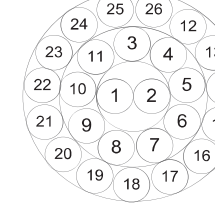
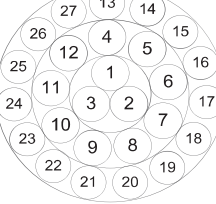
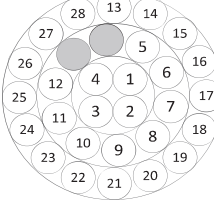
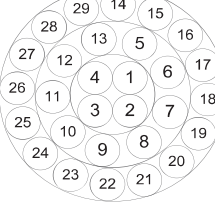
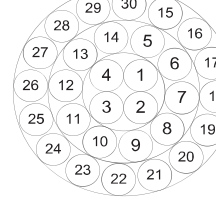
D : Packing in drum

**FS/FDLH-0.6-1KV-CCE or FS/FDLH-0.6-1KV-CCE-S**

**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE**

**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE**

**ARRANGEMENT OF CORES**

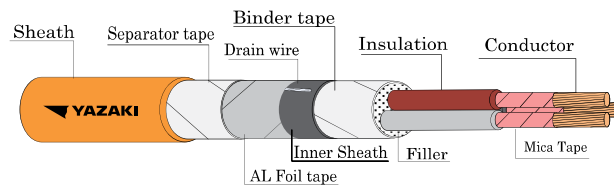
 2 CORES	 3 CORES	 4 CORES	 5 CORES	 6 CORES
 7 CORES	 8 CORES	 9 CORES	 10 CORES	 11 CORES
 12 CORES	 13 CORES	 14 CORES	 15 CORES	 16 CORES
 17 CORES	 18 CORES	 19 CORES	 20 CORES	 21 CORES
 22 CORES	 23 CORES	 24 CORES	 25 CORES	 26 CORES
 27 CORES	 28 CORES	 29 CORES	 30 CORES	

**NOTE : Fillers are necessary to fill the cable a substantially circular cross section.  
(If the stranded cores be circle enough, fillers shall not be necessary)**



## FS/FDLH-0.6/1KV-CCE-SLA

0.6/1 KV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE



### CABLE STRUCTURE

**Conductor** : Stranded annealed copper  
**Fire barrier tape** : Mica tape  
**Insulation** : Cross-Linked polyethylene (XLPE)  
**Core identification**  
 2 cores : Blue, Brown  
 3 cores : Brown, Black, Grey  
 4 cores : Blue, Brown, Black, Grey  
 More than 4 cores : White with marking numbers, colored black, printed continuously throughout the whole length of insulated wires for the propose of core identification  
**Inner Sheath** : Black Low smoke and zero halogen flame retardant polyolefin (ST8)  
**Shield** : Laminated aluminium bonded with polyester tape and drain wire  
**Outer Sheath** : Orange Low smoke and zero halogen flame retardant polyolefin (ST8)

### TECHNICAL DATA

**Classification** : Maximum conductor temperature 90°C  
 : Circuit voltage not exceeding 1,200 volts  
**Rated voltage** : 600 Volts between Line to Earth  
**Rated voltage** : 1,000 Volts between Line to Line  
**Testing voltage** : 3,500 Volts  
**Reference Standard**  
**Construction** : IEC 60502-1  
**Circuit integrity** : BS 6387 Category C,W,Z  
**Flame retardant** : IEC 60332-1-2  
 IEC 60332-3-22 Category A  
 IEC 60332-3-23 Category B  
 IEC 60332-3-24 Category C  
**Acid gas emission** : IEC 60754-1, IEC 60754-2  
**Smoke emission** : IEC 61034-2  
**Non-toxic gases** : Defence standard 02-713

### APPLICATION

For installation into conduit and surface wiring which provide flame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Cable weight approx. (kg/km)	Standard Length (m)
	(mm <sup>2</sup> )										
2	1.5	Stranded	0.7	1.2	10.5	1.8	15.0	12.1	2,500	150	300/D
	2.5	Stranded	0.7	1.2	11.5	1.8	16.0	7.41	2,100	180	300/D
3	1.5	Stranded	0.7	1.2	11.0	1.8	16.0	12.1	2,500	180	300/D
	2.5	Stranded	0.7	1.2	12.0	1.8	16.5	7.41	2,100	230	300/D
4	1.5	Stranded	0.7	1.2	12.0	1.8	17.0	12.1	2,500	220	300/D
	2.5	Stranded	0.7	1.2	13.0	1.8	17.5	7.41	2,100	280	300/D
5	1.5	Stranded	0.7	1.2	13.5	1.8	18.0	12.1	2,500	260	300/D
	2.5	Stranded	0.7	1.2	14.5	1.8	19.0	7.41	2,100	330	300/D
6	1.5	Stranded	0.7	1.2	15.0	1.8	19.0	12.1	2,500	300	300/D
	2.5	Stranded	0.7	1.2	16.0	1.8	20.0	7.41	2,100	390	300/D
7	1.5	Stranded	0.7	1.2	15.0	1.8	19.0	12.1	2,500	320	300/D
	2.5	Stranded	0.7	1.2	16.0	1.8	20.0	7.41	2,100	420	300/D
8	1.5	Stranded	0.7	1.2	16.0	1.8	20.0	12.1	2,500	380	300/D
	2.5	Stranded	0.7	1.2	17.0	1.8	21.0	7.41	2,100	480	300/D
9	1.5	Stranded	0.7	1.2	17.0	1.8	22.0	12.1	2,500	420	300/D
	2.5	Stranded	0.7	1.2	19.0	1.8	23.0	7.41	2,100	530	300/D
10	1.5	Stranded	0.7	1.2	18.5	1.8	23.0	12.1	2,500	480	300/D
	2.5	Stranded	0.7	1.2	20.0	1.8	24.5	7.41	2,100	600	300/D

D : Packing in drum

## FS/FDLH-0.6/1KV-CCE-SLA

**0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE**

Number of core	Nominal cross sectional area (mm <sup>2</sup> )	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C	Insulation resistance at 20°C	Cable weight approx. (kg/km)	Standard Length (m)
								maximum (Ω/km)	minimum (MΩ-km)		
11	1.5	Stranded	0.7	1.2	18.5	1.8	23.0	12.1	2,500	490	300/D
	2.5	Stranded	0.7	1.2	20.0	1.8	24.5	7.41	2,100	630	300/D
12	1.5	Stranded	0.7	1.2	19.0	1.8	24.0	12.1	2,500	530	300/D
	2.5	Stranded	0.7	1.2	21.0	1.8	25.0	7.41	2,100	690	300/D
13	1.5	Stranded	0.7	1.2	20.0	1.8	25.0	12.1	2,500	570	300/D
	2.5	Stranded	0.7	1.2	22.0	1.8	26.0	7.41	2,100	740	300/D
14	1.5	Stranded	0.7	1.2	20.0	1.8	25.0	12.1	2,500	580	300/D
	2.5	Stranded	0.7	1.2	22.0	1.8	26.0	7.41	2,100	750	300/D
15	1.5	Stranded	0.7	1.2	21.0	1.8	25.0	12.1	2,500	620	300/D
	2.5	Stranded	0.7	1.2	23.0	1.8	27.0	7.41	2,100	810	300/D
16	1.5	Stranded	0.7	1.2	21.0	1.8	26.0	12.1	2,500	650	300/D
	2.5	Stranded	0.7	1.2	23.0	1.8	28.0	7.41	2,100	840	300/D
17	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	720	300/D
	2.5	Stranded	0.7	1.2	24.5	1.9	29.0	7.41	2,100	920	300/D
18	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	720	300/D
	2.5	Stranded	0.7	1.2	24.5	1.9	29.0	7.41	2,100	930	300/D
19	1.5	Stranded	0.7	1.2	23.0	1.8	27.0	12.1	2,500	740	300/D
	2.5	Stranded	0.7	1.2	24.5	1.9	29.0	7.41	2,100	960	300/D
20	1.5	Stranded	0.7	1.2	23.0	1.8	27.5	12.1	2,500	780	300/D
	2.5	Stranded	0.7	1.2	25.0	1.9	30.0	7.41	2,100	1,000	300/D
21	1.5	Stranded	0.7	1.2	24.0	1.8	28.0	12.1	2,500	820	300/D
	2.5	Stranded	0.7	1.2	26.0	1.9	30.5	7.41	2,100	1,050	300/D
22	1.5	Stranded	0.7	1.2	25.0	1.9	30.0	12.1	2,500	860	300/D
	2.5	Stranded	0.7	1.2	27.0	2.0	32.0	7.41	2,100	1,100	300/D
23	1.5	Stranded	0.7	1.2	25.0	1.9	30.0	12.1	2,500	890	300/D
	2.5	Stranded	0.7	1.2	27.0	2.0	32.0	7.41	2,100	1,200	300/D
24	1.5	Stranded	0.7	1.2	26.0	1.9	31.0	12.1	2,500	930	300/D
	2.5	Stranded	0.7	1.2	29.0	2.0	34.0	7.41	2,100	1,200	300/D
25	1.5	Stranded	0.7	1.2	26.0	1.9	31.0	12.1	2,500	960	300/D
	2.5	Stranded	0.7	1.2	29.0	2.0	34.0	7.41	2,100	1,200	300/D
26	1.5	Stranded	0.7	1.2	26.0	1.9	31.0	12.1	2,500	1,000	300/D
	2.5	Stranded	0.7	1.2	29.0	2.0	34.0	7.41	2,100	1,300	300/D
27	1.5	Stranded	0.7	1.2	27.0	2.0	32.0	12.1	2,500	1,000	300/D
	2.5	Stranded	0.7	1.2	29.5	2.0	34.0	7.41	2,100	1,350	300/D
28	1.5	Stranded	0.7	1.2	28.0	2.0	33.0	12.1	2,500	1,100	300/D
	2.5	Stranded	0.7	1.2	31.0	2.1	36.0	7.41	2,100	1,400	300/D
29	1.5	Stranded	0.7	1.2	28.0	2.0	33.0	12.1	2,500	1,100	300/D
	2.5	Stranded	0.7	1.2	31.0	2.1	36.0	7.41	2,100	1,400	300/D
30	1.5	Stranded	0.7	1.2	28.0	2.0	33.0	12.1	2,500	1,100	300/D
	2.5	Stranded	0.7	1.2	31.0	2.1	36.0	7.41	2,100	1,500	300/D

D : Packing in drum

### FS/FDLH-0.6/1KV-CCE-SLA

0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN SHIELDED CONTROL CABLE

#### ARRANGEMENT OF CORES

 2 CORES	 3 CORES	 4 CORES	 5 CORES	 6 CORES
 7 CORES	 8 CORES	 9 CORES	 10 CORES	 11 CORES
 12 CORES	 13 CORES	 14 CORES	 15 CORES	 16 CORES
 17 CORES	 18 CORES	 19 CORES	 20 CORES	 21 CORES
 22 CORES	 23 CORES	 24 CORES	 25 CORES	 26 CORES
 27 CORES	 28 CORES	 29 CORES	 30 CORES	

**NOTE :** Fillers are necessary to fill the cable a substantially circular cross section.  
(If the stranded cores be circle enough, fillers shall not be necessary)

## Electrical Data from EIT Standard 2001-56

**Table 5-8 :** Correction factor for groups of more than one circuit

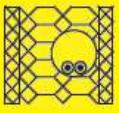
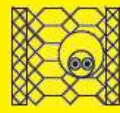
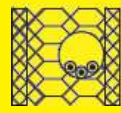
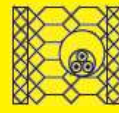




Group of circuit	Correction factor
2	0.80
3	0.70
4	0.65
5	0.60
6	0.57
7	0.54
8	0.52
9	0.50
10-12	0.45
13-16	0.41
17-20	0.38

**Note (Table 5-8)**

- 1) These factors are applicable to uniform groups of cables, equally loaded.
- 2) The correction factor are applied to:
  - Groups of two or three or four Single core cables
  - Multi cores cables.
- 3) If a system consists of both two or three or four cables, the total number of cables is taken as the number of circuits, and the correction factor is applied to the table for two or three or four loaded conductors for the two or three or four core cables respectively.
- 4) If a group consists of n Single core cables it may either be considered as n/2 circuits of two loaded conductor or n/3 circuits of three loaded conductor

**Remark :** This page refer EIT Standard 2001-56

**Table 5-20:** Current-carrying capacities in amperes for copper conductor, PVC insulated, with or without sheathed for rated voltage 0.6/1 kV, conductor temperature 70°C / ambient temperature 40 °C in conduit

No. of Conductor Single/ Multicore	Group for installation method : Group 1				Group for installation method : Group 2			
	2		3		2		3	
	Single core	Multi core	Single core	Multi core	Single core	Multi core	Single core	Multi core
Installation Method								
Type of Cable	60227 IEC 01, 60227 IEC 02, 60227 IEC 05, 60227 IEC 06, 60227 IEC 10, NYY, NYY-G, VCT, VCT-G, IEC 60502-1 and special cable such as flame retardant (FR), low smoke and halogen free (LSHF) etc.							
Size (sq.mm.)	Current-carrying capacities (amperes)							
1	10	10	9	9	12	11	10	10
1.5	13	12	12	11	15	14	13	13
2.5	17	16	16	15	21	20	18	17
4	23	22	21	20	28	26	24	23
6	30	28	27	25	36	33	31	30
10	40	37	37	34	50	45	44	40
16	53	50	49	45	66	60	59	54
25	70	65	64	59	88	78	77	70
35	86	80	77	72	109	97	96	86
50	104	96	94	86	131	116	117	103
70	131	121	118	109	167	146	149	130
95	158	145	143	131	202	175	180	156
120	183	167	164	150	234	202	208	179
150	209	191	188	171	261	224	228	196
185	238	216	213	194	297	256	258	222
240	279	253	249	227	348	299	301	258
300	319	291	285	259	398	343	343	295
400	-	-	-	-	475	-	406	-
500	-	-	-	-	545	-	464	-




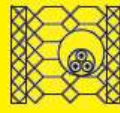




**Note (Table 5-20)**

- 1) Where the ambient temperature in the intended location of the cable differs from 40°C (reference ambient temperature), the correction factor given in Table 5-43.
- 2) If installation more than 1 circuit in single conduit, the correction factor given in Table 5-8.
- 3) Installation method given in Table 5-47.

**Remark :** This page refer EIT Standard 2001-56



**Table 5-27:** Current-carrying capacities in amperes for copper conductor, XLPE insulated, with sheathed for rated voltage 0.6/1 kV, conductor temperature 90°C / ambient temperature 40 °C in conduit

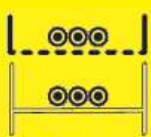
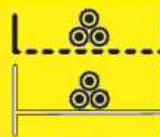
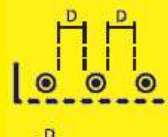

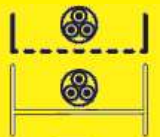
No. of Conductor	Group for installation method : Group 1				Group for installation method : Group 2			
	2		3		2		3	
Single/ Multicore	Single core	Multi core	Single core	Multi core	Single core	Multi core	Single core	Multi core
Installation Method								
Type of Cable	IEC 60502-1 and special cable such as flame retardant (FR), low smoke and halogen free (LSHF) etc.							
Size (sq.mm.)	Current-carrying capacities (amperes)							
1	13	13	12	12	15	15	14	14
1.5	17	17	15	15	21	20	18	18
2.5	24	23	21	20	28	27	25	24
4	32	30	28	27	38	36	34	32
6	41	38	36	35	49	46	44	40
10	56	52	49	46	68	63	60	55
16	74	69	66	62	91	83	80	73
25	96	90	86	81	121	108	106	96
35	119	110	106	99	149	133	131	116
50	144	132	128	118	180	159	159	140
70	182	167	163	149	230	201	202	177
95	219	200	197	179	278	241	245	212
120	253	230	227	207	322	278	284	244
150	289	264	259	236	358	304	311	273
185	329	299	295	268	409	349	349	309
240	386	351	346	315	480	418	410	362
300	442	402	396	360	549	484	468	414
400	-	-	-	-	622	-	531	-
500	-	-	-	-	713	-	606	-

**Note (Table 5-27)**

- 1) Where the ambient temperature in the intended location of the cable differs from 40°C (reference ambient temperature), the correction factor given in Table 5-43.
- 2) If installation more than 1 circuit in single conduit , the correction factor given in Table 5-8.
- 3) Installation method given in Table 5-47.

**Remark :** This page refer EIT Standard 2001-56

**Table 5-30:** Current-carrying capacities in amperes for copper conductor, PVC insulated, with sheathed for rated voltage 0.6/1 kV, conductor temperature 70°C / ambient temperature 40 °C install in perforated trays or ladder cleats









Group for installation method : Group 7					
Single/ Multicore	Single core				Multi cores
Installation Method					
Type of Cable	60227 IEC 10, NYY, NYY-G and special cable flame retardant (FR), low smoke and halogen free (LSHF) etc.				
Size (sq.mm.)	Current-carrying capacities (amperes)				
1	-	-	-	-	13
1.5	-	-	-	-	16
2.5	-	-	-	-	22
4	-	-	-	-	30
6	-	-	-	-	37
10	-	-	-	-	52
16	-	-	-	-	70
25	99	96	127	113	88
35	124	119	157	141	110
50	151	145	191	171	133
70	196	188	244	221	171
95	239	230	297	271	207
120	279	268	345	315	240
150	324	310	397	365	278
185	371	356	453	418	317
240	441	422	535	495	374
300	511	488	617	573	432
400	599	571	741	692	-
500	686	652	854	800	-

**Note (Table 5-30)**

- 1) Where the ambient temperature in the intended location of the cable differs from 40°C (reference ambient temperature), the correction factor given in Table 5-43.
- 2) If installation more than 1 circuit, the correction factor given in table 5-40 or 5-41 for Single core and Multi cores respectively.
- 3) Installation method given in Table 5-47.

**Remark :** This page refer EIT Standard 2001-56

**Table 5-31:** Current-carrying capacities in amperes for copper conductor, PVC insulated, with sheathed for rated voltage 0.6/1 kV, conductor temperature 70°C / ambient temperature 40 °C install in ventilated or unventilated cable channel

		Group for installation method : Group 7			
Single/ Multicore	Single core				
Installation Method					
					
					
Type of Cable	60227 IEC 10, NYY, NYY-G, IEC 60502-1 and special cable flame retardant (FR), low smoke and halogen free (LSHF) etc.				
Size (sq.mm.)	Current-carrying capacities (amperes)				
1	-	-	12	10	
1.5	-	-	15	13	
2.5	-	-	21	17	
4	-	-	28	23	
6	-	-	36	30	
10	-	-	50	40	
16	-	-	66	54	
25	90	77	84	70	
35	112	96	104	86	
50	145	117	125	103	
70	186	149	160	130	
95	227	180	194	156	
120	264	208	225	179	
150	304	228	260	196	
185	348	258	297	222	
240	411	301	351	258	
300	474	343	404	295	
400	552	406	-	-	
500	629	464	-	-	

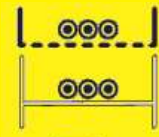
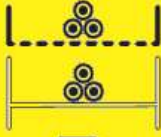
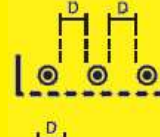

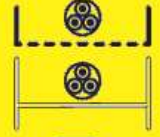
**Note (Table 5-31)**

- 1) Where the ambient temperature in the intended location of the cable differs from 40°C (reference ambient temperature), the correction factor given in Table 5-43.
- 2) If number of conductor more than 1 circuit for install in ventilated, correction factor given in table 5-8 and table 5-41 for install in unventilated.

**Exception :** If spacing for circuit more than two time of cable diameter, the correction factor do not apply.

**Remark :** This page refer EIT Standard 2001-56

**Table 5-32:** Current-carrying capacities in amperes for copper conductor, XLPE insulated, with sheathed for rated voltage 0.6/1 kV, conductor temperature 90°C / ambient temperature 40 °C install in perforated trays or ladder cleats





Single/ Multicore	Group for installation method : Group 7				
	Single core				Multi cores
Installation Method					
Type of Cable	IEC 60502-1 and special cable flame retardant (FR), low smoke and halogen free (LSHF) etc.				
Size (sq.mm.)	Current-carrying capacities (amperes)				
1	-	-	-	-	16
1.5	-	-	-	-	21
2.5	-	-	-	-	29
4	-	-	-	-	38
6	-	-	-	-	49
10	-	-	-	-	68
16	-	-	-	-	91
25	128	123	166	147	116
35	160	154	206	183	144
50	197	188	250	224	175
70	254	244	321	289	224
95	311	298	391	354	271
120	364	349	455	413	315
150	422	404	525	480	363
185	485	464	602	551	415
240	577	552	711	654	490
300	670	640	821	758	565
400	790	754	987	917	-
500	908	861	1140	1064	-

**Note (Table 5-32)**

- 1) Where the ambient temperature in the intended location of the cable differs from 40°C (reference ambient temperature), the correction factor given in Table 5-43.
- 2) If installation more than 1 circuit, the correction factor given in table 5-40 or 5-41 for Single core and Multi cores respectively.
- 3) Installation method given in Table 5-47.
- 4) Type of cable given in Table 5-47.

**Remark :** This page refer EIT Standard 2001-56

**Table 5-33:** Current-carrying capacities in amperes for copper conductor, XLPE insulated, with sheathed for rated voltage 0.6/1 kV, conductor temperature 90°C / ambient temperature 40 °C install in ventilated or unventilated cable channel

Group for installation method : Group 7				
Single/ Multicore	Single core			
Installation Method				
Type of Cable	IEC 60502-1 and special cable flame retardant (FR), low smoke and halogen free (LSHF) etc.			
Size (sq.mm.)	Current-carrying capacities (amperes)			
1	-	-	15	14
1.5	-	-	20	18
2.5	-	-	27	24
4	-	-	36	32
6	-	-	47	40
10	-	-	65	55
16	-	-	87	73
25	118	106	108	96
35	147	131	134	116
50	190	159	163	140
70	244	202	208	177
95	297	245	253	212
120	345	284	293	244
150	397	311	338	273
185	455	349	386	309
240	537	410	455	362
300	620	468	524	414
400	722	531	-	-
500	823	606	-	-

**Note (Table 5-33)**

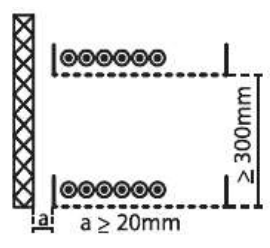
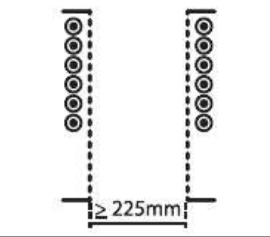
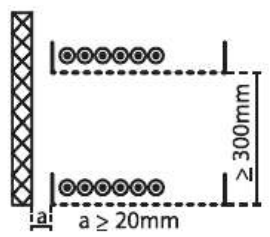
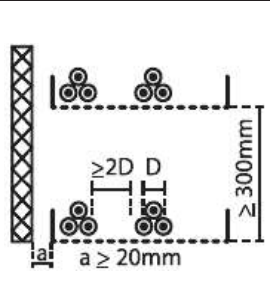
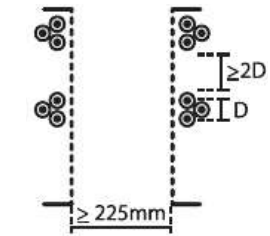
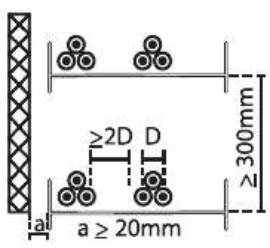
- 1) Where the ambient temperature in the intended location of the cable differs from 40°C (reference ambient temperature), the correction factor given in Table 5-43.
- 2) If number of conductor more than 1 circuit for install in ventilated, correction factor given in table 5-8 and table 5-41 for install in unventilated.

**Exception :** If spacing for circuit more than two time of cable diameter, the correction factor do not apply.

**Remark :** This page refer EIT Standard 2001-56

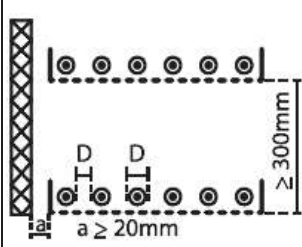
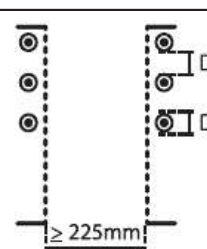
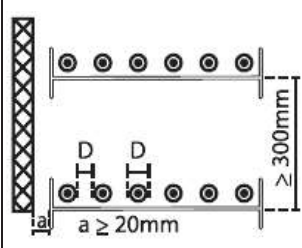


**Table 5-40:** The correction factor for groups more than one circuit for Single core cable install on tray

Installation Method		No. of cable tray	Number of circuit per cable tray						
			1	2	3	4	5-6	7-8	
Perforated tray (note 2)		1	1.00	0.91	0.87	0.82	0.78	0.77	Cable in horizontal formation
		2	0.96	0.87	0.81	0.78	0.74	0.69	
		3	0.95	0.85	0.78	0.75	0.70	0.65	
Vertical perforated tray (note 3)		1	1.00	0.86	0.80	0.75	0.71	0.70	Cable in vertical formation
		2	0.95	0.84	0.77	0.72	0.67	0.66	
Ladder cleats (note 2)		1	1.00	0.97	0.96	0.94	0.93	0.92	Cable in horizontal formation
		2	0.98	0.93	0.89	0.88	0.86	0.83	
		3	0.97	0.90	0.86	0.83	0.80	0.77	
Perforated tray (note 2)		1	1.00	0.98	0.96	0.93	0.89	-	Cable in trefoil formation space between circuit more than 2 time of cable diameter
		2	0.97	0.93	0.89	0.85	0.80	-	
		3	0.96	0.92	0.86	0.82	0.76	-	
Vertical perforated tray (note 3)		1	1.00	0.91	0.89	0.88	0.87	-	
		2	1.00	0.90	0.86	0.85	0.83	-	
Ladder cleats (note 2)		1	1.00	1.00	1.00	1.00	1.00	-	
		2	0.97	0.95	0.93	0.92	0.91	-	
		3	0.96	0.94	0.90	0.89	0.86	-	

**Remark :** This page refer EIT Standard 2001-56

**Table 5-40:** The correction factor for groups more than one circuit for Single core cable install on tray

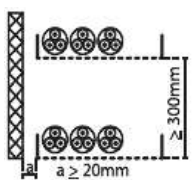
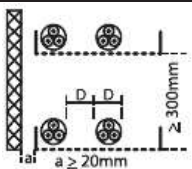
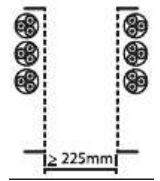
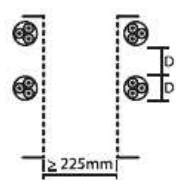
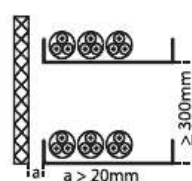
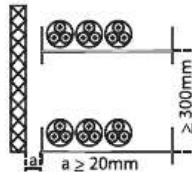
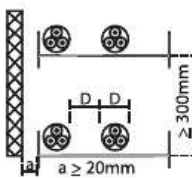
Installation Method		No. of cable tray	Number of circuit per cable tray						
			1	2	3	4	5-6	7-9	
Perforated tray (note 2)		1	1.00	0.93	0.90	0.87	0.83	-	Spacing between cable not less than diameter of cable
		2	0.97	0.89	0.85	0.81	0.76	-	
		3	0.96	0.88	0.82	0.78	0.72	-	
Vertical perforated tray (note 3)		1	1.00	0.91	0.89	0.88	0.87	-	
		2	0.94	0.90	0.86	0.85	0.83	-	
Ladder cleats (note 2)		1	1.00	0.97	0.96	0.96	0.96	-	
		2	0.97	0.94	0.93	0.92	0.91	-	
		3	0.96	0.93	0.92	0.91	0.88	-	

**Note (Table 5-40)**

- 1) Factors are given for single layer of cables (or trefoil groups) only
- 2) Values are given for vertical spacing between trays of at least 300 mm, and at least 20 mm, between the trays and any wall only.
- 3) Values are given for horizontal spacing between trays of at least 225 mm, with trays mounted back to back only.
- 4) For trays having more than one circuit, the correction factor should be considered as a maximum circuit in tray.

**Remark :** This page refer EIT Standard 2001-56

**Table 5-41:** The correction factor for groups more than one circuit for multi cores cable install on perforated or unperforated tray or ladder cleats

Installation Method		No. of cable tray	Number of circuit per cable tray						
			1	2	3	4	5-6	7-9	
Perforated tray (note 2)		1	1.00	0.88	0.82	0.77	0.73	0.72	
		2	1.00	0.87	0.80	0.77	0.73	0.68	
		3	1.00	0.86	0.79	0.76	0.71	0.66	
		4-6	1.00	0.84	0.77	0.73	0.68	0.64	
		1	1.00	1.00	0.98	0.95	0.91	-	
		2	1.00	0.99	0.96	0.92	0.87	-	
3		1.00	0.98	0.95	0.91	0.85	-		
Vertical perforated tray (note 3)		1	1.00	0.88	0.82	0.77	0.73	0.72	
		2	1.00	0.88	0.81	0.76	0.71	0.70	
		1	1.00	0.91	0.89	0.88	0.87	-	
		2	1.00	0.91	0.88	0.87	0.85	-	
	Unperforated tray (note 2)		1	0.97	0.84	0.78	0.75	0.71	0.68
			2	0.97	0.83	0.76	0.72	0.68	0.63
3			0.97	0.82	0.75	0.71	0.66	0.61	
4-6			0.97	0.81	0.73	0.69	0.63	0.58	
Ladder cleats (note 2)		1	1.00	0.87	0.82	0.80	0.79	0.78	
		2	1.00	0.86	0.80	0.78	0.76	0.73	
		3	1.00	0.85	0.79	0.76	0.73	0.70	
		4-6	1.00	0.84	0.77	0.73	0.60	0.64	
		1	1.00	1.00	1.00	1.00	1.00	-	
		2	1.00	0.99	0.98	0.97	0.96	-	
		3	1.00	0.98	0.97	0.96	0.93	-	

**Note (Table 5-41)**

- 1) Factors are given for single layer of cables (or trefoil groups) only as shown in table and do not apply when cables are installed in more than one layer touching each other.
- 2) Values are given for vertical spacing between trays of at least 300 mm, and at least 20 mm. between the trays and any wall only.
- 3) Values are given for horizontal spacing between trays of at least 225 mm. with trays mounted back to back only.
- 4) For trays having more than one circuit, the correction factor should be considered as a maximum circuit in tray.

**Remark :** This page refer EIT Standard 2001-56

**Table 5-43:** Correction factor for ambient air temperatures other than 40°C to be applied to current-carrying capacities for cables in free air

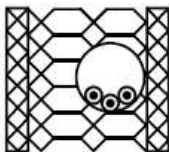
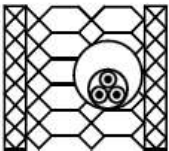


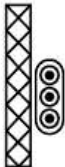

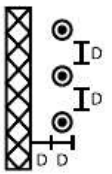
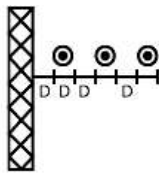
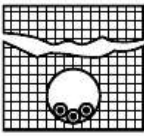
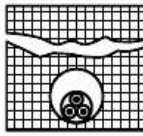
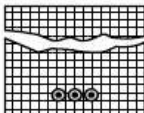
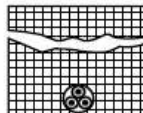
Ambient Temperature (Degree celsius)	Insulation			
	PVC	XLPE or EPR	MI	
			70°C	105°C
11-15	1.34	1.23	1.41	1.21
16-20	1.29	1.19	1.34	1.16
21-25	1.22	1.14	1.26	1.13
26-30	1.15	1.10	1.18	1.09
31-35	1.08	1.05	1.09	1.04
36-40	1.00	1.00	1.00	1.00
41-45	0.91	0.96	0.91	0.96
46-50	0.82	0.90	0.79	0.91
51-55	0.70	0.84	0.67	0.87
56-60	0.57	0.78	0.53	0.82
61-65	-	0.71	-	0.76
66-70	-	0.64	-	0.70
71-75	-	0.55	-	0.65
76-80	-	0.45	-	0.59
81-85	-	-	-	0.51
86-90	-	-	-	0.43
91-95	-	-	-	0.35

**Table 5-44:** Correction factor for ambient air temperatures other than 30°C to be applied to current-carrying capacities for cables in the ground

Ambient Temperature (Degree celsius)	Insulation	
	PVC	XLPE or EPR
11-15	1.18	1.12
16-20	1.12	1.08
21-25	1.07	1.03
26-30	1.00	1.00
31-35	0.94	0.96
36-40	0.87	0.91
41-45	0.80	0.86
46-50	0.71	0.82
51-55	0.62	0.76
56-60	0.51	0.70
61-65	-	0.65
66-70	-	0.57
71-75	-	0.49
76-80	-	0.41

**Remark :** This page refer EIT Standard 2001-56

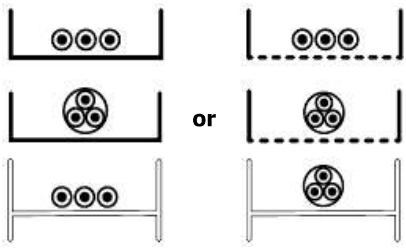
**Table 5-47:** Schedule of reference method of installation which form the basis of the tabulated current-carrying capacities

Methods of Wiring	Methods of Installation	Group of Installation	Note
Insulated conductors single core or multi cores with or without sheathed wiring in metallic or non-metallic conduit in thermal insulated wall.	 or 	Group 1	Ceiling or thermal insulated wall has a thermal conductant not less than $10 \text{ W/m}^2 \cdot \text{K}$
Insulated conductors single core or multi cores with or without sheathed wiring in metallic or non-metallic conduit in concrete wall.	 or 	Group 2	The inner skin of the concrete has a thermal conductant not greater than $2 \text{ K.m/W}$
Single core or multi cores cable ,insulated and sheathed on a wall	 or 	Group 3	-
Single core or multi cores cable, insulated with or without sheathed wiring in spacing on insulator	 or 	Group 4	Spacing between cable and cable, wall and cable not less than diameter of cable.
Single core or multi cores cable with sheathed install in duct in ground	 or 	Group 5	-
Single core or multi cores cable with sheathed install direct burial	 or 	Group 6	-

**Remark :** This page refer EIT Standard 2001-56



**Table 5-47:** Schedule of reference method of installation which form the basis of the tabulated current-carrying capacities



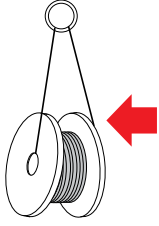
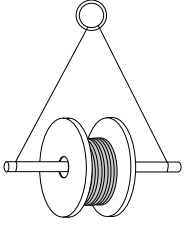
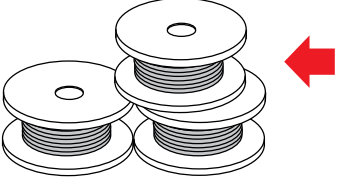
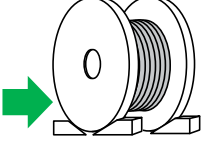
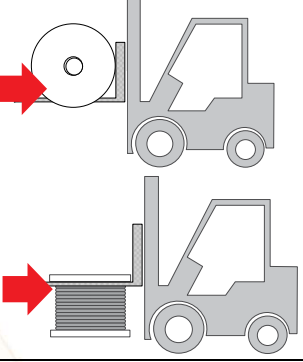
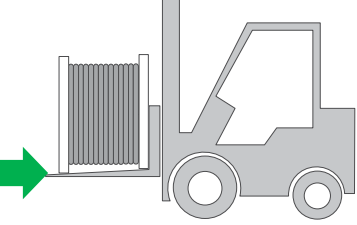
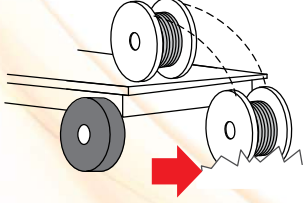
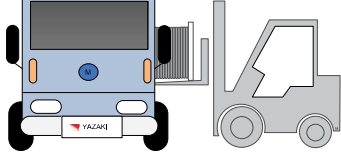
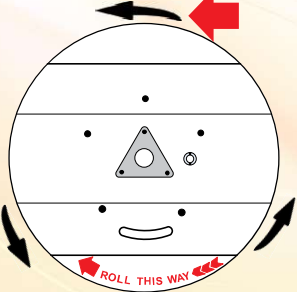
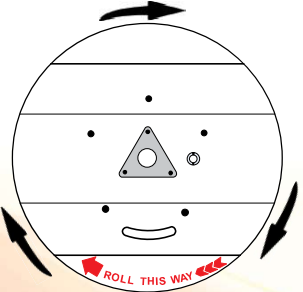
Methods of Wiring	Methods of Installation	Group of Installation	Note
Single core or multi cores cable with sheathed install on perforated or unperforated tray or ladder cleats.		Group 7	Perforated tray must have ventilated area not less than 30 percent of surface tray

**Note (Table 5-47)**

-If no confirmation that thermal conductant not less than  $10 \text{ W/m}^2\cdot\text{K}$  , consider that install in conduit in ceiling or thermal insulated wall shall be apply current carrying capacities in group 1.

**Remark :** This page refer EIT Standard 2001-56

## วิธีการจัดเก็บและเคลื่อนย้ายสายไฟฟ้าที่บรรจุในล้อย้อม

	คำอธิบาย	
	<p><b>ห้าม</b> ร้อยสลิง/โซ่ ร้อยผ่านรูแกนล้อย้อมโดยตรง เพราะอาจทำให้ล้อย้อมเสียหายได้</p> <p>สามารถใช้ Hoisted ยกได้โดยต้องใส่แกนเหล็กสอดที่แกนล้อย้อมเพื่อป้องกันความเสียหาย</p>	
	<p><b>ห้าม</b> วางล้อย้อมซ้อนกัน และไม่ควรวางล้อย้อมในแนวนอน เพราะอาจเกิดความเสียหายได้จากน้ำหนักและการยกได้</p> <p>วางล้อย้อมในแนวตั้ง และหาวัสดุที่แข็งแรงมาทำการหนุนล้อย้อมเพื่อป้องกันการกลิ้ง</p>	
	<p><b>ห้าม</b> ยก โดยสัมผัสสายไฟโดยตรง หรือยกปีกล้อย้อมข้างใดข้างหนึ่ง เพราะอาจทำให้เกิดความเสียหายต่อล้อย้อมและสายไฟฟ้า</p> <p>ยกโดยให้ปีกล้อย้อมทั้งสองข้างสัมผัสกับงาของ Fork Lift เท่ากันทั้ง 2 ด้าน โดยมีความมั่นคงในการยกและเคลื่อนย้าย</p>	
	<p><b>ห้าม</b> กลิ้งล้อย้อมลงจากรถขนส่งโดยตรง เพราะอาจทำให้ล้อย้อมและสายไฟฟ้าได้รับความเสียหาย</p> <p>ทำการยกล้อย้อมบรรจุสายไฟฟ้าลงโดยใช้ Fork Lift , Hoist หรือ Hydraulic gate</p>	
	<p><b>ห้าม</b> กลิ้งล้อย้อมไม่ย่นทิศทางของลูกศร เพราะอาจทำให้สายไฟฟ้าในล้อย้อมเกิดการคลายตัว</p> <p>ให้กลิ้งล้อย้อมไม่ตามทิศทางของลูกศร</p>	





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