YAZAKI

FIRE RESISTANT
AND LOW SMOKE
HALOGEN FREE CABLES



YAZAKI





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.

CERTIFICATES

Thai Industrial Standard Institute

TIS 11-2553
TIS 11 part 101-2559
TIS 85-2548
TIS 293-2541
TIS 2202-2547

TIS 64-2517
TIS 118-2522
TIS 2143-2567
TIS 386-2567
TIS 2341-2564
TIS 838-2531

MASCI

ISO 9001
OHSAS 18001
TIS 18001
ISO 45001

BUREAU VERITAS

ISO 14001

TUV

Flame Retardant with Low Smoke and Zero Halogen Cable
Fire Resistant,Flame Retardant with Low Smoke and Zero Halogen Cable



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 STANDARD

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

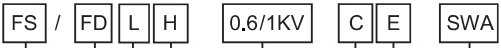
Conditions	Temperature (°C)
Normal operation	90
Emergency over load	130
Short circuit	250

COLOUR OF IDENTIFICATION

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

DEFINITION OF THAI YAZAKI CODE

Examples



Type of Fire Resistant

FS Fire Resistant Cable

Type of Flame Retardant

FD Flame Retardant cable ref. IEC 60332-3

Type of Special Properties

L Low smoke

H Non-Halogen

Rating Voltage

0.6/1 KV

Insulation material

C Cross-linked polyethylene (XLPE)

Sheath material

E Polyolefin

Armouring

SWA Steel wire armour
STA Steel tape armour
AWA Aluminium wire armour

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 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 60332-1-2 : Test on a single vertical insulated wire or cables.

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 :

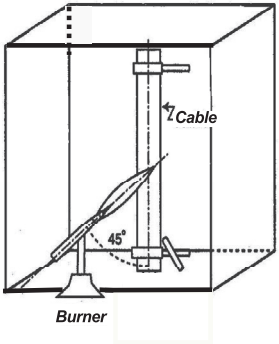
CATEGORY	A	B	C	*D
Volume of non-metallic materials in a 1 metre sample (L/m)	7	3.5	1.5	0.5
Flame application time (minute)	40	40	20	20

*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 60332-1-2 : 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 he 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.

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:

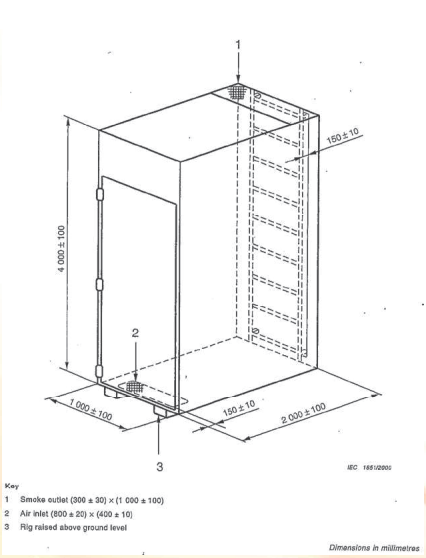
This section describes the method for type testing to define the ability of bunched cables to restrain flame propagation in defined conditions regardless of their application.

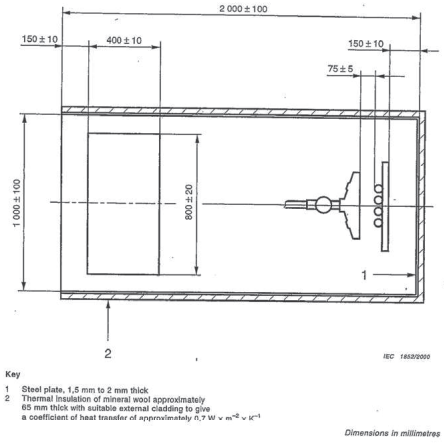
Categories :

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 :

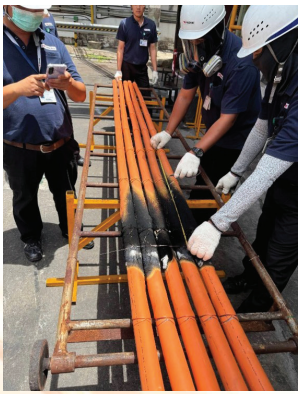
The test shall be carried in a chamber having the required dimensions.

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

Test Property	Reference Standard
Flame Retardant Test	IEC 60332-1-2, 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 :

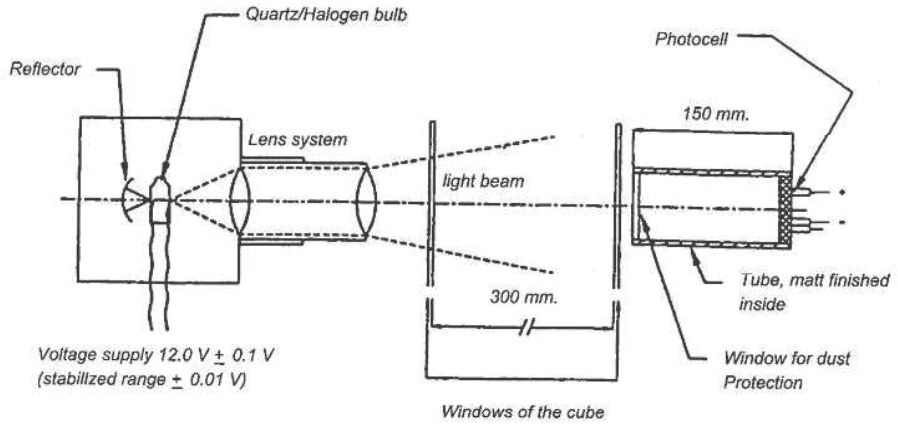
1. The test pieces shall consist of 1,000 mg. of the material to be tested, and shall be cut into small pieces and put into the combustion boat.
2. The boat containing the test pieces shall be inserted into the tube of the furnace and the timer shall be started.
3. The temperature at the position of 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 µs/mm. (s=1/O).

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.

Applicatio 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
  950±40°C for 3 hours.

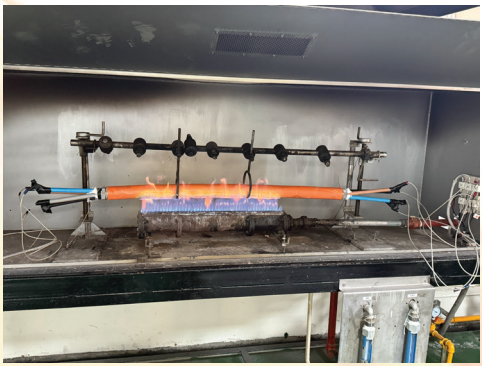
- W : Resistance to fire with water
  650±40°C for 15 minutes then 650°C with water spray for a further 15 minutes.

- Z : RResistance to fire with mechanical shock
  950±40°C for 15 minutes with mechanical shock every 30±2 sec.

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
  The temperature in the chamber shall be between 10°C and 40°C at the start of each tests.

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 2 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): The sample shall not less than 1500 mm. 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 pray for the further 15 min.



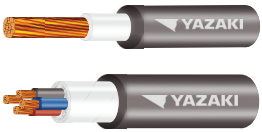
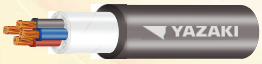
Resistance to fire with mechanical shock (Category Z): The sample shall be not less than 1200 mm. The sample shall be bent to form two approximately equal horizontal lengths with a double bend in the middle. The internal radius of each bend shall be approximately 6D where D is the overall diameter of 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

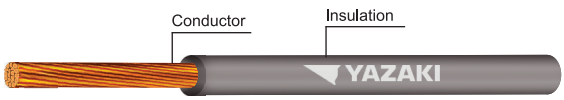
Cable Name	Reference Standard	Description	Application	Page
0.6/1KV-FRLH-IE 	**Construction :** BS EN 50525-3-41 **Flame retardant :** BS EN 60332-1-2 BS EN IEC 60332-3-22 Category A BS EN IEC 60332-3-23 Category B BS EN IEC 60332-3-24 Category C **Acid gas emission :** BS EN 60754-1, BS EN 60754-2 **Smoke emission:** BS EN 61034-2 **Non-toxic gases :** Defence standard 02-713	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	18-19
FDLH-0.6/1KV-CE 	**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	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.	20-24
FDLH-0.6/1KV-CE-AWA 	**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	0.6/1 kV 90°C Cross-Linked Polyethylene Insulated Single-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.	25-26
FDLH-0.6/1KV-CE-SWA 	**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	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.	27-29
FDLH-0.6/1KV-CCE 	**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	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.	30-32

Cable Name	Reference Standard	Description	Application	Page
FDLH-0.6/1KV-CCE-S (4800) 	**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	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.	33-35
FS/LH-0.6/1KV-XLPE (C) 	**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	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 smaoked and non-toxic emission and maintain circuit integrity in case of fire.	37-38
FS/FDLH-0.6/1KV-CE  	**Construction :** IEC 60502-1 **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	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.	39-43
FS/FDLH-0.6/1KV-CE-SWA 	**Construction :** IEC 60502-1, BS 7846 **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	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.	44-46

Cable Name	Reference Standard	Description	Application	Page
FS/FDLH-0.6/1KV-CE-AWA 	**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	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.	47-48
FS/FDLH-0.6/1KV-CCE 	**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	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.	49-51
FS/FDLH-0.6/1KV-CCE-S (4800) 	**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	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.	52-54
FS/FDLH-0.6/1KV-CCE-SLA (4800) 	**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	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.	56-57

0.6/1KV-FRLH-IE

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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

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

Insulation color
Single-cores : Black or Orange
(Other colors available upon request)

TECHNICAL DATA

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

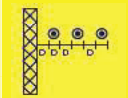
Rated voltage : 600 Volts between Line to Earth
: 1,000 Volts between Line to Line

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

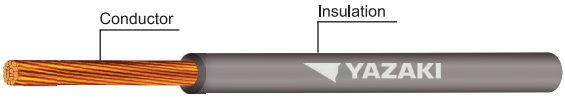
For fixed installation in electrical cabinet, conduit and wire way which provide flame retardant, low smoke and non toxic emission under fire.

Nominal cross sectional area	Conductor Type	Insulation thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 90°C minimum	Continuous current rating in free air 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)		Cable weight approx.	Standard Length
										
(mm^2)		(mm)	(mm)	(Ω/km)	(MΩ-km)		1 Phase	3 Phases	(kg/km)	(m)
1.5	Non-Compacted	0.7	3.5	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	34	1000/D
4	Non-Compacted	0.8	4.5	4.61	0.0077	52	38	34	50	3000/D
6	Non-Compacted	0.8	5.5	3.08	0.0065	66	49	44	71	3000/D
10	Compacted	1.0	6.0	1.83	0.0065	90	68	60	110	3000/D
16	Compacted	1.0	7.0	1.15	0.0050	120	91	80	167	1000/D
25	Compacted	1.2	9.0	0.727	0.0050	161	121	106	262	300/D
35	Compacted	1.2	10.0	0.524	0.0043	199	149	131	352	300/D
50	Compacted	1.4	11.5	0.387	0.0043	243	180	159	478	300/D
70	Compacted	1.4	13.0	0.268	0.0035	308	230	202	673	300/D
95	Compacted	1.6	15.5	0.193	0.0035	385	278	245	935	300/D
120	Compacted	1.6	17.0	0.153	0.0032	449	322	284	1180	300/D
150	Compacted	1.8	19.0	0.124	0.0032	515	358	311	1455	300/D
185	Compacted	2.0	21.0	0.0991	0.0032	598	409	349	1785	300/D
240	Compacted	2.2	24.0	0.0754	0.0032	716	480	410	2385	300/D
300	Compacted	2.4	26.5	0.0601	0.0030	830	549	468	2955	300/D
400	Compacted	2.6	29.5	0.0470	0.0028	970	622	531	3788	300/D
500	Compacted	2.8	33.0	0.0366	0.0028	1138	713	606	4850	300/D
630	Compacted	2.8	36.5	0.0283	0.0025	1333	819	695	6189	300/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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

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

Insulation color
Single-core : Black or Orange
(Other colors available upon request)

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

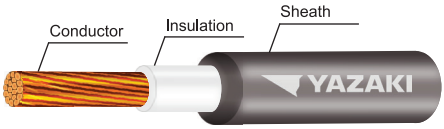
APPLICATION

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^2)	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



FLAME RETARDANT — LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Insulation : Cross-linked polyethylene (XLPE)

Insulation color
Single-cores : 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

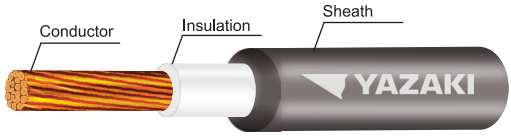
For installed into tray, conduit, underground duct trench or direct burial in ground which provide fiame retardant, low smoke and non toxic emission under fire.

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 20°C minimum	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.	Standard Length
								Spaced	Touching	Trefoil				
	(mm^2)		(mm)	(mm)	(mm)	(Ω/km)	(MΩ-km)				1 Phase	3 Phase	(kg/km)	(m)
	1.5	Non-Compacted	0.7	1.4	6.5	12.1	2,500	31	24	23	21	18	53	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	84	500/D
	6	Non-Compacted	0.7	1.4	8.0	3.08	1,450	68	53	52	49	44	108	500/D
	10	Compacted	0.7	1.4	8.5	1.83	1,250	90	73	71	68	60	147	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	312	500/D
	35	Compacted	0.9	1.4	12.5	0.524	900	206	160	154	149	131	408	500/D
	50	Compacted	1.0	1.4	14.0	0.387	850	250	197	188	180	159	537	500/D
	70	Compacted	1.1	1.4	15.5	0.268	800	321	254	244	230	202	746	500/D
1	95	Compacted	1.1	1.5	18.0	0.193	650	391	311	298	278	245	1013	500/D
	120	Compacted	1.2	1.5	19.5	0.153	650	455	364	349	322	284	1272	500/D
	150	Compacted	1.4	1.6	21.5	0.124	700	525	422	404	358	311	1566	500/D
	185	Compacted	1.6	1.7	24.0	0.0991	700	602	485	464	409	349	1922	500/D
	240	Compacted	1.7	1.8	27.0	0.0754	650	711	577	552	480	410	2509	500/D
	300	Compacted	1.8	1.9	29.5	0.0601	600	821	670	640	549	468	3125	500/D
	400	Compacted	2.0	2.0	33.0	0.0470	600	987	790	749	622	531	3991	500/D
	500	Compacted	2.2	2.1	36.5	0.0366	600	1140	908	861	713	606	5092	500/D
	630	Compacted	2.4	2.2	41.0	0.0283	550	1298	1064	1014	819	695	6508	500/D
	800	Compacted	2.6	2.4	45.5	0.0221	550	1494	1220	1156	965	820	8159	500/D
	1000	Compacted	2.8	2.6	51.5	0.0176	500	1712	1391	1307	1014	862	10694	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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Insulation : Cross-linked polyethylene (XLPE)

Insulation color
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

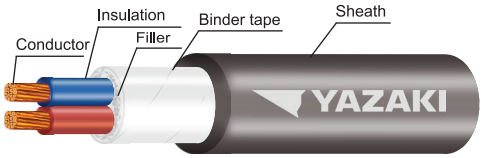
APPLICATION

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	A.C.Resistance R (Ω/km)			Inductance L (mH/km)			Reactance XL (Ω/km)			Impedance Z (Ω/km)		
	(mm^2)	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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or 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 fiame retardant, low smoke and non toxic emission under fire.

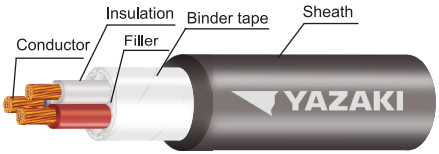
Number of core	Nominal cross sectional area (mm^2)	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (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	128	500/D
	2.5	Non-Compacted	0.7	1.8	12.0	7.41	2,100	38	27	157	500/D
	4	Non-Compacted	0.7	1.8	13.0	4.61	1,700	49	36	201	500/D
	6	Non-Compacted	0.7	1.8	14.0	3.08	1,450	63	46	257	500/D
	10	Compacted	0.7	1.8	15.0	1.83	1,250	84	63	340	500/D
	16	Compacted	0.7	1.8	17.0	1.15	1,000	111	83	469	500/D
	25	Compacted	0.9	1.8	20.5	0.727	1,050	147	108	706	500/D
	35	Compacted	0.9	1.8	22.5	0.524	900	181	133	911	500/D
	50	Compacted	1.0	1.8	25.5	0.387	850	219	159	1201	500/D
	70	Compacted	1.1	1.9	29.5	0.268	800	275	201	1676	500/D
	95	Compacted	1.1	2.0	33.5	0.193	650	340	241	2257	500/D
	120	Compacted	1.2	2.1	37.0	0.153	650	394	278	2845	500/D
	150	Compacted	1.4	2.2	41.0	0.124	700	449	304	3482	500/D
	185	Compacted	1.6	2.4	45.5	0.0991	700	518	349	4351	500/D
	240	Compacted	1.7	2.6	51.5	0.0754	650	614	418	5663	500/D
	300	Compacted	1.8	2.7	56.5	0.0601	600	565	484	7005	500/D
	400	Compacted	2.0	3.0	63.5	0.0470	600	791	569	8921	500/D

Number of core	Nominal cross sectional area (mm^2)	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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or 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 fiame retardant, low smoke and non toxic emission under fire.

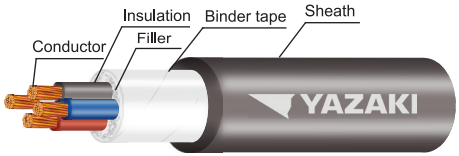
Number of core	Nominal cross sectional area (mm²)	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (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	152	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	326	500/D
	10	Compacted	0.7	1.8	16.0	1.83	1,250	68	55	446	500/D
	16	Compacted	0.7	1.8	18.0	1.15	1,000	91	73	625	500/D
	25	Compacted	0.9	1.8	22.0	0.727	1,050	116	96	929	500/D
	35	Compacted	0.9	1.8	24.0	0.524	900	144	116	1229	500/D
	50	Compacted	1.0	1.8	27.5	0.387	850	175	140	1624	500/D
	70	Compacted	1.1	1.9	31.5	0.268	800	224	177	2286	500/D
	95	Compacted	1.1	2.1	36.0	0.193	650	271	212	3123	500/D
	120	Compacted	1.2	2.2	40.0	0.153	650	315	244	3940	500/D
	150	Compacted	1.4	2.3	44.0	0.124	700	363	273	4844	500/D
	185	Compacted	1.6	2.5	49.0	0.0991	700	415	309	6040	500/D
	240	Compacted	1.7	2.7	55.5	0.0754	650	490	362	7887	500/D
	300	Compacted	1.8	2.9	61.0	0.0601	600	565	414	9810	300/D
	400	Compacted	2.0	3.1	68.5	0.0470	600	678	488	12443	300/D

Number of core	Nominal cross sectional area (mm²)	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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or 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.

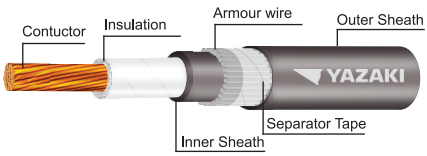
Number of core	Nominal cross sectional area (mm^2)	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (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	181	500/D
	2.5	Non-Compacted	0.7	1.8	13.5	7.41	2,100	29	24	229	500/D
	4	Non-Compacted	0.7	1.8	14.5	4.61	1,700	38	32	306	500/D
	6	Non-Compacted	0.7	1.8	16.0	3.08	1,450	49	40	407	500/D
	10	Compacted	0.7	1.8	17.5	1.83	1,250	68	55	565	500/D
	16	Compacted	0.7	1.8	20.0	1.15	1,000	91	73	796	500/D
	25	Compacted	0.9	1.8	24.0	0.727	1,050	116	96	1203	500/D
	35	Compacted	0.9	1.8	26.5	0.524	900	144	116	1584	500/D
	50	Compacted	1.0	1.9	30.5	0.387	850	175	140	2118	500/D
	70	Compacted	1.1	2.0	35.0	0.268	800	224	177	2976	500/D
	95	Compacted	1.1	2.2	39.5	0.193	650	271	212	4063	500/D
	120	Compacted	1.2	2.3	44.0	0.153	650	315	244	5147	500/D
	150	Compacted	1.4	2.5	49.0	0.124	700	363	273	6352	500/D
	185	Compacted	1.6	2.7	54.5	0.0991	700	415	309	7917	500/D
	240	Compacted	1.7	2.9	61.5	0.0754	650	490	362	10331	300/D
	300	Compacted	1.8	3.1	68.0	0.0601	600	565	414	12878	300/D
	400	Compacted	2.0	3.4	76.5	0.0470	600	678	488	16361	200/D

Number of core	Nominal cross sectional area (mm^2)	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-AWA

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



CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Insulation : Cross-linked polyethylene (XLPE)

Core identification
Single-core : Natural (Translucent)

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

Armor : Aluminium wires

Sheath : Black Low smoke and zero halogen flame retardent 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.

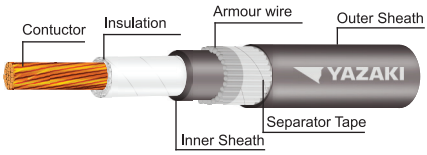
Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Inner sheath thickness nominal	Dia. of inner sheath approx.	Dia. of aluminium wire armor nominal	Outer sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20 ºC maximum	Insulation resistance at 20 ºC minimum	Continuous current rating in free air at 40°C maximum (A)			Continuous current rating in ground at 30 ºC maximum	Cable weight approx.	Standard length
											Spaced	Touching	Trefoil			
	(mm^2)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Ω/km)	(MΩ-km)				(A)	(kg/km)	(m)
	1.5	Non-Compacted	0.7	1.2	6.0	1.25	1.8	13.0	12.1	2500	36	30	29	32	199	500/D
	2.5	Non-Compacted	0.7	1.2	6.5	1.25	1.8	13.5	7.41	2100	48	39	38	41	218	500/D
	4	Non-Compacted	0.7	1.2	7.0	1.25	1.8	14.0	4.61	1700	62	51	50	53	244	500/D
	6	Non-Compacted	0.7	1.2	7.5	1.25	1.8	14.5	3.08	1450	78	64	63	65	277	500/D
	10	Compacted	0.7	1.2	8.0	1.25	1.8	15.0	1.83	1250	104	85	83	86	328	500/D
	16	Compacted	0.7	1.2	9.0	1.25	1.8	16.0	1.15	1000	136	112	109	110	406	500/D
	25	Compacted	0.9	1.2	11.0	1.25	1.8	17.5	0.727	1050	179	147	143	141	535	500/D
	35	Compacted	0.9	1.2	12.0	1.25	1.8	18.5	0.524	900	217	179	174	169	650	500/D
	50	Compacted	1.0	1.2	13.5	1.25	1.8	20.0	0.387	850	261	216	210	199	802	500/D
1	70	Compacted	1.1	1.2	15.0	1.25	1.8	22.0	0.268	800	327	270	262	243	1043	500/D
	95	Compacted	1.1	1.2	17.0	1.60	1.8	24.5	0.193	650	404	334	325	292	1376	500/D
	120	Compacted	1.2	1.2	18.5	1.60	1.8	26.0	0.153	650	467	387	376	331	1665	500/D
	150	Compacted	1.4	1.2	20.5	1.60	1.8	28.0	0.124	700	532	442	429	371	1986	500/D
	185	Compacted	1.6	1.2	22.5	1.60	1.9	30.5	0.0991	700	617	515	499	421	2387	500/D
	240	Compacted	1.7	1.2	25.5	1.60	2.0	33.5	0.0754	650	733	613	594	487	3056	500/D
	300	Compacted	1.8	1.2	28.0	2.00	2.1	37.0	0.0601	600	844	707	684	549	3786	500/D
	400	Compacted	2.0	1.2	31.0	2.00	2.2	40.0	0.0470	600	979	822	794	622	4721	500/D
	500	Compacted	2.2	1.2	34.5	2.00	2.3	44.0	0.0366	600	1139	957	921	703	5897	500/D
	630	Compacted	2.4	1.3	38.5	2.50	2.5	49.5	0.0283	550	1333	1120	1075	795	7609	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

FDLH-0.6/1KV-CE-AWA

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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Insulation : Cross-linked polyethylene (XLPE)

Core identification
Single-core : Natural (Translucent)

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

Armor : Aluminium wires

Sheath : Black Low smoke and zero halogen flame retardent 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

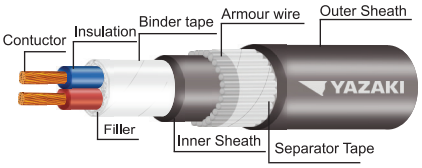
APPLICATION

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	A.C.Resistance R (Ω/km)			Inductance L (mH/km)			Reactance XL (Ω/km)			Impedance Z (Ω/km)		
	(mm^2)	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

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



FLAME RETARDANT — LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or 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)

Amor : 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 (mm²)	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	0.80	1.8	15.5	12.1	2,500	30	35	360	500/D
	2.5	Non-Compacted	0.7	1.2	10.5	0.80	1.8	16.5	7.41	2,100	39	46	405	500/D
	4	Non-Compacted	0.7	1.2	11.5	1.25	1.8	18.0	4.61	1,700	51	59	588	500/D
	6	Non-Compacted	0.7	1.2	12.5	1.25	1.8	19.5	3.08	1,450	66	74	680	500/D
	10	Compacted	0.7	1.2	13.5	1.25	1.8	20.5	1.83	1,250	88	98	799	500/D
	16	Compacted	0.7	1.2	16.0	1.60	1.8	23.0	1.15	1,000	116	126	1130	500/D
	25	Compacted	0.9	1.2	19.0	1.60	1.8	26.5	0.727	1,050	154	162	1485	500/D
	35	Compacted	0.9	1.2	21.0	1.60	1.8	28.5	0.524	900	188	194	1767	500/D
	50	Compacted	1.0	1.2	24.5	1.60	1.9	32.0	0.387	850	228	230	2194	500/D
	70	Compacted	1.1	1.2	28.0	2.00	2.1	37.0	0.268	800	285	281	3069	500/D
	95	Compacted	1.1	1.2	31.5	2.00	2.2	41.0	0.193	650	350	336	3833	500/D
	120	Compacted	1.2	1.2	35.0	2.00	2.3	44.5	0.153	650	404	381	4579	500/D
	150	Compacted	1.4	1.3	39.0	2.50	2.5	50.0	0.124	700	458	426	5859	500/D
	185	Compacted	1.6	1.4	43.5	2.50	2.7	55.0	0.0991	700	528	479	7035	500/D
	240	Compacted	1.7	1.5	49.5	2.50	2.9	61.0	0.0754	650	622	552	8722	500/D
	300	Compacted	1.8	1.6	54.5	2.50	3.1	66.5	0.0601	600	710	618	10429	300/D
	400	Compacted	2.0	1.7	61.0	2.50	3.3	73.5	0.0470	600	815	693	12688	300/D

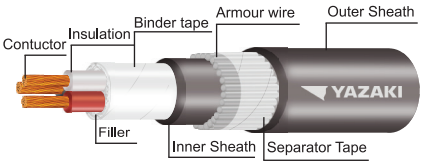
Number of core	Nominal cross sectional area (mm²)	A.C.Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
2	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9273	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	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

Conductor : Non-compacted or 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)

Amor : 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 (mm²)	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	0.80	1.8	16.0	12.1	2,500	26	30	393	500/D
	2.5	Non-Compacted	0.7	1.2	11.0	1.25	1.8	18.0	7.41	2,100	34	39	563	500/D
	4	Non-Compacted	0.7	1.2	12.0	1.25	1.8	19.0	4.61	1,700	45	51	657	500/D
	6	Non-Compacted	0.7	1.2	13.5	1.25	1.8	20.0	3.08	1,450	57	63	769	500/D
	10	Compacted	0.7	1.2	14.5	1.25	1.8	21.5	1.83	1,250	76	83	926	500/D
	16	Compacted	0.7	1.2	17.0	1.60	1.8	24.0	1.15	1,000	100	107	1325	500/D
	25	Compacted	0.9	1.2	20.5	1.60	1.8	28.0	0.727	1,050	132	137	1748	500/D
	35	Compacted	0.9	1.2	22.5	1.60	1.9	30.5	0.524	900	162	164	2145	500/D
	50	Compacted	1.0	1.2	26.0	2.00	2.0	35.0	0.387	850	196	194	2922	500/D
	70	Compacted	1.1	1.2	30.0	2.00	2.2	39.0	0.268	800	246	236	3788	500/D
	95	Compacted	1.1	1.2	34.0	2.00	2.3	43.5	0.193	650	301	282	4796	500/D
	120	Compacted	1.2	1.3	37.5	2.50	2.5	48.5	0.153	650	348	320	6267	500/D
	150	Compacted	1.4	1.4	42.0	2.50	2.6	53.0	0.124	700	397	356	7432	500/D
	185	Compacted	1.6	1.5	47.0	2.50	2.8	58.5	0.0991	700	455	400	8953	500/D
	240	Compacted	1.7	1.6	53.0	2.50	3.0	65.5	0.0754	650	535	459	11187	300/D
	300	Compacted	1.8	1.7	58.5	2.50	3.2	71.0	0.0601	600	608	511	13484	300/D
	400	Compacted	2.0	1.8	65.5	3.15	3.5	80.0	0.0470	600	699	574	17477	200/D

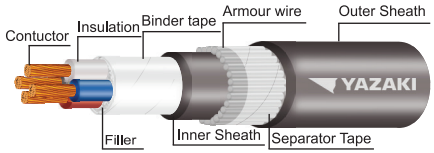
Number of core	Nominal cross sectional area (mm²)	A.C.Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
3	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	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	0.1283	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



FLAME RETARDANT — LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted or 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)

Amor : 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 (mm²)	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	1.25	1.8	17.5	12.1	2,500	26	30	552	500/D
	2.5	Non-Compacted	0.7	1.2	12.0	1.25	1.8	19.0	7.41	2,100	34	39	625	500/D
	4	Non-Compacted	0.7	1.2	13.5	1.25	1.8	20.0	4.61	1,700	45	51	736	500/D
	6	Non-Compacted	0.7	1.2	15.0	1.25	1.8	21.5	3.08	1,450	57	63	883	500/D
	10	Compacted	0.7	1.2	16.0	1.60	1.8	23.5	1.83	1,250	76	83	1208	500/D
	16	Compacted	0.7	1.2	18.5	1.60	1.8	26.0	1.15	1,000	100	107	1555	500/D
	25	Compacted	0.9	1.2	22.5	1.60	1.9	30.5	0.727	1,050	132	137	2118	500/D
	35	Compacted	0.9	1.2	25.0	1.60	2.0	33.0	0.524	900	162	164	2612	500/D
	50	Compacted	1.0	1.2	28.5	2.00	2.1	38.0	0.387	850	196	194	3542	500/D
	70	Compacted	1.1	1.2	33.0	2.00	2.3	42.5	0.268	800	246	236	4634	500/D
	95	Compacted	1.1	1.3	37.5	2.50	2.5	48.5	0.193	650	301	282	6391	500/D
	120	Compacted	1.2	1.4	42.0	2.50	2.6	53.0	0.153	650	348	320	7735	500/D
	150	Compacted	1.4	1.5	47.0	2.50	2.8	58.5	0.124	700	397	356	9264	300/D
	185	Compacted	1.6	1.6	52.5	2.50	3.0	64.5	0.0991	700	455	400	11170	300/D
	240	Compacted	1.7	1.7	59.0	2.50	3.2	71.5	0.0754	650	535	459	14011	300/D
	300	Compacted	1.8	1.8	65.0	3.15	3.5	79.5	0.0601	600	608	511	17911	200/D
	400	Compacted	2.0	2.0	73.5	3.15	3.7	88.0	0.0470	600	699	574	21973	200/D

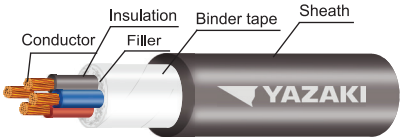
Number of core	Nominal cross sectional area (mm²)	A.C.Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
4	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	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 : Non-compacted stranded annealed copper wire

Insulation : Cross-linked polyethylene (XLPE)

Core indentification
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 throungout the whole length of insulated wires for the propose of core identification

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

Number of core	Nominal cross sectional area (mm²)	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	Non-Compacted	0.7	1.8	11.0	12.1	2,500	128	300/D
	2.5	Non-Compacted	0.7	1.8	12.0	7.41	2,100	157	300/D
	4	Non-Compacted	0.7	1.8	13.0	4.61	1,700	201	300/D
	6	Non-Compacted	0.7	1.8	14.0	3.08	1,450	257	300/D
3	1.5	Non-Compacted	0.7	1.8	11.5	12.1	2,500	152	300/D
	2.5	Non-Compacted	0.7	1.8	12.5	7.41	2,100	190	300/D
	4	Non-Compacted	0.7	1.8	13.5	4.61	1,700	250	300/D
	6	Non-Compacted	0.7	1.8	15.0	3.08	1,450	326	300/D
4	1.5	Non-Compacted	0.7	1.8	12.0	12.1	2,500	181	300/D
	2.5	Non-Compacted	0.7	1.8	13.5	7.41	2,100	229	300/D
	4	Non-Compacted	0.7	1.8	14.5	4.61	1,700	306	300/D
	6	Non-Compacted	0.7	1.8	16.0	3.08	1,450	407	300/D
5	1.5	Non-Compacted	0.7	1.8	13.0	12.1	2,500	213	300/D
	2.5	Non-Compacted	0.7	1.8	14.5	7.41	2,100	274	300/D
	4	Non-Compacted	0.7	1.8	16.0	4.61	1,700	370	300/D
	6	Non-Compacted	0.7	1.8	17.5	3.08	1,450	489	300/D
6	1.5	Non-Compacted	0.7	1.8	14.0	12.1	2,500	248	300/D
	2.5	Non-Compacted	0.7	1.8	15.5	7.41	2,100	319	300/D
	4	Non-Compacted	0.7	1.8	17.0	4.61	1,700	429	300/D
	6	Non-Compacted	0.7	1.8	19.0	3.08	1,450	577	300/D
7	1.5	Non-Compacted	0.7	1.8	14.0	12.1	2,500	265	300/D
	2.5	Non-Compacted	0.7	1.8	15.5	7.41	2,100	345	300/D
	4	Non-Compacted	0.7	1.8	17.0	4.61	1,700	468	300/D
	6	Non-Compacted	0.7	1.8	19.0	3.08	1,450	635	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 (mm^2)	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)
8	1.5	Non-Compacted	0.7	1.8	15.0	12.1	2,500	297	300/D
	2.5	Non-Compacted	0.7	1.8	17.0	7.41	2,100	398	300/D
	4	Non-Compacted	0.7	1.8	18.5	4.61	1,700	543	300/D
	6	Non-Compacted	0.7	1.8	20.5	3.08	1,450	739	300/D
9	1.5	Non-Compacted	0.7	1.8	16.0	12.1	2,500	332	300/D
	2.5	Non-Compacted	0.7	1.8	18.0	7.41	2,100	448	300/D
	4	Non-Compacted	0.7	1.8	20.0	4.61	1,700	609	300/D
	6	Non-Compacted	0.7	1.8	22.0	3.08	1,450	829	300/D
10	1.5	Non-Compacted	0.7	1.8	17.0	12.1	2,500	367	300/D
	2.5	Non-Compacted	0.7	1.8	19.0	7.41	2,100	493	300/D
	4	Non-Compacted	0.7	1.8	21.0	4.61	1,700	676	300/D
	6	Non-Compacted	0.7	1.8	23.5	3.08	1,450	917	300/D
11	1.5	Non-Compacted	0.7	1.8	17.0	12.1	2,500	381	300/D
	2.5	Non-Compacted	0.7	1.8	19.0	7.41	2,100	518	300/D
	4	Non-Compacted	0.7	1.8	21.0	4.61	1,700	709	300/D
	6	Non-Compacted	0.7	1.8	23.5	3.08	1,450	971	300/D
12	1.5	Non-Compacted	0.7	1.8	18.0	12.1	2,500	418	300/D
	2.5	Non-Compacted	0.7	1.8	20.0	7.41	2,100	561	300/D
	4	Non-Compacted	0.7	1.8	22.0	4.61	1,700	770	300/D
	6	Non-Compacted	0.7	1.8	24.5	3.08	1,450	1053	300/D
13	1.5	Non-Compacted	0.7	1.8	18.5	12.1	2,500	451	300/D
	2.5	Non-Compacted	0.7	1.8	21.0	7.41	2,100	596	300/D
	4	Non-Compacted	0.7	1.8	23.0	4.61	1,700	827	300/D
	6	Non-Compacted	0.7	1.8	26.0	3.08	1,450	1130	300/D
14	1.5	Non-Compacted	0.7	1.8	18.5	12.1	2,500	455	300/D
	2.5	Non-Compacted	0.7	1.8	21.0	7.41	2,100	620	300/D
	4	Non-Compacted	0.7	1.8	23.0	4.61	1,700	857	300/D
	6	Non-Compacted	0.7	1.8	26.0	3.08	1,450	1172	300/D
15	1.5	Non-Compacted	0.7	1.8	19.0	12.1	2,500	486	300/D
	2.5	Non-Compacted	0.7	1.8	21.5	7.41	2,100	667	300/D
	4	Non-Compacted	0.7	1.8	24.0	4.61	1,700	925	300/D
	6	Non-Compacted	0.7	1.8	26.5	3.08	1,450	1265	300/D
16	1.5	Non-Compacted	0.7	1.8	19.5	12.1	2,500	508	300/D
	2.5	Non-Compacted	0.7	1.8	22.0	7.41	2,100	696	300/D
	4	Non-Compacted	0.7	1.8	24.5	4.61	1,700	967	300/D
	6	Non-Compacted	0.7	1.8	27.0	3.08	1,450	1325	300/D
17	1.5	Non-Compacted	0.7	1.8	20.5	12.1	2,500	553	300/D
	2.5	Non-Compacted	0.7	1.8	23.0	7.41	2,100	752	300/D
	4	Non-Compacted	0.7	1.8	25.5	4.61	1,700	1053	300/D
	6	Non-Compacted	0.7	1.8	28.5	3.08	1,450	1434	300/D
18	1.5	Non-Compacted	0.7	1.8	20.5	12.1	2,500	564	300/D
	2.5	Non-Compacted	0.7	1.8	23.0	7.41	2,100	762	300/D
	4	Non-Compacted	0.7	1.8	25.5	4.61	1,700	1067	300/D
	6	Non-Compacted	0.7	1.8	28.5	3.08	1,450	1468	300/D
19	1.5	Non-Compacted	0.7	1.8	20.5	12.1	2,500	581	300/D
	2.5	Non-Compacted	0.7	1.8	23.0	7.41	2,100	787	300/D
	4	Non-Compacted	0.7	1.8	25.5	4.61	1,700	1106	300/D
	6	Non-Compacted	0.7	1.8	28.5	3.08	1,450	1525	300/D
20	1.5	Non-Compacted	0.7	1.8	21.0	12.1	2,500	613	300/D
	2.5	Non-Compacted	0.7	1.8	23.5	7.41	2,100	830	300/D
	4	Non-Compacted	0.7	1.8	26.0	4.61	1,700	1165	300/D
	6	Non-Compacted	0.7	1.8	29.5	3.08	1,450	1612	300/D

D : Packing in drum

FDLH-0.6/1KV-CCE

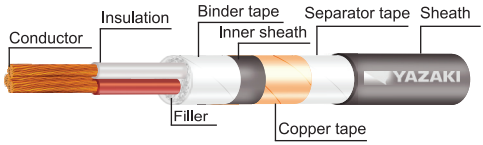
0.6/1 kV 90°C CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE

Number of core	Nominal cross sectional area (mm^2)	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)
21	1.5	Non-Compacted	0.7	1.8	21.5	12.1	2,500	637	300/D
	2.5	Non-Compacted	0.7	1.8	24.0	7.41	2,100	864	300/D
	4	Non-Compacted	0.7	1.8	27.0	4.61	1,700	1247	300/D
	6	Non-Compacted	0.7	1.8	30.5	3.08	1,450	1738	300/D
22	1.5	Non-Compacted	0.7	1.8	22.5	12.1	2,500	677	300/D
	2.5	Non-Compacted	0.7	1.8	25.5	7.41	2,100	919	300/D
	4	Non-Compacted	0.7	1.8	28.0	4.61	1,700	1291	300/D
	6	Non-Compacted	0.7	1.9	32.0	3.08	1,450	1798	300/D
23	1.5	Non-Compacted	0.7	1.8	22.5	12.1	2,500	693	300/D
	2.5	Non-Compacted	0.7	1.8	25.5	7.41	2,100	992	300/D
	4	Non-Compacted	0.7	1.8	28.0	4.61	1,700	1390	300/D
	6	Non-Compacted	0.7	1.9	32.0	3.08	1,450	1936	300/D
24	1.5	Non-Compacted	0.7	1.8	23.5	12.1	2,500	728	300/D
	2.5	Non-Compacted	0.7	1.8	26.5	7.41	2,100	989	300/D
	4	Non-Compacted	0.7	1.8	29.5	4.61	1,700	1392	300/D
	6	Non-Compacted	0.7	2.0	33.5	3.08	1,450	1957	300/D
25	1.5	Non-Compacted	0.7	1.8	23.5	12.1	2,500	749	300/D
	2.5	Non-Compacted	0.7	1.8	26.5	7.41	2,100	1021	300/D
	4	Non-Compacted	0.7	1.8	29.5	4.61	1,700	1438	300/D
	6	Non-Compacted	0.7	2.0	33.5	3.08	1,450	2024	300/D
26	1.5	Non-Compacted	0.7	1.8	23.5	12.1	2,500	771	300/D
	2.5	Non-Compacted	0.7	1.8	26.5	7.41	2,100	1052	300/D
	4	Non-Compacted	0.7	1.8	29.5	4.61	1,700	1486	300/D
	6	Non-Compacted	0.7	2.0	33.5	3.08	1,450	2092	300/D
27	1.5	Non-Compacted	0.7	1.8	24.0	12.1	2,500	791	300/D
	2.5	Non-Compacted	0.7	1.8	27.5	7.41	2,100	1081	300/D
	4	Non-Compacted	0.7	1.9	30.5	4.61	1,700	1542	300/D
28	1.5	Non-Compacted	0.7	1.8	25.0	12.1	2,500	844	300/D
	2.5	Non-Compacted	0.7	1.8	28.5	7.41	2,100	1151	300/D
	4	Non-Compacted	0.7	1.9	31.5	4.61	1,700	1638	300/D
29	1.5	Non-Compacted	0.7	1.8	25.0	12.1	2,500	843	300/D
	2.5	Non-Compacted	0.7	1.8	28.5	7.41	2,100	1154	300/D
	4	Non-Compacted	0.7	1.9	31.5	4.61	1,700	1648	300/D
30	1.5	Non-Compacted	0.7	1.8	25.0	12.1	2,500	865	300/D
	2.5	Non-Compacted	0.7	1.8	28.5	7.41	2,100	1186	300/D
	4	Non-Compacted	0.7	1.9	31.5	4.61	1,700	1695	300/D

D : Packing in drum

FDLH-0.6/1KV-CCE-S (4800)

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



FLAME RETARDANT

LOW SMOKE ZERO HALOGEN

CABLE STRUCTURE

Conductor : Non-compacted round annealed copper

Insulation : Cross-linked polyethylene (XLPE)

Core indentification
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 throungout 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 : 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 installation into tray, conduit, underground duct trench or direct burial in ground which provide! lame 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.	Outer Sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°c maximum	Insulation resistance at 20°c minimum	Cable weight approx.	Standard Length
	(mm^2)		(mm)	(mm)	(mm)	(mm)	(mm)	(Ω/km)	(MΩ-km)	(kg/km)	(m)
2	1.5	Non-Compacted	0.7	1.2	9.5	1.8	13.5	12.1	2,500	201	300/D
	2.5	Non-Compacted	0.7	1.2	10.5	1.8	14.0	7.41	2,100	226	300/D
	4	Non-Compacted	0.7	1.2	11.5	1.8	16.0	4.61	1,700	262	300/D
	6	Non-Compacted	0.7	1.2	12.5	1.8	17.0	3.08	1,450	315	300/D
3	1.5	Non-Compacted	0.7	1.2	10.0	1.8	14.5	12.1	2,500	255	300/D
	2.5	Non-Compacted	0.7	1.2	11.0	1.8	15.5	7.41	2,100	301	300/D
	4	Non-Compacted	0.7	1.2	12.0	1.8	16.5	4.61	1,700	370	300/D
	6	Non-Compacted	0.7	1.2	13.5	1.8	18.0	3.08	1,450	459	300/D
4	1.5	Non-Compacted	0.7	1.2	11.0	1.8	15.0	12.1	2,500	291	300/D
	2.5	Non-Compacted	0.7	1.2	12.0	1.8	16.5	7.41	2,100	348	300/D
	4	Non-Compacted	0.7	1.2	13.5	1.8	17.5	4.61	1,700	436	300/D
	6	Non-Compacted	0.7	1.2	15.0	1.8	19.0	3.08	1,450	550	300/D
5	1.5	Non-Compacted	0.7	1.2	12.0	1.8	16.0	12.1	2,500	331	300/D
	2.5	Non-Compacted	0.7	1.2	13.0	1.8	17.5	7.41	2,100	401	300/D
	4	Non-Compacted	0.7	1.2	14.5	1.8	19.0	4.61	1,700	510	300/D
	6	Non-Compacted	0.7	1.2	16.0	1.8	20.5	3.08	1,450	644	300/D
6	1.5	Non-Compacted	0.7	1.2	12.5	1.8	17.0	12.1	2,500	374	300/D
	2.5	Non-Compacted	0.7	1.2	14.5	1.8	18.5	7.41	2,100	456	300/D
	4	Non-Compacted	0.7	1.2	16.0	1.8	20.0	4.61	1,700	580	300/D
	6	Non-Compacted	0.7	1.2	17.5	1.8	22.0	3.08	1,450	745	300/D
7	1.5	Non-Compacted	0.7	1.2	12.5	1.8	17.0	12.1	2,500	391	300/D
	2.5	Non-Compacted	0.7	1.2	14.5	1.8	18.5	7.41	2,100	482	300/D
	4	Non-Compacted	0.7	1.2	16.0	1.8	20.0	4.61	1,700	620	300/D
	6	Non-Compacted	0.7	1.2	17.5	1.8	22.0	3.08	1,450	803	300/D

D : Packing in drum

FDLH-0.6/1KV-CCE-S (4800)

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^2)	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (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)	Cable weight approx. (kg/km)	Standard Length (m)
8	1.5	Non-Compacted	0.7	1.2	13.5	1.8	18.0	12.1	2,500	432	300/D
	2.5	Non-Compacted	0.7	1.2	15.5	1.8	20.0	7.41	2,100	545	300/D
	4	Non-Compacted	0.7	1.2	17.0	1.8	21.5	4.61	1,700	706	300/D
	6	Non-Compacted	0.7	1.2	19.0	1.8	23.5	3.08	1,450	919	300/D
9	1.5	Non-Compacted	0.7	1.2	15.0	1.8	19.0	12.1	2,500	476	300/D
	2.5	Non-Compacted	0.7	1.2	16.5	1.8	21.0	7.41	2,100	605	300/D
	4	Non-Compacted	0.7	1.2	18.5	1.8	23.0	4.61	1,700	783	300/D
	6	Non-Compacted	0.7	1.2	20.5	1.8	25.0	3.08	1,450	1036	300/D
10	1.5	Non-Compacted	0.7	1.2	16.0	1.8	20.0	12.1	2,500	520	300/D
	2.5	Non-Compacted	0.7	1.2	18.0	1.8	22.0	7.41	2,100	660	300/D
	4	Non-Compacted	0.7	1.2	20.0	1.8	24.0	4.61	1,700	875	300/D
	6	Non-Compacted	0.7	1.2	22.0	1.8	26.5	3.08	1450	1139	300/D
11	1.5	Non-Compacted	0.7	1.2	16.0	1.8	20.0	12.1	2,500	534	300/D
	2.5	Non-Compacted	0.7	1.2	18.0	1.8	22.0	7.41	2,100	685	300/D
	4	Non-Compacted	0.7	1.2	20.0	1.8	24.0	4.61	1,700	907	300/D
	6	Non-Compacted	0.7	1.2	22.0	1.8	26.5	3.08	1,450	1193	300/D
12	1.5	Non-Compacted	0.7	1.2	16.5	1.8	21.0	12.1	2,500	576	300/D
	2.5	Non-Compacted	0.7	1.2	18.5	1.8	23.0	7.41	2,100	735	300/D
	4	Non-Compacted	0.7	1.2	20.5	1.8	25.0	4.61	1,700	977	300/D
	6	Non-Compacted	0.7	1.2	23.0	1.8	27.5	3.08	1,450	1284	300/D
13	1.5	Non-Compacted	0.7	1.2	17.0	1.8	21.5	12.1	2,500	617	300/D
	2.5	Non-Compacted	0.7	1.2	19.5	1.8	24.0	7.41	2,100	791	300/D
	4	Non-Compacted	0.7	1.2	21.5	1.8	26.0	4.61	1,700	1043	300/D
	6	Non-Compacted	0.7	1.2	24.5	1.8	29.0	3.08	1,450	1373	300/D
14	1.5	Non-Compacted	0.7	1.2	17.0	1.8	21.5	12.1	2,500	621	300/D
	2.5	Non-Compacted	0.7	1.2	19.5	1.8	24.0	7.41	2,100	815	300/D
	4	Non-Compacted	0.7	1.2	21.5	1.8	26.0	4.61	1,700	1074	300/D
	6	Non-Compacted	0.7	1.2	24.5	1.8	29.0	3.08	1,450	1414	300/D
15	1.5	Non-Compacted	0.7	1.2	18.0	1.8	22.0	12.1	2,500	658	300/D
	2.5	Non-Compacted	0.7	1.2	20.0	1.8	24.5	7.41	2,100	867	300/D
	4	Non-Compacted	0.7	1.2	22.5	1.8	27.0	4.61	1,700	1147	300/D
	6	Non-Compacted	0.7	1.2	25.0	1.8	29.5	3.08	1,450	1515	300/D
16	1.5	Non-Compacted	0.7	1.2	18.0	1.8	22.5	12.1	2,500	682	300/D
	2.5	Non-Compacted	0.7	1.2	20.5	1.8	25.0	7.41	2,100	900	300/D
	4	Non-Compacted	0.7	1.2	23.0	1.8	27.5	4.61	1,700	1195	300/D
	6	Non-Compacted	0.7	1.2	25.5	1.9	30.5	3.08	1,450	1593	300/D
17	1.5	Non-Compacted	0.7	1.2	19.0	1.8	23.5	12.1	2,500	748	300/D
	2.5	Non-Compacted	0.7	1.2	21.5	1.8	26.0	7.41	2,100	966	300/D
	4	Non-Compacted	0.7	1.2	24.0	1.8	28.5	4.61	1,700	1292	300/D
	6	Non-Compacted	0.7	1.2	27.0	1.9	32.0	3.08	1,450	1717	300/D
18	1.5	Non-Compacted	0.7	1.2	19.0	1.8	23.5	12.1	2,500	759	300/D
	2.5	Non-Compacted	0.7	1.2	21.5	1.8	26.0	7.41	2,100	976	300/D
	4	Non-Compacted	0.7	1.2	24.0	1.8	28.5	4.61	1,700	1306	300/D
	6	Non-Compacted	0.7	1.2	27.0	1.9	32.0	3.08	1,450	1751	300/D
19	1.5	Non-Compacted	0.7	1.2	19.0	1.8	23.5	12.1	2,500	775	300/D
	2.5	Non-Compacted	0.7	1.2	21.5	1.8	26.0	7.41	2,100	1001	300/D
	4	Non-Compacted	0.7	1.2	24.0	1.8	28.5	4.61	1,700	1345	300/D
	6	Non-Compacted	0.7	1.2	27.0	1.9	32.0	3.08	1,450	1808	300/D
20	1.5	Non-Compacted	0.7	1.2	19.5	1.8	24.0	12.1	2,500	813	300/D
	2.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	7.41	2,100	1050	300/D
	4	Non-Compacted	0.7	1.2	25.0	1.8	29.0	4.61	1,700	1410	300/D
	6	Non-Compacted	0.7	1.2	28.0	1.9	32.5	3.08	1,450	1901	300/D

D : Packing in drum

FDLH-0.6/1KV-CCE-S (4800)

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

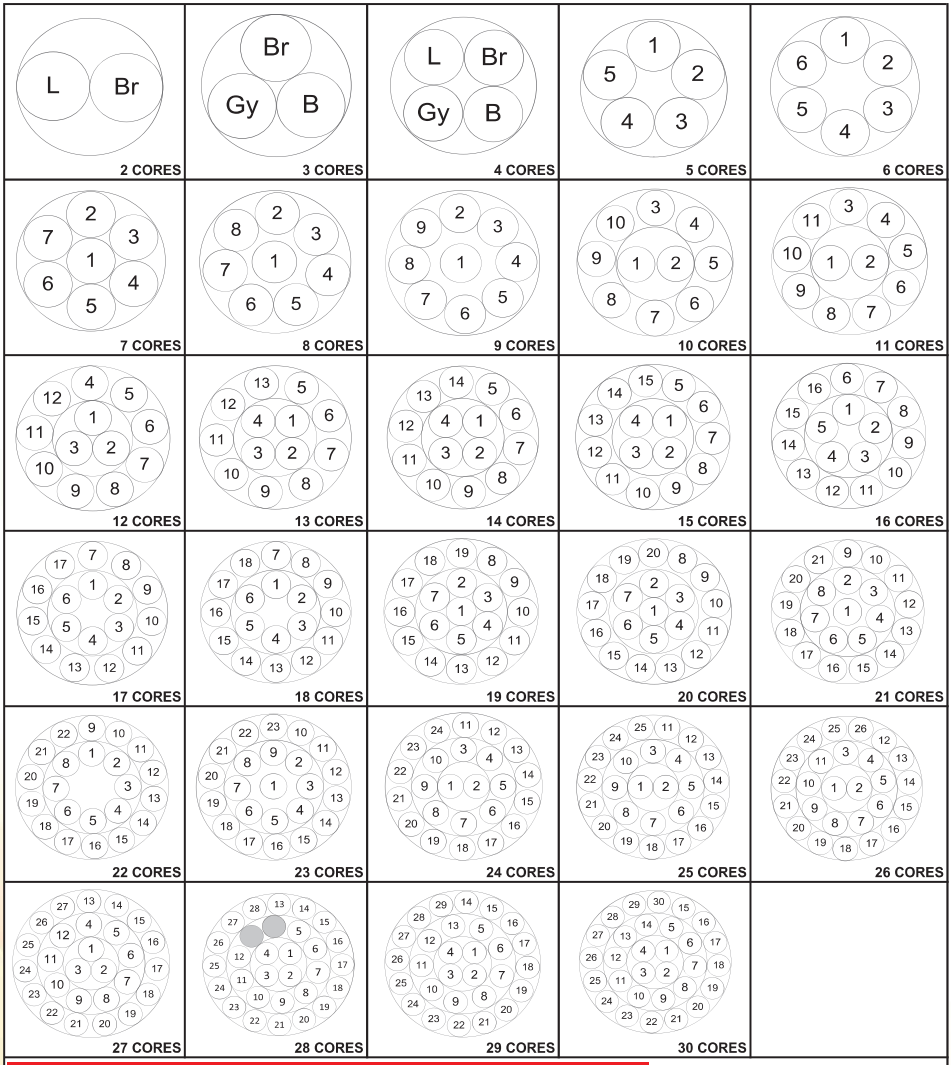
Number of core	Nominal cross sectional area (mm^2)	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Outer Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°c maximum (Ω/km)	Insulation resistance at 20°c minimum (MΩ-km)	Cable weight approx. (kg/km)	Standard Length (m)
21	1.5	Non-Compacted	0.7	1.2	20.0	1.8	24.5	12.1	2,500	841	300/D
	2.5	Non-Compacted	0.7	1.2	23.0	1.8	27.0	7.41	2,100	1089	300/D
	4	Non-Compacted	0.7	1.2	25.5	1.9	30.0	4.61	1,700	1511	300/D
	6	Non-Compacted	0.7	1.2	28.5	2.0	33.5	3.08	1,450	2036	300/D
22	1.5	Non-Compacted	0.7	1.2	21.0	1.8	25.5	12.1	2,500	891	300/D
	2.5	Non-Compacted	0.7	1.2	24.0	1.8	28.5	7.41	2,100	1156	300/D
	4	Non-Compacted	0.7	1.2	27.0	1.9	31.5	4.61	1,700	1569	300/D
	6	Non-Compacted	0.7	1.2	30.0	2.0	35.0	3.08	1,450	2112	300/D
23	1.5	Non-Compacted	0.7	1.2	21.0	1.8	25.5	12.1	2,500	907	300/D
	2.5	Non-Compacted	0.7	1.2	24.0	1.8	28.5	7.41	2,100	1228	300/D
	4	Non-Compacted	0.7	1.2	27.0	1.9	31.5	4.61	1,700	1668	300/D
	6	Non-Compacted	0.7	1.2	30.0	2.0	35.0	3.08	1,450	2249	300/D
24	1.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	12.1	2,500	951	300/D
	2.5	Non-Compacted	0.7	1.2	25.0	1.8	29.5	7.41	2,100	1236	300/D
	4	Non-Compacted	0.7	1.2	28.0	1.9	33.0	4.61	1,700	1683	300/D
	6	Non-Compacted	0.7	1.2	32.0	2.1	37.0	3.08	1,450	2287	300/D
25	1.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	12.1	2,500	973	300/D
	2.5	Non-Compacted	0.7	1.2	25.0	1.8	29.5	7.41	2,100	1268	300/D
	4	Non-Compacted	0.7	1.2	28.0	1.9	33.0	4.61	1,700	1729	300/D
	6	Non-Compacted	0.7	1.2	32.0	2.1	37.0	3.08	1,450	2354	300/D
26	1.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	12.1	2,500	995	300/D
	2.5	Non-Compacted	0.7	1.2	25.0	1.8	29.5	7.41	2,100	1300	300/D
	4	Non-Compacted	0.7	1.2	28.0	1.9	33.0	4.61	1,700	1777	300/D
	6	Non-Compacted	0.7	1.2	32.0	2.1	37.0	3.08	1,450	2422	300/D
27	1.5	Non-Compacted	0.7	1.2	23.0	1.8	27.0	12.1	2,500	1020	300/D
	2.5	Non-Compacted	0.7	1.2	26.0	1.9	30.5	7.41	2,100	1348	300/D
	4	Non-Compacted	0.7	1.2	29.0	2.0	34.0	4.61	1,700	1843	300/D
28	1.5	Non-Compacted	0.7	1.2	23.5	1.8	28.0	12.1	2,500	1081	300/D
	2.5	Non-Compacted	0.7	1.2	27.0	1.9	31.5	7.41	2,100	1428	300/D
	4	Non-Compacted	0.7	1.2	30.0	2.0	35.0	4.61	1,700	1949	300/D
29	1.5	Non-Compacted	0.7	1.2	23.5	1.8	28.0	12.1	2,500	1080	300/D
	2.5	Non-Compacted	0.7	1.2	27.0	1.9	31.5	7.41	2,100	1430	300/D
	4	Non-Compacted	0.7	1.2	30.0	2.0	35.0	4.61	1,700	1958	300/D
30	1.5	Non-Compacted	0.7	1.2	23.5	1.8	28.0	12.1	2,500	1102	300/D
	2.5	Non-Compacted	0.7	1.2	27.0	1.9	31.5	7.41	2,100	1462	300/D
	4	Non-Compacted	0.7	1.2	30.0	2.0	35.0	4.61	1,700	2006	300/D

D : Packing in drum

FDLH-0.6-1KV-CCE or FDLH-0.6/1KV-CCE-S (4800)

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

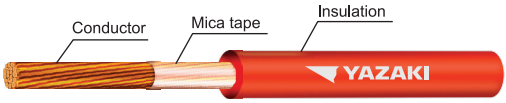
ARRANGEMENT OF CORE



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 FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



FLAME RETARDANT | LOW SMOKE ZERO HALOGEN | FIRE RESISTANT

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

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

Insulation color
Single-cores : Orange
(Other colors available upon request)

TECHNICAL DATA

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

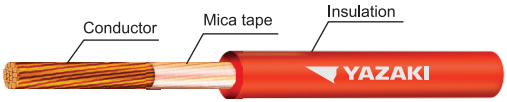
For fixed installation in electrical cabinet, conduit, trench and tray which provide fiame retardant, low smoke & corrosive gases properties and main circuit integrity under fire

Nominal cross sectional area	Conductor Type	Insulation thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 90°C minimum	Continuous current rating in free air 40°C maximum (A)	Continuous current rating in conduit in free air at 40°C maximum (A)		Cable weight approx.	Standard Length
							1 Phase	3 Phases		
(mm^2)		(mm)	(mm)	(Ω/km)	(MΩ-km)				(kg/km)	(m)
1.5	Non-Compacted	0.7	4.0	12.1	0.0100	31	21	18	26	500/D
2.5	Non-Compacted	0.8	5.0	7.41	0.0090	41	28	25	38	500/D
4	Non-Compacted	0.8	5.5	4.61	0.0077	54	38	34	56	500/D
6	Non-Compacted	0.8	6.0	3.08	0.0065	69	49	44	76	500/D
10	Compacted	1.0	7.0	1.83	0.0065	93	68	60	118	500/D
16	Compacted	1.0	8.0	1.15	0.0050	123	91	80	175	500/D
25	Compacted	1.2	9.5	0.727	0.0050	164	121	106	271	500/D
35	Compacted	1.2	10.5	0.524	0.0043	202	149	131	362	500/D
50	Compacted	1.4	12.5	0.387	0.0043	246	180	159	491	500/D
70	Compacted	1.4	14.0	0.268	0.0035	311	230	202	687	500/D
95	Compacted	1.6	16.5	0.193	0.0035	388	278	245	949	500/D
120	Compacted	1.6	18.0	0.153	0.0032	452	322	284	1197	500/D
150	Compacted	1.8	20.0	0.124	0.0032	518	358	311	1474	500/D
185	Compacted	2.0	22.0	0.0991	0.0032	601	409	349	1804	500/D
240	Compacted	2.2	25.0	0.0754	0.0032	719	480	410	2371	500/D
300	Compacted	2.4	27.5	0.0601	0.0030	833	549	468	2970	500/D
400	Compacted	2.6	30.5	0.0470	0.0028	973	622	531	3806	500/D
500	Compacted	2.8	34.5	0.0366	0.0028	1141	713	606	4862	500/D
630	Compacted	2.8	38.0	0.0283	0.0025	1336	819	695	6192	500/D

D : Packing in drum

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

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



FLAME RETARDANT | LOW SMOKE ZERO HALOGEN | FIRE RESISTANT

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

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

Insulation color
Single-cores : Orange
(Other colors available upon request)

TECHNICAL DATA

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

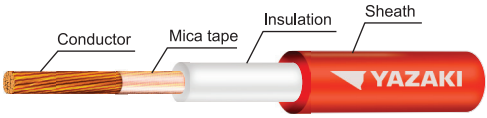
APPLICATION

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 (mm²)	Conductor Type	AC.Resistance R (Ω/km)	Inductance L (MΩ-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 RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
Single-core : Natural (Translucent)

Sheath : Orange low smoke and zero halogen flame retardent 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

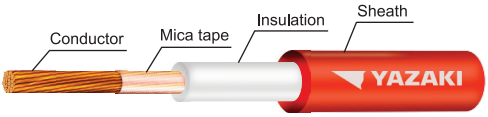
For installation into conduit and surface wiring which provide fiame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 20°C minimum	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.	Standard Length
								Spaced	Touching	Trefoil				
	(mm^2)		(mm)	(mm)	(mm)	(Ω/km)	(MΩ-km)				1 Phase	3 Phases	(kg/km)	(m)
1	1.5	Non-Compacted	0.7	1.4	7.0	12.1	2,500	36	30	29	21	18	60	500/D
	2.5	Non-Compacted	0.7	1.4	7.5	7.41	2,100	47	39	38	28	25	74	500/D
	4	Non-Compacted	0.7	1.4	8.0	4.61	1,700	62	50	49	38	34	93	500/D
	6	Non-Compacted	0.7	1.4	9.0	3.08	1,450	77	62	61	49	44	118	500/D
	10	Compacted	0.7	1.4	9.5	1.83	1,250	102	82	80	68	60	158	500/D
	16	Compacted	0.7	1.4	10.5	1.15	1,000	134	106	103	91	80	221	500/D
	25	Compacted	0.9	1.4	12.0	0.727	1,050	173	135	131	121	106	324	500/D
	35	Compacted	0.9	1.4	13.0	0.524	900	212	166	161	149	131	421	500/D
	50	Compacted	1.0	1.4	14.5	0.387	850	256	201	195	180	159	552	500/D
	70	Compacted	1.1	1.4	16.5	0.268	800	324	257	249	230	202	762	500/D
	95	Compacted	1.1	1.5	18.5	0.193	650	400	318	308	278	245	1029	500/D
	120	Compacted	1.2	1.6	20.5	0.153	650	464	371	359	322	284	1301	500/D
	150	Compacted	1.4	1.6	22.5	0.124	700	530	426	412	358	311	1587	500/D
	185	Compacted	1.6	1.7	25.0	0.0991	700	613	495	479	409	349	1943	500/D
	240	Compacted	1.7	1.8	28.0	0.0754	650	731	592	572	480	410	2528	500/D
	300	Compacted	1.8	1.9	30.5	0.0601	600	843	686	661	549	468	3144	500/D
	400	Compacted	2.0	2.0	34.0	0.0470	600	985	803	773	622	531	4011	500/D
	500	Compacted	2.2	2.1	38.0	0.0366	600	1150	939	900	713	606	5107	500/D
	630	Compacted	2.4	2.3	42.5	0.0283	550	1340	1094	1043	819	695	6533	500/D
	800	Compacted	2.6	2.4	47.0	0.0221	550	1542	1255	1188	965	820	8158	500/D
	1000	Compacted	2.8	2.6	53.0	0.0176	500	1764	4130	1344	1014	862	10652	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 RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
Single-core : Natural (Translucent)

Sheath : Orange low smoke and zero halogen flame retardent 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

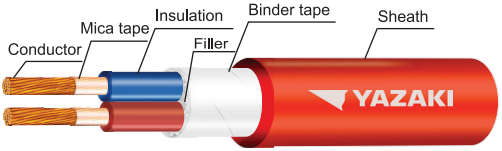
APPLICATION

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	AC.Resistance R (Ω/km)			Inductance L (mH/km)			Reactance XL (Ω/km)			Impedance Z (Ω/km)		
	(mm^2)	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 RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



FLAME RETARDANT | LOW SMOKE ZERO HALOGEN | FIRE RESISTANT

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
2 cores : Blue, Brown

Sheath : Orange low smoke and zero halogen flame retardent 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.

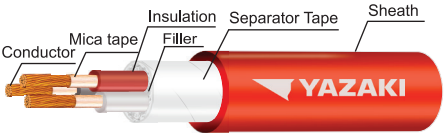
Number of core	Nominal cross sectional area (mm²)	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (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	148	500/D
	2.5	Non-Compacted	0.7	1.8	13.0	7.41	2,100	38	27	181	500/D
	4	Non-Compacted	0.7	1.8	14.5	4.61	1,700	49	36	226	500/D
	6	Non-Compacted	0.7	1.8	15.5	3.08	1,450	63	46	281	500/D
	10	Compacted	0.7	1.8	16.5	1.83	1,250	84	63	375	500/D
	16	Compacted	0.7	1.8	19.0	1.15	1,000	111	83	504	500/D
	25	Compacted	0.9	1.8	22.0	0.727	1,050	147	108	734	500/D
	35	Compacted	0.9	1.8	24.0	0.524	900	181	133	951	500/D
	50	Compacted	1.0	1.8	27.5	0.387	850	219	159	1246	500/D
	70	Compacted	1.1	1.9	31.5	0.268	800	275	201	1723	500/D
	95	Compacted	1.1	2.0	35.0	0.193	650	340	241	2305	500/D
	120	Compacted	1.2	2.2	39.5	0.153	650	394	278	2933	500/D
	150	Compacted	1.4	2.3	43.5	0.124	700	449	304	3584	500/D
	185	Compacted	1.6	2.4	48.0	0.0991	700	518	349	4439	500/D
	240	Compacted	1.7	2.6	54.0	0.0754	650	614	418	5751	500/D
	300	Compacted	1.8	2.8	59.5	0.0601	600	705	484	7132	500/D
	400	Compacted	2.0	3.0	66.0	0.0470	600	814	569	9026	300/D

Number of core	Nominal cross sectional area (mm²)	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 RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



FLAME RETARDANT | LOW SMOKE ZERO HALOGEN | FIRE RESISTANT

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
3 cores : Brown, Black, Grey

Sheath : Orange low smoke and zero halogen flame retardent 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.

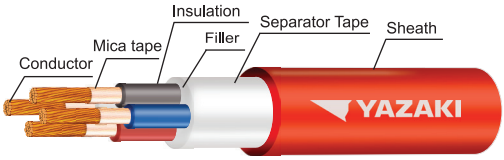
Number of core	Nominal cross sectional area (mm^2)	Conductor type	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 20°C minimum (MΩ-km)	Continuous current rating in free air at 40°C maximum (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	13.0	12.1	2,500	24	18	173	500/D
	2.5	Non-Compacted	0.7	1.8	14.0	7.41	2,100	32	24	219	500/D
	4	Non-Compacted	0.7	1.8	15.0	4.61	1,700	43	32	279	500/D
	6	Non-Compacted	0.7	1.8	16.5	3.08	1,450	54	40	357	500/D
	10	Compacted	0.7	1.8	17.5	1.83	1,250	72	55	484	500/D
	16	Compacted	0.7	1.8	20.0	1.15	1,000	96	73	664	500/D
	25	Compacted	0.9	1.8	23.5	0.727	1,050	127	96	982	500/D
	35	Compacted	0.9	1.8	26.0	0.524	900	155	116	1283	500/D
	50	Compacted	1.0	1.8	29.0	0.387	850	193	140	1685	500/D
	70	Compacted	1.1	2.0	33.5	0.268	800	238	177	2367	500/D
	95	Compacted	1.1	2.1	38.0	0.193	650	293	212	3178	500/D
	120	Compacted	1.2	2.2	42.0	0.153	650	341	244	4024	500/D
	150	Compacted	1.4	2.4	46.5	0.124	700	389	273	4955	500/D
	185	Compacted	1.6	2.6	51.5	0.0991	700	449	309	6151	500/D
	240	Compacted	1.7	2.8	58.0	0.0754	650	534	362	8010	500/D
	300	Compacted	1.8	2.9	63.5	0.0601	600	614	414	9922	300/D
	400	Compacted	2.0	3.2	71.0	0.0470	600	710	488	12599	300/D

Number of core	Nominal cross sectional area (mm^2)	A.C. Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (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 RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN POWER CABLE



FLAME RETARDANT | LOW SMOKE ZERO HALOGEN | FIRE RESISTANT

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
4 cores : Blue, Brown, Black, Grey

Sheath : Orange low smoke and zero halogen flame retardent 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.

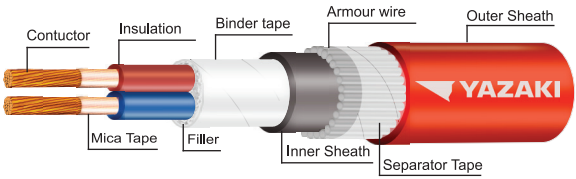
Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 20°C minimum	Continuous current rating in free air at 40°C maximum	Continuous current rating in conduit in free air at 40°C maximum	Cable weight approx.	Standard Length
	(mm^2)		(mm)	(mm)	(mm)	(Ω/km)	(MΩ-km)	(A)	(A)	(kg/km)	(m)
4	1.5	Non-Compacted	0.7	1.8	14.0	12.1	2,500	24	18	210	500/D
	2.5	Non-Compacted	0.7	1.8	15.0	7.41	2,100	32	24	266	500/D
	4	Non-Compacted	0.7	1.8	16.5	4.61	1,700	43	32	345	500/D
	6	Non-Compacted	0.7	1.8	18.0	3.08	1,450	54	40	446	500/D
	10	Compacted	0.7	1.8	19.0	1.83	1,250	72	55	610	500/D
	16	Compacted	0.7	1.8	22.0	1.15	1,000	96	73	842	500/D
	25	Compacted	0.9	1.8	26.0	0.727	1,050	127	96	1253	500/D
	35	Compacted	0.9	1.8	28.5	0.524	900	155	116	1655	500/D
	50	Compacted	1.0	1.9	32.0	0.387	850	193	140	2197	500/D
	70	Compacted	1.1	2.1	37.5	0.268	800	238	177	3078	500/D
	95	Compacted	1.1	2.2	42.0	0.193	650	293	212	4157	500/D
	120	Compacted	1.2	2.4	46.5	0.153	650	341	244	5282	500/D
	150	Compacted	1.4	2.6	52.0	0.124	700	389	273	6491	500/D
	185	Compacted	1.6	2.7	57.5	0.0991	700	449	309	8044	500/D
	240	Compacted	1.7	3.0	64.5	0.0754	650	534	362	10504	300/D
	300	Compacted	1.8	3.2	71.0	0.0601	600	614	414	13043	300/D
	400	Compacted	2.0	3.4	79.0	0.0470	600	710	488	16523	200/D

Number of core	Nominal cross sectional area	A.C. Resistance R	Inductance L	Reactance XL	Impedance Z
	(mm^2)	(Ω/km)	(mH/km)	(Ω/km)	(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 FIRE RESISTANT FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



TÜV SÜD

LSOH

FLAME RETARDANT | LOW SMOKE ZERO HALOGEN | FIRE RESISTANT

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
2 cores : Blue, Brown

Armor : Galvanized steel wires

Sheath : Orange low smoke and zero halogen flame retardent 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 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 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 (mm²)	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	0.80	1.8	16.5	12.1	2,500	30	35	402	500/D
	2.5	Non-Compacted	0.7	1.2	11.5	1.25	1.8	18.5	7.41	2,100	39	46	580	500/D
	4	Non-Compacted	0.7	1.2	13.0	1.25	1.8	19.5	4.61	1,700	51	S9	650	500/D
	6	Non-Compacted	0.7	1.2	14.0	1.25	1.8	21.0	3.08	1,4S0	66	74	740	500/D
	10	Compacted	0.7	1.2	15.0	1.25	1.8	22.0	1.83	1,2S0	88	98	872	500/D
	16	Compacted	0.7	1.2	17.5	1.60	1.8	25.0	1.15	1,000	116	126	1205	500/D
	25	Compacted	0.9	1.2	21.0	1.60	1.8	28.0	0.727	1,050	154	162	1552	500/D
	35	Compacted	0.9	1.2	23.0	1.60	1.9	30.5	0.524	900	188	194	1865	500/D
	50	Compacted	1.0	1.2	26.0	1.60	2.0	34.0	0.387	850	228	230	2295	500/D
	70	Compacted	1.1	1.2	29.5	2.00	2.1	39.0	0.268	800	285	281	3176	500/D
	95	Compacted	1.1	1.2	33.5	2.00	2.3	43.0	0.193	650	350	336	3962	500/D
	120	Compacted	1.2	1.3	37.0	2.50	2.4	48.0	0.153	650	404	381	5190	500/D
	150	Compacted	1.4	1.3	41.0	2.50	2.6	52.0	0.124	700	458	426	6058	500/D
	185	Compacted	1.6	1.4	45.5	2.50	2.7	57.0	0.0991	700	S28	479	7176	500/D
	240	Compacted	1.7	1.5	51.5	2.50	2.9	63.5	0.0754	650	622	552	8864	500/D
	300	Compacted	1.8	1.6	57.0	2.50	3.1	69.0	0.0601	600	710	618	10584	300/D
	400	Compacted	2.0	1.8	63.0	3.15	3.4	77.5	0.0470	600	815	693	13797	300/D

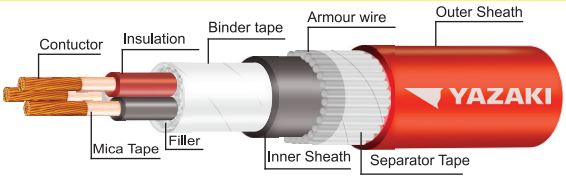
Number of core	Nominal cross sectional area (mm²)	A.C.Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
2	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9273	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	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

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 FIRE RESISTANT FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE



CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
3 cores : Brown, Black, Grey

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

Armor : Galvanized steel wires

Sheath : Orange low smoke and zero halogen flame retardent 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 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 (mm²)	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	11.5	1.25	1.8	18.0	12.1	2,500	26	30	558	500/D
	2.5	Non-Compacted	0.7	1.2	12.5	1.25	1.8	19.0	7.41	2,100	34	39	629	500/D
	4	Non-Compacted	0.7	1.2	13.5	1.25	1.8	20.5	4.61	1,700	45	51	724	500/D
	6	Non-Compacted	0.7	1.2	15.0	1.25	1.8	21.5	3.08	1,450	57	63	838	500/D
	10	Compacted	0.7	1.2	16.0	1.60	1.8	23.5	1.83	1,250	76	83	1131	500/D
	16	Compacted	0.7	1.2	18.5	1.60	1.8	26.0	1.15	1,000	100	107	1404	500/D
	25	Compacted	0.9	1.2	22.0	1.60	1.9	30.0	0.727	1,050	132	137	1876	500/D
	35	Compacted	0.9	1.2	24.5	1.60	1.9	32.0	0.524	900	162	164	2257	500/D
	50	Compacted	1.0	1.2	27.5	2.00	2.1	37.0	0.387	850	196	194	3061	500/D
	70	Compacted	1.1	1.2	32.0	2.00	2.2	41.0	0.268	800	246	236	3915	500/D
	95	Compacted	1.1	1.2	35.5	2.00	2.4	45.5	0.193	650	301	282	4933	500/D
	120	Compacted	1.2	1.3	40.0	2.50	2.5	51.0	0.153	650	348	320	6445	500/D
	150	Compacted	1.4	1.4	44.0	2.50	2.7	55.5	0.124	700	397	356	7640	500/D
	185	Compacted	1.6	1.5	49.5	2.50	2.8	61.0	0.0991	700	455	400	9159	300/D
	240	Compacted	1.7	1.6	55.5	2.50	3.1	68.0	0.0754	650	535	459	11411	300/D
	300	Compacted	1.8	1.7	61.0	2.50	3.3	74.0	0.0601	600	608	511	13727	300/D
	400	Compacted	2.0	1.8	68.0	3.15	3.5	82.5	0.0470	600	699	574	17682	200/D

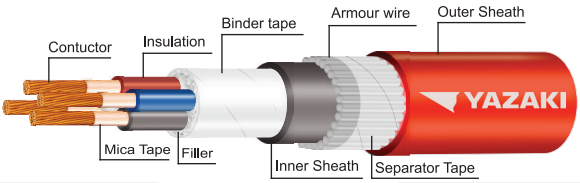
Number of core	Nominal cross sectional area (mm²)	A.C.Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
3	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	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	0.1984	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

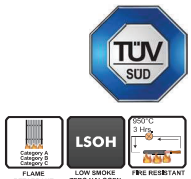
Remark: Thermal resistivity of soil 1.2 K.m/W or °C.m/W
Deep of laying (For cable laid direct in ground) 0.8 m

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 FIRE RESISTANT FLAME RETARDANT, LOW SMOKE AND ZERO HALOGEN POWER CABLE





CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier 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 retardent polyolefin (ST8)

Armor : Galvanized steel wires

Sheath : Orange low smoke and zero halogen flame retardent 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	Conductor type	Insulation thickness nominal	Inner sheath thickness nominal	Dia. of inner sheath approx.	Diameter of steel wire armor nominal	Outer sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 20°C minimum	Continuous current rating in free air at 40°C maximum	Continuous current rating in ground at 30°c maximum	Cable weight approx.	Standard Length
	(mm^2)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Ω/km)	(MΩ-km)	(A)	(A)	(kg/km)	(m)
	1.5	Non-Compacted	0.7	1.2	12.5	1.25	1.8	19.5	12.1	2,500	26	30	617	500/D
	2.5	Non-Compacted	0.7	1.2	13.5	1.25	1.8	20.0	7.41	2,100	34	39	708	500/D
	4	Non-Compacted	0.7	1.2	15.0	1.25	1.8	21.5	4.61	1,700	45	51	823	500/D
	6	Non-Compacted	0.7	1.2	16.5	1.60	1.8	24.0	3.08	1,450	57	63	1090	500/D
	10	Compacted	0.7	1.2	17.5	1.60	1.8	25.0	1.83	1,250	76	83	1310	500/D
	16	Compacted	0.7	1.2	20.5	1.60	1.8	28.0	1.15	1,000	100	107	1659	500/D
	25	Compacted	0.9	1.2	24.5	1.60	1.9	32.0	0.727	1,050	132	137	2227	500/D
	35	Compacted	0.9	1.2	27.0	2.00	2.0	36.0	0.524	900	162	164	2983	500/D
4	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	4782	500/D
	95	Compacted	1.1	1.3	40.0	2.50	2.5	51.0	0.193	650	301	282	6537	500/D
	120	Compacted	1.2	1.4	44.5	2.50	2.7	56.0	0.153	650	348	320	7969	500/D
	150	Compacted	1.4	1.5	49.5	2.50	2.9	61.5	0.124	700	397	356	9504	300/D
	185	Compacted	1.6	1.6	55.0	2.50	3.0	67.0	0.0991	700	455	400	11394	300/D
	240	Compacted	1.7	1.7	62.0	2.50	3.3	74.5	0.0754	650	535	459	14312	300/D
	300	Compacted	1.8	1.8	68.0	3.15	3.5	82.5	0.0601	600	608	511	18127	200/D
	400	Compacted	2.0	2.0	76.0	3.15	3.8	91.5	0.0470	600	699	574	22323	200/D

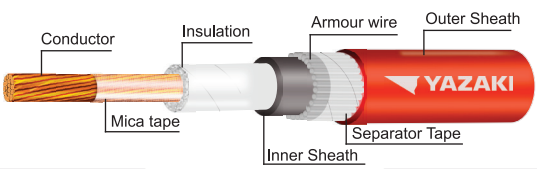
Number of core	Nominal cross sectional area	A.C.Resistance R	Inductance L	Reactance XL	Impedance Z
	(mm^2)	(Ω/km)	(mH/km)	(Ω/km)	(Ω/km)
	1.5	15.4287	0.3427	0.1077	15.4291
	2.5	9.4485	0.3249	0.1021	9.4491
	4	5.8782	0.3026	0.0951	5.8790
	6	3.9274	0.2890	0.0908	3.9284
	10	2.3335	0.2747	0.0863	2.3351
	16	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
4	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



FLAME RETARDANT | LOW SMOKE ZERO HALOGEN | FIRE RESISTANT

CABLE STRUCTURE

Conductor : Non-compacted or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
Single-core : Natural (Translucent)

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

Armor : Aluminium wires

Sheath : Orange low smoke and zero halogen flame retardent 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 fiame retardant, low smoke & corrosive gases properties and maintain circuit integrity in case of fire.

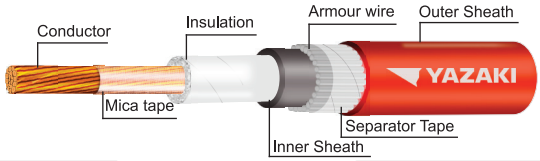
Number of core	Nominal cross sectional area	Conductor type	Insulation thickness nominal	Inner sheath thickness nominal	Dia. of inner sheath approx.	Dia. of aluminium wire armor nominal	Outer sheath thickness nominal	Overall diameter approx.	Conductor resistance at 20°C maximum	Insulation resistance at 20°C minimum	Continuous current rating in free air at 40°C maximum (A)			Continuous current rating in ground at 30°C maximum	Cable weight approx.	Standard Length
											Spaced	Touching	Trefoil			
	(mm^2)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Ω/km)	(MΩ-km)				(A)	(kg/km)	(m)
	1.5	Non-Compacted	0.7	1.2	7.0	1.25	1.8	13.5	12.1	2.500	36	30	29	32	213	500/D
	2.5	Non-Compacted	0.7	1.2	7.0	1.25	1.8	14.0	7.41	2.100	48	39	38	41	235	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	262	500/D
	6	Non-Compacted	0.7	1.2	8.5	1.25	1.8	15.0	3.08	1.40	78	64	63	65	298	500/D
	10	Compacted	0.7	1.2	9.0	1.25	1.8	15.5	1.83	1,250	104	85	83	86	347	500/D
	16	Compacted	0.7	1.2	10.0	1.25	1.8	16.5	1.15	1.000	136	112	109	110	428	500/D
	25	Compacted	0.9	1.2	11.5	1.25	1.8	18.5	0.727	1.050	179	147	143	141	559	500/D
	35	Compacted	0.9	1.2	12.5	1.25	1.8	19.5	0.524	900	217	179	174	169	671	500/D
1	50	Compacted	1.0	1.2	14.0	1.25	1.8	21.0	0.387	850	261	216	210	199	828	500/D
	70	Compacted	1.1	1.2	16.0	1.60	1.8	23.5	0.268	800	327	270	262	243	1116	500/D
	95	Compacted	1.1	1.2	18.0	1.60	1.8	25.5	0.193	650	404	334	325	292	1402	500/D
	120	Compacted	1.2	1.2	19.5	1.60	1.8	27.0	0.153	650	467	387	376	331	1702	500/D
	150	Compacted	1.4	1.2	21.5	1.60	1.8	29.0	0.124	700	532	442	429	371	2017	500/D
	185	Compacted	1.6	1.2	24.0	1.60	1.9	31.5	0.0991	700	617	515	499	421	2419	500/D
	240	Compacted	1.7	1.2	26.5	2.00	2.0	35.5	0.0754	650	733	613	594	487	3154	500/D
	300	Compacted	1.8	1.2	29.0	2.00	2.1	38.0	0.0601	600	844	707	684	549	3818	500/D
	400	Compacted	2.0	1.2	32.0	2.00	2.2	41.5	0.0470	600	979	822	794	622	4756	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 or compacted round annealed copper

Fire barier tape : Mica tape

Insulation : Cross-linked polyethylene (XLPE)

Core identification
Single-core : Natural (Translucent)

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

Armor : Aluminium wires

Sheath : Orange low smoke and zero halogen flame retardent 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

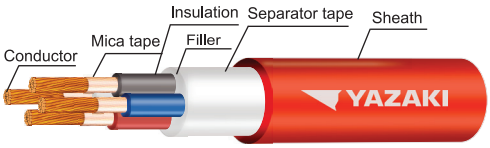
APPLICATION

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

Number of cores	Nominal cross sectional area (mm^2)	AC.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 : Non-compacted round annealed copper

Fire barrier tape : Mica tape

Insulation : Cross-Linked polyethylene (XLPE)

Core indentification
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 throungout 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^2)	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	Non-Compacted	0.7	1.8	12.5	12.1	2,500	148	300/D
	2.5	Non-Compacted	0.7	1.8	13.0	7.41	2,100	181	300/D
	4	Non-Compacted	0.7	1.8	14.5	4.61	1,700	226	300/D
	6	Non-Compacted	0.7	1.8	15.5	3.08	1,450	281	300/D
3	1.5	Non-Compacted	0.7	1.8	13.0	12.1	2,500	173	300/D
	2.5	Non-Compacted	0.7	1.8	14.0	7.41	2,100	219	300/D
	4	Non-Compacted	0.7	1.8	15.0	4.61	1,700	279	300/D
	6	Non-Compacted	0.7	1.8	16.5	3.08	1,450	357	300/D
4	1.5	Non-Compacted	0.7	1.8	14.0	12.1	2,500	210	300/D
	2.5	Non-Compacted	0.7	1.8	15.0	7.41	2,100	266	300/D
	4	Non-Compacted	0.7	1.8	16.5	4.61	1,700	345	300/D
	6	Non-Compacted	0.7	1.8	18.0	3.08	1,450	446	300/D
5	1.5	Non-Compacted	0.7	1.8	15.0	12.1	2,500	245	300/D
	2.5	Non-Compacted	0.7	1.8	16.0	7.41	2,100	318	300/D
	4	Non-Compacted	0.7	1.8	18.0	4.61	1,700	411	300/D
	6	Non-Compacted	0.7	1.8	19.5	3.08	1,450	536	300/D
6	1.5	Non-Compacted	0.7	1.8	16.5	12.1	2,500	285	300/D
	2.5	Non-Compacted	0.7	1.8	17.5	7.41	2,100	374	300/D
	4	Non-Compacted	0.7	1.8	19.5	4.61	1,700	483	300/D
	6	Non-Compacted	0.7	1.8	21.0	3.08	1,450	636	300/D
7	1.5	Non-Compacted	0.7	1.8	16.5	12.1	2,500	304	300/D
	2.5	Non-Compacted	0.7	1.8	17.5	7.41	2,100	401	300/D
	4	Non-Compacted	0.7	1.8	19.5	4.61	1,700	525	300/D
	6	Non-Compacted	0.7	1.8	21.0	3.08	1,450	694	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^2)	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)
8	1.5	Non-Compacted	0.7	1.8	17.5	12.1	2,500	351	300/D
	2.5	Non-Compacted	0.7	1.8	19.0	7.41	2,100	459	300/D
	4	Non-Compacted	0.7	1.8	21.0	4.61	1,700	613	300/D
	6	Non-Compacted	0.7	1.8	23.0	3.08	1,450	804	300/D
9	1.5	Non-Compacted	0.7	1.8	18.5	12.1	2,500	394	300/D
	2.5	Non-Compacted	0.7	1.8	20.0	7.41	2,100	514	300/D
	4	Non-Compacted	0.7	1.8	22.5	4.61	1,700	687	300/D
	6	Non-Compacted	0.7	1.8	24.5	3.08	1,450	906	300/D
10	1.5	Non-Compacted	0.7	1.8	20.0	12.1	2,500	433	300/D
	2.5	Non-Compacted	0.7	1.8	21.5	7.41	2,100	571	300/D
	4	Non-Compacted	0.7	1.8	24.0	4.61	1,700	760	300/D
	6	Non-Compacted	0.7	1.8	26.5	3.08	1,450	1003	300/D
11	1.5	Non-Compacted	0.7	1.8	20.0	12.1	2,500	451	300/D
	2.5	Non-Compacted	0.7	1.8	21.5	7.41	2,100	593	300/D
	4	Non-Compacted	0.7	1.8	24.0	4.61	1,700	798	300/D
	6	Non-Compacted	0.7	1.8	26.5	3.08	1,450	1054	300/D
12	1.5	Non-Compacted	0.7	1.8	20.5	12.1	2,500	489	300/D
	2.5	Non-Compacted	0.7	1.8	22.5	7.41	2,100	643	300/D
	4	Non-Compacted	0.7	1.8	25.0	4.61	1,700	864	300/D
	6	Non-Compacted	0.7	1.8	27.5	3.08	1,450	1150	300/D
13	1.5	Non-Compacted	0.7	1.8	22.0	12.1	2,500	517	300/D
	2.5	Non-Compacted	0.7	1.8	23.5	7.41	2,100	690	300/D
	4	Non-Compacted	0.7	1.8	26.0	4.61	1,700	926	300/D
	6	Non-Compacted	0.7	1.8	29.0	3.08	1,450	1241	300/D
14	1.5	Non-Compacted	0.7	1.8	22.0	12.1	2,500	535	300/D
	2.5	Non-Compacted	0.7	1.8	23.5	7.41	2,100	710	300/D
	4	Non-Compacted	0.7	1.8	26.0	4.61	1,700	952	300/D
	6	Non-Compacted	0.7	1.8	29.0	3.08	1,450	1280	300/D
15	1.5	Non-Compacted	0.7	1.8	22.5	12.1	2,500	576	300/D
	2.5	Non-Compacted	0.7	1.8	24.5	7.41	2,100	767	300/D
	4	Non-Compacted	0.7	1.8	27.0	4.61	1,700	1029	300/D
	6	Non-Compacted	0.7	1.8	30.0	3.08	1,450	1384	300/D
16	1.5	Non-Compacted	0.7	1.8	23.0	12.1	2,500	599	300/D
	2.5	Non-Compacted	0.7	1.8	25.0	7.41	2,100	797	300/D
	4	Non-Compacted	0.7	1.8	27.5	4.61	1,700	1074	300/D
	6	Non-Compacted	0.7	1.9	30.5	3.08	1,450	1459	300/D
17	1.5	Non-Compacted	0.7	1.8	24.0	12.1	2,500	650	300/D
	2.5	Non-Compacted	0.7	1.8	26.0	7.41	2,100	873	300/D
	4	Non-Compacted	0.7	1.8	29.0	4.61	1,700	1178	300/D
	6	Non-Compacted	0.7	1.9	32.5	3.08	1,450	1590	300/D
18	1.5	Non-Compacted	0.7	1.8	24.0	12.1	2,500	653	300/D
	2.5	Non-Compacted	0.7	1.8	26.0	7.41	2,100	876	300/D
	4	Non-Compacted	0.7	1.8	29.0	4.61	1,700	1186	300/D
	6	Non-Compacted	0.7	1.9	32.5	3.08	1,450	1607	300/D
19	1.5	Non-Compacted	0.7	1.8	24.0	12.1	2,500	671	300/D
	2.5	Non-Compacted	0.7	1.8	26.0	7.41	2,100	903	300/D
	4	Non-Compacted	0.7	1.8	29.0	4.61	1,700	1226	300/D
	6	Non-Compacted	0.7	1.9	32.5	3.08	1,450	1665	300/D
20	1.5	Non-Compacted	0.7	1.8	24.5	12.1	2,500	708	300/D
	2.5	Non-Compacted	0.7	1.8	26.5	7.41	2,100	958	300/D
	4	Non-Compacted	0.7	1.8	30.0	4.61	1,700	1298	300/D
	6	Non-Compacted	0.7	1.9	33.0	3.08	1,450	1764	300/D

D : Packing in drum

FS/FDLH-0.6/1KV-CCE

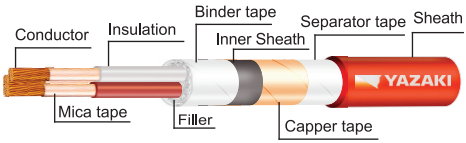
0.6/1 kV 90°C MICA TAPE CROSS-LINKED POLYETHYLENE INSULATED POLYOLEFIN SHEATHED FIRE RESISTANT FLAME RETARDANT WITH LOW SMOKE AND ZERO HALOGEN CONTROL CABLE

Number of core	Nominal cross sectional area (mm^2)	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)
21	1.5	Non-Compacted	0.7	1.8	25.5	12.1	2,500	737	300/0
	2.5	Non-Compacted	0.7	1.8	27.5	7.41	2,100	995	300/0
	4	Non-Compacted	0.7	1.9	31.0	4.61	1,700	1368	300/0
	6	Non-Compacted	0.7	2.0	34.5	3.08	1,450	1856	300/0
22	1.5	Non-Compacted	0.7	1.8	26.5	12.1	2,500	785	300/0
	2.5	Non-Compacted	0.7	1.8	29.0	7.41	2,100	1057	300/0
	4	Non-Compacted	0.7	1.9	32.5	4.61	1,700	1452	300/0
	6	Non-Compacted	0.7	2.0	36.0	3.08	1,450	1968	300/0
23	1.5	Non-Compacted	0.7	1.8	26.5	12.1	2,500	806	300/0
	2.5	Non-Compacted	0.7	1.8	29.0	7.41	2,100	1089	300/0
	4	Non-Compacted	0.7	1.9	32.5	4.61	1,700	1497	300/0
	6	Non-Compacted	0.7	2.0	36.0	3.08	1,450	2032	300/0
24	1.5	Non-Compacted	0.7	1.8	28.0	12.1	2,500	842	300/0
	2.5	Non-Compacted	0.7	1.9	30.5	7.41	2,100	1152	300/0
	4	Non-Compacted	0.7	2.0	34.5	4.61	1,700	1580	300/0
	6	Non-Compacted	0.7	2.1	38.0	3.08	1,450	2139	300/0
25	1.5	Non-Compacted	0.7	1.8	28.0	12.1	2,500	867	300/0
	2.5	Non-Compacted	0.7	1.9	30.5	7.41	2,100	1187	300/0
	4	Non-Compacted	0.7	2.0	34.5	4.61	1,700	1631	300/0
	6	Non-Compacted	0.7	2.1	38.0	3.08	1,450	2211	300/0
26	1.5	Non-Compacted	0.7	1.8	28.0	12.1	2,500	893	300/0
	2.5	Non-Compacted	0.7	1.9	30.5	7.41	2,100	1224	300/0
	4	Non-Compacted	0.7	2.0	34.5	4.61	1,700	1683	300/0
	6	Non-Compacted	0.7	2.1	38.0	3.08	1,450	2284	300/0
27	1.5	Non-Compacted	0.7	1.8	28.5	12.1	2,500	915	300/0
	2.5	Non-Compacted	0.7	1.9	31.0	7.41	2,100	1254	300/0
	4	Non-Compacted	0.7	2.0	35.0	4.61	1,700	1726	300/0
28	1.5	Non-Compacted	0.7	1.8	29.5	12.1	2,500	988	300/0
	2.5	Non-Compacted	0.7	1.9	32.5	7.41	2,100	1350	300/0
	4	Non-Compacted	0.7	2.0	36.5	4.61	1,700	1853	300/0
29	1.5	Non-Compacted	0.7	1.8	29.5	12.1	2,500	975	300/0
	2.5	Non-Compacted	0.7	1.9	32.5	7.41	2,100	1339	300/0
	4	Non-Compacted	0.7	2.0	36.5	4.61	1,700	1845	300/0
30	1.5	Non-Compacted	0.7	1.8	29.5	12.1	2,500	1001	300/0
	2.5	Non-Compacted	0.7	1.9	32.5	7.41	2,100	1375	300/0
	4	Non-Compacted	0.7	2.0	36.5	4.61	1,700	1898	300/0

D : Packing in drum

FS/FDLH-0.6/1KV-CCE-S (4800)

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 ABLE



CABLE STRUCTURE

Conductor : Non-compacted round annealed copper

Fire barrier tape : Mica tape

Insulation : Cross-Linked polyethylene (XLPE)

Core indentification
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 throungout 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 : Coper 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^2)	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (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)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Non-Compacted	0.7	1.2	11.0	1.8	15.5	12.1	2,500	256	300/D
	2.5	Non-Compacted	0.7	1.2	11.5	1.8	16.0	741	2,100	298	300/D
	4	Non-Compacted	0.7	1.2	13.0	1.8	17.5	4.61	1,700	351	300/D
	6	Non-Compacted	0.7	1.2	14.0	1.8	18.5	3.08	1,450	417	300/D
3	1.5	Non-Compacted	0.7	1.2	11.5	1.8	16.0	12.1	2,500	286	300/D
	2.5	Non-Compacted	0.7	1.2	12.5	1.8	17.0	741	2,100	342	300/D
	4	Non-Compacted	0.7	1.2	13.5	1.8	18.0	4.61	1,700	412	300/D
	6	Non-Compacted	0.7	1.2	15.0	1.8	19.5	3.08	1,450	501	300/D
4	1.5	Non-Compacted	0.7	1.2	12.5	1.8	17.0	12.1	2,500	331	300/D
	2.5	Non-Compacted	0.7	1.2	13.5	1.8	18.0	7.41	2,100	397	300/D
	4	Non-Compacted	0.7	1.2	15.0	1.8	19.5	4.61	1,700	488	300/D
	6	Non-Compacted	0.7	1.2	16.5	1.8	21.0	3.08	1,450	602	300/D
5	1.5	Non-Compacted	0.7	1.2	13.5	1.8	18.0	12.1	2,500	375	300/D
	2.5	Non-Compacted	0.7	1.2	15.0	1.8	19.0	741	2,100	460	300/D
	4	Non-Compacted	0.7	1.2	16.5	1.8	21.0	4.61	1,700	566	300/D
	6	Non-Compacted	0.7	1.2	18.0	1.8	22.5	3.08	1,450	705	300/D
6	1.5	Non-Compacted	0.7	1.2	15.0	1.8	19.5	12.1	2,500	424	300/D
	2.5	Non-Compacted	0.7	1.2	16.0	1.8	20.5	741	2,100	527	300/D
	4	Non-Compacted	0.7	1.2	18.0	1.8	22.5	4.61	1,700	651	300/D
	6	Non-Compacted	0.7	1.2	19.5	1.8	24.0	3.08	1,450	828	300/D
7	1.5	Non-Compacted	0.7	1.2	15.0	1.8	19.5	12.1	2,500	443	300/D
	2.5	Non-Compacted	0.7	1.2	16.0	1.8	20.5	741	2,100	555	300/D
	4	Non-Compacted	0.7	1.2	18.0	1.8	22.5	4.61	1,700	693	300/D
	6	Non-Compacted	0.7	1.2	19.5	1.8	24.0	3.08	1,450	891	300/D

D : Packing in drum

FS/FDLH-0.6/1KV-CCE-S (4800)

0.6/1 kV 90°C 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^2)	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (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)	Cable weight approx. (kg/km)	Standard Length (m)
8	1.5	Non-Compacted	0.7	1.2	16.0	1.8	20.5	12.1	2,500	502	300/D
	2.5	Non-Compacted	0.7	1.2	17.5	1.8	22.0	7.41	2,100	624	300/D
	4	Non-Compacted	0.7	1.2	19.5	1.8	24.0	4.61	1,700	788	300/D
	6	Non-Compacted	0.7	1.2	21.5	1.8	26.0	3.08	1,450	1011	300/D
9	1.5	Non-Compacted	0.7	1.2	17.5	1.8	21.5	12.1	2,500	554	300/D
	2.5	Non-Compacted	0.7	1.2	19.0	1.8	23.0	7.41	2,100	690	300/D
	4	Non-Compacted	0.7	1.2	21.0	1.8	25.5	4.61	1,700	894	300/D
	6	Non-Compacted	0.7	1.2	23.0	1.8	27.5	3.08	1,450	1134	300/D
10	1.5	Non-Compacted	0.7	1.2	18.5	1.8	23.0	12.1	2,500	604	300/D
	2.5	Non-Compacted	0.7	1.2	20.0	1.8	24.5	7.41	2100	774	300/D
	4	Non-Compacted	0.7	1.2	22.5	1.8	27.0	4.61	1,700	982	300/D
	6	Non-Compacted	0.7	1.2	25.0	1.8	29.5	3.08	1,450	1248	300/D
11	1.5	Non-Compacted	0.7	1.2	18.5	1.8	23.0	12.1	2,500	622	300/D
	2.5	Non-Compacted	0.7	1.2	20.0	1.8	24.5	7.41	2,100	795	300/D
	4	Non-Compacted	0.7	1.2	22.5	1.8	27.0	4.61	1,700	1020	300/D
	6	Non-Compacted	0.7	1.2	25.0	1.8	29.5	3.08	1,450	1299	300/D
12	1.5	Non-Compacted	0.7	1.2	19.5	1.8	23.5	12.1	2,500	666	300/D
	2.5	Non-Compacted	0.7	1.2	21.0	1.8	25.5	7.41	2,100	853	300/D
	4	Non-Compacted	0.7	1.2	23.5	1.8	28.0	4.61	1,700	1095	300/D
	6	Non-Compacted	0.7	1.2	26.0	1.9	30.5	3.08	1,450	1419	300/D
13	1.5	Non-Compacted	0.7	1.2	20.5	1.8	25.0	12.1	2,500	716	300/D
	2.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	7.41	2,100	910	300/D
	4	Non-Compacted	0.7	1.2	25.0	1.8	29.0	4.61	1,700	1168	300/D
	6	Non-Compacted	0.7	1.2	27.5	1.9	32.0	3.08	1,450	1522	300/D
14	1.5	Non-Compacted	0.7	1.2	20.5	1.8	25.0	12.1	2,500	733	300/D
	2.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	7.41	2,100	930	300/D
	4	Non-Compacted	0.7	1.2	25.0	1.8	29.0	4.61	1,700	1194	300/D
	6	Non-Compacted	0.7	1.2	27.5	1.9	32.0	3.08	1,450	1561	300/D
15	1.5	Non-Compacted	0.7	1.2	21.0	1.8	25.5	12.1	2,500	781	300/D
	2.5	Non-Compacted	0.7	1.2	23.0	1.8	27.5	7.41	2,100	995	300/D
	4	Non-Compacted	0.7	1.2	25.5	1.8	30.0	4.61	1,700	1279	300/D
	6	Non-Compacted	0.7	1.2	28.5	1.9	33.0	3.08	1,450	1676	300/D
16	1.5	Non-Compacted	0.7	1.2	21.5	1.8	26.0	12.1	2,500	808	300/D
	2.5	Non-Compacted	0.7	1.2	23.5	1.8	28.0	7.41	2,100	1028	300/D
	4	Non-Compacted	0.7	1.2	26.0	1.9	31.0	4.61	1,700	1342	300/D
	6	Non-Compacted	0.7	1.2	29.0	2.0	34.0	3.08	1,450	1758	300/D
17	1.5	Non-Compacted	0.7	1.2	22.5	1.8	27.0	12.1	2,500	868	300/D
	2.5	Non-Compacted	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1118	300/D
	4	Non-Compacted	0.7	1.2	27.5	1.9	32.5	4.61	1,700	1460	300/D
	6	Non-Compacted	0.7	1.2	30.5	2.0	35.5	3.08	1,450	1900	300/D
18	1.5	Non-Compacted	0.7	1.2	22.5	1.8	27.0	12.1	2,500	872	300/D
	2.5	Non-Compacted	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1121	300/D
	4	Non-Compacted	0.7	1.2	27.5	1.9	32.5	4.61	1,700	1468	300/D
	6	Non-Compacted	0.7	1.2	30.5	2.0	35.5	3.08	1,450	1918	300/D
19	1.5	Non-Compacted	0.7	1.2	22.5	1.8	27.0	12.1	2,500	890	300/D
	2.5	Non-Compacted	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1147	300/D
	4	Non-Compacted	0.7	1.2	27.5	1.9	32.5	4.61	1,700	1509	300/D
	6	Non-Compacted	0.7	1.2	30.5	2.0	35.5	3.08	1,450	1980	300/D
20	1.5	Non-Compacted	0.7	1.2	23.0	1.8	27.5	12.1	2,500	933	300/D
	2.5	Non-Compacted	0.7	1.2	25.5	1.8	29.5	7.41	2,100	1207	300/D
	4	Non-Compacted	0.7	1.2	28.5	1.9	33.0	4.61	1,700	1587	300/D
	6	Non-Compacted	0.7	1.2	31.5	2.0	36.5	3.08	1,450	2087	300/D

D : Packing in drum

FS/FDLH-0.6/1KV-CCE-S (4800)

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

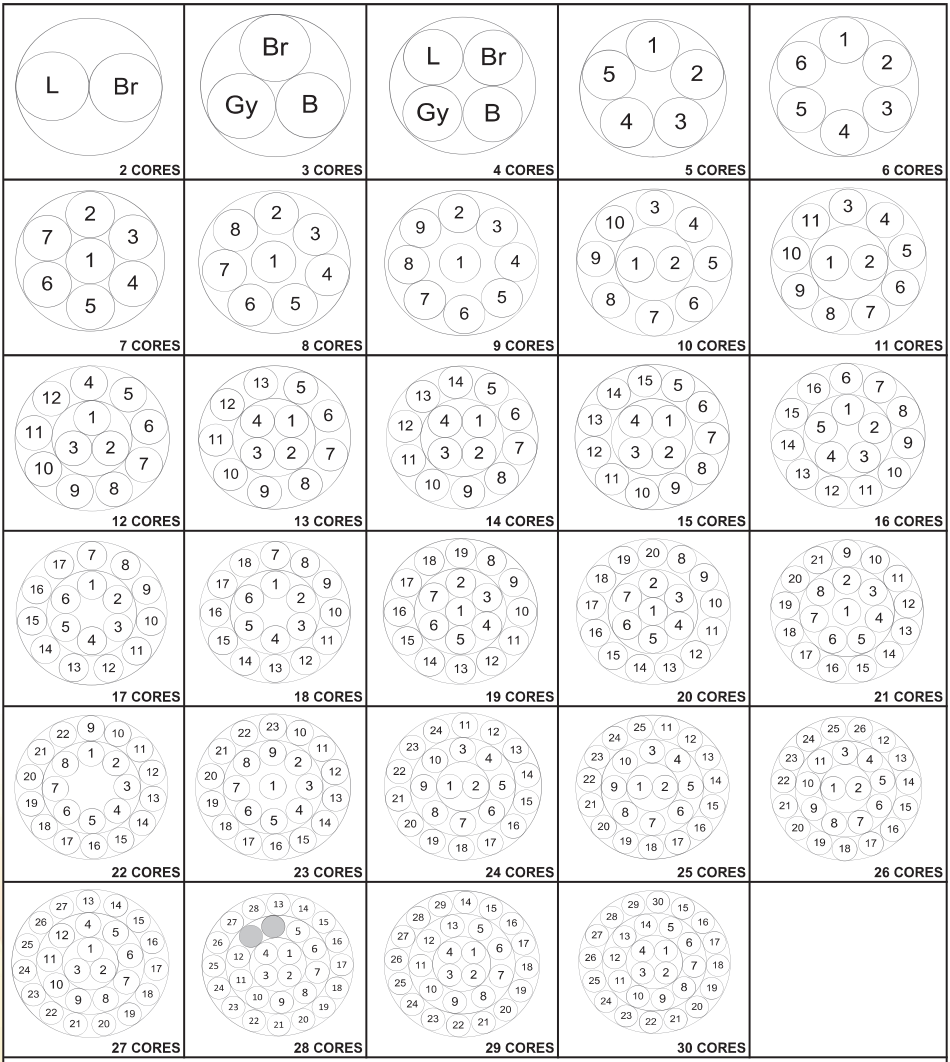
Number of core	Nominal cross sectional area (mm^2)	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Outer Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°c maximum (Ω/km)	Insulation resistance at 20°c minimum (MΩ-km)	Cable weight approx. (kg/km)	Standard Length (m)
21	1.5	Non-Compacted	0.7	1.2	24.0	1.8	28.5	12.1	2,500	1000	300/D
	2.5	Non-Compacted	0.7	1.2	26.0	1.9	30.5	7.41	2,100	1305	300/D
	4	Non-Compacted	0.7	1.2	29.0	2.0	34.0	4.61	1,700	1777	300/D
	6	Non-Compacted	0.7	1.2	32.5	2.1	37.5	3.08	1,450	2235	300/D
22	1.5	Non-Compacted	0.7	1.2	25.0	1.8	29.5	12.1	2,500	1026	300/D
	2.5	Non-Compacted	0.7	1.2	27.5	1.9	32.0	7.41	2,100	1340	300/D
	4	Non-Compacted	0.7	1.2	31.0	2.0	35.5	4.61	1,700	1765	300/D
	6	Non-Compacted	0.7	1.2	34.0	2.1	39.5	3.08	1,450	2321	300/D
23	1.5	Non-Compacted	0.7	1.2	25.0	1.8	29.5	12.1	2,500	1046	300/D
	2.5	Non-Compacted	0.7	1.2	27.5	1.9	32.0	7.41	2,100	1371	300/D
	4	Non-Compacted	0.7	1.2	31.0	2.0	35.5	4.61	1,700	1807	300/D
	6	Non-Compacted	0.7	1.2	34.0	2.1	39.5	3.08	1,450	2377	300/D
24	1.5	Non-Compacted	0.7	1.2	26.5	1.9	31.0	12.1	2,500	1109	300/D
	2.5	Non-Compacted	0.7	1.2	29.0	2.0	33.5	7.41	2,100	1450	300/D
	4	Non-Compacted	0.7	1.2	32.5	2.1	37.5	4.61	1,700	1910	300/D
	6	Non-Compacted	0.7	1.3	36.0	2.2	41.5	3.08	1,450	2506	300/D
25	1.5	Non-Compacted	0.7	1.2	26.5	1.9	31.0	12.1	2,500	1134	300/D
	2.5	Non-Compacted	0.7	1.2	29.0	2.0	33.5	7.41	2,100	1485	300/D
	4	Non-Compacted	0.7	1.2	32.5	2.1	37.5	4.61	1,700	1961	300/D
26	1.5	Non-Compacted	0.7	1.2	26.5	1.9	31.0	12.1	2,500	1159	300/D
	2.5	Non-Compacted	0.7	1.2	29.0	2.0	33.5	7.41	2,100	1522	300/D
	4	Non-Compacted	0.7	1.2	32.5	2.1	37.5	4.61	1,700	2013	300/D
27	1.5	Non-Compacted	0.7	1.2	27.0	1.9	31.5	12.1	2,500	1188	300/D
	2.5	Non-Compacted	0.7	1.2	29.5	2.0	34.5	7.41	2,100	1560	300/D
	4	Non-Compacted	0.7	1.2	33.5	2.1	38.5	4.61	1,700	2066	300/D
28	1.5	Non-Compacted	0.7	1.2	28.0	1.9	33.0	12.1	2,500	1232	300/D
	2.5	Non-Compacted	0.7	1.2	30.5	2.0	35.5	7.41	2,100	1619	300/D
	4	Non-Compacted	0.7	1.2	34.5	2.1	39.5	4.61	1,700	2145	300/D
29	1.5	Non-Compacted	0.7	1.2	28.0	1.9	33.0	12.1	2,500	1258	300/D
	2.5	Non-Compacted	0.7	1.2	30.5	2.0	35.5	7.41	2,100	1655	300/D
	4	Non-Compacted	0.7	1.2	34.5	2.1	39.5	4.61	1,700	2197	300/D
30	1.5	Non-Compacted	0.7	1.2	28.0	1.9	33.0	12.1	2,500	1283	300/D
	2.5	Non-Compacted	0.7	1.2	30.5	2.0	35.5	7.41	2,100	1692	300/D
	4	Non-Compacted	0.7	1.2	34.5	2.1	39.5	4.61	1,700	2249	300/D

D : Packing in drum

FS/FDLH-0.6-1KV-CCE or FS/FDLH-0.6/1KV-CCE-S (4800)

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

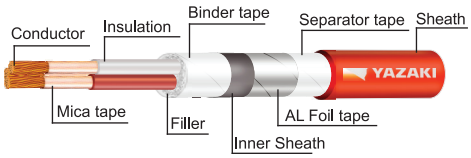
ARRANGEMENT OF CORES



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

FS/FDLH-0.6/1KV-CCE-SLA (4800)

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 : Non-compacted round annealed copper

Fire barrier tape : Mica tape

Insulation : Cross-Linked polyethylene (XLPE)

Core indentification
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 throungout 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 (mm^2)	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (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)	Cable weight approx. (kg/km)	Standard Length (m)
2	1.5	Non-Compacted	0.7	1.2	11.0	1.8	15.0	12.1	2,500	234	300/D
	2.5	Non-Compacted	0.7	1.2	11.5	1.8	16.0	7.41	2,100	273	300/D
3	1.5	Non-Compacted	0.7	1.2	11.5	1.8	16.0	12.1	2,500	263	300/D
	2.5	Non-Compacted	0.7	1.2	12.5	1.8	16.5	7.41	2,100	316	300/D
4	1.5	Non-Compacted	0.7	1.2	12.5	1.8	17.0	12.1	2,500	305	300/D
	2.5	Non-Compacted	0.7	1.2	13.5	1.8	18.0	7.41	2,100	369	300/D
5	1.5	Non-Compacted	0.7	1.2	13.5	1.8	18.0	12.1	2,500	347	300/D
	2.5	Non-Compacted	0.7	1.2	15.0	1.8	19.0	7.41	2,100	428	300/D
6	1.5	Non-Compacted	0.7	1.2	15.0	1.8	19.0	12.1	2,500	394	300/D
	2.5	Non-Compacted	0.7	1.2	16.0	1.8	20.5	7.41	2,100	493	300/D
7	1.5	Non-Compacted	0.7	1.2	15.0	1.8	19.0	12.1	2,500	412	300/D
	2.5	Non-Compacted	0.7	1.2	16.0	1.8	20.5	7.41	2,100	520	300/D
8	1.5	Non-Compacted	0.7	1.2	16.0	1.8	20.5	12.1	2,500	468	300/D
	2.5	Non-Compacted	0.7	1.2	17.5	1.8	21.5	7.41	2,100	586	300/D
9	1.5	Non-Compacted	0.7	1.2	17.5	1.8	21.5	12.1	2,500	517	300/D
	2.5	Non-Compacted	0.7	1.2	19.0	1.8	23.0	7.41	2,100	649	300/D
10	1.5	Non-Compacted	0.7	1.2	18.5	1.8	23.0	12.1	2,500	564	300/D
	2.5	Non-Compacted	0.7	1.2	20.0	1.8	24.5	7.41	2,100	716	300/D

D : Packing in drum

FS/FDLH-0.6/1KV-CCE-SLA (4800)

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

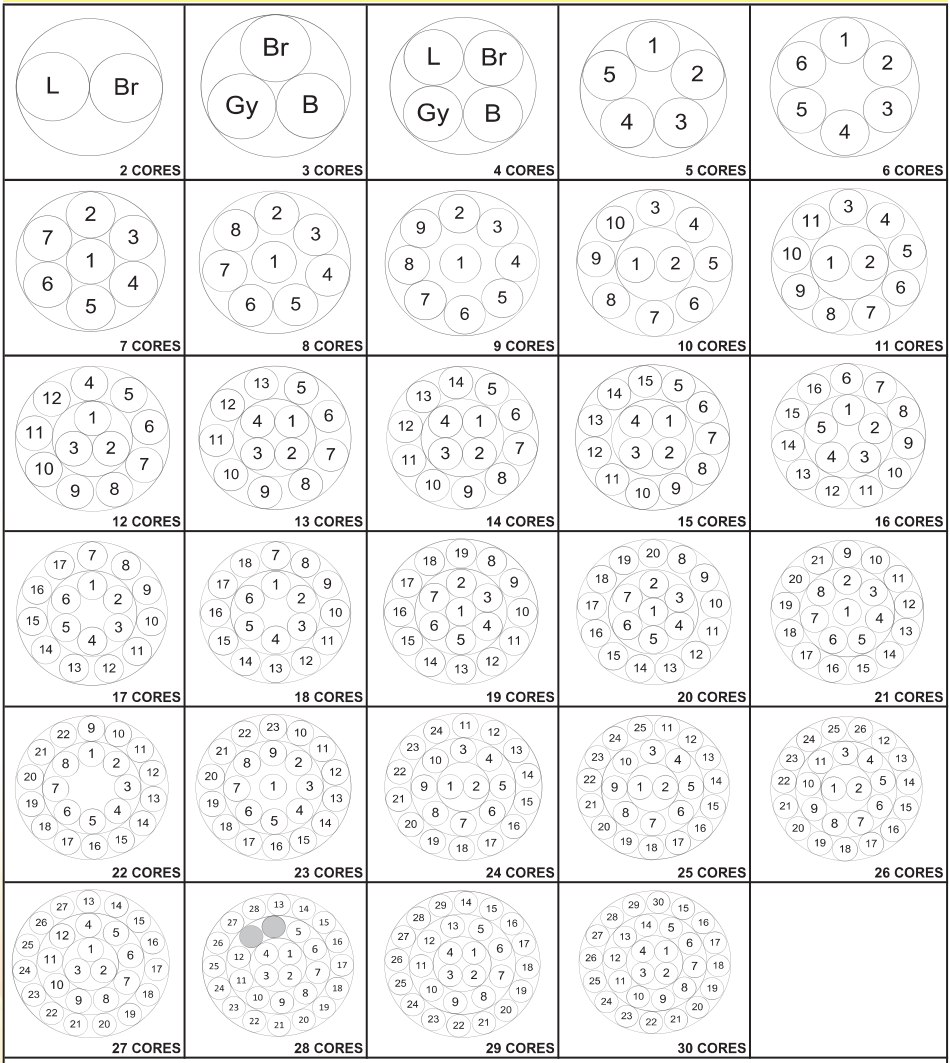
Number of core	Nominal cross sectional area (mm^2)	Conductor type	Insulation thickness nominal (mm)	Inner Sheath thickness nominal (mm)	Dia. of Inner Sheath approx. (mm)	Outer Sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°c maximum (Ω/km)	Insulation resistance at 20°c minimum (MΩ-km)	Cable weight approx. (kg/km)	Standard Length (m)
11	1.5	Non-Compacted	0.7	1.2	18.5	1.8	23.0	12.1	2,500	583	300/D
	2.5	Non-Compacted	0.7	1.2	20.0	1.8	24.5	7.41	2,100	737	300/D
12	1.5	Non-Compacted	0.7	1.2	19.5	1.8	23.5	12.1	2,500	178	300/D
	2.5	Non-Compacted	0.7	1.2	21.0	1.8	25.5	7.41	2,100	197	300/D
13	1.5	Non-Compacted	0.7	1.2	20.5	1.8	24.5	12.1	2,500	186	300/D
	2.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	7.41	2,100	206	300/D
14	1.5	Non-Compacted	0.7	1.2	20.5	1.8	24.5	12.1	2,500	186	300/D
	2.5	Non-Compacted	0.7	1.2	22.0	1.8	26.5	7.41	2,100	866	300/D
15	1.5	Non-Compacted	0.7	1.2	21.0	1.8	25.5	12.1	2,500	722	300/D
	2.5	Non-Compacted	0.7	1.2	23.0	1.8	27.0	7.41	2,100	928	300/D
16	1.5	Non-Compacted	0.7	1.2	21.5	1.8	26.0	12.1	2,500	748	300/D
	2.5	Non-Compacted	0.7	1.2	23.5	1.8	27.5	7.41	2,100	961	300/D
17	1.5	Non-Compacted	0.7	1.2	22.5	1.8	27.0	12.1	2,500	805	300/D
	2.5	Non-Compacted	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1045	300/D
18	1.5	Non-Compacted	0.7	1.2	22.5	1.8	27.0	12.1	2,500	808	300/D
	2.5	Non-Compacted	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1049	300/D
19	1.5	Non-Compacted	0.7	1.2	22.5	1.8	27.0	12.1	2,500	826	300/D
	2.5	Non-Compacted	0.7	1.2	24.5	1.8	29.0	7.41	2,100	1075	300/D
20	1.5	Non-Compacted	0.7	1.2	23.0	1.8	27.5	12.1	2,500	867	300/D
	2.5	Non-Compacted	0.7	1.2	25.5	1.8	29.5	7.41	2,100	1134	300/D
21	1.5	Non-Compacted	0.7	1.2	24.0	1.8	28.0	12.1	2,500	933	300/D
	2.5	Non-Compacted	0.7	1.2	26.0	1.9	30.5	7.41	2,100	1229	300/D
22	1.5	Non-Compacted	0.7	1.2	25.0	1.8	29.5	12.1	2,500	955	300/D
	2.5	Non-Compacted	0.7	1.2	27.5	1.9	32.0	7.41	2,100	1260	300/D
23	1.5	Non-Compacted	0.7	1.2	25.0	1.8	29.5	12.1	2,500	975	300/D
	2.5	Non-Compacted	0.7	1.2	27.5	1.9	32.0	7.41	2,100	1291	300/D
24	1.5	Non-Compacted	0.7	1.2	26.5	1.9	31.0	12.1	2,500	1034	300/D
	2.5	Non-Compacted	0.7	1.2	29.0	2.0	33.5	7.41	2,100	1365	300/D
25	1.5	Non-Compacted	0.7	1.2	26.5	1.9	31.0	12.1	2,500	1059	300/D
	2.5	Non-Compacted	0.7	1.2	29.0	2.0	33.5	7.41	2,100	1401	300/D
26	1.5	Non-Compacted	0.7	1.2	26.5	1.9	31.0	12.1	2,500	1084	300/D
	2.5	Non-Compacted	0.7	1.2	29.0	2.0	33.5	7.41	2,100	1437	300/D
27	1.5	Non-Compacted	0.7	1.2	27.0	1.9	31.5	12.1	2,500	1111	300/D
	2.5	Non-Compacted	0.7	1.2	29.5	2.0	34.5	7.41	2,100	1473	300/D
28	1.5	Non-Compacted	0.7	1.2	28.0	1.9	32.5	12.1	2,500	1183	300/D
	2.5	Non-Compacted	0.7	1.2	30.5	2.0	35.5	7.41	2,100	1569	300/D
29	1.5	Non-Compacted	0.7	1.2	28.0	1.9	32.5	12.1	2,500	1178	300/D
	2.5	Non-Compacted	0.7	1.2	30.5	2.0	35.5	7.41	2,100	1565	300/D
30	1.5	Non-Compacted	0.7	1.2	28.0	1.9	32.5	12.1	2,500	1203	300/D
	2.5	Non-Compacted	0.7	1.2	30.5	2.0	35.5	7.41	2,100	1601	300/D

D : Packing in drum

FS/FDLH-0.6/1KV-CCE-SLA (4800)

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



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 Refer EIT Standard 022001-22

Table 5-8 : Correction factor for a group of circuits, or a group of multi-cores cable

No. of circuits or multi-cores cable	In cable raceway	Single layer on wall or floor
2	0.80	0.85
3	0.70	0.79
4	0.65	0.75
5	0.60	0.73
6	0.57	0.72
7	0.54	0.72
8	0.52	0.71
9	0.50	0.70
10-12	0.45	0.70
13-16	0.41	0.70
17-20	0.38	0.70

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.

Table 5-27: Current rating for copper conductor, XLPE insulated with/without sheathed for U0/U ≤ 0.6/1 kV, conductor temperature 90ºC, ambient temperature 40ºC, installed in raceway in air.

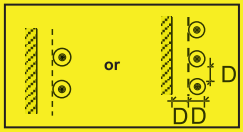
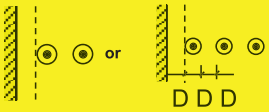
installation	Group 1				Group 2			
No. of loaded Conductor	2		3		2		3	
Conductor Type	Single-core	Multi-cores	Single-core	Multi-cores	Single-core	Multi-cores	Single-core	Multi-cores
Installation Method								
Electrical system	AC or DC		AC		AC or DC		AC	
Cable Code	IEC 60502-1 and special cable such as fire resistant (FRC), low smoke and halogen free (LSHF) etc.							
Size (mm²)	Current rating (A)							
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	-

Remark: *1. For ambient temperature other than 40ºC, correction factor given in Table 5-43 shall be applied.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. For installation more than one circuit in raceway, correction factor given in Table 5-8 shall be applied.

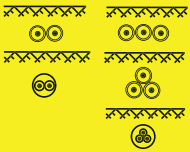
3. The current rating are applicable to DC electrical system with a maximum voltage of 1.5 kV DC.

Table 5-28: Current rating for copper conductor, XLPE insulated with/without sheathed for U0/U ≤ 0.6/1kV, conductor temperature 90°C, ambient temperature 40°C, installed on insulator in air.

Installation Group	Group 4	
Installation Method		
Cable Code	Cable according with IEC 60502-1	
Size (mm²)	Current rating (A)	
4	47	54
6	60	68
10	82	90
16	110	124
25	147	166
35	183	206
50	224	250
70	289	321
95	354	391
120	413	455
150	480	525
185	551	602
240	654	711
300	758	821
400	917	987
500	1,064	1,140

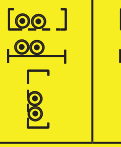
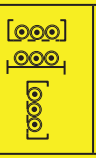
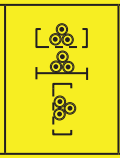
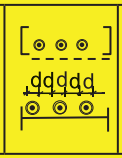
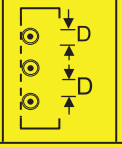
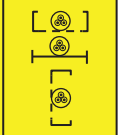
Remark: *1. For ambient temperature other than 40°C, correction factor given in Table 5-43 shall be applied.*

Table 5-29: Current rating for copper conductor, XLPE insulated with sheathed for U0/U ≤ 0.6/1 kV, conductor temperature 90ºC, ambient temperature 30ºC, installed underground conduit or direct burial.

Installation Group	Group 5		Group 6
No. of loaded conductors	2	3	≤3
Conductor Type	Single-core/Multi-cores	Single-core/Multi-cores	Single-core/Multi-cores
Installation Method	 or	 or	 or or
Cable Code	Cable according with IEC 60502-1		
Size (mm²)	Current rating (A)		
1.5	25	22	33
2.5	33	29	43
4	43	38	55
6	54	47	70
10	71	63	92
16	94	83	119
25	124	109	152
35	150	132	184
50	180	159	217
70	223	196	266
95	271	238	318
120	313	275	362
150	355	312	406
185	406	356	459
240	477	418	533
300	543	475	601
400	625	545	684
500	717	623	777

Remark: *1. For ground temperature other than 30ºC, correction factor given in Table 5-44 shall be applied.*
2. For installation more than one circuit, correction factor given in Table 5-45 or 5-46 shall be applied.
3. For installation more than one circuit in raceway, correction factor given in Table 5-8 shall be applied.
4. The installation of the electrical system which is belong to MEA or PEA, Please consider current rating according to MEA or PEA standard except that no current rating is specified.

Table 5-32: Current rating for copper conductor, XLPE insulated with sheathed for U0/U ≤ 0.6/1kV, conductor temperature 90ºC, ambient temperature 40ºC, installed on perforated cable tray or cable ladder without cover

Installation Group	Group 7						
No. of loaded conductors	2		3				
Conductor Type	Single-core	Multi-cores	Single-core				Multi cores
Installation Method							
Electrical system	AC or DC		AC				
Cable Code	Cable according with IEC 60502-1 and special cable such as fire resistant (FRC), low smoke and halogen free (LSHF) etc.						
Size (mm²)	Current rating (A)						
1	-	19	-				16
1.5	-	24	-				21
2.5	-	33	-				29
4	-	45	-				38
6	-	57	-				49
10	-	78	-				68
16	-	105	-				91
25	147	136	128	123	166	147	116
35	182	168	160	154	206	183	144
50	220	205	197	188	250	224	175
70	282	263	254	244	321	289	224
95	343	320	311	298	391	354	271
120	398	374	364	349	455	413	315
150	459	430	422	404	525	480	363
185	523	493	485	464	602	551	415
240	618	583	577	552	711	654	490
300	713	674	670	640	821	758	564
400	855	-	790	749	987	917	-
500	986	-	908	861	1,140	1,064	-

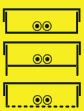
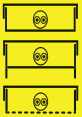
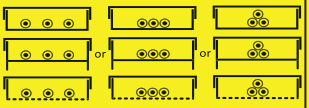
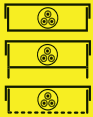
Remark: *1. For ambient temperature other than 40ºC, correction factor given in Table 5-43 shall be applied.*
2. For installation more than one circuit in raceway, correction factor given in Table 5-40 or 5-41 for single core and multi cores cable respectively shall be applied.
3. The current rating are applicable to DC electrical system with a maximum voltage of 1.5 kV DC.

Table 5-32 (a): Current rating for copper conductor, XLPE insulated with sheathed for U0/U ≤ 0.6/1 kV, conductor temperature 90ºC, ambient temperature 40ºC, installed on unperforated cable tray without cover.

Installation Group	Group 7			
No. of loaded conductors	2		3	
Conductor Type	Single-core	Multi-cores	Single-core	Multi-cores
Installation Method				
Electrical system	AC or DC		AC	
Cable Code	Cable according with IEC 60502-1 and special cable such as fire resistant (FRC), low smoke and halogen free (LSHF) etc.			
Size (mm²)	Current rating (A)			
1	-	17	-	15
1.5	-	22	-	20
2.5	-	30	-	27
4	-	41	-	36
6	-	53	-	47
10	-	73	-	65
16	-	97	-	87
25	130	126	118	108
35	160	156	147	134
50	207	190	190	163
70	267	245	244	208
95	323	298	297	253
120	376	348	345	293
150	433	401	397	338
185	496	460	455	386
240	586	545	537	455
300	676	630	620	524
400	790	-	722	-
500	901	-	823	-

Remark: *1. For ambient temperature other than 40ºC, correction factor given in Table 5-43 shall be applied.*
2. For installation more than one circuit, correction factor given in Table 5-40 or 5-41 for single core and multi cores cable respectively shall be applied. .
3. The current rating are applicable to DC electrical system with a maximum voltage of 1.5 kV DC.

Table 5-33: Current rating for copper conductor, XLPE insulated with sheathed for U0/U ≤ 0.6/1 kV, conductor temperature 90ºC, ambient temperature 40ºC, installed on unperforated or perforated cable tray or cable ladder with cover.

Installation Group	Group 7			
No. of loaded conductors	2		3	
Conductor Type	Single-core	Multi-cores	Single-core	Multi-cores
Installation Method				
Electrical system	AC or DC		AC	
Cable Code	IEC 60502-1 and special cable such as fire resistant (FRC), low smoke and halogen free (LSHF) etc.			
Size (mm²)	Current rating (A)			
1	-	15	-	14
1.5	-	20	-	18
2.5	-	27	-	24
4	-	36	-	32
6	-	46	-	40
10	-	63	-	55
16	-	83	-	73
25	121	108	106	96
35	149	133	131	116
50	180	159	159	140
70	230	201	202	177
95	278	241	245	212
120	322	278	284	244
150	358	304	311	273
185	409	349	349	309
240	480	418	410	362
300	549	484	468	414
400	622	-	531	-
500	713	-	606	-

Remark: *1. For ambient temperature other than 40ºC, correction factor given in Table 5-43 shall be applied.*
2. For installation more than one circuit in raceway, correction factor given in Table 5-40 or 5-41 for single core and multi cores cable respectively shall be applied.
3. The current rating are applicable to DC electrical system with a maximum voltage of 1.5 kV DC.

Table 5-40: Correction factor for current rating of single-core cable installed on cable tray for more than one circuit.

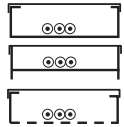
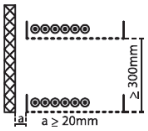
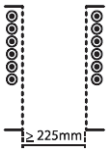
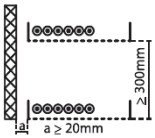
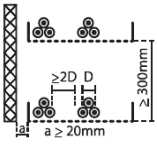
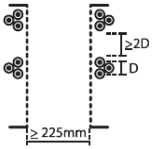
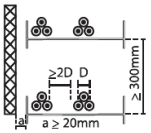
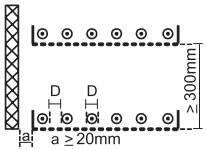
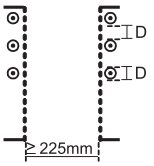
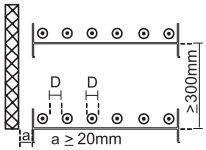
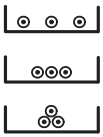
Installation Method		No. of circuits / tray or ladder	Number of circuit per cable tray						Method of wiring
			1	2	3	4	5-6	7-9	
Perforated or unperforated cable tray or cable ladder with cover		1	See Table 5-40(a), Column 2						Flat laying, touching, Trefoil
Perforated cable tray (Note 2)		1	1.00	0.91	0.87	0.82	0.78	0.77	Flat laying, touching
		2	0.96	0.87	0.81	0.78	0.74	0.69	
		3	0.95	0.85	0.78	0.75	0.70	0.63	
Vertical perforated cable tray (Note 3)		1	1.00	0.86	0.80	0.75	0.71	0.70	Flat laying, vertical, touching
		2	0.95	0.84	0.77	0.72	0.67	0.66	
Cable ladder (Note 2)		1	1.00	0.97	0.96	0.94	0.92	-	Flat laying, touching
		2	0.98	0.93	0.89	0.88	0.83	-	
		3	0.97	0.90	0.86	0.83	0.77	-	
Perforated cable tray (Note 2)		1	1.00	0.98	0.96	0.93	0.89	-	Trefil laying, space between group ≥ 2 times of the overall diameter of cable
		2	0.97	0.93	0.89	0.85	0.80		
		3	0.96	0.92	0.86	0.82	0.76	-	
Vertical perforated cable 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	-	
Cable ladder (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	-	

Table 5-40: (Continuous)

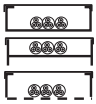
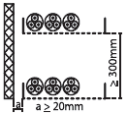
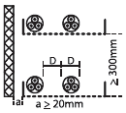
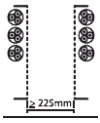
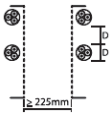
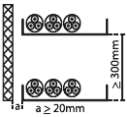
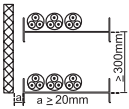
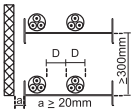
Installation Method		No. of trays or ladders	NO. of circuites / tray or ladder						Method of wiring
			1	2	3	4	5-6	7-9	
Perforated cable tray (Note 2)		1	1.00	0.93	0.90	0.87	0.83	-	Space between cable not less than diameter of cable
		2	0.97	0.89	0.85	0.81	0.76	-	
		3	0.96	0.88	0.82	0.78	0.72	-	
Vertical perforated cable 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	-	
Cable ladder (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	-	
Unperforated cable tray without cover		1	See Table 5-40(a), Column 3						Flat laying, touching

Remark: *1. Correction factors are given for single layer of cable.*
2. Correction factors are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall.
3. Correction factors are given for horizontal spacing between trays of 225 mm with trays mounted back to back.
4. In case of more than one cable tray, correction factors shall be used from the cable tray which has highest number of cable circuits.
5. In case of one cable tray with more than 9 circuits, correction factor for 9 circuits shall be used.

Table 5-40(a): Correction factor for current rating of single-core cable installed on cable tray for more than one circuit.

Column 1	Column 2	Column 3
Group of circuit	Correction factor for cable tray or cable ladder with cover	Correction factor for unperforated cable tray without cover
1	1.0	1.0
2	0.8	0.85
3	0.7	0.79
4	0.65	0.75
5	0.60	0.73
6	0.57	0.72
7	0.54	0.72
8	0.52	0.71
9	0.50	0.70
10-12	0.45	0.70
13-16	0.41	0.70
17-20	0.38	0.70

Table 5-41: Correction factor for current rating of multi-cores cable installed on cable tray for more than one circuit.

Installation Method		No. of trays or ladders	No. of circuits / tray or ladder					
			1	2	3	4	5-6	7-9
Perforated or Unperforated cable tray or cable ladder with cover		1	See Table 5-40(a), Column 2					
Perforated cable 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	0.65
		4-6	1.00	0.84	0.77	073	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		-
Vertical perforated cable 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 cable 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
Cable ladder (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	-

Remark :

1. *Correction factors are given for single layer of cable.*
2. *Correction factors are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall.*
3. *Correction factors are given for horizontal spacing between trays of 225 mm with trays mounted back to back.*
4. *In case of more than one cable tray, correction factors shall be used from the cable tray which has highest number of cable circuits.*
5. *In In case of one cable tray with more than 9 circuits, correction factor for 9 circuits shall be used.*

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 (°C)	Insulation				
	PVC		XLPE or EPR	MI	
	70°C	90°C	90°C	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	1.00	1.05	1.09	1.04
36-40	1.00	1.00	1.00	1.00	1.00
41-45	0.91	1.00	0.96	0.91	0.96
46-50	0.82	1.00	0.90	0.79	0.91
51-55	0.70	0.96	0.84	0.67	0.87
56-60	0.57	0.83	0.78	0.53	0.82
61-65	-	0.67	0.71	-	0.76
66-70	-	0.47	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 celcius)	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

Table 5-45: Correction factor for more than one circuit, single-core or multi-cores cable U0/U ≤ 0.6/1kV, Cables laid directly in ground

No. of circuit	Cable-to-cable clearance (mm)				
	Touching	One cable diameter	125	250	500
2	0.75	0.80	0.85	0.90	0.90
3	0.65	0.70	0.75	0.80	0.85
4	0.60	0.60	0.70	0.75	0.80
5	0.55	0.55	0.65	0.70	0.80
6	0.50	0.55	0.60	0.70	0.80

Table 5-46: Correction factor for more than one circuit, single-core or multi-cores cable U0/U ≤ 0.6/1kV, Cables in duct in ground

No. of circuit	Duct-to-duct clearance (mm.)			
	Touching	250	500	1,000
2	0.85	0.90	0.95	0.95
3	0.75	0.85	0.90	0.95
4	0.70	0.80	0.85	0.90
5	0.65	0.80	0.85	0.90
6	0.60	0.80	0.80	0.90

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

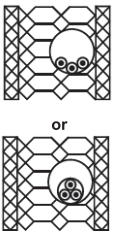
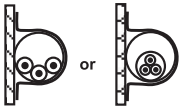
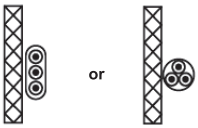
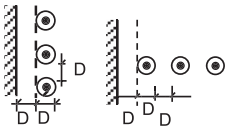
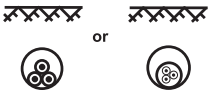
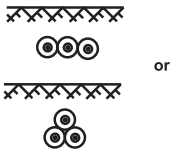
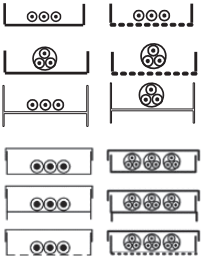
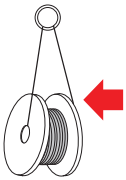
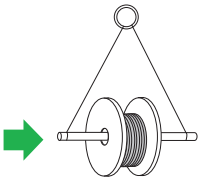
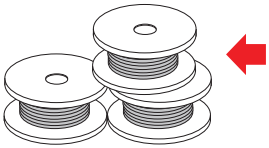
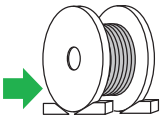
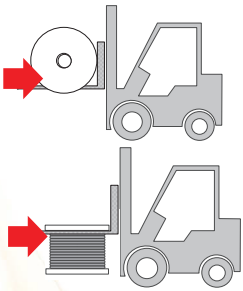
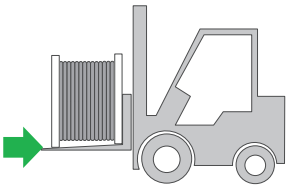
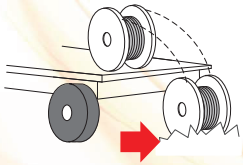
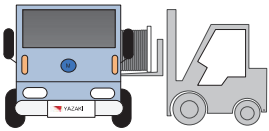
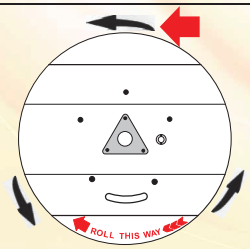
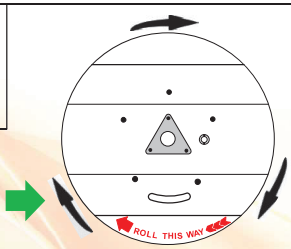
Methods of Wiring	Methods of Installation	Group of Installation	Note
Single-core or multi-cores insulated cable with/ without sheathed installed in metallic or non-metallic raceway in a thermal insulated wall or ceiling.		Group 1	Calling or thermal insulated wall has a thermal conductant not less than 10 W/m²●K
Single-core or multi-cores insulated cable with/ without sheathed installed in metallic or non-metallic raceway on wall or ceiling in concrete wall.		Group 2	Ceiling or concrete wall have thermal resistivity not more than 2 K●m/W
Single-core or multi-cores insulated cable with/ without sheathed on wall and no enclosre.		Group 3	-
Single-core or multi-cores insulated cable with/ without sheathed installed in air on insulators with space.		Group 4	Spacing between cable and cable, wall and cable not less than diameter of cable.
Single-core or multi-cores insulated cable with/without sheathed installed underground in metallic or non-metallic conduit.		Group 5	-
Single-core or multi-cores insulated cable with/without sheathed installed directly underground.		Group 6	-

Table 5-47: (Continuous)

Methods of Wiring	Methods of Installation	Group of Installation	Note
Single-core or multi-cores insulated cable with sheathed installed on perforated or unperforated cable trays or cable ladder.		Group 7	Perforated tray shall have the perforation of not less than 30% of the total surface area of the tray.

Note (Table 5-47)
If no confirmation that thermal conductant not less than 10 $W/m^2 \cdot K$, consider that install in conduit in ceiling or thermal insulated wall shall be apply current carrying capacities in group 1.

วิธีการจัดเก็บและเคลื่อนย้ายสายไฟฟ้าที่บรรจุในล้อไม้

	คำอธิบาย	
	**ห้าม** ร้อยสลิง/โซ่ ร้อยผ่านรูแกนล้อโดยตรง เพราะอาจทำให้ล้อไม้เสียหายได้ สามารถใช้ Hoisted ยกได้โดยต้องใส่แกนเหล็กสอดที่แกนล้อไม้เพื่อป้องกันความเสียหาย	
	**ห้าม** วางล้อไม้ซ้อนกัน และไม่ควรวางล้อไม้ในแนวนอน เพราะอาจเกิดความเสียหายได้จากน้ำหนักและการยกได้ วางล้อไม้ในแนวตั้ง และหาวัสดุที่แข็งแรงมาทำการหนุนล้อไม้เพื่อป้องกันการกลิ้ง	
	**ห้าม** ยกโดยสัมผัสสายไฟโดยตรง หรือยกปีกล้อข้างใดข้างหนึ่ง เพราะอาจทำให้เกิดความเสียหายต่อล้อไม้และสายไฟฟ้า ยกโดยให้ปีกล้อไม้ทั้งสองข้างสัมผัสกับงาของ Fork Lift เท่ากันทั้ง 2 ด้าน โดยมีความมั่นคงในการยกและเคลื่อนย้าย	
	**ห้าม** กลิ้งล้อไม้ลงจากรถขนส่งโดยตรง เพราะอาจทำให้ล้อไม้และสายไฟฟ้าได้รับความเสียหาย ทำการยกล้อไม้บรรจุสายไฟฟ้าลงโดยการใช้ Fork Lift , Hoist หรือ Hydraulic gate	
	**ห้าม** กลิ้งล้อไม้ย้อนทิศทางของลูกศร เพราะอาจทำให้สายไฟฟ้าในล้อเกิดการคลายตัว ให้กลิ้งล้อไม้ตามทิศทางของลูกศร	

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