



## FIRE RESISTANT & FLAME RETARDANT CABLES



เฟลปส์ ดอดจ์ มาตรฐานความปลอดภัยระดับโลก



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## A World Leader in Wire and Cable Technology

Phelps Dodge International (Thailand) Limited (PDITL) was established in 1968 as a joint-venture between an existing Thai firm and Phelps Dodge Corporation. We have been a pioneer in the local industry and were the first company to introduce the majority of new processes, products and technology related to wire and cable manufacturing.

PDITL is the only supplier in Thailand with complete in-house facilities for testing power cable up to 400 kV. PDITL has got its certification type test from International Independent Laboratories such as KEMA, Cable Technology Lab, etc. for LSHF cable, Fire resistant cable, Medium voltage, High voltage and Extra high voltage XLPE cables up to 245 kV cables.

PDITL manufactures world-class quality wire and cable, not only for the local market but also for international markets, complying with strict international standards. It is proud of its customer services and long term relationship.

PDITL has a team of over 700 employees, which are most important assets. We promote safety, health and environmental protection both within the company and in the community where we operate.

## Production Facilities

**State-of-the-art manufacturing facilities:**

**Bangplee Plant** is one of the most modern wire and cable plants in Southeast Asia with world-class manufacturing capabilities. Built and specially designed in response to the increase in demand for wire and cable products, Bangplee plant incorporates the latest technology and highest quality control standards throughout the production process. At present, the complex features

**A Vertical Continuous Vulcanization (VCV) Tower** – the first vertical cross-link high voltage insulating unit in Southeast Asia and one of very few of its kind in the world, another catenary CV lines and a modern high voltage testing laboratory.

Aside from producing Medium, High, and Extra high voltage cables, the Bangplee facility also manufactures Low voltage power cables, Internal and External telecommunications cables, and Overhead line conductors.

**Rayong Plant** is specialized in automated, high-volume building wire production and capable of consolidating all PDITL's building wire production activities into one single plant. The facility in Rayong province is equipped with state-of-the-art technology and equipment with capacity to serve as manufacturing base for all kinds of low voltage power cables and industrial cables.



สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม  
กระทรวงอุตสาหกรรม

รางวัลผู้รักษามาตรฐานดีเด่น  
จากกระทรวงอุตสาหกรรม  
และ สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม

The Prime Minister's Industry Award  
From Ministry of Industry Thailand  
and Thai Industrial Standards Institute

International Standard



KEMA



IS 17025  
ACCREDITED LABORATORY

VCV Tower  
(The highest cable production  
line in Asia-Pacific)

## World-class and finest wire and cable products

- Bare copper conductor
- Low voltage power cable (XLPE, PVC, PE, EPR insulation)
- Control cable and Instrument cable
- Lead sheathed cable
- Fire resistant and LSHF cable
- Flame retardant and LSHF cable
- Medium voltage power cable
- High voltage power cable (69 kV, 115 kV XLPE cable)
- Extra high voltage power cable (230 kV XLPE cable)
- All aluminum conductor (AAC)
- Aluminum conductor steel reinforced (ACSR)
- Aluminum alloy conductor (AAAC)
- Weather Proof Cable (WPC)
- Service entrance cables (SEC)
- Service drop cables (SDC)
- Spaced aerial cables (SAC)



## Trusted Quality

- One and only in SEA and Highest VCV production line in Asia-Pacific



- With VCV technology, conductor is centered for the highest level of safety
- Conductor sizes up to 2500 sq.mm. with up to 5 segments
- Super or Ultra clean XLPE compound
- Clean Room Compound Loading with technology of gravity feeding
- Triple Cross-Head Extrusion : to get rid of contaminations from environment

- Premium Raw Materials

99.99% copper cathode (LME Grade A)



- **Our Copper Cathode**  
PDITL's products produce from 99.99% copper cathode (LME Grade A)
- **Our In-house Copper Melting Process**  
Closed-copper Melting System which reduce Oxygen  $\leq 5$  ppm
- **Our Copper Rod**  
Copper Conductivity > 101% IACS

- International Standard Testing Lab

- Complete in-house facilities for testing power cable up to 400 kV
- In-house facilities for testing electrical cable under fire conditions



SAFETY FIRST +ปลอดภัย



## REFERENCE STANDARD

	Publications	Description	Equivalent Standard
Cable construction	IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV ( $U_m = 1.2$ kV) up to 30 kV ( $U_m = 36$ kV) - Part 1: Cables for rated voltages of 1 kV ( $U_m = 1.2$ kV) and 3 kV ( $U_m = 3.6$ kV)	
	IEC 60228	Conductors of insulated cables	BS EN 60228 (replaced BS 6360)
	BS EN 50525-3-41	Electric cables. Low voltage energy cables of rated voltages up to and including 450/750 V ( $U_0/U$ ). Cables with special fire performance. Single core non-sheathed cables with halogen-free cross-linked insulation and low emission of smoke	
Fire resistant test (Circuit integrity)	IEC 60331	Tests for electric cables under fire conditions - Circuit integrity	
	BS 6387	Test method for resistance to fire of cables required to maintain circuit integrity under fire conditions	
Flame retardant test	IEC 60332-1	Tests on electric and optical fibre cables under fire conditions - Part 1 : Test for vertical flame propagation for a single insulated wire or cable	BS EN 60332-1 (replaced BS EN 50265, BS 4066 Part1)
	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 EN 60332-3 (replaced BS EN 50266, BS 4066 Part3)
Acid gas emission test	IEC 60754-1	Test on gases evolved during combustion of materials from cables - Part 1 : Determination of the halogen acid gas content	BS EN 60754-1 (replaced BS EN 50267-2-1, BS 6425-1)
	IEC 60754-2	Test on gases evolved during combustion of materials from cables - Part 2 : Determination of acidity (by pH measurement) and conductivity	BS EN 60754-2 (replaced BS EN 50267-2-2, BS 6425-2)
Smoke density test	IEC 61034	Measurement of smoke density of cables burning under defined conditions	BS EN 61034 (replaced BS EN 50268, BS 7622)

## LOW SMOKE HALOGEN FREE (LSHF) FIRE RESISTANT CABLES

VOTAGE RATING ( $U_0/U$ ) : 450/750V or 600/1000V

STANDARD COMPLIED :

CABLE CONSTRUCTION	FIRE RESISTANT TEST	FLAME RETARDANT TESTS	ACID GAS EMISSION TEST	SMOKE DENSITY TEST
- IEC 60502-1 - BS EN 50525-3-41 (replaced BS 7211 )	- BS 6387 - IEC 60331	- IEC 60332-1 - BS EN 60332-1 (replaced BS EN 50265, BS 4066 Part 1) - IEC 60332-3 - BS EN 60332-3 (replaced BS EN 50266, BS 4066 Part 3)	- IEC 60754 - BS EN 60754 (replaced BS EN 50267, BS 6425)	- IEC 61034 - BS EN 61034 (replaced BS EN 50268 BS 7622)

COLOUR OF IDENTIFICATION: INSULATION:

1 C : NATURAL. (ORANGE FOR NON-SHEATHED)

2 C : BROWN, LIGHT BLUE

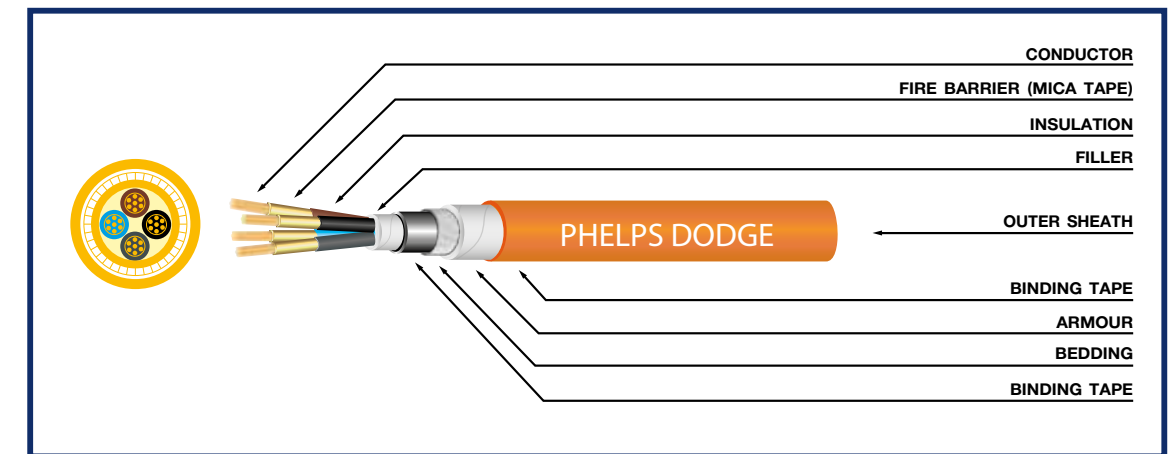
3 C : BROWN, BLACK, GREY

4 C : BROWN, BLACK, GREY, LIGHT BLUE

GROUND CORE : GREEN/YELLOW

OVER SHEATH : ORANGE

## CONSTRUCTION



- |                                   |   |  |
|-----------------------------------|---|--|
| 1. Conductors                     | : | Plain annealed stranded copper conductor.                      |
| 2. Fire barrier                   | : | Mineral ceramic (Mica) fire resistant tape.                    |
| 3. Insulation                     | : | Cross-linked PE or LSHF compound                               |
| 4. Filler (where applicable)      | : | LSHF or Polypropylene yarn.                                    |
| 5. Binder Tape (where applicable) | : | Polyester (Mylar) tape or Polypropylene tape or Spunbond tape. |
| 6. Bedding (for armoured cable)   | : | LSHF compound.   |
| 7. Armouring (for armoured cable) | : | Aluminium wires or Galvanized steel wires.                     |
| 8. Oversheath                     | : | LSHF compound.   |

### IEC 60332-1 : VERTICAL FLAME PROPAGATION FOR A SINGLE INSULATED WIRE OR CABLE

The standard specified test method for resistance to vertical flame propagation for a single insulate wire or cable.

A single insulated wire or cable is secured to supports vertically then flame is applied on the wire or cable for a specified duration. The cable sample is deemed to pass the test if the distance between the lower edge of the top support and the onset of charring is greater than 50mm. In addition, a failure shall be recorded if burning extends downward to a point greater than 540mm from the lower edge of the top support.

### IEC 60332-3:TEST FOR VERTICAL FLAME SPREAD OF VERTICALLY-MOUNTED BUNCHED WIRES OR CABLES

This test defines the ability of cables to limit vertical flame spread along bunched cable installed vertically on ladder. There are 4 general categories of tests distinguished by different test duration, volume of non-metallic materials in the cables and the method of sample mounting for the test as shown 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.

The cable samples of minimum 3.5 m in length are mounted vertically on the ladder installed in a test chamber. Number of test samples are determined by volume of non-metallic materials per 1 metre of sample to achieve the specified values for each testing category. With a constant forced air flow through the test chamber, ribbon gas burner apply flame on the test samples for a specified flame application times, after which it shall be extinguished. After cable burning or glowing has ceased or been extinguished, the charring should not reached 2.5 m height above the bottom edge of the burner.



### IEC 60331-21 TESTS FOR ELECTRIC CABLE UNDER FIRE CONDITIONS-CIRCUIT INTERGRITY

A cable sample is held horizontally by damps and supported rings above a gas burner and connected with fuse or circuit-breaker to an electrical supply and lamp, as visual Indicator, at its rated voltage. Fire is applied to the sample for a period of 90 minutes at temperature between 750°C to 800°C. After the fire is extinguished, The sample is remain energised for a further 15 minutes, The sample test, if no fuse fails or circuit-breaker is interrupted and the lamp is not extinguished.



### IEC 60754-1: TEST ON GASES EVOLVED DURING COMBUSTION OF MATERIALS FROM CABLES: DETERMINATION OF THE HALOGEN ACID GAS CONTENT

This test specifies test method for detemination of halogen acid gas evolved during combustion of compounds taken from cable constructions. The amount of halogen acid expressed as milligrams of hydrochloric acid per gram of sample taken shall be not more than 0.5%

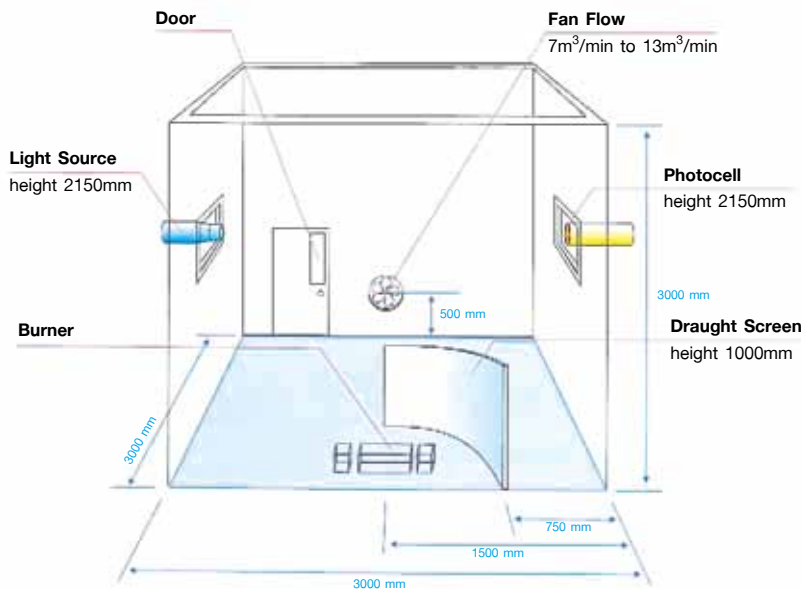
### IEC 60754-2: TEST ON GASES EVOLVED DURING COMBUSTION OF MATERIALS FROM CABLES: DETERMINATION OF ACIDITY (BY PH MEASUREMENT) AND CONDUCTIVITY

This test specifies a method for the determintion of the degree of acidity of gases evolved during combustion of cables by measuring pH and conductivity. The performance requirements of this standard state the weighted pH value should not be less than 4.3 when related to 1 litre of water and the weighted value of conductivity should not exceed 10µS/mm.



### IEC 61034 : SMOKE DENSITY TEST

Smoke density test or the"3 metre cube test" is performed in a chamber of 3m x 3m x 3m. The test is performed by burning cable sample in the chamber and recording transmittance of a light beam running from one side of the chamber to a photo cell on the other side, thus monitoring the build up of smoke inside the chamber. The minimum percentage of light transmittance is used to determine if the cable has passed or failed the test. A minimum light transmittance of 60% is applied in order to classify a cable as low smoke.





# BS 6387: PERFORMANCE REQUIREMENTS FOR CABLES REQUIRED TO MAINTAIN CIRCUIT INTERGRITY UNDER FIRE CONDITIONS (FIRE ALONE, FIRE WITH WATER AND FIRE WITH MECHANICAL SHOCK TEST)

This test evaluates fire resistant performance of cables by determining capabillity of maintaining circuit integrity under 3 different simulated fire conditions. The tested cable is required to pass 3 different tests categorized by letter symbol CWZ which represents

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

The cable samples are placed above a gas burner and connected with fuse or circuit-breaker to an electrical supply and lamp, as a visual indicator, at their rated voltage, Fire is applied to the samples at a specified temperatures and test durations.

The samples shall have capability to maintain circuit integrity whithout short circuit through out the test period. The test

temperatures and durations of the tests in accordance with BS 6387 are as below

RESISTANCE TO FIRE ALONE	Symbol
950 °C for 3 hours	C



RESISTANCE TO FIRE WITH WATER	Symbol
650 °C for 15 minutes then 650 °C with water spray for 15 minutes.	W



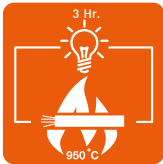
RESISTANCE TO FIRE WITH MECHANICAL SHOCK	Symbol
950 °C for 15 minutes with every 30 sec. mechanical shock	Z



## Products Certificate



## Cable Characteristics



FIRE RESISTANCE  
IEC 60331-21  
BS 6387



FLAME RETARDANT  
IEC 60332-3



LOW SMOKE  
EMISSION  
IEC 61034-2



HALOGEN FREE  
(No acid gas emission)  
IEC 60754-1  
IEC 60754-2













## Products certified by



TÜV SÜD PSB



# CONTENT

Page No.	Cable Type	Standard	Description	Fire Performance			
				Fire Resistance	Flame Retardant	Low Smoke	Halogen Free
	Reference Standard : International Electrotechnical Commission (IEC) Standard Maximum Conductor Temperature 90C						
1		IEC 60502-1	0.6/1 (1.2) kV Fire Resistant LSHF Single-core Cables (Copper conductor with fire barrier, XLPE insulated and LSHF sheathed cables)	BS 6387 Cat CWZ IEC 60331-21	IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
2-4		IEC 60502-1	0.6/1 (1.2) kV Fire Resistant LSHF Multi-core Cables (Copper conductor with fire barrier, XLPE insulated and LSHF sheathed cables)	BS 6387 Cat CWZ IEC 60331-21	IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
5		IEC 60502-1	0.6/1 (1.2) kV Fire Resistant LSHF Single-core Cables with Armour (Copper conductor with fire barrier, XLPE insulated, Aluminium Wire Armoured and LSHF sheathed cables)	BS 6387 Cat CWZ IEC 60331-21	IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-2 IEC 60754-2
6-8		IEC 60502-1	0.6/1 (1.2) kV Fire Resistant LSHF Multi-core Cables with Armour (Copper conductor with fire barrier, XLPE insulated, Steel Wire Armoured and LSHF sheathed cables)	BS 6387 Cat CWZ IEC 60331-21	IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
9-14		IEC 60502-1	0.6/1 (1.2) kV Fire Resistant LSHF Control Cables with Shield (Copper conductor with fire barrier, XLPE insulated, Copper Tape Shielded and LSHF sheathed cables)	BS 6387 Cat CWZ IEC 60331-21	IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
15		IEC 60502-1	0.6/1 (1.2) kV Flame Retardant LSHF Single-core Cables (Copper conductor, XLPE insulated and LSHF sheathed cables)		IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
16-18		IEC 60502-1	0.6/1 (1.2) kV Flame Retardant LSHF Multi-core Cables (Copper conductor, XLPE insulated and LSHF sheathed cables)		IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
19		IEC 60502-1	0.6/1 (1.2) kV Flame Retardant LSHF Single-core Cables with Armour (Copper conductor, XLPE insulated, Aluminium Wire Armoured and LSHF sheathed cables)		IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
20-22		IEC 60502-1	0.6/1 (1.2) kV Flame Retardant LSHF Multi-core Cables with Armour (Copper conductor, XLPE insulated, Steel Wire Armoured and LSHF sheathed cables)		IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
23		IEC 60502-1	0.6/1 (1.2) kV Flame Retardant LSHF Control Cables with Shield (Copper conductor, XLPE insulated, Copper tape Shielded and LSHF sheathed cables)		IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
	Reference Standard : British Standard / European Standard (BS EN) Maximum Conductor Temperature 90C						
29		BS EN 50525-3-41	450/750V Fire Resistant LSHF Non-sheathed Single-core Cables (Copper conductor with fire barrier, LSHF-XLPE insulated cables)	BS 6387 Cat CWZ IEC 60331-21	IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2
30		BS EN 50525-3-41	450/750V Flame Retardant LSHF Non-sheathed Single-core Cables (Copper conductor, LSHF-XLPE insulated cables)		IEC 60332-3-22 Cat A	IEC 61034	IEC 60754-1 IEC 60754-2

## FIRE RESISTANT & FLAME RETARDANT CABLES



### STANDARDS ACHIEVED :

#### Construction

- IEC 60228, IEC 60502-1
- Circuit integrity
- BS 6387 Category CWZ
- IEC 60331-21
- Flame propagation
- IEC 60332-1
- IEC 60332-3-22 (Category A)
- Acid gas emission
- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

#### APPLICATION :

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire

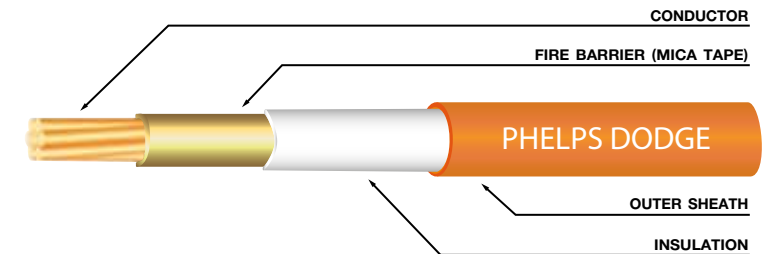
#### CLASSIFICATION :

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

#### VOLTAGE TEST :

3.5 kVAc or 8.4 kVdc

## 0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE SINGLE CORE CABLES



### CONSTRUCTION :

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Fire Barrier : Fire resistant tape (Mica).
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Natural Colour.
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Orange Colour. Other colours to special order.



SIZE  Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation  (mm)	Nominal Thickness of Outer Sheath  (mm)	Overall Diameter (Approx.)  (mm)	Cable Weight (Approx.)  (kg / km)	Maximum Conductor Resistance at 20 °C  (Ω / km)	Minimum Insulation Resistance at 20 °C  (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient)		Standard Packing  (m/R)		
	Cross Sectional Area  (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.)  (mm)											
													Flat	Trefoil
1 x 1.5	1.5	7	1.6	0.7	1.4	9	79	12.1	734	27	23	500		
1 x 2.5	2.5	7	2.0	0.7	1.4	9	93	7.41	643	36	31	500		
1 x 4	4	7	2.5	0.7	1.4	9	99	4.61	558	47	40	500		
1 x 6	6	7	3.0	0.7	1.4	10	122	3.08	490	60	51	500		
1 x 10	10	6	3.7	0.7	1.4	10	165	1.83	428	81	69	500		
1 x 16	16	6	4.7	0.7	1.4	11	226	1.15	363	108	92	500		
1 x 25	25	6	5.9	0.9	1.4	13	329	0.727	379	146	124	500		
1 x 35	35	6	6.9	0.9	1.4	14	425	0.524	332	180	153	500		
1 x 50	50	6	8.1	1.0	1.4	15	549	0.387	321	220	187	500		
1 x 70	70	12	9.8	1.1	1.4	17	755	0.268	300	279	237	500		
1 x 95	95	15	11.3	1.1	1.5	19	1,008	0.193	265	347	294	500		
1 x 120	120	18	12.8	1.2	1.5	20	1,244	0.153	259	405	343	500		
1 x 150	150	18	14.3	1.4	1.6	23	1,525	0.124	270	469	397	500		
1 x 185	185	30	15.7	1.6	1.6	24	1,881	0.0991	282	544	461	500		
1 x 240	240	34	18.4	1.7	1.7	28	2,439	0.0754	260	655	552	500		
1 x 300	300	34	20.3	1.8	1.8	30	3,018	0.0601	251	760	638	500		
1 x 400	400	53	23.0	2.0	1.9	34	3,903	0.0470	247	890	744	500		
1 x 500	500	53	26.1	2.2	2.0	37	4,957	0.0366	241	1046	866	500		
1 x 630	630	53	30.0	2.4	2.2	42	6,387	0.0283	231	1,233	1,007	300		



**STANDARDS ACHIEVED :**

- Construction**
- IEC 60228, IEC 60502-1
- Circuit integrity
- BS 6387 Category CWZ
  - IEC 60331-21
- Flame propagation
- IEC 60332-1
  - IEC 60332-3-22 (Category A)
- Acid gas emission
- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire

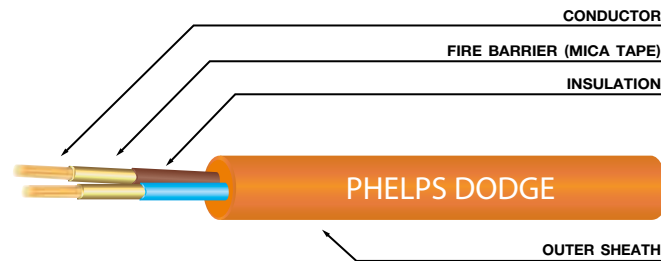
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE TWO CORES CABLES**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Fire Barrier : Fire resistant tape (Mica).
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Light Blue Colour.
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Orange Colour. Other colours to special order.



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
2 x 1.5	1.5	7	1.6	0.7	1.8	14	237	12.1	734	20	500
2 x 2.5	2.5	7	2.0	0.7	1.8	15	279	7.41	643	27	500
2 x 4	4	7	2.5	0.7	1.8	15	280	4.61	558	36	500
2 x 6	6	7	3.0	0.7	1.8	16	345	3.08	490	45	500
2 x 10	10	6	3.7	0.7	1.8	17	455	1.83	428	61	500
2 x 16	16	6	4.7	0.7	1.8	19	617	1.15	363	81	500
2 x 25	25	6	5.9	0.9	1.8	22	901	0.727	379	110	500
2 x 35	35	6	6.9	0.9	1.8	24	1,153	0.524	332	136	500
2 x 50	50	6	8.1	1.0	1.8	28	1,494	0.387	321	166	500
2 x 70	70	12	9.8	1.1	1.8	31	2,038	0.268	300	211	500
2 x 95	95	15	11.3	1.1	1.9	34	2,666	0.193	265	259	500
2 x 120	120	18	12.8	1.2	2.0	38	3,308	0.153	259	302	500
2 x 150	150	18	14.3	1.4	2.2	42	4,096	0.124	270	350	500
2 x 185	185	30	15.7	1.6	2.3	46	5,040	0.0991	282	403	500
2 x 240	240	34	18.4	1.7	2.5	52	6,553	0.0754	260	481	500
2 x 300	300	34	20.3	1.8	2.6	57	8,019	0.0601	251	550	300
2 x 400	400	53	23.0	2.0	2.9	63	10,357	0.0470	247	640	300

**STANDARDS ACHIEVED :**

- Construction**
- IEC 60228, IEC 60502-1
- Circuit integrity
- BS 6387 Category CWZ
  - IEC 60331-21
- Flame propagation
- IEC 60332-1
  - IEC 60332-3-22 (Category A)
- Acid gas emission
- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire

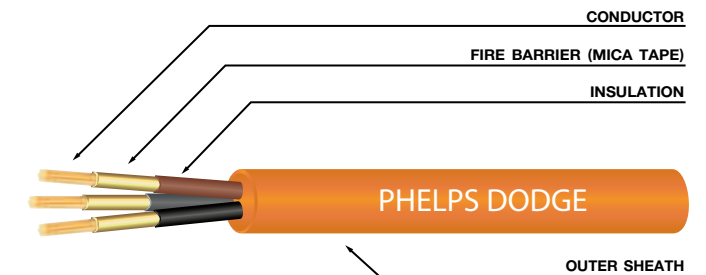
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE THREE CORES CABLES**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Fire Barrier : Fire resistant tape (Mica).
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey Colour.
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Orange Colour. Other colours to special order.



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
3 x 1.5	1.5	7	1.6	0.7	1.8	15	273	12.1	734	22	500
3 x 2.5	2.5	7	2.0	0.7	1.8	16	326	7.41	643	30	500
3 x 4	4	7	2.5	0.7	1.8	16	335	4.61	558	39	500
3 x 6	6	7	3.0	0.7	1.8	16	419	3.08	490	50	500
3 x 10	10	6	3.7	0.7	1.8	18	569	1.83	428	67	500
3 x 16	16	6	4.7	0.7	1.8	20	788	1.15	363	89	500
3 x 25	25	6	5.9	0.9	1.8	23	1,165	0.727	379	120	500
3 x 35	35	6	6.9	0.9	1.8	26	1,506	0.524	332	147	500
3 x 50	50	6	8.1	1.0	1.8	29	1,966	0.387	321	179	500
3 x 70	70	12	9.8	1.1	1.9	33	2,723	0.268	300	224	500
3 x 95	95	15	11.3	1.1	2.0	37	3,591	0.193	265	277	500
3 x 120	120	18	12.8	1.2	2.1	41	4,464	0.153	259	323	500
3 x 150	150	18	14.3	1.4	2.3	45	5,517	0.124	270	368	500
3 x 185	185	30	15.7	1.6	2.4	49	6,812	0.0991	282	427	500
3 x 240	240	34	18.4	1.7	2.6	56	8,862	0.0754	260	504	300
3 x 300	300	34	20.3	1.8	2.7	61	10,885	0.0601	251	578	300
3 x 400	400	53	23.0	2.0	3.0	68	14,088	0.0470	247	672	200



**STANDARDS ACHIEVED :**

**Construction**  
- IEC 60228, IEC 60502-1  
Circuit integrity  
- BS 6387 Category CWZ  
- IEC 60331-21  
Flame propagation  
- IEC 60332-1  
- IEC 60332-3-22 (Category A)  
Acid gas emission  
- IEC 60754-1  
pH and conductivity  
- IEC 60754-2  
Smoke emission  
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire

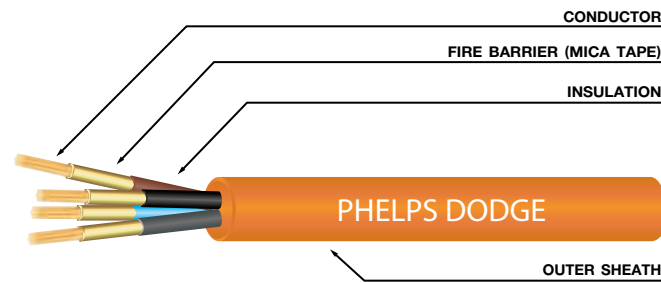
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVAc or 8.4 kVdc

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE  
FOUR CORES CABLES**



**CONSTRUCTION :**

**Conductor** : Round concentric lay stranded or Compact round stranded copper  
**Fire Barrier** : Fire resistant tape (Mica).  
**Insulation** : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey, Light Blue Colour  
**Outer Sheath** : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Orange Colour. Other colours to special order.



FIRE RESISTANCE  
IEC 60331-21  
BS 6387

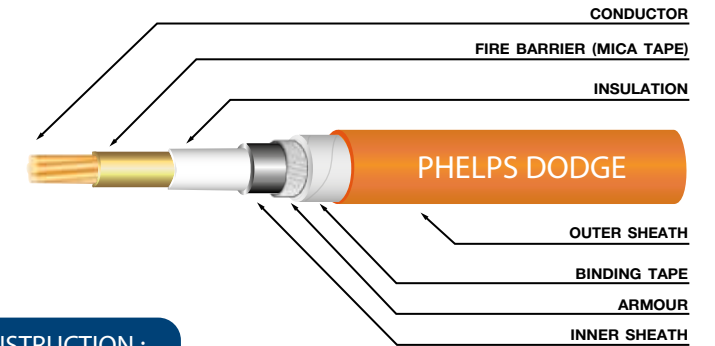
FLAME RETARDANT  
IEC 60332-3

LOW SMOKE  
EMISSION  
IEC 61034-2

HALOGEN FREE  
(No acid gas emission)  
IEC 60754-1  
IEC 60754-2

SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
4 x 1.5	1.5	7	1.6	0.7	1.8	16	315	12.1	734	22	500
4 x 2.5	2.5	7	2.0	0.7	1.8	17	379	7.41	643	30	500
4 x 4	4	7	2.5	0.7	1.8	17	396	4.61	558	39	500
4 x 6	6	7	3.0	0.7	1.8	18	500	3.08	490	50	500
4 x 10	10	6	3.7	0.7	1.8	19	689	1.83	428	67	500
4 x 16	16	6	4.7	0.7	1.8	22	965	1.15	363	89	500
4 x 25	25	6	5.9	0.9	1.8	26	1,436	0.727	379	120	500
4 x 35	35	6	6.9	0.9	1.8	29	1,870	0.524	332	147	500
4 x 50	50	6	8.1	1.0	1.8	32	2,447	0.387	321	179	500
4 x 70	70	12	9.8	1.1	2.0	37	3,424	0.268	300	224	500
4 x 95	95	15	11.3	1.1	2.1	41	4,532	0.193	265	277	500
4 x 120	120	18	12.8	1.2	2.3	45	5,663	0.153	259	323	500
4 x 150	150	18	14.3	1.4	2.4	50	6,960	0.124	270	368	300
4 x 185	185	30	15.7	1.6	2.6	55	8,640	0.0991	282	427	300
4 x 240	240	34	18.4	1.7	2.8	62	11,237	0.0754	260	504	300
4 x 300	300	34	20.3	1.8	3.0	68	13,862	0.0601	251	578	200
4 x 400	400	53	23.0	2.0	3.3	76	17,946	0.0470	247	672	200

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE  
SINGLE CORE CABLES WITH ARMOUR**



**CONSTRUCTION :**

**Conductor** : Round concentric lay stranded or Compact round stranded copper  
**Fire Barrier** : Fire resistant tape (Mica).  
**Insulation** : Cross-linked polyethylene (XLPE)  
Colour : Natural Colour.  
**Inner Sheath** : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour  
**Armour** : Aluminium wire  
**Binding Tape** : Polyester or other suitable binding tape  
**Outer Sheath** : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Orange Colour. Other colours to special order



FIRE RESISTANCE  
IEC 60331-21  
BS 6387

FLAME RETARDANT  
IEC 60332-3

LOW SMOKE  
EMISSION  
IEC 61034-2

HALOGEN FREE  
(No acid gas emission)  
IEC 60754-1  
IEC 60754-2

SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient)		Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)									Flat A	Trefoil A	
1 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.4	13	274	12.1	734	31	27	500/R
1 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.4	13	296	7.41	643	41	36	500/R
1 x 4	4	7	2.5	0.7	1.0	0.80	1.4	13	296	4.61	558	54	47	500/R
1 x 6	6	7	3.0	0.7	1.0	0.80	1.4	14	332	3.08	490	68	59	500/R
1 x 10	10	6	3.7	0.7	1.0	0.80	1.4	14	388	1.83	428	91	79	500/R
1 x 16	16	6	4.7	0.7	1.0	0.80	1.4	15	473	1.15	363	120	104	500/R
1 x 25	25	6	5.9	0.9	1.0	0.80	1.4	17	614	0.727	379	159	137	500/R
1 x 35	35	6	6.9	0.9	1.0	0.80	1.4	19	733	0.524	332	194	167	500/R
1 x 50	50	6	8.1	1.0	1.0	1.25	1.5	21	1,037	0.387	321	240	207	500/R
1 x 70	70	12	9.8	1.1	1.0	1.25	1.5	23	1,299	0.268	300	301	260	500/R
1 x 95	95	15	11.3	1.1	1.0	1.25	1.6	25	1,612	0.193	265	366	317	500/R
1 x 120	120	18	12.8	1.2	1.0	1.60	1.7	28	2,051	0.153	259	426	371	500/R
1 x 150	150	18	14.3	1.4	1.0	1.60	1.7	30	2,408	0.124	270	485	424	500/R
1 x 185	185	30	15.7	1.6	1.0	1.60	1.8	32	2,852	0.0991	282	551	484	500/R
1 x 240	240	34	18.4	1.7	1.0	1.60	1.9	35	3,531	0.0754	260	650	575	300/R
1 x 300	300	34	20.3	1.8	1.0	1.60	1.9	37	4,187	0.0601	251	736	655	300/R
1 x 400	400	53	23.0	2.0	1.2	2.00	2.1	42	5,538	0.0470	247	830	754	300/R
1 x 500	500	53	26.1	2.2	1.2	2.00	2.2	46	6,781	0.0366	241	940	862	300/R
1 x 630	630	53	30.0	2.4	1.2	2.00	2.3	50	8,440	0.0283	231	1,058	980	300/R



**STANDARDS ACHIEVED :**

- Construction**
- IEC 60228, IEC 60502-1
- Circuit integrity
- BS 6387 Category CWZ
  - IEC 60331-21
- Flame propagation
- IEC 60332-1
  - IEC 60332-3-22 (Category A)
- Acid gas emission
- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire. With metallic armour, the cable is suitable for installation in areas where special mechanical protection is required.

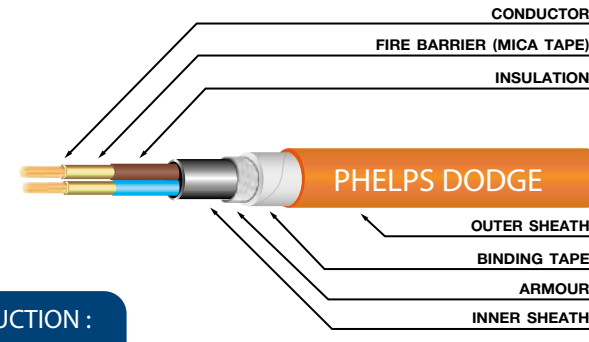
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  (Um): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE  
TWO CORES CABLES WITH ARMOUR**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Fire Barrier : Fire resistant tape (Mica).
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Light Blue Colour.
- Inner Sheath : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour
- Armour : Galvanized steel wire
- Binding Tape : Polyester or other suitable binding tape
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Orange Colour. Other colours to special order



FIRE RESISTANCE  
IEC 60331-21  
BS 6387

FLAME RETARDANT  
IEC 60332-3  
BS 6387

LOW SMOKE  
EMISSION  
IEC 61034-2

HALOGEN FREE  
(No acid gas emission)  
IEC 60754-1  
IEC 60754-2

SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)										
2 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.8	19	502	12.1	734	22	500/R
2 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.8	20	554	7.41	643	29	500/R
2 x 4	4	7	2.5	0.7	1.0	0.80	1.8	20	567	4.61	558	38	500/R
2 x 6	6	7	3.0	0.7	1.0	0.80	1.8	20	625	3.08	490	49	500/R
2 x 10	10	6	3.7	0.7	1.0	1.25	1.8	23	889	1.83	428	66	500/R
2 x 16	16	6	4.7	0.7	1.0	1.25	1.8	25	1,090	1.15	363	87	500/R
2 x 25	25	6	5.9	0.9	1.0	1.60	1.8	29	1,565	0.727	379	118	500/R
2 x 35	35	6	6.9	0.9	1.0	1.60	1.8	31	1,863	0.524	332	144	500/R
2 x 50	50	6	8.1	1.0	1.0	1.60	1.8	34	2,249	0.387	321	174	500/R
2 x 70	70	12	9.8	1.1	1.0	1.60	2.0	38	2,892	0.268	300	218	500/R
2 x 95	95	15	11.3	1.1	1.2	2.00	2.1	43	3,890	0.193	265	267	500/R
2 x 120	120	18	12.8	1.2	1.2	2.00	2.2	46	4,575	0.153	259	308	500/R
2 x 150	150	18	14.3	1.4	1.2	2.00	2.3	50	5,406	0.124	270	350	500/R
2 x 185	185	30	15.7	1.6	1.4	2.50	2.5	56	6,921	0.0991	282	404	500/R
2 x 240	240	34	18.4	1.7	1.4	2.50	2.7	62	8,557	0.0754	260	470	300/R
2 x 300	300	34	20.3	1.8	1.6	2.50	2.8	67	10,156	0.0601	251	527	300/R
2 x 400	400	53	23.0	2.0	1.6	2.50	3.1	74	12,602	0.0470	247	595	300/R

**STANDARDS ACHIEVED :**

- Construction**
- IEC 60228, IEC 60502-1
- Circuit integrity
- BS 6387 Category CWZ
  - IEC 60331-21
- Flame propagation
- IEC 60332-1
  - IEC 60332-3-22 (Category A)
- Acid gas emission
- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire. With metallic armour, the cable is suitable for installation in areas where special mechanical protection is required.

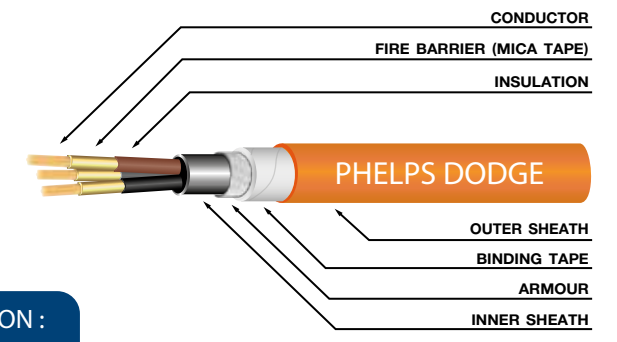
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  (Um): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE  
THREE CORES CABLES WITH ARMOUR**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Fire Barrier : Fire resistant tape (Mica).
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey Colour.
- Inner Sheath : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour
- Armour : Galvanized steel wire
- Binding Tape : Polyester or other suitable binding tape
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Orange Colour. Other colours to special order



FIRE RESISTANCE  
IEC 60331-21  
BS 6387

FLAME RETARDANT  
IEC 60332-3  
BS 6387

LOW SMOKE  
EMISSION  
IEC 61034-2

HALOGEN FREE  
(No acid gas emission)  
IEC 60754-1  
IEC 60754-2

SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)										
3 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.8	20	548	12.1	734	23	500/R
3 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.8	21	612	7.41	643	31	500/R
3 x 4	4	7	2.5	0.7	1.0	0.80	1.8	21	637	4.61	558	41	500/R
3 x 6	6	7	3.0	0.7	1.0	0.80	1.8	21	716	3.08	490	51	500/R
3 x 10	10	6	3.7	0.7	1.0	1.25	1.8	24	1,025	1.83	428	70	500/R
3 x 16	16	6	4.7	0.7	1.0	1.25	1.8	26	1,283	1.15	363	92	500/R
3 x 25	25	6	5.9	0.9	1.0	1.60	1.8	30	1,879	0.727	379	124	500/R
3 x 35	35	6	6.9	0.9	1.0	1.60	1.8	33	2,266	0.524	332	151	500/R
3 x 50	50	6	8.1	1.0	1.0	1.60	1.9	36	2,790	0.387	321	184	500/R
3 x 70	70	12	9.8	1.1	1.2	2.00	2.0	41	3,920	0.268	300	230	500/R
3 x 95	95	15	11.3	1.1	1.2	2.00	2.2	45	4,896	0.193	265	282	500/R
3 x 120	120	18	12.8	1.2	1.2	2.00	2.3	49	5,836	0.153	259	326	500/R
3 x 150	150	18	14.3	1.4	1.4	2.50	2.5	55	7,484	0.124	270	372	500/R
3 x 185	185	30	15.7	1.6	1.4	2.50	2.6	60	8,852	0.0991	282	427	500/R
3 x 240	240	34	18.4	1.7	1.6	2.50	2.8	67	11,127	0.0754	260	499	300/R
3 x 300	300	34	20.3	1.8	1.6	2.50	3.0	72	13,254	0.0601	251	568	300/R
3 x 400	400	53	23.0	2.0	1.6	2.50	3.2	79	16,474	0.0470	247	650	300/R



**STANDARDS ACHIEVED :**

**Construction**  
- IEC 60228, IEC 60502-1  
Circuit integrity  
- BS 6387 Category CWZ  
- IEC 60331-21  
Flame propagation  
- IEC 60332-1  
- IEC 60332-3-22 (Category A)  
Acid gas emission  
- IEC 60754-1  
pH and conductivity  
- IEC 60754-2  
Smoke emission  
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire. With metallic armour, the cable is suitable for installation in areas where special mechanical protection is required.

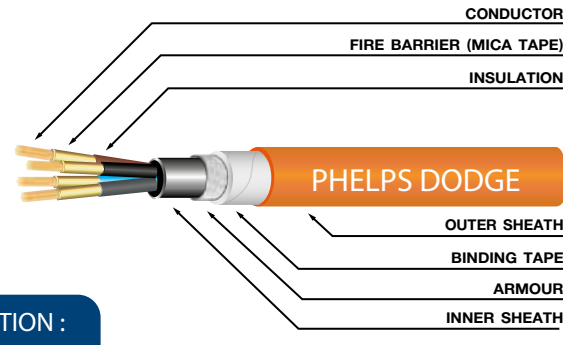
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVdc or 8.4 kVdc

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE  
FOUR CORES CABLES WITH ARMOUR**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Fire Barrier : Fire resistant tape (Mica).
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey, Light Blue Colour.
- Inner Sheath : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour
- Armour : Galvanized steel wire
- Binding Tape : Polyester or other suitable binding tape
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF :ST8)  
Colour : Orange Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)										
4 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.8	21	620	12.1	734	23	500/R
4 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.8	22	697	7.41	643	31	500/R
4 x 4	4	7	2.5	0.7	1.0	0.80	1.8	22	726	4.61	558	41	500/R
4 x 6	6	7	3.0	0.7	1.0	1.25	1.8	24	977	3.08	490	51	500/R
4 x 10	10	6	3.7	0.7	1.0	1.25	1.8	25	1,200	1.83	428	70	500/R
4 x 16	16	6	4.7	0.7	1.0	1.60	1.8	29	1,673	1.15	363	92	500/R
4 x 25	25	6	5.9	0.9	1.0	1.60	1.8	33	2,240	0.727	379	124	500/R
4 x 35	35	6	6.9	0.9	1.0	1.60	1.9	35	2,744	0.524	332	151	500/R
4 x 50	50	6	8.1	1.0	1.0	1.60	2.0	39	3,413	0.387	321	184	500/R
4 x 70	70	12	9.8	1.1	1.2	2.00	2.2	45	4,829	0.268	300	230	500/R
4 x 95	95	15	11.3	1.1	1.2	2.00	2.3	49	6,031	0.193	265	282	500/R
4 x 120	120	18	12.8	1.2	1.4	2.50	2.5	55	7,757	0.153	259	326	300/R
4 x 150	150	18	14.3	1.4	1.4	2.50	2.6	60	9,223	0.124	270	372	300/R
4 x 185	185	30	15.7	1.6	1.4	2.50	2.8	65	11,036	0.0991	282	427	300/R
4 x 240	240	34	18.4	1.7	1.6	2.50	3.0	73	13,888	0.0754	260	499	300/R
4 x 300	300	34	20.3	1.8	1.6	2.50	3.2	79	16,644	0.0601	251	568	300/R
4 x 400	400	53	23.0	2.0	1.8	3.15	3.5	88	21,919	0.0470	247	650	300/R

**STANDARDS ACHIEVED :**

**Construction**  
- IEC 60228, IEC 60502-1  
Circuit integrity  
- BS 6387 Category CWZ  
- IEC 60331-21  
Flame propagation  
- IEC 60332-1  
- IEC 60332-3-22 (Category A)  
Acid gas emission  
- IEC 60754-1  
pH and conductivity  
- IEC 60754-2  
Smoke emission  
- IEC 61034

**APPLICATION :**

For supervisory electrical equipment, station control circuits installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire.

**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

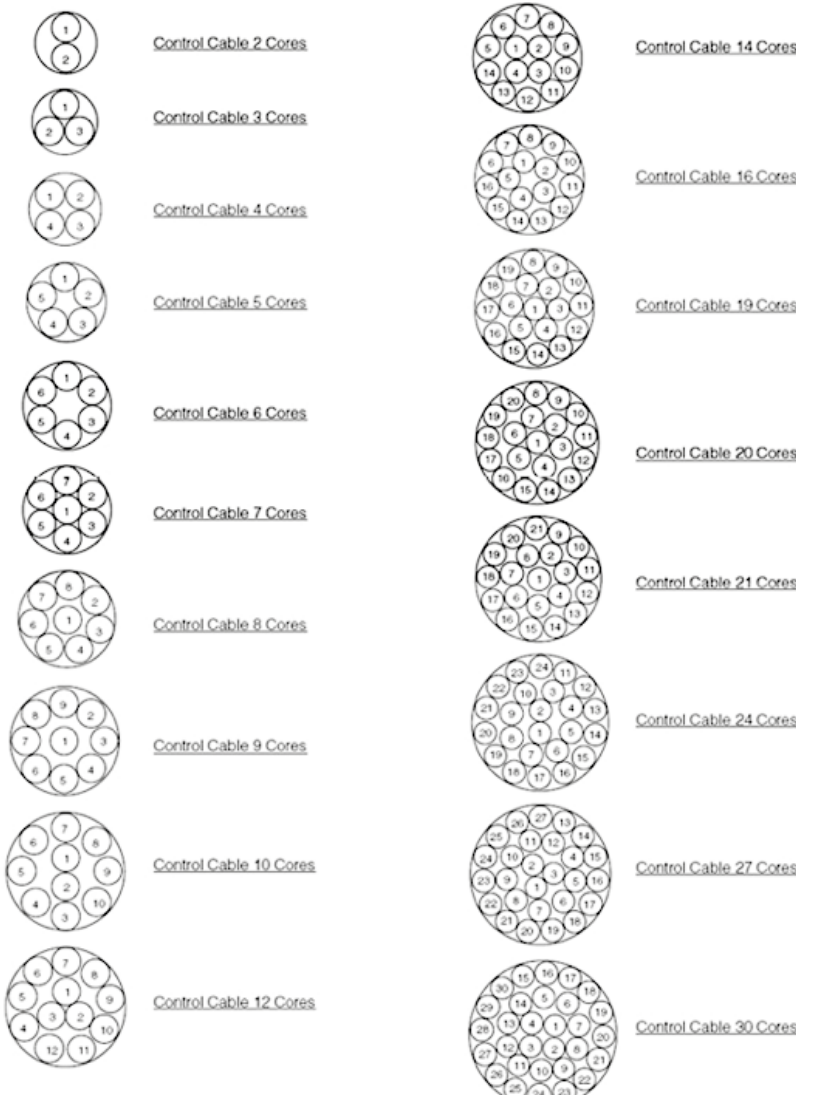
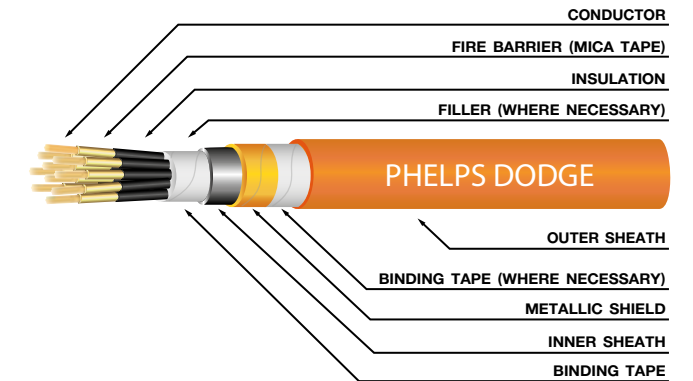
3.5 kVdc or 8.4 kVdc



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Fire Barrier : Fire resistant tape (Mica).
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Black Colour with marked core number.
- Filler : Non-hygroscopic material
- Binding Tape : Polyester or other suitable binding tape
- Inner Sheath : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour
- Metallic Shield : Annealed copper tape
- Binding Tape : Polyester or other suitable binding tape (Where necessary).
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF :ST8)  
Colour : Orange Colour.  
Other colours to special order

**0.6/1(1.2) kV FIRE RESISTANT LOW SMOKE & HALOGEN FREE  
CONTROL CABLES WITH METALLIC SHIELD**



No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
2	1.5	7	1.6	0.7	1.0	1.8	17	358	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	18	402	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	19	464	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	20	536	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	21	653	1.83	428	500
3	1.5	7	1.6	0.7	1.0	1.8	18	404	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	19	462	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	20	542	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	21	635	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	22	794	1.83	428	500
4	2	7	1.6	0.7	1.0	1.8	19	465	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	20	537	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	21	636	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	22	756	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	24	960	1.83	428	500
5	1.5	7	1.6	0.7	1.0	1.8	20	531	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	21	618	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	23	740	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	24	884	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	26	1,135	1.83	428	500
6	1.5	7	1.6	0.7	1.0	1.8	21	600	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	23	702	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	24	845	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	26	1,016	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	28	1,315	1.83	428	500
7	1.5	7	1.6	0.7	1.0	1.8	21	626	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	23	739	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	24	897	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	26	1,087	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	28	1,424	1.83	428	500

No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
8	1.5	7	1.6	0.7	1.0	1.8	23	697	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	24	826	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	26	1,005	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	28	1,223	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	30	1,608	1.83	428	500
9	1.5	7	1.6	0.7	1.0	1.8	24	770	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	26	914	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	28	1,118	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	30	1,363	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	32	1,796	1.83	428	500
10	1.5	7	1.6	0.7	1.0	1.8	26	856	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	28	1,019	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	30	1,248	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	32	1,523	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	35	2,009	1.83	428	500
11	1.5	7	1.6	0.7	1.0	1.8	26	883	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	28	1,055	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	30	1,300	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	32	1,593	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	35	2,118	1.83	428	500
12	1.5	7	1.6	0.7	1.0	1.8	26	934	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	29	1,120	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	31	1,383	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	33	1,702	3.06	490	500
	10	6	3.7	0.7	1.0	1.8	36	2,270	1.83	428	500
13	1.5	7	1.6	0.7	1.0	1.8	28	1,003	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	30	1,204	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	32	1,490	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	35	1,836	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	38	2,452	1.83	428	500



No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
14	1.5	7	1.6	0.7	1.0	1.8	28	1,029	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	30	1,241	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	32	1,542	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	35	1,906	3.08	490	500
	10	6	3.7	0.7	1.0	1.8	38	2,561	1.83	428	500
15	1.5	7	1.6	0.7	1.0	1.8	29	1,103	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	31	1,331	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	34	1,656	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	36	2,049	3.08	490	500
	10	6	3.7	0.7	1.0	1.9	40	2,776	1.83	428	500
16	1.5	7	1.6	0.7	1.0	1.8	29	1,130	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	31	1,369	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	34	1,708	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	36	2,120	3.08	490	500
	10	6	3.7	0.7	1.0	1.9	40	2,885	1.83	428	500
17	2	7	1.6	0.7	1.0	1.8	31	1,148	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	33	1,392	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	35	1,740	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	38	2,163	3.08	490	500
	10	6	3.7	0.7	1.0	1.9	42	2,957	1.83	428	500
18	1.5	7	1.6	0.7	1.0	1.8	31	1,182	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	33	1,438	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	35	1,803	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	38	2,247	3.08	490	500
	10	6	3.7	0.7	1.0	1.9	42	3,082	1.83	428	500
19	1.5	7	1.6	0.7	1.0	1.8	31	1,216	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	33	1,483	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	35	1,865	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	38	2,331	3.08	490	500
	10	6	3.7	0.7	1.0	1.9	42	3,206	1.83	428	500

No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
20	1.5	7	1.6	0.7	1.0	1.8	32	1,280	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	34	1,562	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	37	1,964	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	40	2,455	3.08	490	500
	10	6	3.7	0.7	1.2	2.0	44	3,453	1.83	428	500
21	1.5	7	1.6	0.7	1.0	1.8	32	1,313	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	34	1,607	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	37	2,027	4.61	558	500
	6	7	3.0	0.7	1.0	1.8	40	2,539	3.08	490	500
	10	6	3.7	0.7	1.2	2.0	44	3,578	1.83	428	500
22	1.5	7	1.6	0.7	1.0	1.8	33	1,378	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	36	1,686	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	39	2,126	4.61	558	500
	6	7	3.0	0.7	1.0	1.9	42	2,687	3.08	490	500
	10	6	3.7	0.7	1.2	2.1	46	3,779	1.83	428	500
23	1.5	7	1.6	0.7	1.0	1.8	33	1,412	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	36	1,731	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	39	2,189	4.61	558	500
	6	7	3.0	0.7	1.0	1.9	42	2,771	3.08	490	500
	10	6	3.7	0.7	1.2	2.1	46	3,904	1.83	428	500
24	1.5	7	1.6	0.7	1.0	1.8	35	1,484	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	38	1,819	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	41	2,298	4.61	558	500
	6	7	3.0	0.7	1.2	1.9	45	2,958	3.08	490	500
	10	6	3.7	0.7	1.2	2.1	49	4,093	1.83	428	500
25	1.5	7	1.6	0.7	1.0	1.8	35	1,518	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	38	1,864	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	41	2,360	4.61	558	500
	6	7	3.0	0.7	1.2	1.9	45	3,042	3.08	490	500
	10	6	3.7	0.7	1.2	2.1	49	4,217	1.83	428	500

No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm²)	Minimum Number of Wires	Diameter (Approx.) (mm)								
26	1.5	7	1.6	0.7	1.0	1.8	35	1,551	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	38	1,910	7.41	643	500
	4	7	2.5	0.7	1.0	1.8	41	2,423	4.61	558	500
	6	7	3.0	0.7	1.2	1.9	45	3,126	3.08	490	500
	10	6	3.7	0.7	1.2	2.1	49	4,342	1.83	428	500
27	1.5	7	1.6	0.7	1.0	1.8	36	1,601	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	38	1,972	7.41	643	500
	4	7	2.5	0.7	1.0	1.9	42	2,528	4.61	558	500
	6	7	3.0	0.7	1.2	2.0	46	3,258	3.08	490	500
	10	6	3.7	0.7	1.2	2.1	50	4,493	1.83	428	500
28	1.5	7	1.6	0.7	1.0	1.8	37	1,660	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	40	2,046	7.41	643	500
	4	7	2.5	0.7	1.0	1.9	43	2,622	4.61	558	500
	6	7	3.0	0.7	1.2	2.0	47	3,380	3.08	490	500
	10	6	3.7	0.7	1.2	2.2	52	4,690	1.83	428	500
29	1.5	7	1.6	0.7	1.0	1.8	37	1,694	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	40	2,091	7.41	643	500
	4	7	2.5	0.7	1.0	1.9	43	2,684	4.61	558	500
	6	7	3.0	0.7	1.2	2.0	47	3,463	3.08	490	500
	10	6	3.7	0.7	1.2	2.2	52	4,815	1.83	428	500
30	1.5	7	1.6	0.7	1.0	1.8	37	1,727	12.1	734	500
	2.5	7	2.0	0.7	1.0	1.8	40	2,136	7.41	643	500
	4	7	2.5	0.7	1.0	1.9	43	2,747	4.61	558	500
	6	7	3.0	0.7	1.2	2.0	47	3,547	3.08	490	500
	10	6	3.7	0.7	1.2	2.2	52	4,940	1.83	428	500

**STANDARDS ACHIEVED :**

**Construction**

- IEC 60228, IEC 60502-1  
Flame propagation  
- IEC 60332-1  
- IEC 60332-3-22 (Category A)  
Acid gas emission  
- IEC 60754-1  
pH and conductivity  
- IEC 60754-2  
Smoke emission  
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire

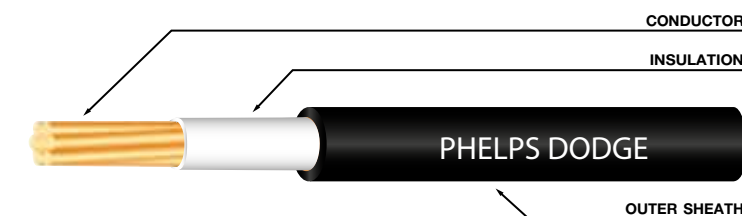
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage U<sub>0</sub>/U (U<sub>m</sub>): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVdc or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE SINGLE CORE CABLES**



**CONSTRUCTION :**

Conductor : Round concentric lay stranded  
or Compact round stranded copper  
Insulation : Cross-linked polyethylene (XLPE)  
Colour : Natural Colour.  
Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Black Colour. Other colours to special order



SIZE  Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation  (mm)	Nominal Thickness of Outer Sheath  (mm)	Overall Diameter (Approx.)  (mm)	Cable Weight (Approx.)  (kg / km)	Maximum Conductor Resistance at 20 °C  (Ω / km)	Minimum Insulation Resistance at 20 °C  (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient)		Standard Packing  (m/R)		
	Cross Sectional Area  (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.)  (mm)											
													Flat	Trefoil
1 x 1.5	1.5	7	1.6	0.7	1.4	7	53	12.1	1,024	27	23	500		
1 x 2.5	2.5	7	2.0	0.7	1.4	8	65	7.41	853	36	31	500		
1 x 4	4	7	2.5	0.7	1.4	8	84	4.61	708	47	40	500		
1 x 6	6	7	3.0	0.7	1.4	9	106	3.08	602	60	51	500		
1 x 10	10	6	3.7	0.7	1.4	9	147	1.83	511	81	69	500		
1 x 16	16	6	4.7	0.7	1.4	10	207	1.15	419	108	92	500		
1 x 25	25	6	5.9	0.9	1.4	12	306	0.727	426	146	124	500		
1 x 35	35	6	6.9	0.9	1.4	13	401	0.524	369	180	153	500		
1 x 50	50	6	8.1	1.0	1.4	14	524	0.387	351	220	187	500		
1 x 70	70	12	9.8	1.1	1.4	16	725	0.268	323	279	237	500		
1 x 95	95	15	11.3	1.1	1.5	18	975	0.193	284	347	294	500		
1 x 120	120	18	12.8	1.2	1.5	20	1,206	0.153	275	405	343	500		
1 x 150	150	18	14.3	1.4	1.6	22	1,483	0.124	285	469	397	500		
1 x 185	185	30	15.7	1.6	1.6	24	1,835	0.0991	296	544	461	500		
1 x 240	240	34	18.4	1.7	1.7	27	2,386	0.0754	271	655	552	500		
1 x 300	300	34	20.3	1.8	1.8	30	2,959	0.0601	260	760	638	500		
1 x 400	400	53	23.0	2.0	1.9	33	3,837	0.0470	256	890	744	500		
1 x 500	500	53	26.1	2.2	2.0	37	4,882	0.0366	248	1,046	866	500		
1 x 630	630	53	30.0	2.4	2.2	41	6,300	0.0283	237	1,233	1,007	300		



**STANDARDS ACHIEVED :**

**Construction**

- IEC 60228, IEC 60502-1
- Flame propagation
- IEC 60332-1
- IEC 60332-3-22 (Category A)

**Acid gas emission**

- IEC 60754-1

**pH and conductivity**

- IEC 60754-2

**Smoke emission**

- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire.

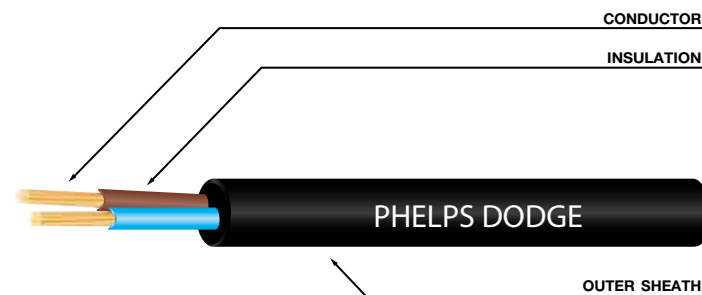
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE TWO CORES CABLES**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Light Blue Colour.
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF :ST8)  
Colour : Black Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
2 x 1.5	1.5	7	1.5	0.7	1.8	11	156	12.1	1,024	20	500
2 x 2.5	2.5	7	1.9	0.7	1.8	12	179	7.41	853	27	500
2 x 4	4	7	2.5	0.7	1.8	13	230	4.61	708	36	500
2 x 6	6	7	3.0	0.7	1.8	14	292	3.08	602	45	500
2 x 10	10	6	3.7	0.7	1.8	15	397	1.83	511	61	500
2 x 16	16	6	4.6	0.7	1.8	17	555	1.15	419	81	500
2 x 25	25	6	5.8	0.9	1.8	20	834	0.727	426	110	500
2 x 35	35	6	6.9	0.9	1.8	23	1,085	0.524	369	136	500
2 x 50	50	6	8.1	1.0	1.8	25	1,425	0.387	351	166	500
2 x 70	70	12	9.8	1.1	1.8	30	1,970	0.268	323	211	500
2 x 95	95	15	11.3	1.1	1.9	33	2,598	0.193	284	259	500
2 x 120	120	18	12.7	1.2	2.0	36	3,244	0.153	275	302	500
2 x 150	150	18	14.3	1.4	2.2	41	4,035	0.124	285	350	500
2 x 185	185	30	15.7	1.6	2.3	44	4,988	0.0991	296	403	500
2 x 240	240	34	18.3	1.7	2.5	51	6,517	0.0754	271	481	500
2 x 300	300	34	20.3	1.8	2.6	55	8,001	0.0601	260	550	300
2 x 400	400	53	23.0	2.0	2.9	62	10,367	0.0470	256	640	300

**STANDARDS ACHIEVED :**

**Construction**

- IEC 60228, IEC 60502-1
- Circuit integrity
- BS 6387 Category CWZ
- IEC 60331

**Flame propagation**

- IEC 60332-1
- IEC 60332-3-22 (Category A)

**Acid gas emission**

- IEC 60754-1

**pH and conductivity**

- IEC 60754-2

**Smoke emission**

- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke, low toxic emission and long-term circuit integrity under fire.

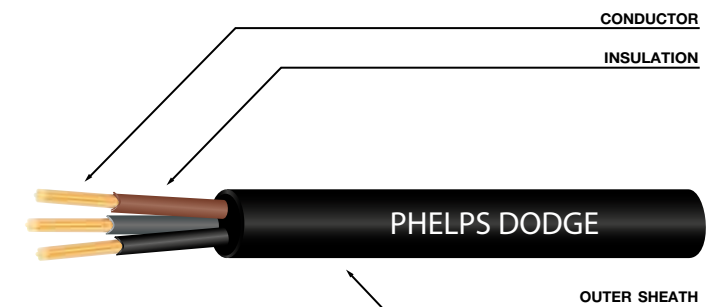
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE THREE CORES CABLES**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey Colour.
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF :ST8)  
Colour : Black Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
3 x 1.5	1.5	7	1.6	0.7	1.8	11	173	12.1	1,024	22	500
3 x 2.5	2.5	7	2.0	0.7	1.8	12	204	7.41	853	30	500
3 x 4	4	7	2.5	0.7	1.8	14	267	4.61	708	39	500
3 x 6	6	7	3.0	0.7	1.8	15	345	3.08	602	50	500
3 x 10	10	6	3.7	0.7	1.8	16	483	1.83	511	67	500
3 x 16	16	6	4.7	0.7	1.8	18	689	1.15	419	89	500
3 x 25	25	6	5.9	0.9	1.8	22	1,043	0.727	426	120	500
3 x 35	35	6	6.9	0.9	1.8	24	1,370	0.524	369	147	500
3 x 50	50	6	8.1	1.0	1.8	27	1,808	0.387	351	179	500
3 x 70	70	12	9.8	1.1	1.9	32	2,531	0.268	323	224	500
3 x 95	95	15	11.3	1.1	2.0	35	3,370	0.193	284	277	500
3 x 120	120	18	12.8	1.2	2.1	39	4,209	0.153	275	323	500
3 x 150	150	18	14.3	1.4	2.3	43	5,218	0.124	285	368	500
3 x 185	185	30	15.7	1.6	2.4	48	6,473	0.0991	296	427	500
3 x 240	240	34	18.4	1.7	2.6	54	8,453	0.0754	271	504	300
3 x 300	300	34	20.3	1.8	2.7	59	10,421	0.0601	260	578	300
3 x 400	400	53	23.0	2.0	3.0	66	13,535	0.0470	256	672	200

**STANDARDS ACHIEVED :**

**Construction**

- IEC 60228, IEC 60502-1
- Flame propagation
- IEC 60332-1
- IEC 60332-3-22 (Category A)

**Acid gas emission**

- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire.

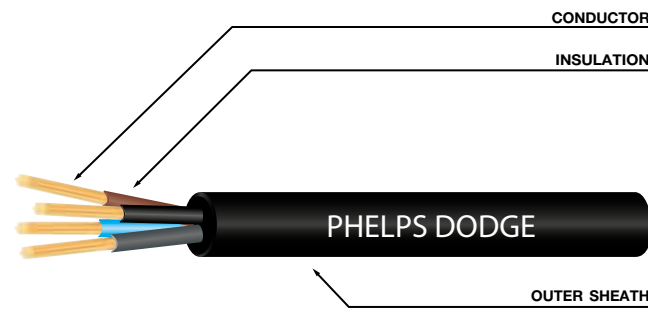
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE  
FOUR CORES CABLES**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded  
or Compact round stranded copper
- Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey, Light Blue Colour.
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Black Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
4 x 1.5	1.5	7	1.6	0.7	1.8	12	199	12.1	1,024	22	500
4 x 2.5	2.5	7	2.0	0.7	1.8	13	239	7.41	853	30	500
4 x 4	4	7	2.5	0.7	1.8	15	318	4.61	708	39	500
4 x 6	6	7	3.0	0.7	1.8	16	415	3.08	602	50	500
4 x 10	10	6	3.7	0.7	1.8	17	590	1.83	511	67	500
4 x 16	16	6	4.7	0.7	1.8	20	851	1.15	419	89	500
4 x 25	25	6	5.9	0.9	1.8	24	1,295	0.727	426	120	500
4 x 35	35	6	6.9	0.9	1.8	26	1,711	0.524	369	147	500
4 x 50	50	6	8.1	1.0	1.8	30	2,264	0.387	351	179	500
4 x 70	70	12	9.8	1.1	2.0	35	3,196	0.268	323	224	500
4 x 95	95	15	11.3	1.1	2.1	39	4,270	0.193	284	277	500
4 x 120	120	18	12.8	1.2	2.3	43	5,358	0.153	275	323	500
4 x 150	150	18	14.3	1.4	2.4	48	6,604	0.124	285	368	300
4 x 185	185	30	15.7	1.6	2.6	53	8,231	0.0991	296	427	300
4 x 240	240	34	18.4	1.7	2.8	60	10,742	0.0754	271	504	300
4 x 300	300	34	20.3	1.8	3.0	66	13,297	0.0601	260	578	200
4 x 400	400	53	23.0	2.0	3.3	74	17,272	0.0470	256	672	200

**STANDARDS ACHIEVED :**

**Construction**

- IEC 60228, IEC 60502-1
- Flame propagation
- IEC 60332-1
- IEC 60332-3-22 (Category A)

**Acid gas emission**

- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire. With metallic armour, the cable is suitable for installation in areas where special mechanical protection is required.

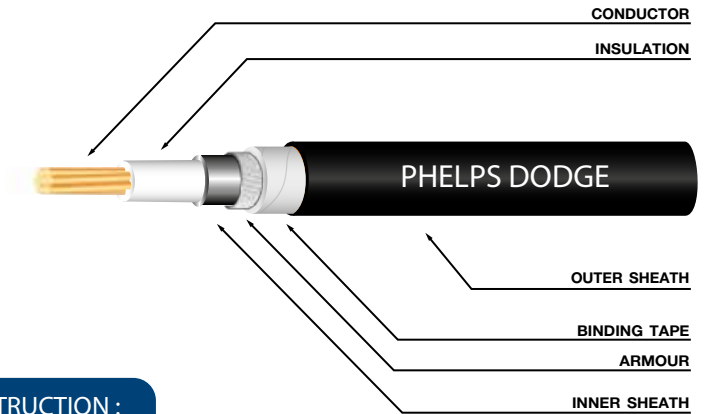
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE  
SINGLE CORE CABLES WITH ARMOUR**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded  
or Compact round stranded copper
- Insulation : Cross-linked polyethylene (XLPE)  
: Natural Colour.
- Inner Sheath : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour
- Armour : Aluminium wire
- Binding Tape : Polyester or other suitable binding tape
- Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Black Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx Thickness of Inner Sheath (mm)	Nominal Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient)		Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)									Flat A	Trefoil A	
1 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.4	11	146	12.1	1,024	31	27	500/R
1 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.4	11	163	7.41	853	41	36	500/R
1 x 4	4	7	2.5	0.7	1.0	0.80	1.4	12	187	4.61	708	54	47	500/R
1 x 6	6	7	3.0	0.7	1.0	0.80	1.4	12	216	3.08	602	68	59	500/R
1 x 10	10	6	3.7	0.7	1.0	0.80	1.4	13	265	1.83	511	91	79	500/R
1 x 16	16	6	4.7	0.7	1.0	0.80	1.4	14	337	1.15	419	120	104	500/R
1 x 25	25	6	5.9	0.9	1.0	0.80	1.4	15	458	0.727	426	159	137	500/R
1 x 35	35	6	6.9	0.9	1.0	0.80	1.4	17	565	0.524	369	194	167	500/R
1 x 50	50	6	8.1	1.0	1.0	1.25	1.5	19	768	0.387	351	240	207	500/R
1 x 70	70	12	9.8	1.1	1.0	1.25	1.5	21	999	0.268	323	301	260	500/R
1 x 95	95	15	11.3	1.1	1.0	1.25	1.6	23	1,276	0.193	284	366	317	500/R
1 x 120	120	18	12.8	1.2	1.0	1.60	1.7	26	1,602	0.153	275	426	371	500/R
1 x 150	150	18	14.3	1.4	1.0	1.60	1.7	28	1,909	0.124	285	485	424	500/R
1 x 185	185	30	15.7	1.6	1.0	1.60	1.8	30	2,314	0.0991	296	551	484	500/R
1 x 240	240	34	18.4	1.7	1.0	1.60	1.9	33	2,929	0.0754	271	650	575	300/R
1 x 300	300	34	20.3	1.8	1.0	1.60	1.9	35	3,535	0.0601	260	736	655	300/R
1 x 400	400	53	23.0	2.0	1.2	2.00	2.1	40	4,646	0.0470	256	830	754	300/R
1 x 500	500	53	26.1	2.2	1.2	2.00	2.2	44	5,790	0.0366	248	940	862	300/R
1 x 630	630	53	30.0	2.4	1.2	2.00	2.3	48	7,305	0.0283	237	1,058	980	300/R



**STANDARDS ACHIEVED :**

**Construction**  
- IEC 60228, IEC 60502-1  
Flame propagation  
- IEC 60332-1  
- IEC 60332-3-22 (Category A)  
Acid gas emission  
- IEC 60754-1  
pH and conductivity  
- IEC 60754-2  
Smoke emission  
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire. With metallic armour, the cable is suitable for installation in areas where special mechanical protection is required.

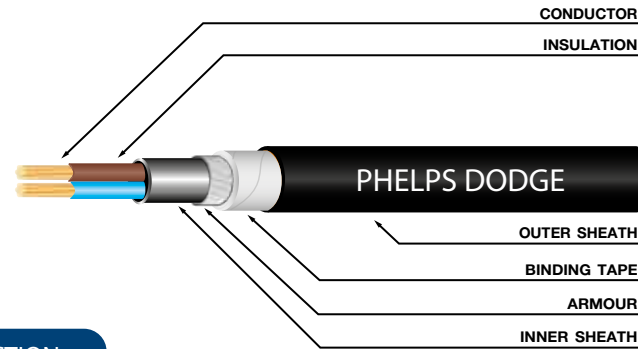
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVAc or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE  
TWO CORES CABLES WITH ARMOUR**



**CONSTRUCTION :**

**Conductor** : Round concentric lay stranded or Compact round stranded copper  
**Insulation** : Cross-linked polyethylene (XLPE)  
Colour : Brown, Light Blue Colour.  
**Inner Sheath** : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour  
**Armour** : Galvanized steel wire  
**Binding Tape** : Polyester or other suitable binding tape  
**Outer Sheath** : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Black Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)										
2 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.8	15	360	12.1	1,024	22	500/R
2 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.8	16	408	7.41	853	29	500/R
2 x 4	4	7	2.5	0.7	1.0	0.80	1.8	17	470	4.61	708	38	500/R
2 x 6	6	7	3.0	0.7	1.0	0.80	1.8	18	545	3.08	602	49	500/R
2 x 10	10	6	3.7	0.7	1.0	1.25	1.8	20	799	1.83	511	66	500/R
2 x 16	16	6	4.7	0.7	1.0	1.25	1.8	22	986	1.15	419	87	500/R
2 x 25	25	6	5.9	0.9	1.0	1.60	1.8	26	1,442	0.727	426	118	500/R
2 x 35	35	6	6.9	0.9	1.0	1.60	1.8	29	1,733	0.524	369	144	500/R
2 x 50	50	6	8.1	1.0	1.0	1.60	1.8	32	2,113	0.387	351	174	500/R
2 x 70	70	12	9.8	1.1	1.0	1.60	2.0	36	2,744	0.268	323	218	500/R
2 x 95	95	15	11.3	1.1	1.2	2.00	2.1	40	3,698	0.193	284	267	500/R
2 x 120	120	18	12.8	1.2	1.2	2.00	2.2	44	4,398	0.153	275	308	500/R
2 x 150	150	18	14.3	1.4	1.2	2.00	2.3	48	5,218	0.124	285	350	500/R
2 x 185	185	30	15.7	1.6	1.4	2.50	2.5	54	6,724	0.0991	296	404	500/R
2 x 240	240	34	18.4	1.7	1.4	2.50	2.7	60	8,300	0.0754	271	470	300/R
2 x 300	300	34	20.3	1.8	1.6	2.50	2.8	65	9,917	0.0601	260	527	300/R
2 x 400	400	53	23.0	2.0	1.6	2.50	3.1	72	12,300	0.0470	256	595	300/R

**STANDARDS ACHIEVED :**

**Construction**  
- IEC 60228, IEC 60502-1  
Flame propagation  
- IEC 60332-1  
- IEC 60332-3-22 (Category A)  
Acid gas emission  
- IEC 60754-1  
pH and conductivity  
- IEC 60754-2  
Smoke emission  
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire. With metallic armour, the cable is suitable for installation in areas where special mechanical protection is required.

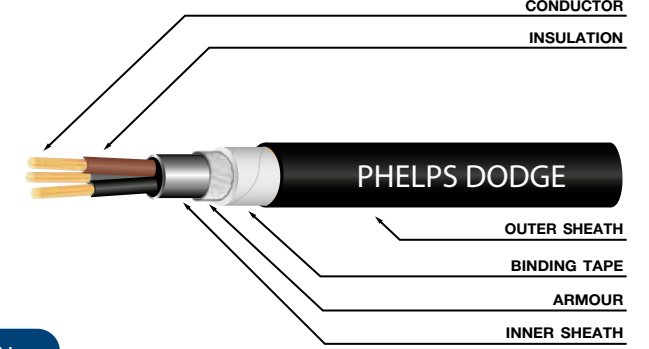
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVAc or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE  
THREE CORES CABLES WITH ARMOUR**



**CONSTRUCTION :**

**Conductor** : Round concentric lay stranded or Compact round stranded copper  
**Insulation** : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey Colour.  
**Inner Sheath** : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour  
**Armour** : Galvanized steel wire  
**Binding Tape** : Polyester or other suitable binding tape  
**Outer Sheath** : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Black Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Armour Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)										
3 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.8	15	390	12.1	1,024	23	500/R
3 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.8	17	451	7.41	853	31	500/R
3 x 4	4	7	2.5	0.7	1.0	0.80	1.8	18	533	4.61	708	41	500/R
3 x 6	6	7	3.0	0.7	1.0	0.80	1.8	19	627	3.08	602	51	500/R
3 x 10	10	6	3.7	0.7	1.0	1.25	1.8	21	916	1.83	511	70	500/R
3 x 16	16	6	4.7	0.7	1.0	1.25	1.8	23	1,168	1.15	419	92	500/R
3 x 25	25	6	5.9	0.9	1.0	1.60	1.8	28	1,727	0.727	426	124	500/R
3 x 35	35	6	6.9	0.9	1.0	1.60	1.8	30	2,124	0.524	369	151	500/R
3 x 50	50	6	8.1	1.0	1.0	1.60	1.9	33	2,637	0.387	351	184	500/R
3 x 70	70	12	9.8	1.1	1.2	2.00	2.0	39	3,746	0.268	323	230	500/R
3 x 95	95	15	11.3	1.1	1.2	2.00	2.2	42	4,683	0.193	284	282	500/R
3 x 120	120	18	12.8	1.2	1.2	2.00	2.3	46	5,609	0.153	275	326	500/R
3 x 150	150	18	14.3	1.4	1.4	2.50	2.5	53	7,191	0.124	285	372	500/R
3 x 185	185	30	15.7	1.6	1.4	2.50	2.6	57	8,585	0.0991	296	427	500/R
3 x 240	240	34	18.4	1.7	1.6	2.50	2.8	64	10,788	0.0754	271	499	300/R
3 x 300	300	34	20.3	1.8	1.6	2.50	3.0	69	12,937	0.0601	260	568	300/R
3 x 400	400	53	23.0	2.0	1.6	2.50	3.2	76	16,129	0.0470	256	650	300/R

**STANDARDS ACHIEVED :**

**Construction**

- IEC 60228, IEC 60502-1
- Flame propagation
- IEC 60332-1
- IEC 60332-3-22 (Category A)
- Acid gas emission
- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For power distribution installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire. With metallic armour, the cable is suitable for installation in areas where special mechanical protection is required.

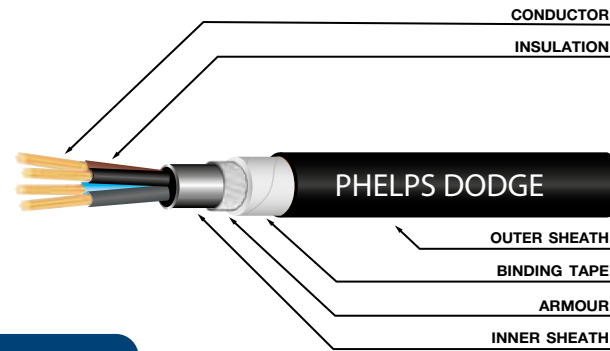
**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

3.5 kVac or 8.4 kVdc

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE  
FOUR CORES CABLES WITH ARMOUR**



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper  
Insulation : Cross-linked polyethylene (XLPE)  
Colour : Brown, Black, Grey, Light Blue Colour.  
Inner Sheath : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour  
Armour : Galvanized steel wire  
Binding Tape : Polyester or other suitable binding tape  
Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Black Colour. Other colours to special order



SIZE Core x mm <sup>2</sup>	Conductor			Nominal Thickness of Insulation (mm)	Approx. Thickness of Inner Sheath (mm)	Nominal Wire Diameter (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient) A	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)										
4 x 1.5	1.5	7	1.6	0.7	1.0	0.80	1.8	16	434	12.1	1,024	23	500/R
4 x 2.5	2.5	7	2.0	0.7	1.0	0.80	1.8	17	507	7.41	853	31	500/R
4 x 4	4	7	2.5	0.7	1.0	0.80	1.8	19	606	4.61	708	41	500/R
4 x 6	6	7	3.0	0.7	1.0	1.25	1.8	21	862	3.08	602	51	500/R
4 x 10	10	6	3.7	0.7	1.0	1.25	1.8	23	1,068	1.83	511	70	500/R
4 x 16	16	6	4.7	0.7	1.0	1.60	1.8	25	1,518	1.15	419	92	500/R
4 x 25	25	6	5.9	0.9	1.0	1.60	1.8	30	2,070	0.727	426	124	500/R
4 x 35	35	6	6.9	0.9	1.0	1.60	1.9	33	2,580	0.524	369	151	500/R
4 x 50	50	6	8.1	1.0	1.0	1.60	2.0	36	3,236	0.387	351	184	500/R
4 x 70	70	12	9.8	1.1	1.2	2.00	2.2	42	4,601	0.268	323	230	500/R
4 x 95	95	15	11.3	1.1	1.2	2.00	2.3	46	5,788	0.193	284	282	500/R
4 x 120	120	18	12.8	1.2	1.4	2.50	2.5	52	7,486	0.153	275	326	300/R
4 x 150	150	18	14.3	1.4	1.4	2.50	2.6	57	8,933	0.124	285	372	300/R
4 x 185	185	30	15.7	1.6	1.4	2.50	2.8	62	10,726	0.0991	296	427	300/R
4 x 240	240	34	18.4	1.7	1.6	2.50	3.0	70	13,540	0.0754	271	499	300/R
4 x 300	300	34	20.3	1.8	1.6	2.50	3.2	75	16,273	0.0601	260	568	300/R
4 x 400	400	53	23.0	2.0	1.8	3.15	3.5	85	21,519	0.0470	256	650	300/R

**STANDARDS ACHIEVED :**

**Construction**

- IEC 60228, IEC 60502-1
- Flame propagation
- IEC 60332-1
- IEC 60332-3-22 (Category A)
- Acid gas emission
- IEC 60754-1
- pH and conductivity
- IEC 60754-2
- Smoke emission
- IEC 61034

**APPLICATION :**

For supervisory electrical equipment, station control circuits installed in air, conduit, duct, trench and tray which provide flame retardant, low smoke and low toxic emission under fire.

**CLASSIFICATION :**

Maximum conductor temperature: 90°C  
Rated voltage  $U_0/U$  ( $U_m$ ): 0.6/1 (1.2) kV  
600 Volts between conductor and earth  
1000 Volts between conductors  
1200 Volts maximum system voltage

**VOLTAGE TEST :**

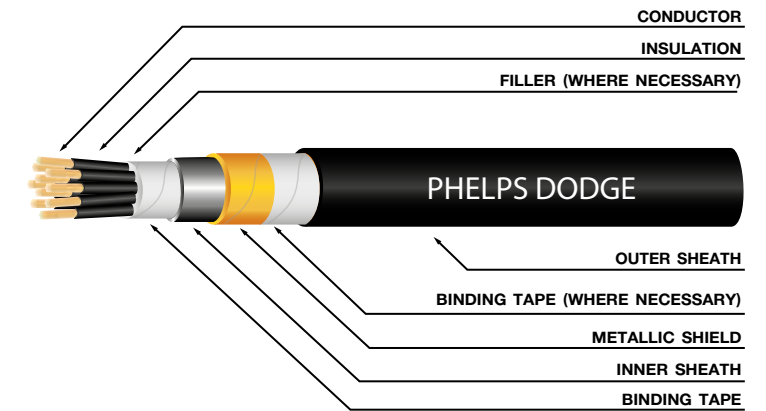
3.5 kVac or 8.4 kVdc



**CONSTRUCTION :**

- Conductor : Round concentric lay stranded or Compact round stranded copper  
Insulation : Cross-linked polyethylene (XLPE)  
Colour : Black Colour with marked core number.  
Filler : Non-hygroscopic material  
Binding Tape : Polyester or other suitable binding tape  
Inner Sheath : Flame retardant Low smoke & halogen free compound (LSHF)  
Colour : Black Colour  
Metallic Shield : Annealed copper tape  
Binding Tape : Polyester or other suitable binding tape (Where necessary).  
Outer Sheath : Flame retardant Low smoke & halogen free compound (LSHF : ST8)  
Colour : Black Colour.  
Other colours to special order

**0.6/1(1.2) kV FLAME RETARDANT LOW SMOKE & HALOGEN FREE  
CONTROL CABLES WITH METALLIC SHIELD**



	Control Cable 2 Cores		Control Cable 14 Cores
	Control Cable 3 Cores		Control Cable 16 Cores
	Control Cable 4 Cores		Control Cable 19 Cores
	Control Cable 5 Cores		Control Cable 20 Cores
	Control Cable 6 Cores		Control Cable 21 Cores
	Control Cable 7 Cores		Control Cable 24 Cores
	Control Cable 8 Cores		Control Cable 27 Cores
	Control Cable 9 Cores		Control Cable 30 Cores
	Control Cable 10 Cores		
	Control Cable 12 Cores		



No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
2	1.5	7	1.6	0.7	1.0	1.8	14	223	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	14	260	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	15	310	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	17	372	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	18	474	1.83	511	500
3	1.5	7	1.6	0.7	1.0	1.8	14	248	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	15	296	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	16	362	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	17	443	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	19	583	1.83	511	500
4	2	7	1.6	0.7	1.0	1.8	15	282	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	16	341	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	17	425	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	18	528	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	20	708	1.83	511	500
5	1.5	7	1.6	0.7	1.0	1.8	16	319	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	17	390	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	18	492	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	20	617	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	21	838	1.83	511	500
6	1.5	7	1.6	0.7	1.0	1.8	17	357	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	18	440	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	19	560	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	21	709	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	23	971	1.83	511	500
7	1.5	7	1.6	0.7	1.0	1.8	17	372	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	18	464	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	19	597	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	21	762	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	23	1,059	1.83	511	500

No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
8	1.5	7	1.6	0.7	1.0	1.8	17	411	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	19	516	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	21	668	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	22	856	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	25	1,195	1.83	511	500
9	1.5	7	1.6	0.7	1.0	1.8	18	451	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	20	568	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	22	740	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	24	951	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	26	1,333	1.83	511	500
10	1.5	7	1.6	0.7	1.0	1.8	20	497	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	21	629	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	23	822	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	25	1,060	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	29	1,487	1.83	511	500
11	1.5	7	1.6	0.7	1.0	1.8	20	513	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	21	653	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	23	858	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	25	1,113	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	29	1,575	1.83	511	500
12	1.5	7	1.6	0.7	1.0	1.8	20	541	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	22	692	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	24	914	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	26	1,189	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	29	1,690	1.83	511	500
13	1.5	7	1.6	0.7	1.0	1.8	21	578	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	23	742	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	25	983	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	28	1,281	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	31	1,824	1.83	511	500

No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
14	1.5	7	1.6	0.7	1.0	1.8	21	592	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	23	765	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	25	1,019	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	28	1,334	3.08	602	500
	10	6	3.7	0.7	1.0	1.8	31	1,911	1.83	511	500
15	1.5	7	1.6	0.7	1.0	1.8	22	633	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	24	819	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	26	1,091	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	29	1,431	3.08	602	500
	10	6	3.7	0.7	1.0	1.9	32	2,071	1.83	511	500
16	1.5	7	1.6	0.7	1.0	1.8	22	649	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	24	843	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	26	1,128	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	29	1,485	3.08	602	500
	10	6	3.7	0.7	1.0	1.9	32	2,159	1.83	511	500
17	2	7	1.6	0.7	1.0	1.8	22	663	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	25	863	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	28	1,157	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	30	1,525	3.08	602	500
	10	6	3.7	0.7	1.0	1.9	34	2,226	1.83	511	500
18	1.5	7	1.6	0.7	1.0	1.8	22	681	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	25	891	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	28	1,199	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	30	1,586	3.08	602	500
	10	6	3.7	0.7	1.0	1.9	34	2,323	1.83	511	500
19	1.5	7	1.6	0.7	1.0	1.8	22	700	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	25	918	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	28	1,241	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	30	1,647	3.08	602	500
	10	6	3.7	0.7	1.0	1.9	34	2,420	1.83	511	500

No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
20	1.5	7	1.6	0.7	1.0	1.8	23	735	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	26	966	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	29	1,306	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	32	1,734	3.08	602	500
	10	6	3.7	0.7	1.2	2.0	36	2,608	1.83	511	500
21	1.5	7	1.6	0.7	1.0	1.8	23	754	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	26	994	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	29	1,349	4.61	708	500
	6	7	3.0	0.7	1.0	1.8	32	1,794	3.08	602	500
	10	6	3.7	0.7	1.2	2.0	36	2,705	1.83	511	500
22	1.5	7	1.6	0.7	1.0	1.8	24	790	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	27	1,042	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	30	1,414	4.61	708	500
	6	7	3.0	0.7	1.0	1.9	33	1,901	3.08	602	500
	10	6	3.7	0.7	1.2	2.1	38	2,858	1.83	511	500
23	1.5	7	1.6	0.7	1.0	1.8	24	808	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	27	1,069	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	30	1,456	4.61	708	500
	6	7	3.0	0.7	1.0	1.9	33	1,962	3.08	602	500
	10	6	3.7	0.7	1.2	2.1	38	2,955	1.83	511	500
24	1.5	7	1.6	0.7	1.0	1.8	25	849	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	28	1,122	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	32	1,527	4.61	708	500
	6	7	3.0	0.7	1.2	1.9	35	2,095	3.08	602	500
	10	6	3.7	0.7	1.2	2.1	40	3,096	1.83	511	500
25	1.5	7	1.6	0.7	1.0	1.8	25	867	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	28	1,150	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	32	1,569	4.61	708	500
	6	7	3.0	0.7	1.2	1.9	35	2,155	3.08	602	500
	10	6	3.7	0.7	1.2	2.1	40	3,193	1.83	511	500



No. of Cores	Conductor			Nominal Thickness of Insulation (mm)	Approx Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Overall Diameter (Approx.) (mm)	Cable Weight (Approx.) (kg / km)	Maximum Conductor Resistance at 20 °C (Ω / km)	Minimum Insulation Resistance at 20 °C (MΩ · km)	Standard Packing (m/R)
	Cross Sectional Area (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.) (mm)								
26	1.5	7	1.6	0.7	1.0	1.8	25	886	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	28	1,178	7.41	853	500
	4	7	2.5	0.7	1.0	1.8	32	1,611	4.61	708	500
	6	7	3.0	0.7	1.2	1.9	35	2,216	3.08	602	500
	10	6	3.7	0.7	1.2	2.1	40	3,290	1.83	511	500
27	1.5	7	1.6	0.7	1.0	1.8	26	913	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	29	1,216	7.41	853	500
	4	7	2.5	0.7	1.0	1.9	32	1,684	4.61	708	500
	6	7	3.0	0.7	1.2	2.0	36	2,313	3.08	602	500
	10	6	3.7	0.7	1.2	2.1	41	3,405	1.83	511	500
28	1.5	7	1.6	0.7	1.0	1.8	27	946	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	30	1,260	7.41	853	500
	4	7	2.5	0.7	1.0	1.9	33	1,746	4.61	708	500
	6	7	3.0	0.7	1.2	2.0	38	2,398	3.08	602	500
	10	6	3.7	0.7	1.2	2.2	42	3,556	1.83	511	500
29	1.5	7	1.6	0.7	1.0	1.8	27	964	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	30	1,288	7.41	853	500
	4	7	2.5	0.7	1.0	1.9	33	1,788	4.61	708	500
	6	7	3.0	0.7	1.2	2.0	38	2,459	3.08	602	500
	10	6	3.7	0.7	1.2	2.2	42	3,653	1.83	511	500
30	1.5	7	1.6	0.7	1.0	1.8	27	983	12.1	1,024	500
	2.5	7	2.0	0.7	1.0	1.8	30	1,316	7.41	853	500
	4	7	2.5	0.7	1.0	1.9	33	1,830	4.61	708	500
	6	7	3.0	0.7	1.2	2.0	38	2,520	3.08	602	500
	10	6	3.7	0.7	1.2	2.2	42	3,750	1.83	511	500

#### STANDARDS ACHIEVED :

##### Construction

- BS EN 50525-3-41, IEC 60228

Circuit integrity

- BS 6387 Category CWZ

- IEC 60331-21

Flame propagation

- IEC 60332-1

- IEC 60332-3-22 (Category A)

Acid gas emission

- IEC 60754-1

pH and conductivity

- IEC 60754-2

Smoke emission

- IEC 61034

##### APPLICATION :

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

##### CLASSIFICATION :

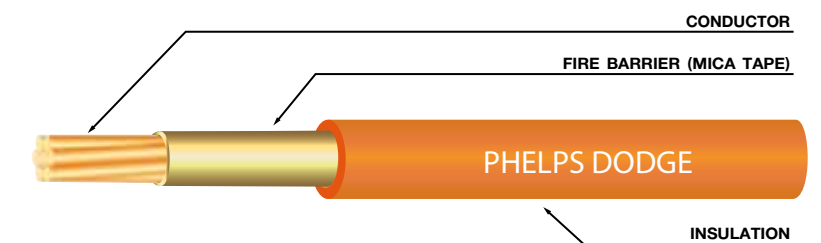
Maximum conductor temperature: 90°C

\*Rated voltage (U<sub>0</sub>/U): 600/1000 V for fixed installations with mechanical protection, within switchgear and control gear. 450/750 V for other installation.

##### VOLTAGE TEST :

2.5 kVac

### 600/1000 V\* FIRE RESISTANT LOW SMOKE & HALOGEN FREE SINGLE CORE CABLES (NON-SHEATHED)



#### CONSTRUCTION :

Conductor : Round concentric lay stranded

or round compact stranded copper

Fire Barrier : Fire resistant tape (Mica)

Insulation : Flame retardant Low smoke & Halogen

free Cross-linked polyethylene (LSHF-XLPE : EI5).

Colour : Orange Colour (Other colours to special order).



SIZE	Conductor			Thickness of Insulation (Specified value)	Overall Diameter (Approx.)	Cable Weight (Approx.)	Maximum Conductor Resistance at 20 °C	Minimum Insulation Resistance at 90 °C	Allowable Ampacities In Free Air at 40 °C (ambient)		Standard Packing						
	Cross Sectional Area	Minimum Number of Wires	Diameter (Approx.)														
																Flat	Trefoil
Core x mm <sup>2</sup>	(mm <sup>2</sup> )		(mm)	(mm)	(mm)	(kg / km)	(Ω / km)	(MΩ · km)			(m/R)						
1 x 1.5	1.5	7	1.6	0.7	6	36	12.1	0.010	22	18	100/C						
1 x 2.5	2.5	7	2.0	0.8	7	50	7.41	0.009	30	25	100/C						
1 x 4	4	7	2.5	0.8	7	58	4.61	0.0077	40	34	100/C						
1 x 6	6	7	3.0	0.8	7	80	3.08	0.0065	52	44	100/C						
1 x 10	10	6	3.7	1.0	8	122	1.83	0.0065	73	62	500/R						
1 x 16	16	6	4.7	1.0	9	180	1.15	0.0050	99	83	500/R						
1 x 25	25	6	5.9	1.2	11	277	0.727	0.0050	136	115	500/R						
1 x 35	35	6	6.9	1.2	12	370	0.524	0.0043	169	142	500/R						
1 x 50	50	6	8.1	1.4	13	498	0.387	0.0043	209	177	500/R						
1 x 70	70	12	9.8	1.4	15	699	0.268	0.0035	268	226	500/R						
1 x 95	95	15	11.3	1.6	17	962	0.193	0.0035	334	282	500/R						
1 x 120	120	18	12.8	1.6	19	1,192	0.153	0.0032	392	330	500/R						
1 x 150	150	18	14.3	1.8	20	1,472	0.124	0.0032	455	383	500/R						
1 x 185	185	30	15.7	2.0	22	1,836	0.0991	0.0032	527	443	500/R						
1 x 240	240	34	18.4	2.2	25	2,396	0.0754	0.0032	639	536	500/R						
1 x 300	300	34	20.3	2.4	28	2,995	0.0601	0.0030	741	619	500/R						
1 x 400	400	53	23.0	2.6	31	3,807	0.0470	0.0028	873	723	500/R						
1 x 500	500	53	26.1	2.8	34	4,849	0.0366	0.0028	1027	841	500/R						
1 x 630	630	53	30.0	2.8	38	6,207	0.0283	0.0025	1208	971	500/R						

STANDARDS ACHIEVED :

Construction

- BS EN 50525-3-41, IEC 60228
- Flame propagation
  - IEC 60332-1
  - IEC 60332-3-22 (Category A)

Acid gas emission

- IEC 60754-1

pH and conductivity

- IEC 60754-2

Smoke emission

- IEC 61034

APPLICATION :

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

CLASSIFICATION :

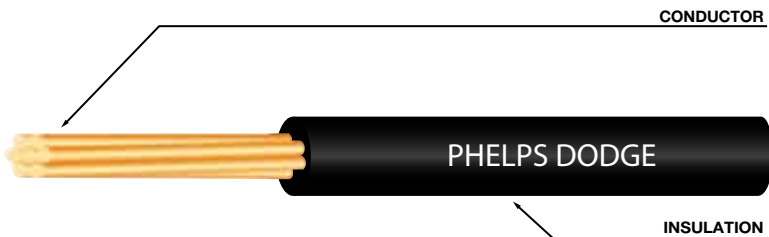
Maximum conductor temperature: 90°C

\*Rated voltage (U<sub>0</sub>/U): 600/1000 V for fixed installations with mechanical protection, within switchgear and control gear. 450/750 V for other installation.

VOLTAGE TEST :

2.5 kVac

600/1000 V\* FLAME RETARDANT LOW SMOKE & HALOGEN-FREE  
SINGLE CORE CABLES (NON-SHEATHED)



CONSTRUCTION :

- Conductor : Round concentric lay stranded  
or round compact stranded copper
- Insulation : Flame retardant Low smoke & Halogen  
free Cross-linked polyethylene (LSHF-XLPE : E15).  
Colour : Black Colour (Other colours to special order).



SIZE  Core x mm <sup>2</sup>	Conductor			Thickness of Insulation (Specified value)  (mm)	Overall Diameter (Approx.)  (mm)	Cable Weight (Approx.)  (kg / km)	Maximum Conductor Resistance at 20 °C  (Ω / km)	Minimum Insulation Resistance at 90 °C  (MΩ · km)	Allowable Ampacities In Free Air at 40 °C (ambient)		Standard Packing  (m/R)
	Cross Sectional Area  (mm <sup>2</sup> )	Minimum Number of Wires	Diameter (Approx.)  (mm)						Flat	Trefoil	
									A	A	
1 x 1.5	1.5	7	1.6	0.7	4	21	12.1	0.010	22	18	100/C
1 x 2.5	2.5	7	2.0	0.8	5	33	7.41	0.009	30	25	100/C
1 x 4	4	7	2.5	0.8	5	48	4.61	0.0077	40	34	100/C
1 x 6	6	7	3.0	0.8	6	67	3.08	0.0065	52	44	100/C
1 x 10	10	6	3.7	1.0	7	109	1.83	0.0065	73	62	500/R
1 x 16	16	6	4.7	1.0	8	165	1.15	0.0050	99	83	500/R
1 x 25	25	6	5.9	1.2	9	259	0.727	0.0050	136	115	500/R
1 x 35	35	6	6.9	1.2	10	350	0.524	0.0043	169	142	500/R
1 x 50	50	6	8.1	1.4	12	474	0.387	0.0043	209	177	500/R
1 x 70	70	12	9.8	1.4	14	664	0.268	0.0035	268	226	500/R
1 x 95	95	15	11.3	1.6	16	913	0.193	0.0035	334	282	500/R
1 x 120	120	18	12.8	1.6	17	1,136	0.153	0.0032	392	330	500/R
1 x 150	150	18	14.3	1.8	19	1,400	0.124	0.0032	455	383	500/R
1 x 185	185	30	15.7	2.0	21	1,753	0.0991	0.0032	527	443	500/R
1 x 240	240	34	18.4	2.2	24	2,297	0.0754	0.0032	639	536	500/R
1 x 300	300	34	20.3	2.4	27	2,867	0.0601	0.0030	741	619	500/R
1 x 400	400	53	23.0	2.6	30	3,733	0.0470	0.0028	873	723	500/R
1 x 500	500	53	26.1	2.8	33	4,764	0.0366	0.0028	1027	841	500/R
1 x 630	630	53	30.0	2.8	37	6,113	0.0283	0.0025	1208	971	500/R



