



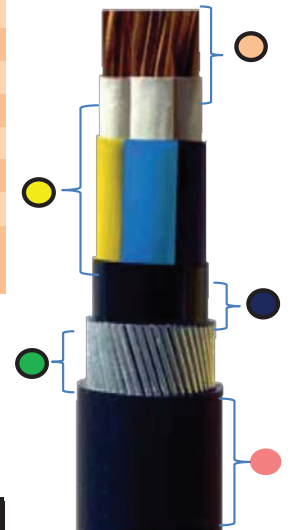
## FR CABLE

## BS 7846 /6387



















FR CABLE cables are multi-core armoured cables designed as per BS 7846 with steel wire armour construction.

- Conductor Plain annealed Copper, stranded class 2 conductor to IEC 60228
- Dual Insulation Special grade of Mica Glass tape + XLPE
- Bedding LSZH
- Armour Galvanised steel wire armoured
- Outer Sheath Robust LSZH sheath with Black colour as standard, other colours upon request

General	FR CABLE are armoured cables designed as per BS 7846 to meet C-W-Z fire test as per BS 6387
Voltage Grade	600 / 1000 V
Fire Resistance	C-W-Z test as per BS 6387
Flame propagation	BS EN / IEC 60332-1 and BS EN / IEC 60332-3 Categories A, B & C
Acid gas emission	Less than 0.5% when tested to IEC 60754
Low smoke emission	As per IEC 61034
Cable operating temperature	Maximum 90°C
Short circuit temperature	Maximum 250°C
Bending radius	6 x Cable diameter for circular and 8 x Cable diameter for sector shaped cables



### CORE IDENTIFICATION

STANDARD	ALTERNATIVE*
 Red  Black	 Blue  Brown
 Red  Yellow  Blue	 Blue  Black  Gray
 Red  Yellow  Blue  Black	 Blue  Brown  Black  Gray



## Technical Data of 2 Core Cables

Fire resistant cables. Two Core Armoured Cables 600/1000 V Grade with stranded copper conductors (BS 7846 & BS 6387)

Nominal conductor area	Thickness of insulation	Thickness of extruded bedding	Nominal armour wire diameter	Thickness of Outer Sheath	Approximate Overall Diameter	Maximum conductor resistance at 20 °C	Maximum armour resistance at 20 °C	Standared Packing length	Drum Size	Current rating on perforated cable trays/free air	Voltage drop (1Φ AC)
mm <sup>2</sup>	mm	mm	mm	mm	mm	Ohm/km	Ohm/km	Meter		Amp	mV/A/m
1.5*	0.6	0.8	0.9	1.3	11.52	12.1	10.20	1000	D-8	29	31
2.5*	0.7	0.8	0.9	1.4	13.02	7.41	8.80	1000	D-9	39	19
4*	0.7	0.8	0.9	1.4	14.1	4.61	7.90	1000	D-10	52	12
6*	0.7	0.8	0.9	1.4	15.2	3.08	7.00	1000	D-10	66	7.9
10*	0.7	0.8	0.9	1.5	16.8	1.83	6.00	1000	D-11	90	4.7
16*	0.7	0.8	1.25	1.5	19.3	1.15	3.70	1000	D-12	115	2.9
25	0.9	0.8	1.25	1.6	18.85	0.727	3.70	1000	D-12	152	1.9
35	0.9	1.0	1.6	1.7	21.64	0.524	2.60	1000	D-12	188	1.35
50	1.0	1.0	1.6	1.8	24.08	0.387	2.30	1000	D-12	228	1.00
70	1.1	1.0	1.6	1.9	26.75	0.268	2.00	1000	D-16	291	0.69
95	1.1	1.2	2.0	2.0	30.35	0.193	1.40	1000	D-18	354	0.52
120	1.2	1.2	2.0	2.1	32.90	0.153	1.30	500	D-18	410	0.42
150	1.4	1.2	2.0	2.2	35.95	0.124	1.20	500	D-19	472	0.35
185	1.6	1.4	2.5	2.4	40.70	0.0991	0.82	500	D-18	539	0.29
240	1.7	1.4	2.5	2.5	44.35	0.0754	0.73	500	D-18	636	0.24
300	1.8	1.6	2.5	2.6	48.22	0.0601	0.67	500	D-18	732	0.21

\* Circular conductors, all others are sector shaped

- Installation conditions for above rating:
- Ambient Air Temperature 30°C
- Conductor operating temperature 90°C

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## Technical Data of 3 Core Cables

Fire resistant cables. Three Core Armoured Cables 600/1000 V Grade with stranded copper conductors (BS 7846 & BS 6387)

Nominal conductor area	Thickness of insulation	Thickness of extruded bedding	Nominal armour wire diameter	Thickness of sheath	Approximate Overall Diameter	Maximum conductor resistance at 20°C	Maximum armour resistance at 20°C	Standard Packing length	Drum Size	Current rating on perforated cable trays/free air	Voltage drop (3Φ AC)
mm <sup>2</sup>	mm	mm	mm	mm	mm	Ohm/km	Ohm/km	Meter		Amp	mV/A/m
1.5*	0.6	0.8	0.9	1.3	11.96	12.1	9.50	1000	D-9	25	27.0
2.5*	0.7	0.8	0.9	1.4	13.56	7.41	8.20	1000	D-9	33	16.0
4*	0.7	0.8	0.9	1.4	14.73	4.61	7.50	1000	D-9	44	10.0
6*	0.7	0.8	0.9	1.4	15.96	3.08	6.70	1000	D-10	56	6.80
10*	0.7	0.8	1.25	1.5	18.3	1.83	4.00	1000	D-11	78	4.00
16*	0.7	0.8	1.25	1.6	20.5	1.15	3.50	1000	D-11	99	2.50
25	0.9	1.0	1.6	1.7	22.7	0.727	2.50	1000	D-14	131	1.65
35	0.9	1.0	1.6	1.8	24.8	0.524	2.30	1000	D-14	162	1.15
50	1.0	1.0	1.6	1.8	27.6	0.387	2.00	1000	D-16	197	0.87
70	1.1	1.0	1.6	1.9	30.9	0.268	1.80	1000	D-18	251	0.60
95	1.1	1.2	2.0	2.1	35.35	0.193	1.30	1000	D-19	304	0.45
120	1.2	1.2	2.0	2.2	38.45	0.153	1.20	1000	D-20	353	0.37
150	1.4	1.4	2.5	2.3	43.55	0.124	0.78	500	D-18	406	0.30
185	1.6	1.4	2.5	2.4	47.4	0.0991	0.71	500	D-18	463	0.26
240	1.7	1.4	2.5	2.6	52.1	0.0754	0.63	500	D-20	546	0.21
300	1.8	1.6	2.5	2.7	56.9	0.0601	0.58	500	D-21	628	0.185
400	2.0	1.6	2.5	2.9	63.65	0.047	0.52	500	D-22	728	0.165

\* Circular conductors, all others are sector shaped

- Installation conditions for above rating:
- Ambient Air Temperature 30°C
- Conductor operating temperature 90°C

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## Technical Data of 4 Core Cables

Fire resistant cables. Four Core Armoured Cables 600/1000 V Grade with stranded copper conductors (BS 7846 & BS 6387)

Nominal conductor area	Thickness of Insulation	Thickness of extruded bedding	Nominal armour wire diameter	Thickness of sheath	Approximate Overall Diameter	Maximum conductor resistance at 20°C	Maximum armour resistance at 20°C	Standard Packing length	Drum Size	Current rating on perforated cable trays/free air	Voltage drop (3Φ AC)
mm <sup>2</sup>	mm	mm	mm	mm	mm	Ohm/km	Ohm/km	Meter		Amp	mV/A/m
1.5*	0.60	0.8	0.90	1.3	12.67	12.1	8.8	1000	D-9	25	27
2.5*	0.70	0.8	0.90	1.4	14.45	7.41	7.7	1000	D-9	33	16
4*	0.70	0.8	0.90	1.4	15.75	4.61	6.8	1000	D-10	44	10
6*	0.70	0.8	1.25	1.5	18.00	3.08	4.3	1000	D-10	56	6.8
10*	0.70	0.8	1.25	1.5	19.70	1.83	3.7	1000	D-11	78	4.0
16*	0.70	0.8	1.25	1.6	22.00	1.15	3.1	1000	D-12	99	2.50
25	0.90	1.0	1.60	1.7	25.50	0.727	2.3	1000	D-16	131	1.65
35	0.90	1.0	1.60	1.8	27.70	0.524	2	1000	D-16	162	1.15
50	1.00	1.0	1.60	1.9	30.90	0.387	1.8	1000	D-18	197	0.87
70	1.10	1.2	2.00	2.1	37.25	0.268	1.2	1000	D-19	251	0.60
95	1.10	1.2	2.00	2.2	41.05	0.193	1.1	500	D-18	304	0.45
120	1.20	1.4	2.50	2.3	46.20	0.153	0.76	500	D-18	353	0.37
150	1.40	1.4	2.50	2.4	50.70	0.124	0.68	500	D-20	406	0.30
185	1.60	1.4	2.50	2.6	55.50	0.0991	0.61	500	D-20	463	0.26
240	1.70	1.6	2.50	2.7	60.00	0.0754	0.54	500	D-22	546	0.21
300	1.80	1.6	2.50	2.9	67.00	0.0601	0.49	500	D-24	628	0.185
400	2.00	1.8	3.15	3.2	76.40	0.047	0.35	500	D-24	728	0.165

\* Circular conductors, all others are sector shaped

- Installation conditions for above rating:
- Ambient Air Temperature 30°C
- Conductor operating temperature 90°C

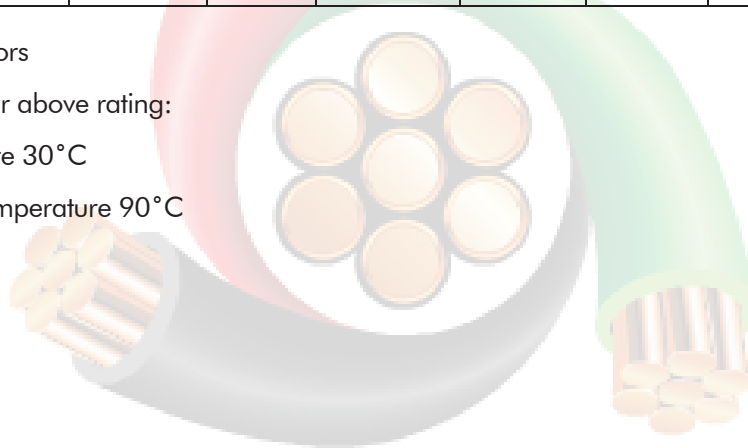
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## Technical Data of 5 Core Cables

Fire resistant cables. Five Core Armoured Cables 600/1000 V Grade with stranded copper conductors(BS 7846 & BS 6387)

Nominal conductor area	Thickness of Insulation	Thickness of extruded bedding	Nominal armour wire diameter	Thikness of sheath	Approximate Overall Diameter	Maximum conductor resistance at 20°C	Maximum armour resistance at 20°C	Standered Packing length	Drum Size	Current rating on perforated cable trays/free air	Voltage drop (3Φ A)
mm <sup>2</sup>	mm	mm	mm	mm	mm	Ohm/km	Ohm/km	Meter		Amp	mV/A
1.5	0.60	0.80	0.90	1.40	13.70	12.1	8.2	1000	D-10	25	27
2.5	0.70	0.80	0.90	1.40	15.35	7.41	6.8	1000	D-10	33	16
4	0.70	0.80	0.90	1.50	17.05	4.61	6.2	1000	D-11	44	10
6	0.70	0.80	1.25	1.50	19.30	3.08	3.9	1000	D-12	56	6.8
10	0.70	0.80	1.25	1.60	21.30	1.83	3.4	1000	D-12	78	4.0
16	0.70	1.00	1.60	1.70	25.00	1.15	2.2	1000	D-16	99	2.50
25	0.90	1.00	1.60	1.80	29.30	0.727	1.8	1000	D-18	131	1.65
35	0.90	1.00	1.60	1.90	31.90	0.524	1.6	1000	D-18	162	1.15
50	1.00	1.20	2.00	2.00	37.00	0.387	1.1	1000	D-20	197	0.87
70	1.10	1.20	2.00	2.20	42.00	0.268	0.94	500	D-18	251	0.60

- All are Circular conductors
- Installation conditions for above rating:
- Ambient Air Temperature 30°C
- Conductor operating temperature 90°C



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### Technical Data For Multi Core Cables

Fire resistant cables. Armoured Auxiliary Cables 600/1000 V Grade with stranded copper conductors (BS 7846 & BS 6387)

Number of Cores	Nominal Conductor area	Thickness of insulation	Thickness of extruded bedding	Nominal armour wire diameter	Thickness of sheath	Approximate Overall Diameter	Maximum conductor resistance at 20°C	Maximum armour resistance at 20°C	Current rating on perforated cable trays/free air (Multi circuit operation)	Current rating on perforated cable trays/free air (Single circuit operation)	Voltage drop (3Φ AC)
	mm <sup>2</sup>	mm	mm	mm	mm	mm	ohm/km	ohm/km	Amp	Amp	Amp
600/1000 V Copper power and control cables											
7	1.5	0.60	0.80	0.90	1.40	15	12.1	7.50	19	29	27
12		0.60	0.80	1.25	1.50	19	12.1	4.00	16	29	27
19		0.60	0.80	1.25	1.60	22	12.1	3.50	14	29	27
27		0.60	1.00	1.60	1.70	26	12.1	2.30	12	29	27
37		0.60	1.00	1.60	1.70	28	12.1	2.00	11	29	27
48		0.60	1.00	1.60	1.80	32	12.1	1.80	10	29	27
7	2.5	0.70	0.80	0.90	1.40	16.5	7.41	6.30	25	39	16
12		0.70	0.80	1.25	1.60	22	7.41	3.50	21	39	16
19		0.70	1.00	1.60	1.70	26	7.41	2.30	18	39	16
27		0.70	1.00	1.60	1.80	30	7.41	1.90	17	39	16
37		0.70	1.00	1.60	1.80	33	7.41	1.70	15	39	16
48		0.70	1.20	2.00	2.00	39	7.41	1.20	14	39	16
7	4	0.70	0.80	1.25	1.50	19	4.61	4.00	33	52	10
12		0.70	1.00	1.60	1.60	25.5	4.61	2.30	28	52	10
19		0.70	1.00	1.60	1.70	29	4.61	2.00	24	52	10
27		0.70	1.00	1.60	1.90	34	4.61	1.70	22	52	10
37		0.70	1.20	2.00	2.00	39	4.61	1.20	19	52	10
48		0.70	1.20	2.00	2.10	44	4.61	1.00	17	52	10

\* Multi circuit means all conductors are loaded equally and operating in close vicinity

- Installation conditions for above rating:
- Ambient Air Temperature 30°C
- Conductor operating temperature 90°C