Ducab FlamBICC 3

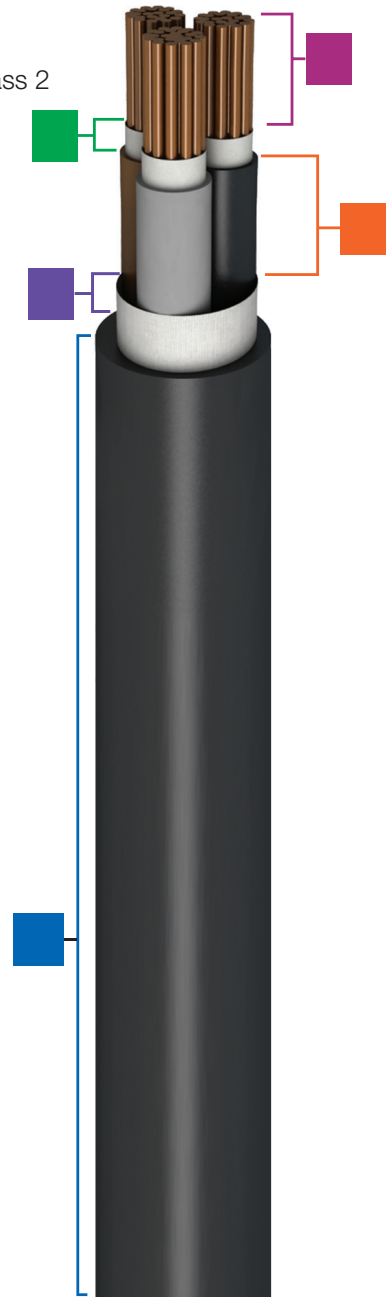
LPCB Certificates 781,782 & 949

DUCAB FLAMBICC 3 MULTICORE

Ducab FlamBICC 3 Multicore cables are un-armoured Fire Performance power and control cables designed to meet C-W-Z test as per BS 6387 and IEC 60331 test at increased temperature of 950°C. These cables exhibit low emission of smoke and corrosive gases under fire conditions and are suitable for power & control application.

CONSTRUCTION

- **Conductor**: Plain annealed copper conductor complying with BS EN 60228, class 2
- **Primary Insulation**: Mica glass tape
- **Secondary Insulation**: Extruded XLPE.
- **Laying up of cores** with suitable binder tape
- **Sheath**: Robust LSZH (LSHF / LSOH) sheath



CHARACTERISTICS

General:	Ducab FlamBICC 3 Multicore cables are designed as per IEC 60502-1 for applications where fire resistance as per C-W-Z of BS 6387 is required with un-armoured cable construction.
Approvals:	LPCB approved.
Voltage grade:	600 / 1000 V
Fire resistance:	C-W-Z tests as per BS 6387 and IEC 60331-21 fire resistance test at increased temperature of 950°C
Flame Propagation test:	IEC 60332-1-2
Acid gas emission:	Less than 0.5% when tested to IEC 60754 & BS EN 50267
Low smoke emission:	As per IEC 61034 & BS EN 50268
Cable Operating temperature:	Maximum 90°C
Short circuit temperature	Maximum 250°C
Bending radius:	6 x Cable diameter
Colours:	Core identification for 2, 3 and 4 cores as mentioned and Black sheath are standard, other colours available on request.
Key Applications:	Essential safety circuits, fire detection, fire alarm and evacuation. Emergency lighting.

CORE IDENTIFICATIONS

CORES	STANDARD	ALTERNATIVE*
2 cores	Red, Black	Brown, Blue
3 cores	Red, Yellow, Blue	Brown, Black, Grey
4 cores	Red, Yellow, Blue, Black	Blue, Brown, Black, Grey

Ducab FlamBICC 3

TECHNICAL DATA

600/1000 V

No. of Cores	Nominal conductor area	Approximate overall diameter	Approximate cable weight	Maximum conductor resistance at 20°C	Current rating on perforated cable tray / free air	Voltage drop* (mV/A/m)
	mm^2	mm	kg/km	Ω/km	Amp	mV/A/m
2 CORE	1	9.8	95	18.1	21	46
	1.5	10.2	110	12.1	26	31
	2.5	11	135	7.41	36	19
	4	12.2	170	4.61	49	12
	6	13.2	215	3.08	63	7.9
	10	15	305	1.83	86	4.7
	16	16.8	460	1.15	115	2.9
3 CORE	1	10.3	115	18.1	18	40
	1.5	10.8	135	12.1	23	27
	2.5	11.6	170	7.41	32	16
	4	12.9	225	4.61	42	10
	6	14	290	3.08	54	6.8
	10	15.9	415	1.83	75	4.0
	16	17.9	620	1.15	100	2.5
4 CORE	1	11.2	140	18.1	18	40
	1.5	11.7	160	12.1	23	27
	2.5	12.6	205	7.41	32	16
	4	14.1	280	4.61	42	10
	6	15.3	365	3.08	54	6.8
	10	17.5	530	1.83	75	4.0
	16	19.7	800	1.15	100	2.5

Laying conditions:

- 30°C ambient temperature & 90°C operating temperature.
- For other ambient temperatures appropriate rating factors should be applied.

TEMPERATURE RATING FACTORS

Ambient Temperature in °C	25	30	35	40	45	50	55	60
Rating factor	1.02	1.00	0.96	0.91	0.87	0.82	0.76	0.71

2 Core Cables

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

Nominal conductor area	Approximate overall Diameter	Approximate cable weight	Maximum conductor resistance at 20°C	Current rating on perforated cable trays / free air	Voltage drop* (mV/A/m)
mm^2	mm	kg/km	Ohm/km	Amp	mV/A/m
600/1000 V Copper power and control cables					
1.5*	10.2	110	12.1	26	31
2.5*	11	135	7.41	36	19
4*	12.2	170	4.61	49	12
6*	13.2	215	3.08	63	7.9
10*	15	305	1.83	86	4.7
16*	16.8	460	1.15	115	2.9
25*	21.7	693	0.727	152	1.9
35*	23.9	927	0.524	188	1.35
50	19.3	1196	0.387	228	1
70	21.9	1578	0.268	291	0.69
95	24.4	2080	0.193	354	0.52
120	29.2	2551	0.153	430	0.42
150	31.6	2539	0.124	480	0.35
185	34	3860	0.0991	540	0.29
240	38.9	5083	0.0754	630	0.24
300	43.2	6263	0.0601	700	0.21

* Circular conductors, all others are sector shaped
- Installation conditions for above rating:
- Ambient Air Temperature 30°C
- Conductor operating temperature 90°C

3 Core Cables

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

Nominal conductor area	Approximate Overall Diameter	Approximate cable weight	Maximum conductor resistance at 20˚C	Current rating on perforated cable trays / free air	Voltage drop* (mV/A/m)
mm^2	mm	kg/km	Ohm/km	Amp	mV/A/m
600/1000 V Copper power and control cables					
1.5*	10.8	135	12.1	23	27
2.5*	11.6	170	7.41	32	16
4*	12.9	225	4.61	42	10
6*	14	290	3.08	54	6.8
10*	15.9	415	1.83	75	4.0
16*	17.9	620	1.15	100	2.5
25*	23.2	963	0.727	131	1.65
35*	25.6	1229	0.524	162	1.15
50	24.3	1600	0.387	175	0.87
70	26.5	2208	0.268	251	0.60
95	30.3	2991	0.193	304	0.45
120	33.8	3468	0.153	353	0.37
150	38	3993	0.124	406	0.30
185	42.9	5718	0.0991	463	0.26
240	47.3	5946	0.0754	546	0.21
300	52.7	7070	0.0601	628	0.185
400	58.1	8782	0.0470	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

4 Core Cables

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

Nominal conductor area	Approximate Overall Diameter	Approximate cable weight	Maximum conductor resistance at 20°C	Current rating on perforated cable trays / free air	Voltage drop* (mV/A/m)
mm^2	mm	kg/km	Ohm/km	Amp	mV/A/m
600/1000 V Copper power and control cables					
1.5*	11.7	160	12.1	23	27
2.5*	12.6	205	7.41	32	16
4*	14.1	280	4.61	42	10
6*	15.3	365	3.08	54	6.8
10*	17.5	530	1.83	75	4.0
16*	19.7	800	1.15	100	2.5
25*	25.6	1217	0.727	131	1.65
35*	28.3	1597	0.524	162	1.15
50	26.6	2098	0.387	197	0.87
70	30.6	2932	0.268	251	0.60
95	38.4	3950	0.193	304	0.45
120	38.5	4929	0.153	353	0.37
150	42.8	6309	0.124	406	0.30
185	48.1	7775	0.0991	463	0.26
240	53.5	10090	0.0754	546	0.21
300	59.4	12798	0.0601	628	0.185
400	66.9	16032	0.0470	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