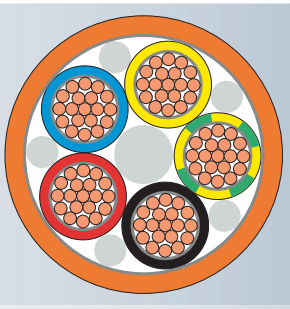
FR-MI 110 / Multicore

BETAflam® Fire Resistant Safety Cables 0.6 /1 kV, acc. to BS 6387 C.W.Z., LSOH



Advantages

- **High safety standard: BS 6387 C.W.Z, fully tested by LPCB**
- **Halogen and silicone free**
- **Operating temperature up to +110 °C**
- **In compliance with RoHS directive**

Application

Multicore Power Cable 0.6 /1 kV for fixed installation in cable systems with improved fire performance and circuit integrity. Use for: Fire Alarm circuits, Fire Detection circuits, Emergency signal / Control circuits, Fire fighting systems (water pumps), Smoke Exhaust Systems etc. Especially recommended in areas where human and animal live as well as valuable property are exposed to risk in case of fire.

Construction

- **Conductor:** Bare annealed copper, acc. IEC 60228 class 2
- **Flame barrier:** MICA tape
- **Insulation:** BETAflam® mineral copolymer, cross-linked
- **Inner covering:** Glass fiber tape
- **Core identification:** See technical information (other colours on request)
- **Sheath:** BETAflam® mineral copolymer, orange (other colours on request)

Technical specification

- **Rated voltage:** U_0/U 0.6 / 1 kV
- **Test voltage:** 4 kV / 50 Hz
- **Temperature range:**
  Operation temperature from – 30 °C to + 110 °C
  Laying temperature from – 5 °C to + 70 °C
  Short circuit temperature + 280 °C (temperature peak ≤ 5 s)
- **Bending radius:**
  During laying > 12 × outer ∅
  Fixed installed > 7 × outer ∅
- **Laying conditions:** For fixed indoor installation in trays, ladders, ducts or concretes. Laying in earth or water only in water-proof dry tubes/ducts.
  Outdoor use only when protected from direct sunlight and other external impacts.
  Special designs with additional UV-, anti termite-, anti rodent-resistance are available on request.

Material properties

- **Halogen free:** IEC 60754-1; BS EN 50267-2-1; VDE 0482-267-2-1
- **No corrosive gases:** IEC 60754-2; BS EN 50267-2-2; VDE 0482-267-2-2
- **No toxic gases:** NES 02-713; NF C20-454; BS EN 50267-2-1
- **Low smoke density:** IEC 61034-1 & -2; BS EN 61034-2; VDE 0482-1034-1 & -2

Fire performance

- **Flame retardant:** IEC 60332-1; BS EN 60332-1; VDE 0482-332-1
- **No flame propagation:** IEC 60332-3-24; EN 60332-3-24; VDE 0482-266-1 & -2-4
- **Circuit integrity:**
  BS 6387 C.W.Z. / ∅ ≤ 20 mm
  IEC 60331-21; VDE 0472-814

Cross section	Part no.	Number of cores	Conductor stranding	Nominal thickness insulation	Nominal diameter core	Nominal thickness sheath	Nominal diameter cable	Approx. weight	Current Rating[1]		AC Voltage Drop		Fire Load
									1 phase[2]	3 phase[2]	1 phase[2]	3 phase[2]	
mm²	LSA		n × ∅ mm	mm	∅ mm	mm	∅ mm	kg / km	A	A	mV / Am	mV / Am	kWh / m
1.5	215091	2C	7 × 0.53	0.60	3.45	1.20	9.70	112	26		24.94		0.29
1.5	215448	2C+E	7 × 0.53	0.60	3.45	1.25	10.30	128	26		24.94		0.30
1.5	215344	3C	7 × 0.53	0.60	3.45	1.25	10.30	128		23		21.60	0.30
1.5	215923	3C+E	7 × 0.53	0.60	3.45	1.25	11.20	181		23		21.60	0.43
1.5	215066	4C	7 × 0.53	0.60	3.45	1.25	11.20	181		23		21.60	0.43
1.5	301858	4C+E	7 × 0.53	0.60	3.45	1.35	12.40	200					0.45
1.5	301859	5C	7 × 0.53	0.60	3.45	1.35	12.40	200					0.45
1.5	301860	7C	7 × 0.53	0.60	3.45	1.45	13.60	252					0.53
1.5	301861	10C	7 × 0.53	0.60	3.45	1.70	17.70	399					0.90
1.5	301862	14C	7 × 0.53	0.60	3.45	1.80	19.00	480					0.99
1.5	301863	19C	7 × 0.53	0.60	3.45	1.90	21.30	626					1.26
1.5	301864	21C	7 × 0.53	0.60	3.45	2.00	22.70	702					1.43
1.5	∅	24C	7 × 0.53	0.60	3.45	2.10	24.70	804					1.64
1.5	∅	33C	7 × 0.53	0.60	3.45	2.30	27.70	1059					2.10
1.5	∅	41C	7 × 0.53	0.60	3.45	2.60	32.40	1387					2.82
2.5	215093	2C	7 × 0.68	0.68	4.00	1.25	10.90	150	36		15.36		0.36
2.5	215811	2C+E	7 × 0.68	0.68	4.00	1.25	11.50	172	36		15.36		0.35
2.5	215067	3C	7 × 0.68	0.68	4.00	1.25	11.50	172		32		13.30	0.35
2.5	219259	3C+E	7 × 0.68	0.68	4.00	1.35	12.90	225		32		13.30	0.46
2.5	215068	4C	7 × 0.68	0.68	4.00	1.35	12.90	225		32		13.30	0.46
2.5	301865	4C+E	7 × 0.68	0.68	4.00	1.45	14.10	279					0.57
2.5	301866	5C	7 × 0.68	0.68	4.00	1.45	14.10	279					0.57
2.5	301867	7C	7 × 0.68	0.68	4.00	1.55	15.50	375					0.74
2.5	301868	10C	7 × 0.68	0.68	4.00	1.90	20.60	570					1.19
2.5	301869	12C	7 × 0.68	0.68	4.00	1.90	20.60	599					1.13
2.5	∅	16C	7 × 0.68	0.68	4.00	2.00	23.00	780					1.44
2.5	∅	21C	7 × 0.68	0.68	4.00	2.20	26.00	1003					1.82
2.5	∅	24C	7 × 0.68	0.68	4.00	2.30	28.40	1155					2.12
4	301871	2C	7 × 0.85	0.78	4.65	1.35	12.40	203	49		9.64		0.45
4	223867	2C+E	7 × 0.85	0.78	4.65	1.35	13.10	236	49		9.64		0.44
4	301872	3C	7 × 0.85	0.78	4.65	1.35	13.10	236		42		8.34	0.44
4	301873	3C+E	7 × 0.85	0.78	4.65	1.45	14.60	308		42		8.34	0.57
4	301874	4C	7 × 0.85	0.78	4.65	1.45	14.60	308		42		8.34	0.57
4	215932	4C+E	7 × 0.85	0.78	4.65	1.55	16.20	386					0.72
4	∅	5C	7 × 0.85	0.78	4.65	1.55	16.20	386					0.72
4	∅	7C	7 × 0.85	0.78	4.65	1.70	17.80	497					0.85
6	301875	2C	7 × 1.04	0.83	5.15	1.45	13.90	268	63		6.60		0.56
6	301876	2C+E	7 × 1.04	0.83	5.15	1.45	14.70	317	63		6.50		0.54
6	301877	3C	7 × 1.04	0.83	5.15	1.45	14.70	317		54		5.63	0.54
6	301878	3C+E	7 × 1.04	0.83	5.15	1.55	16.30	413		54		5.63	0.69
6	301240	4C	7 × 1.04	0.83	5.15	1.55	16.30	413		54		5.63	0.69
6	215545	4C+E	7 × 1.04	0.83	5.15	1.70	18.10	522					0.88
10	301879	2C	7 × 1.32	1.05	6.65	1.80	17.40	428	86		3.95		0.89
10	223869	2C+E	7 × 1.32	1.05	6.65	1.80	18.40	543	86		3.95		0.98
10	301880	3C	7 × 1.32	1.05	6.65	1.80	18.40	543		75		3.42	0.98
10	301881	3C+E	7 × 1.32	1.05	6.65	1.80	20.20	653		75		3.42	1.06
10	301242	4C	7 × 1.32	1.05	6.65	1.80	20.20	653		75		3.42	1.06
10	215933	4C+E	7 × 1.32	1.05	6.65	1.80	22.10	805					1.28
16	224540	2C+E	7 × 1.72	1.05	7.50	1.80	20.40	749	115		2.56		1.13
16	301882	3C	7 × 1.72	1.05	7.50	1.80	20.40	749		100		2.21	1.13
16	301883	3C+E	7 × 1.72	1.05	7.50	1.80	22.30	913		100		2.21	1.20
16	215546	4C	7 × 1.72	1.05	7.50	1.80	22.30	913		100		2.21	1.20
16	216433	4C+E	7 × 1.72	1.05	7.50	1.80	24.50	1134					1.48

∅ = On request

1 AC circuit, max. conductor temperature 90 °C

2 Open tray, touching

Cross section	Part no.	Number of cores	Conductor stranding	Nominal thickness insulation	Nominal diameter core	Nominal thickness sheath	Nominal diameter cable	Approx. weight	Current Rating[1]		AC Voltage Drop		Fire Load
									1 phase[2]	3 phase[2]	1 phase[2]	3 phase[2]	
mm²	LSA		n×∅mm	mm	∅mm	mm	∅mm	kg/km	A	A	mV/Am	mV/Am	kWh/m
25	223870	2C+E	7×2.15	1.20	9.05	1.80	23.60	1096	149		1.69		1.47
25	301884	3C	7×2.15	1.20	9.05	1.80	23.60	1096		127		1.46	1.47
25	301885	3C+E	7×2.15	1.20	9.05	1.80	26.20	1413		127		1.46	1.79
25	215547	4C	7×2.15	1.20	9.05	1.80	26.20	1413		127		1.46	1.79
25	301886	4C+E	7×2.15	1.20	9.05	1.90	29.00	1690					1.97
35	∅	2C+E	7×2.52	1.20	10.20	1.80	26.10	1408	185		1.26		1.66
35	301887	3C	7×2.52	1.20	10.20	1.80	26.10	1408		158		1.10	1.66
35	301888	3C+E	7×2.52	1.20	10.20	1.90	29.10	1839		158		1.10	2.09
35	215548	4C	7×2.52	1.20	10.20	1.90	29.10	1839		158		1.10	2.09
35	301889	4C+E	7×2.52	1.20	10.20	2.10	32.70	2321					2.70
50	∅	2C+E	19×1.79	1.40	11.90	1.90	29.90	1880	225		0.99		2.15
50	301890	3C	19×1.79	1.40	11.90	1.90	29.90	1880		192		0.85	2.15
50	301891	3C+E	19×1.79	1.40	11.90	2.10	33.50	2469		192		0.85	2.75
50	215549	4C	19×1.79	1.40	11.90	2.10	33.50	2469		192		0.85	2.75
50	301892	4C+E	19×1.79	1.40	11.90	2.20	37.70	3108					3.52
70	∅	2C+E	19×2.15	1.40	13.60	2.10	34.00	2603	289		0.74		2.73
70	301893	3C	19×2.15	1.40	13.60	2.10	34.00	2603		246		0.64	2.73
70	301894	3C+E	19×2.15	1.40	13.60	2.20	37.90	3383		246		0.64	3.33
70	301243	4C	19×2.15	1.40	13.60	2.20	37.90	3383		246		0.64	3.33
70	301895	4C+E	19×2.15	1.40	13.60	2.40	42.50	4263					4.29
95	∅	2C+E	19×2.52	1.60	15.80	2.30	39.30	3531	352		0.58		3.53
95	301896	3C	19×2.52	1.60	15.80	2.30	39.30	3531		298		0.50	3.53
95	301897	3C+E	19×2.52	1.60	15.80	2.40	43.10	4590		298		0.50	4.30
95	301244	4C	19×2.52	1.60	15.80	2.40	43.10	4590		298		0.50	4.30
95	301898	4C+E	19×2.52	1.60	15.80	2.50	48.30	5749					5.42
120	∅	2C+E	37×2.02	1.60	17.50	2.30	40.10	4327	410		0.49		3.82
120	301899	3C	37×2.02	1.60	17.50	2.30	40.10	4327		346		0.43	3.82
120	301900	3C+E	37×2.02	1.60	17.50	2.60	48.20	5773		346		0.43	5.12
120	219090	4C	37×2.02	1.60	17.50	2.60	48.20	5773		346		0.43	5.12
150	∅	2C+E	37×2.23	1.80	19.50	2.50	47.60	5359	473		0.44		4.86
150	301901	3C	37×2.23	1.80	19.50	2.50	47.60	5359		399		0.38	4.86
150	301902	3C+E	37×2.23	1.80	19.50	2.70	53.10	7063		399		0.38	6.21
185	∅	2C+E	37×2.49	2.00	21.70	2.70	52.70	6643	542		0.39		5.93
185	301903	3C	37×2.49	2.00	21.70	2.70	52.70	6643		456		0.33	5.93
185	301904	3C+E	37×2.49	2.00	21.70	2.90	58.70	8766		456		0.33	7.60
240	∅	2C+E	61×2.23	2.20	24.50	2.90	59.10	8549	641				7.25
240	301905	3C	61×2.23	2.20	24.50	2.90	59.10	8549		538			7.25
240	∅	3C+E	61×2.23	2.20	24.50	3.10	65.90	11298		538			9.33
300	∅	2C+E	61×2.52	2.45	28.30	3.70	68.90	11283					10.08
300	301906	3C	61×2.52	2.45	28.30	3.70	68.90	11283					10.08
300	∅	3C+E	61×2.52	2.45	28.30	4.10	77.30	14866					12.83
400	∅	2C+E	61×2.85	2.65	31.70	4.10	77.10	14210					12.16
400	301907	3C	61×2.85	2.65	31.70	4.10	77.10	14210					12.16
400	∅	3C+E	61×2.85	2.65	31.70	4.30	85.80	18624					15.08

∅ = On request

1 AC circuit, max. conductor temperature 90 °C

2 Open tray, touching