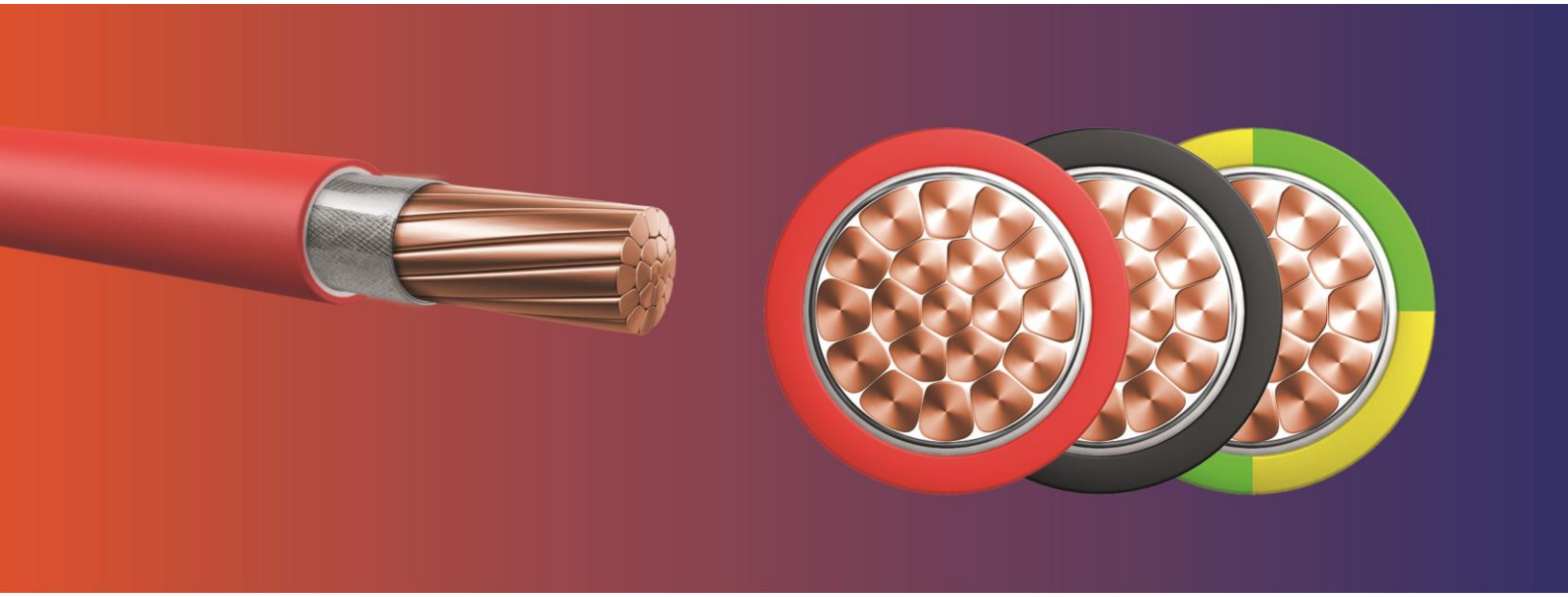
CIRCUIT INTEGRITY CABLES

FR-MI 90 SCSI / Single-core single insulated

BETAflam® Fire resistant power cables 0.6/1 kV, circuit integrity acc. to BS 6387, LSOH



Application

Single core wires 0.6/1 kV for cable wiring systems with the highest fire performance and circuit integrity requirements. For high temperature conditions and extra long expected lifetime.
Typical applications:
- 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 life as well as valuable property are exposed to high risk in case of fire.

Construction

Conductor	Copper stranded wire, compacted, based on DIN VDE 0295 / IEC 60228, class 2
Taping	Glass MICA tape
Insulation	BETAflam® mineral copolymer, cross-linked
Core colour	See below

Advantages

- High safety standard: BS 6387 C.W.Z, fully tested and certified by LPCB
- Fire tested by Electrosuisse
- Low Smoke Zero Halogen (LSOH)
- Operation temperature 90°C
- RoHS and REACH compliant
- Lead free - below 100 ppm
- Mineral filled fire resist. Materials
- High LOI
- Space saving installation due to small outer diameter
- Very long lifetime
- Made in Switzerland

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Electrical properties

Values referring		IEC 60502-1
Rated value	U_0 / U	0.6 / 1 kV AC
Test voltage		4 kV, 50 Hz / 5 min.

Thermal properties

Max. operating temperature	fixed installation	+90°C 20'000 h / IEC 60216
Min. ambient temperature	fixed installation	-30°C
Max. ambient temperature	during laying	+70°C
Min. ambient temperature	during laying	-5°C
Max. short circuit temperature		+250°C (max. 5s)

Mechanical properties

Bending radius	during laying	≥ 10 x Ø
Bending radius	fixed installation	≥ 6 x Ø

Material properties / Standards

Halogen free	IEC 60754-1; BS EN 60754-1
No corrosive gases	IEC 60754-2; BS EN 60754-2
No Toxicity of gases	NFX 70-100, Def Stan 02-713, NFC 20-454
Minimal smoke density	IEC 61034-1 & -2; BS EN 61034-1 & -2
Flame retardant	IEC 60332-1; BS EN 60332-1
No flame spread on bunched cables	IEC 60332-3-22, -23, -24 (Cat. A, B, C); BS EN 60332-3-22, -23, -24 (Cat. A, B, C)
Limiting oxygen index (LOI)	ASTM D2863; ≥ 38
Minimal Light absobation	ASTM D2843; 7 %
Circuit integrity FE180	IEC 60331-21
Circuit integrity	BS 6387 C.W.Z.; BS 7846 Category F2 - (Amendment 1 & 2, - Annex L.1 / cable Ø >20mm)
Circuit integrity	SS 299-1/A1

Approvals

LPCB - BRE Group - www.redbooklive.com

Additional information

Laying conditions:

	For electrical installations in control cabinets, switchboards or other closed cable wiring systems.
	Not recommended for permanently high humid ambient.

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Construction Cross-sec.	Conductor-Ø	R_{20}	Outer-Ø	Weight	Fire load	Part no.	Part no.	Part no.	Part no.	Part no.
[mm²]	[mm]	[mΩ/m]	[mm]	[kg/km]	[kWh/m]	Red	Black	Brown	Blue	Green-yellow
1.5	1.60	12.1	3.7	28	0.040	301789	301790	*	*	301791
2.5	2.10	7.41	4.0	38	0.040	301792	301793	304786	304783	301794
4	2.60	4.61	4.7	55	0.050	301795	301796	304790	304789	301797
6	3.00	3.08	5.2	75	0.060	301798	301799	304793	304792	301800
10	4.00	1.83	6.7	122	0.110	301801	301802	*	*	301803
16	4.80	1.15	7.5	178	0.120	301805	301806	*	*	301807
25	6.10	0.727	9.1	274	0.170	301808	301809	*	*	301810
35	7.20	0.524	10.2	364	0.190	301811	301812	*	*	301813
50	8.40	0.387	11.9	500	0.260	301814	301815	*	*	301816
70	10.10	0.268	13.6	698	0.310	301817	301818	*	*	301819
95	12.00	0.193	15.8	974	0.390	301820	301821	*	*	306510
120	13.70	0.153	17.5	1176	0.450	301822	301823	*	*	306511
150	15.20	0.124	19.5	1458	0.570	301824	301825	*	*	306512
185	17.00	0.0991	21.7	1812	0.710	301826	301827	*	*	306513
240	19.50	0.0754	24.4	2358	0.880	301828	301829	*	*	306514
300	22.70	0.0601	28.3	3109	1.130	301830	301831	*	*	306515
400	25.70	0.047	31.7	3947	1.380	301832	301833	*	*	*
500	28.80	0.0366	35.3	4950	1.660	301834	301835	*	*	*
630	32.80	0.0283	39.7	6379	2.010	301836	301837	*	*	*

* upon request

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