CIRCUIT INTEGRITY CABLES

FR-MI 90 SCDI / Single-core double insulated

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



Application

Sigle core double insulated cables 0.6/1 kV, resp. with sheath, for installation outside cable duct. 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
Sheath	BETAflam® mineral copolymer
Sheath colour	Orange

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:

	Also for electrical installations outside of cable ducts.
	Not recommended for permanently high humid ambient.
	Shield from direct sunlight.

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Construction Cross-sec. [mm²]	Conductor-Ø [mm]	R_{20} [mΩ/m]	Outer-Ø [mm]	Weight [kg/km]	Fire load [kWh/m]	Part no. Black
1.5	1.60	12.1	5.6	50	0.120	301838
2.5	2.10	7.41	6.0	62	0.130	301839
4	2.60	4.61	6.8	84	0.160	301840
6	3.00	3.08	7.3	107	0.180	301841
10	4.00	1.83	9.5	178	0.310	301842
16	4.80	1.15	10.3	239	0.350	301843
25	6.10	0.727	11.9	347	0.430	301844
35	7.20	0.524	13.0	444	0.490	301845
50	8.40	0.387	14.7	593	0.600	301846
70	10.10	0.268	16.6	810	0.710	301847
95	12.00	0.193	19.0	1112	0.910	301848
120	13.70	0.153	20.8	1333	1.020	301849
150	15.20	0.124	22.9	1637	1.220	301850
185	17.00	0.0991	25.3	2022	1.470	301851
240	19.50	0.0754	28.2	2607	1.770	301852
300	22.70	0.0601	32.3	3410	2.220	301853
400	25.70	0.047	36.0	4309	2.690	301854
500	28.80	0.0366	39.8	5379	3.200	301855
630	32.80	0.0283	44.4	6879	3.810	301856

* upon request

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