BS EN 60702-1, Mineral Insulated Cable (MICC) - Fireproof, PVC or LSZH - 1mm² to 240mm²

Description

Mineral insulated cables are used to provide circuit integrity in areas such as alarm circuits, emergency lighting and sprinkler systems. MICC cables have copper conductors, a solid copper sheath and are usually insulated using magnesium oxide. The features of the cable make them more resistant to fires than plastic insulated cables due to the lack of organic material. It is for this reason that the MICC cables are suitable for using in public areas, high fire risk areas such as power stations and oil refineries.

Key Features

Voltage Rating
500 Volts :Light Duty
750 Volts: Heavy Duty:

Minimum Bending Radius
6 x overall diameter

Temperature Limits
PVC Temperature Range:-20°C to +70°C
LSZH Temperature Range: -20°C TO +80°C

Standards

- BS EN/IEC 60331
- BS EN 60702-1
- BS 6387 CWZ
- BS EN/IEC 60228

Construction

- **Conductor**: Class 1 solid copper
- **Insulation**: Magnesium Oxide
- **Sheath**: Solid Copper Sheath
- **Outer Sheath**: Available in Low Smoke Zero Halogen (LSZH) or Polyvinyl chloride (PVC)
- **Sheath Colour**: Available in Orange, Red, White, Black or Solid Bare Copper

QA Lab

Cleveland Cable Test & Training Lab
Our state-of-the-art cable testing facility ensures that every cable meets the highest standards of quality and compliance through continuous, rigorous testing. Where applicable, cables are independently tested and certified by BASEC to ensure full compliance.

CPR
Cleveland Cable Company is committed to compliance with the Construction Products Regulation (CPR). Where applicable, all cables manufactured after 1st July 2017 have been assessed in accordance with CPR requirements, with full supporting documentation available.

Our Sustainability Commitment

We are committed to the journey to Net Zero as a business partner, an employer and a community member.

By thinking and acting sustainably, we deliver excellent customer service while reducing carbon emissions in collaboration with our customers and suppliers.

ecovadis
Cleveland Cable Company has been independently assessed by EcoVadis, a globally recognised provider of business sustainability ratings. Our score places us among the top 35% of companies evaluated worldwide, reflecting our strong commitment to environmental, social, and ethical performance

BS EN 60702-1, Mineral Insulated Cable (MICC) - Fireproof, PVC or LSZH - 1mm² to 240mm² - Dimensions

Reference	Conductor Size (mm2)	Size Ref	Overall Diameter Bare(mm)	Overall Diameter Sheathed(mm)	Sheathed(Kg/Km)	Bare(Kg/Km)	Single Hole Clip Reference - Sheathed	Single Hole Clip Reference - Bare	Gland for use with RPS Seals
4L1.0	1	162	7.8	20	6.3	187	500	30	24
3L1.0	1	136	7.3	20	5.8	159	500	28	22
2L1.0	1	104	6.6	20	5.1	125	500	26	20
7H1.5	1.5	432	12.5	25	10.8	479	245	47	43
4H1.5	1.5	305	10.8	20	9.1	345	500	43	37
3H1.5	1.5	254	10	20	8.3	290	500	37	32
2H1.5	1.5	237	9.6	20	7.9	272	500	37	30
7L1.5	1.5	295	10.1	25	8.4	332	380	40	32
4L1.5	1.5	203	8.5	20	7	230	500	34	28
3L1.5	1.5	176	7.9	20	6.4	201	500	30	24
2L1.5	1.5	136	7.2	20	5.7	159	500	28	22
4H2.5	2.5	384	11.8	20	10.1	428	500	47	40
3H2.5	2.5	323	11	20	9.3	364	500	43	37
2H2.5	2.5	276	10.4	20	8.7	314	500	40	34
7L2.5	2.5	411	11.4	25	9.7	454	285	43	37
4L2.5	2.5	277	9.8	20	8.1	313	500	37	32
3L2.5	2.5	223	9	20	7.9	256	500	34	28
2L2.5	2.5	187	8.1	20	6.6	213	500	32	26
4H4.0	4	507	13.1	25	11.4	556	195	51	43
3H4.0	4	415	12.1	20	10.4	460	500	47	40
2H4.0	4	355	11.5	20	9.8	397	500	43	37
2L4.0	4	248	9.4	20	7.7	282	500	37	30
4H6.0	6	644	14.4	25	12.7	698	144	54	47
3H6.0	6	526	13.2	25	11.5	575	184	51	43
2H6.0	6	446	12.6	20	10.9	493	500	47	43
1H6.0	6	173	7.7	20	6.4	213	650	34	34
4H10	10	911	16.5	25	14.8	974	110	63	54
3H10	10	754	15.3	25	13.6	812	130	59	54
2H10	10	619	14.4	25	12.7	673	500	54	47
1H10	10	240	9	20	7.3	273	510	34	28
4H16	16	1286	19.6	32	17.3	1386	89	75	67
3H16	16	1034	17.9	25	15.6	1124	100	71	59
2H16	16	850	16.4	25	14.7	912	112	63	54
1H16	16	326	10	20	8.3	361	400	37	32
4H25	25	1805	22.9	40	20.1	1947	60	88	79
3H25	25	1444	20.5	40	18.2	1549	70	79	71
2H25	25	1178	19.4	32	17.1	1277	80	75	67

Reference	Conductor Size (mm2)	Size Ref	Overall Diameter Bare(mm)	Overall Diameter Sheathed(mm)	Sheathed(Kg/Km)	Bare(Kg/Km)	Single Hole Clip Reference - Sheathed	Single Hole Clip Reference - Bare	Gland for use with RPS Seals
1H25	25	457	11.3	20	9.6	499	275	43	37
1H35	35	585	12.4	20	10.7	632	222	47	40
1H50	50	758	13.8	25	12.1	810	170	54	47
1H70	70	1016	15.4	25	13.7	1075	190	59	54
1H95	95	1324	17.7	25	15.4	1413	155	67	59
1H120	120	1612	19.1	32	16.8	1709	135	75	63
1H150	150	1949	20.7	32	18.4	2055	110	79	71
1H240	240	3050	26.1	40	23.3	3213	67	101	88

Mineral insulated cables bare and not exposed to touch or contact with combustible materials Reproduced from BS7671:2018 Wiring Regulations

TABLE 4G2A

CURRENT-CARRYING CAPACITY (Amps)

Ambient temperature: 30 °C
Sheath operating temperature: 105 °C

Conductor cross sectional area	Reference Method C (clipped direct)			Reference Methods E, F and G (in free air or on a perforated cable tray etc, horizontal or vertical) Single-phase				
	Single-phase AC or DC	Three-phase AC		Single-phase AC or DC	Three-phase AC			
	Two-core cable or 2 x Single core cables	3 x single core cables in trefoil cleat or 1 x 3 or 4 core cable	3 x single core cables flat and touching, horizontal or vertical	Two-core cable or 2 x Single core cables	3 x single core cables in trefoil cleat or 1 x 3 or 4 core cable	3 x single core cables flat and touching, horizontal or vertical	4 x single core cables flat and spaced	
							vertical	horizontal
mm^2	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
Light duty 500V								
1	22.0	19	21	24.0	21.0	23	26	29
1.5	28	24	27	31	26	29	33	37
2.5	38	33	36	41	35	39	43	49
4	51	44	47	54	46	51	56	64
Heavy duty 750V								
1	24.0	20	24	26	22.0	25	28	32
1.5	31	26	30	33	28	32	35	40
2.5	42	35	41	45	38	43	47	54
4	55	47	53	60	50	56	61	70
6	70	59	67	76	64	71	78	89
10	96	81	91	104	87	96	105	120
16	127	107	119	137	115	127	137	157
25	166	140	154	179	150	164	178	204
35	203	171	187	220	184	200	216	248
50	251	212	230	272	228	247	266	304
70	307	260	280	333	279	300	323	370
95	369	312	334	400	335	359	385	441
120	424	359	383	460	385	411	441	505
150	485	410	435	526	441	469	498	565
185	550	465	492	596	500	530	557	629
240	643	544	572	697	584	617	624	704

NOTES:
1. For single-core cables, the sheaths of the circuit are assumed to be connected together at both ends.
2. No rating factor for grouping need be applied.
3. Where a conductor operates at a temperature exceeding 70 °C it should be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.5).

Mineral insulated cables bare and not exposed to touch or contact with combustible materials Reproduced from BS7671:2018 Wiring Regulations

TABLE4G2B

VOLTAGE DROP (per ampere per metre):

Sheath operating temperature 70 °C

Conductor cross-sectional area	Single-phase AC or DC						Three-phase AC											
	2 single-core cables touching			1 x 2 core cable			1 x 3 core or 4 core cable			3 single-core cables in trefoil formation			3 single-core cables flat and touching			3 x single-core cables flat and spaced by one cable diameter*		
(mm2)	(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)		
1	47			47			40			40			40			40		
1.5	31			31			27			27			27			27		
2.5	19			19			16			16			16			16		
4	12			12			10			10			10			10		
6	7.8			7.8			6.8			6.8			6.8			6.8		
10	4.7			4.7			4.1			4.1			4.1			4.1		
16	3.0			3.0			2.6			2.6			2.6			2.6		
	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	0.18	1.85	1.85	0.15	1.85	1.60	0.13	1.60	1.60	0.16	1.65	1.60	0.23	1.65	1.60	0.31	1.65
35	1.35	0.18	1.35							1.15	0.16	1.20	1.15	0.23	1.20	1.20	0.30	1.25
50	1.00	0.17	1.00							0.87	0.15	0.88	0.88	0.22	0.91	0.90	0.29	0.95
70	0.69	0.17	0.71							0.60	0.15	0.62	0.61	0.22	0.65	0.63	0.29	0.70
95	0.51	0.16	0.54							0.45	0.14	0.47	0.46	0.21	0.50	0.48	0.28	0.56
120	0.41	0.16	0.44							0.36	0.14	0.38	0.37	0.21	0.42	0.39	0.28	0.48
150	0.33	0.16	0.36							0.29	0.14	0.32	0.31	0.20	0.37	0.34	0.27	0.43
185	0.27	0.15	0.31							0.23	0.13	0.27	0.26	0.20	0.33	0.29	0.26	0.39
240	0.21	0.15	0.26							0.18	0.13	0.22	0.22	0.20	0.29	0.26	0.25	0.36

NOTE: * Spacings larger than one cable diameter will result in a larger voltage drop.