

WREXHAM  
MINERAL  
CABLES



A fire resistant cable like no other

Mineral Cable is the *ultimate* fire survival cable



# THE ULTIMATE FIRE SURVIVAL CABLE

**Mineral Cable is the ultimate fire survival cable and exceeds over three hours testing in temperatures above 950°C.**

Mineral Cables utilise two key elements: Copper & Magnesium oxide. Neither release toxins, neither will burn.



Wrexham Mineral Cables are the UKs only manufacture utilising continuous production technology to manufacture mineral insulated cables and currently export to over 30 countries.

Back in 1989 Wrexham Mineral Cables developed a totally unique process for the manufacturing of mineral insulated cables. This method allows 100% continuous monitoring of the manufacturing process and ensures 100% conforming product. In over 30 years of manufacturer Wrexham Mineral Cables have had zero in field failures. Wrexham Mineral Cable is proven to safely carry a load for over 3 hours at 950°C survive direct impact and exposure to water similar to a full fire hose, all on one cable sample.

Our cables are installed in some of the worlds largest and most important buildings and recognised throughout the electrical industry as the best choice for fire survival.

The quality and reliability of our mineral insulated cables meet and exceed British, European and Australian standards and maintain certifications from BRE-LPCB, Warrington Fire Research Centre and London Underground with our termination glands approved by SIRA-ATEX EExd.

Inorganic construction	▶	NOTHING TO BURN
NOTHING TO BURN	▶	ZERO TOXIC emissions or smoke
INORGANIC materials	▶	LAST a LIFETIME
Holistic Fire Survival	▶	ZERO combustion or heat release
Naturally armoured	▶	NO risk of rodent damage
SELF MONITORING	▶	NO false ALARMS
FURNACE TESTED	▶	Passes the ONLY true life like fire test



# Safe Evacuation takes?

## 10 minutes?

### IN CASE OF EMERGENCY

#### 1] Sound the alarm

But if the cable is burnt and not connected how can you?

2] Dial 999, Inform reception/security  
Impossible if the communication cables are burnt.

#### 3] Attack the fire with extinguishers

But how can you if the lights are not working and you can't find them?

#### 4] Follow exit signs

You can't because plastic sheathing around the emergency systems cabling is emitting toxic smoke and you cannot see or breathe.

#### 5] Contain the fire by closing windows & doors

A bit difficult if you have NO lights and you can't see because of smoke.

#### 6] Use the exit stairwells?

Fine, but you can't find them because emergency lights have failed and smoke extraction fans have stopped due to cables burnt.



▲ The image above is a polymeric 'fire resistant' cable after just 10 minutes when exposed to temperatures of 850°C. [This is the testing temperature of BS EN 50200 pH120 Enhanced] which requires 2 hours fire resistance. In independent testing several leading brands of polymeric cables failed at 950°C [The test temperature of BS 6387]

**Competitor cable after just 10 minutes at 850°C**

## or 3 hours?



▲ Mineral Insulated Cable easily withstands temperatures exceeding 850°C for hours right up to the melting point of copper [1083°C] and its composition means there is NOTHING to burn!

**Our cable after 3 hours at 950°C**

# Why mineral cable is the **ULTIMATE FIRE SURVIVAL CABLE**

Mineral Insulated Copper Cables (MIC cables) are designed to meet some of the most stringent tests around the world. Wrexham Mineral Cables approvals include:

- British fire performance standards BS EN 50200 PH120 Enhanced demands 2 hours fire resistance at 850°C.
- BS 5839-1 Enhanced to BS 8434-2
- BS 6387 category C, W & Z demands that cables perform safely for 3 hours at 950°C.
- AS/NZS 3013

## Mineral Insulated Copper Cables (MIC Cables)

MIC Cables from Wrexham Mineral Cables are totally inorganic and silicone free. They consists of multiple copper conductors (cores), highly compressed magnesium oxide (insulation) and an outer copper sheath, thats just 2 elements.

This unique composition has an outer melting point of 1083°C (the melting point of copper) and ultimately 2800°C for the insulation (magnesium oxide). Note that the internal load carrying cores are protected inside the magnesium oxide insulation.

This ensures mineral cable can safely carry a load in temperatures in excess of 1000°C making it a TRUE fire survival cable.

Mineral Cable is water and oil resistant, can carry greater current ratings, require no conduit for mechanical or vermin protection, UV and radiation resistant and can last in excess of 50 years.

## Soft Skin Flame Retardant Polymer Cables

In order to give some soft skinned polymer cables flame retardant properties, halogens are added to the outer sheath such as; chlorine, bromine and fluorine.

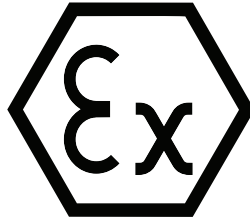
When exposed to a fire, these halogenated polymers will release *halides* which are extremely toxic.

The outer and inner sheaths of soft skin polymer cables burn and contribute to a fire releasing toxic smoke which can itself ignite, often explosively.

Most fire resistant cables are limited to maximum continuous operating temperature around 80°C. A bare Mineral Cable can work continuously up to 250°C

CABLE PROPERTY	Copper MICC Cable	LSF FP/FR Soft Skin
OVER 15min (egress time)	YES	NO
250°C operating temp	YES	NO
650°C operating temp	YES	NO
Exposure to 1040°C	YES	NO
BS6387 CWZ	YES	YES
BS6387 CWZ Enhanced	YES	NO
BS8491 Furnace test	YES	NO
Flame retardant	YES	YES
Waterproof, submersible	YES	NO
NO SELF IGNITION	YES	NO
Mechanical shock & pressure resistant	YES	NO
Zero toxic emissions	YES	NO
SELF MONITORING	YES	NO
Non-aging, corrosion resistant	YES	NO
Suitable for confined space / tunnel	YES	NO
100% recyclable	YES	NO
NO CONDUIT REQUIRED	YES	NO
High Overload resistance	YES	NO
ZERO SMOKE on overload	YES	NO
Gas bio/chemical proof	YES	NO
RODENT PROOF	YES	NO

# Approvals & Standards



## Approvals:

MANUFACTURE & TESTING	TO BS/IEC 60702-1:2002+A1:2015
CERTIFICATION OF ASSESSED QUALITY ASSURANCE	NO. 333 TO BS EN ISO 9001
LPCB PRODUCT CERTIFICATION	NO. 333a/01

APPROVAL BODY	STANDARD REFERENCE	DESCRIPTION
LPCB	IEC 60331-2	Test method for fire with shock at a temperature of at least 830°C for cables of rated voltage up to and including 0,6/1,0 kV and with an overall diameter not exceeding 20mm.
LPCB	IEC 60332-2	Tests on electric cables under fire conditions - Part 2-2: Test for vertical flame propagation.
LPCB	IEC 60754-1	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content.
LPCB	IEC 61034-2	Measurement of smoke density of cables burning under defined fire conditions.
LPCB	BS 5839-1:2013 ENHANCED TO CLAUSE 26.2	Fire detection and fire alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance.
LPCB	BS EN 50200:2015 CLASS Ph120	Resistance to fire of unprotected small cables for use in emergency circuit.
LPCB	BS 8434-2:2003+A2:2009	Test for unprotected small cables for use in emergency circuits. BS EN 50200 with a 930°C flame and with water spray.
LPCB	C,W & Z OF BS6387:2013	Requirements for cables to maintain circuit integrity under fire conditions. All 3 tests have been performed using the same cable sample.
LPCB	BS EN 50267	Gases evolved during combustion of electrical cables.

Wrexham Mineral Cables are the **ONLY** Mineral Insulated Copper Cable manufacturer approved by the Kuwait Fire Department.

## Testing:

WARRINGTON FIRE RESEARCH	BS 6387:1994 CWZ (TO HIGHEST CATEGORY)
WARRINGTON FIRE RESEARCH	TO BS 4066: INTERNATIONAL STANDARD IEC 60331
LONDON UNDERGROUND	TO SPECIFICATION EME-SP-14-028-A1

## Terminations:

MANUFACTURED AND TESTED IN ACCORDANCE WITH	BS EN 60702-2
SIRA QUALITY ASSURANCE NOTIFICATION	NUMBER: SIRA02ATEX1305X
APPROVAL IN ACCORDANCE WITH	ATEX DIRECTIVE 2014/34/EU

# Applications & Industries

Mineral Insulated cables have been designed specifically for critical and life saving systems where continuity is required in the event of a fire.

## Critical & Life Saving Systems:

EMERGENCY SHUTDOWN SYSTEMS	STOP/START CONTROLS	EMERGENCY LIGHTING	FIRE ALARM SYSTEMS
FIRE PUMPS	FUME & SMOKE EXTRACTION	FIRE DETECTION & PROTECTION SYSTEMS	THEATRE / LIFE SUPPORT SYSTEMS
SPRINKLER SYSTEMS	INSTRUMENT/MONITORING SYSTEMS	COMMUNICATION SYSTEMS	LIFTS
RECESS & HANDRAIL ILLUMINATION	PUBLIC ADDRESS SYSTEMS	MAINS DISTRIBUTION	MOTOR OPERATED VALVES

## Industries:



Multi-storey Car Parks



Travelators/Escalators



Airports



Hospitals



Shopping Centres



Rail Networks / Metrolinks



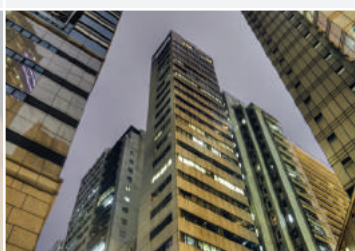
Industrial / Manufacturing



Mining and Tunnels



Hotels / Catering



Skyscrapers / Tower Blocks



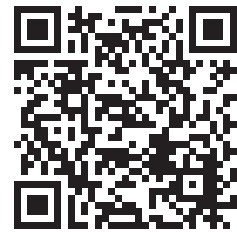
Gas and Oil Refineries



Nuclear / Power Stations

# Training & Support

Scan the QR code and follow our YouTube channel for training / installation videos.

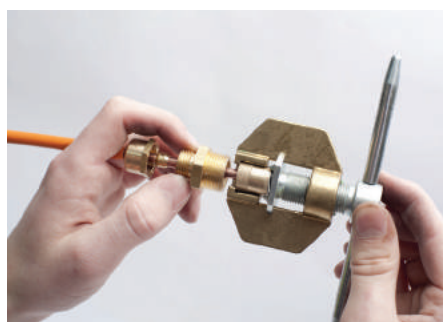


For the very latest on Wrexham Mineral Cables including events and training follow us on LinkedIn.



# Glands, Terminations & Tools

We stock a full range of ATEX EExd approved cable glands and the required terminations, tools and low smoke & fume (LSF) fire rated fixings.



# Manufacturing Process

**20,000m  
per day**

Highly compressed magnesium oxide blocks are manufactured on site and used as insulation. Wrexham Mineral Cables select only the highest grade MgO for the manufacturing process.

Wrexham Mineral Cables manufacturing process is environmentally friendly and operate a full recycling process on it's materials including MgO.

## Why Magnesium Oxide?

MgO is a refractory material, a solid that is physically and chemically stable at high temperatures. Its two main attributes are high thermal conductivity and low electrical conductivity making it an ideal insulator for our cables.

**24 hour  
production**

The highly compressed magnesium blocks are fired up to 1400°C in our purpose built kilns. Any impurities burn away leaving a pure inorganic mineral block.



At this stage the copper conductors, magnesium block and outer copper sheath are combined together in one efficient process.



## continuous manufacture

The unique process of hand feeding the highly compressed magnesium block allows continuous monitoring of the MgO compaction and conductor geometry, crucial to achieve high voltage breakdown and a consistent quality product.



The pre-formed cable is then seam fused using a Tig process before entering our rolling mills. During this process the cable is gradually reduced in diameter to the desired specification while passing through our high frequency induction annealer.





## competitive lead time

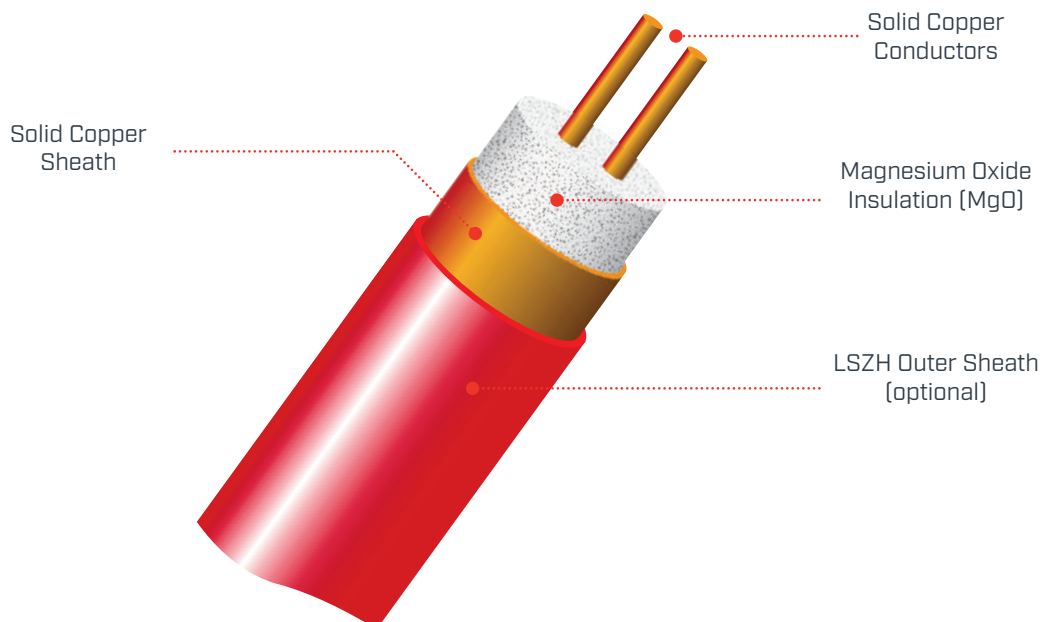


# Fire Resistant Cable & Accessories








Available in 2 voltage ranges, commonly known as Light and Heavy Duty cables. Exceeds 3 hours at 950°C survival time. This impressive performance can add vital time to escape a fire and makes it ideal for use in large developments such as hospitals, shopping centres, airports, schools, underground rail systems, factories and high rise buildings which house large numbers of people.

## 500v Light Duty Cable

TECHNICAL											ACCESSORIES											
CORE	CABLE SIZE REFERENCE	CONDUCTORS		CURRENT RATINGS		VOLT DROP	SHEATH CROSS SECTION AREA (EFFECTIVE mm <sup>2</sup> )	EARTH FAULT LOOP IMPEDANCE @ 70°C (R1 + R2) Ohms / KM	MAXIMUM CONDUCTOR RESISTANCE Ohms PER 1000 METERS 20°C	CABLE DIAMETER		APPROX WEIGHT PER 1000 METERS		GLAND SIZE REF: RGM		CABLE FIXINGS						
		NO X SQ MM		CABLES EXPOSED TO TOUCH						BARE (AMPS)	COVERED (AMPS)	PER AMP/ PER METRE mV	BARE (mm)	LSZH COVERED (KGmm)	BARE (KG)	LSZH COVERED (KG)	PLAIN SEAL (mm) REF: RPS	EARTH TAIL SEAL (mm) REF: RPSL	ONE HOLE CLIPS		TWO WAY SADDLES	
																						BARE COPPER REF: RC
<b>LIGHT DUTY CABLE (500 volts)</b>																						
	2L 1.0	2	1.0	16.5	18.5	42	5.4	26.590	18.1	5.1	6.6	105	124	20	20	20	26	202	272			
	2L 1.5	2	1.5	20.5	23	28	6.3	18.627	12.1	5.7	7.2	132	156	20	20	22	28	222	302			
	2L 2.5	2	2.5	28	31	17	8.2	11.980	7.41	6.6	8.1	184	207	20	20	26	32	272	342			
	2L 4.0	2	4.0	36	40	10	10.7	7.915	4.61	7.7	9.4	253	290	20	20	30	37	302	382			
	3L 1.0	3	1.0	13.5	15	36	6.7	25.637	18.1	5.8	7.3	132	159	20	20	22	28	242	302			
	3L 1.5	3	1.5	17	19	24	7.8	17.823	12.1	6.4	7.9	172	199	20	20	24	30	272	342			
	3L 2.5	3	2.5	23.5	26	14	9.5	11.621	7.41	7.3	9.0	234	270	20	20	28	34	302	342			
	4L 1.0	4	1.0	13.5	15	36	7.7	25.111	18.1	6.3	7.8	164	191	20	20	24	30	272	342			
	4L 1.5	4	1.5	17.5	19.5	24	9.1	17.416	12.1	7.0	8.5	209	243	20	20	28	34	302	342			
	4L 2.5	4	2.5	23.5	26	14	11.3	11.166	7.41	8.1	9.8	288	333	20	20	32	37	342	422			
	7L 1.0	7	1.0	9	10	42	10.2	24.333	18.1	7.6	9.3	237	271	25	25	30	37	302	382			
	7L 1.5	7	1.5	11.5	13	28	11.8	16.758	12.1	8.4	10.1	310	351	25	25	32	40	342	422			
	7L 2.5	7	2.5	15.5	17.5	17	15.4	10.580	7.41	9.7	11.4	433	475	25	25	37	43	382	462			



# 750v Heavy Duty Cable

TECHNICAL												ACCESSORIES								
CORE	CABLE SIZE REFERENCE	CONDUCTORS			CURRENT RATINGS		VOLT DROP	SHEATH CROSS SECTION AREA (EFFECTIVE mm <sup>2</sup> )	EARTH FAULT LOOP IMPEDANCE @ 70°C (R1 +R2) Ohms / KM	MAXIMUM CONDUCTOR RESISTANCE Ohms PER 1000 METERS 20°C	CABLE DIAMETER		APPROX WEIGHT PER 1000 METERS		GLAND SIZE REF: RGM		CABLE FIXINGS			
		NO X SO MM			CABLES EXPOSED TO TOUCH						BARE (mm)	LSZH COVERED (KGmm)	BARE (KG)	LSZH COVERED (KG)	PLAIN SEAL (mm) REF: RPS	EARTH TAIL SEAL (mm) REF: RPSL	ONE HOLE CLIPS		TWO WAY SADDLES	
					BARE (AMPS)	COVERED (AMPS)	PER AMP/ PER METRE mV										BARE COPPER REF: RC	LZSH COATED REF: RCHL	BARE COPPER REF: RS	LZSH COATED REF: RSFL
<b>HEAVY DUTY CABLE (750 volts)</b>																				
	1H2.5	1	25	39	43	13.5	6.44	3.71	7.41	5.3	6.6	111	128	20	20	20	26	202	272	
	1H4	1	4	51	56	8.3	7.7	3.09	4.61	5.9	7.2	143	166	20	20	22	28	222	272	
	1H6	1	6	47	52	6	8	5.318	3.08	6.4	7.9	173	213	20	20	24	30	272	342	
	1H10	1	10	63	70	3.6	9	3.545	1.83	7.3	9.0	241	274	20	25	28	34	302	342	
	1H16	1	16	83	92	2.3	12	2.471	1.15	8.3	10.0	327	364	20	25	32	37	342	422	
	1H25	1	25	108	120	1.45	15	1.715	0.727	9.6	11.3	458	500	20	32	37	43	382	462	
	1H35	1	35	132	147	1.05	18	1.329	0.524	10.7	12.4	600	650	20	32	40	47	422	502	
	1H50	1	50	163	181	0.79	22	1.040	0.387	12.1	13.8	760	812	25	40	47	54	502	542	
	1H70	1	70	199	221	0.55	27	0.781	0.268	13.7	15.4	1019	1080	25	-	54	59	542	632	
	1H95	1	95	237.5	265	0.41	32	0.619	0.193	15.4	17.7	1326	1416	25	-	59	67	632	702	
	1H120	1	120	272.5	303	0.33	37	0.516	0.153	16.8	19.1	1615	1713	32	-	63	75	702	752-	
	1H150	1	150	311	346	0.29	44	0.435	0.124	18.4	20.7	1952	2059	32	-	71	79	752	812	
	1H185	1	185	353	392	0.25	54	0.368	0.101	20.4	23.2	2425	2570	32	-	79	88	812	932	
	1H240	1	240	411	457	0.21	70	0.297	0.0775	23.3	26.1	3146	3312	40	-	88	101	932	1042	
	1H300	1	300	795	883	0.31	84.6	0.28	0.0775	26	28.8	3791	3972	n/a	n/a	101	USE WRSHL 18 OR WRSZL 18 AS REQUIRED			
1H400	1	400	948	1053	0.28	105	0.22	0.044	30	32.8	5004	5211	n/a	n/a	n/a					
	2H1.5	2	1.5	22.5	25	28	11	16.902	12.1	7.9	9.6	247	284	20	20	30	37	342	382	
	2H2.5	2	2.5	30.5	34	17	13	10.903	7.41	8.7	10.4	280	335	20	20	34	40	342	422	
	2H4	2	4	40.5	45	10	16	7.185	4.16	9.8	11.5	365	415	20	25	37	43	422	462	
	2H6	2	6	51	57	7	18	5.073	3.08	10.9	12.6	463	510	20	25	43	47	462	502	
	2H10	2	10	69	77	4.2	24	3.272	1.83	12.7	14.4	635	725	24	32	47	54	502	529	
	2H16	2	16	92	102	2.6	30	2.220	1.15	14.7	16.4	855	918	25	40	54	63	592	702	
	2H25	2	25	119.5	135	1.65	38	1.537	0.727	17.1	19.4	1185	1285	32	40	67	75	702	757	
	3H1.5	3	1.5	19	21	24	12	16.722	12.1	8.3	10.0	265	310	20	20	32	37	342	422	
	3H2.5	3	2.5	25	28	14	14	10.711	7.41	9.3	11.0	345	390	20	25	37	43	382	462	
	3H4	3	4	33	37	9.1	17	7.041	4.61	10.4	12.1	452	495	20	25	40	47	422	502	
	3H6	3	6	43	48	6	20	4.953	3.08	11.5	13.2	562	602	25	25	43	51	462	542	
	3H10	3	10	58.5	65	3.6	27	3.147	1.83	13.6	15.3	758	817	25	32	54	59	542	632	
	3H16	3	16	77	86	2.3	34	2.133	1.15	15.6	17.9	1039	1130	25	40	59	71	632	752	
	3H25	3	25	101	112	1.45	42	1.476	0.727	18.2	20.5	1451	1557	40	40	71	79	752	812	
	4H1.5	4	1.5	19	21	24	14	16.435	12.1	9.1	10.8	330	370	20	20	37	43	382	462	
	4H2.5	4	2.5	25	28	14	16	10.496	7.41	10.1	11.8	412	445	20	25	40	47	422	462	
	4H4	4	4	33	37	9.1	20	6.814	4.61	11.4	13.1	530	608	25	25	43	51	462	542	
	4H6	4	6	43	48	6	24	4.782	3.08	12.7	14.4	740	790	25	32	47	54	502	592	
	4H10	4	10	58.5	65	3.6	30	3.036	1.83	14.8	16.5	916	979	25	32	54	63	592	702	
	4H16	4	16	77	86	2.3	39	2.026	1.15	17.3	19.6	1292	1393	32	40	67	75	702	752	
	4H25	4	25	101	112	1.45	49	1.384	0.727	20.1	22.9	1813	1956	40	40	79	88	812	932	
	7H1.5	7	1.5	13	14.5	28	18	16.004	12.1	10.8	12.5	435	482	25	25	43	47	472	502	
	7H2.5	7	2.5	17.5	19.5	17	22	10.100	7.41	12.1	13.8	563	616	25	25	47	54	502	542	
	12H1.5	12	1.5	10.5	12	28	29	15.519	12.1	14.1	15.8	710	770	32	-	54	59	592	632	
	12H2.5	12	2.5	14.5	16	17	34	9.706	7.41	15.6	17.9	910	1001	32	-	59	71	632	752	
	19H1.5	19	1.5	9	10	28	37	15.310	12.1	16.6	18.9	989	1086	40	-	63	71	702	752	

# Voltage Drop

Conductor operating temperature 70°C.

CONDUCTOR CROSS-SECTIONAL AREA	1 TWO-CORE CABLE						THREE-PHASE a.c											
	2 SINGLE-CORE CABLES TOUCHING			1 TWO-CORE CABLE			1 THREE OR FOUR CORE CABLE			3 SINGLE-CORE CABLES IN TREFOIL FORMATION			3 SINGLE-CORE CABLES FLAT & TOUCHING			CABLES FLAT & SPACED BY ONE CABLE DIAMETER*		
[mm <sup>2</sup> ]	[mV/A/m]			[mV/A/m]			[mV/A/m]			[mV/A/m]			[mV/A/m]			[mV/A/m]		
2.5	17			17			14			14			14			14		
4	10			10			9.1			9.1			9.1			9.1		
6	7			7			6.0			6.0			6.0			6.0		
10	4.2			4.2			3.6			3.6			3.6			3.6		
16	2.6			2.6			2.3			2.3			2.3			2.3		
	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.65	0.200	1.65	1.65	0.145	1.65	1.45	0.125	1.45	1.45	0.170	1.45	1.45	0.25	1.45	1.45	0.32	1.50
35	1.20	0.195	1.20	-	-	-	-	-	-	1.05	0.165	1.05	1.05	0.24	1.10	1.05	0.31	1.10
50	0.89	0.185	0.91	-	-	-	-	-	-	0.78	0.160	0.80	0.79	0.24	0.83	0.82	0.31	0.87
70	0.62	0.180	0.64	-	-	-	-	-	-	0.54	0.155	0.56	0.55	0.23	0.60	0.58	0.30	0.65
95	0.46	0.175	0.49	-	-	-	-	-	-	0.40	0.150	0.43	0.41	0.22	0.47	0.44	0.29	0.53
120	0.37	0.170	0.41	-	-	-	-	-	-	0.32	0.150	0.36	0.33	0.22	0.40	0.36	0.28	0.46
150	0.30	0.170	0.34	-	-	-	-	-	-	0.26	0.145	0.30	0.29	0.21	0.36	0.32	0.27	0.42
185	0.25	0.165	0.29	-	-	-	-	-	-	0.21	0.140	0.26	0.25	0.21	0.32	0.28	0.26	0.39
240	0.190	0.160	0.25	-	-	-	-	-	-	0.165	0.140	0.22	0.21	0.20	0.29	0.26	0.25	0.36

## Notes:

- Ambient temperature: 30°C
- Sheath operating temperature: 70°C
- For single-core cables, the sheaths of the circuit are assumed to be connected together at both ends
- For bare cables exposed to touch, the tabulated values should be multiplied by 0.9

# Current-Carrying Capacity

LSZH covered or bare and exposed to touch. (COPPER CONDUCTORS AND SHEATH)

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 a.c or d.c	THREE-PHASE a.c		SINGLE PHASE a.c or d.c	THREE-PHASE a.c			
	2 SINGLE-CORE CABLES TOUCHING OR 1 TWO-CORE CABLE	3 SINGLE-CORE CABLES IN TREFOIL OR 1 THREE-CORE OR FOUR-CORE CABLE	3 SINGLE-CORE CABLES FLAT AND TOUCHING, HORIZONTAL OR VERTICAL	2 SINGLE-CORE CABLES TOUCHING OR 1 TWO-CORE CABLE	3 SINGLE-CORE CABLES IN TREFOIL OR 1 THREE-CORE OR FOUR-CORE CABLE	3 SINGLE-CORE CABLES FLAT AND TOUCHING	3 SINGLE-CORE CABLES FLAT & SPACED BY ONE CABLE DIAMETER	
							VERTICAL	HORIZONTAL
[mm <sup>2</sup> ]	[AMPS]	[AMPS]	[AMPS]	[AMPS]	[AMPS]	[AMPS]	[AMPS]	[AMPS]
<b>LIGHT DUTY CABLE (500 volts)</b>								
1	18.5	15	17	19.5	16.5	18	20	23
1.5	23	19	21	25	21	23	26	29
2.5	31	26	29	33	28	31	34	39
4	40	35	38	44	37	41	45	51
<b>HEAVY DUTY CABLE (750 volts)</b>								
1.5	25	21	23	26	22	26	28	32
2.5	34	28	31	36	30	34	37	43
4	45	37	41	47	40	45	49	56
6	57	48	52	60	51	57	62	71
10	77	65	70	82	69	77	84	95
16	102	86	92	109	92	102	110	125
25	133	112	120	142	120	132	142	162
35	163	137	147	174	147	161	173	197
50	202	169	181	215	182	198	213	242
70	247	207	221	264	223	241	259	294
95	296	249	264	317	267	289	309	351
120	340	286	303	364	308	331	353	402
150	388	327	346	416	352	377	400	454
185	440	371	392	472	399	426	446	507
240	514	434	457	552	466	496	497	565

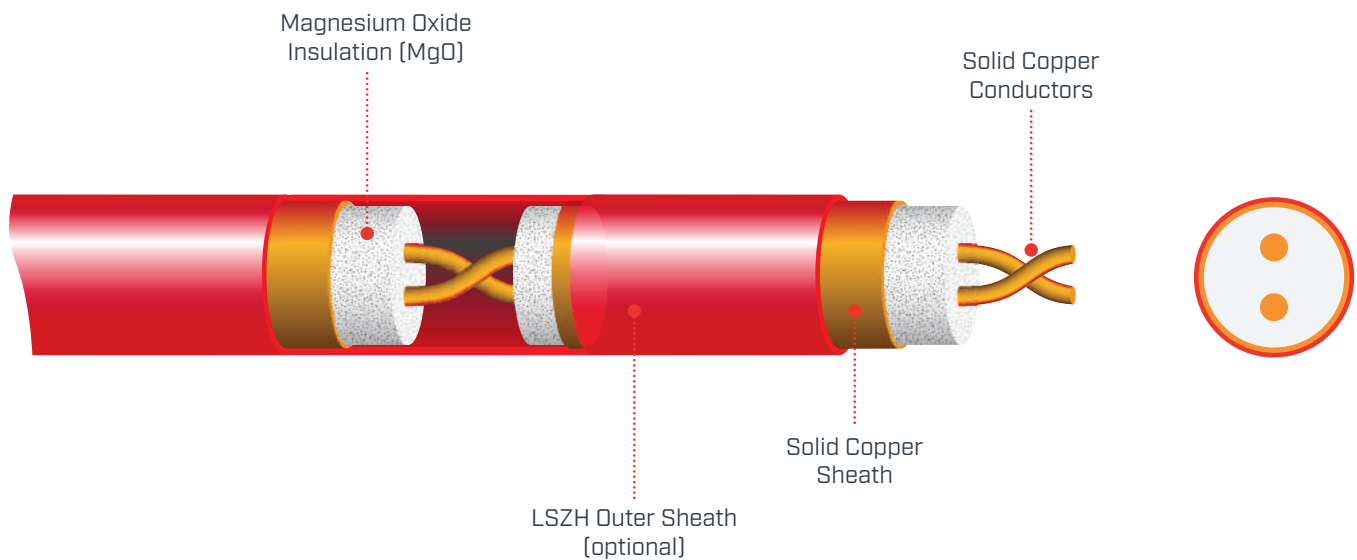
**Notes:**

- Ambient temperature: 30°C
- Sheath operating temperature: 70°C
- For single-core cables, the sheaths of the circuit are assumed to be connected together at both ends
- For bare cables exposed to touch, the tabulated values should be multiplied by 0.9

# Twisted Conductor Cable

Our Twisted Conductor Cables are designed for use where enhanced fire survival is required such as fire alarm and detection systems. other applications include fire telephone systems, CCTV and public address systems. our Twisted Conductor Cables have reduced electromagnetic interference and signal corruption, reducing system malfunction and improved electrostatic screening.

CABLE SIZE REFERENCE	CONDUCTORS	CONDUCTOR RESISTANCE	MAX SHEATH RESISTANCE @20C Ohm/km	CAP-C/C @10k-Hz	CAP-C/SH @10kHz	IND-LOOP @10kHz	CHARACTER IMP	DIAMETER OVER SHEATH	DIAMETER OVER LSZH	COND AREA	FREQUENCY OF TWIST (PER METRE)
ISZH 2T1	2	18.1 ohms/Km	3.95	144 pF/m	219 pF/m	443 uH/Km	55 ohms	5.1mm	6.6mm	1.0mm <sup>2</sup>	20
ISZH 2T1.5	2	12.1 ohms/Km	3.35	164 pF/m	243 pF/m	436 uH/Km	52 ohms	5.7mm	7.2mm	1.5mm <sup>2</sup>	20
ISZH 2T2.5	2	7.4 ohms/Km	2.53	170 pF/m	270 pF/m	410 uH/Km	49 ohms	6.6mm	8.1mm	2.5mm <sup>2</sup>	20
ISZH 3T1.5	3	12.1 ohms/Km	2.67	160 pF/m	260 pF/m	450 uH/Km	50 ohms	6.4mm	7.9mm	1.5mm <sup>2</sup>	20
ISZH 4T1.5	4	12.1 ohms/Km	2.33	180-216 pF/m	290 pF/m	520 uH/Km	48 ohms	7.0mm	8.5mm	1.5mm <sup>2</sup>	20







**DON'T TAKE RISKS,**  
use the **ULTIMATE** fire survival cable.

Survives fire longer, supports critical emergency systems and provides vital time for evacuation and shutdown procedures.



Mineral Cable  
helps save lives

 YouTube  LinkedIn

Wrexham Mineral Cables  
Wynnstay Technology Park  
Ruabon, Wrexham, LL14 6EN

TEL: +44(0)1978 810789  
sales@wrexhammineralcables.com  
www.wrexhammineralcables.com

  
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