



**MICC** GROUP

# Cables for Life

MICC cable - For when 15  
minutes is not enough!

[www.pyrosales.com.au](http://www.pyrosales.com.au)

# What is MICC cable?

- Mineral Insulated Cable is without question the ultimate fire survival electrical cable system
- It comes in two forms;
  - *Copper sheath (Survives for 3hrs+ @ 1050°)*
  - *Alloy 825 sheath (Survives for 2hrs+ @ 1200°C)*
- It provides proven upto 3 hour escape time in 'Real World' fire conditions
- It's the only electric cable to pass BS6387 'Enhanced' which specifies only one cable for all 3 tests allowed
- The only electric cable to pass modern furnace tests – i.e. German standard ISO834-1, test DIN 4102 1000°C 90mins
- The only cable technology approved & listed by UL2196 for 'unrestricted installation'

# Who are MICC Ltd?

- MICC have 85 years of Mineral Insulated Cable manufacturing experience!
- Use the unique seamless tube manufacturing process developed by BICC in the 1930's
- Owned and operated by the ex-management team of BICC Pyrotenax
- Offer unrivalled experience in mineral insulated cable research, products and applications
- Specialists in hazardous area projects and installations
- Suppliers to the Nuclear industry since the 1st generation in the 1950's
- Truly Global business with Worldwide customer service
- The only manufacturer to produce both copper and alloy 825 sheathed wiring cables
- World's largest manufacturer of MI cable
- World's largest MI cable factory
- MICC do not make cables for anybody else



# Why is MICC the only true Fire Survival cable?

- Inorganic construction = Nothing to burn!
- Nothing to burn = Zero toxic emissions and Zero smoke!
- Inorganic materials = Last a lifetime!
  - *MICC wiring cables come with a life time guarantee!*
- Holistic fire survival = Zero combustion and Zero heat release
- Naturally armoured = Pest proof, no risk of rodent damage!
- Self-monitoring = Will not cause false alarms due to undetected damage on installation
- Furnace tested = Passes the only true life like fire test!

## MICC cable... for when 15 minutes is not enough time to escape!

- MICC cable is essential for when 15 minutes egress time is not enough time to escape
- The British Standard for fire evacuation is 2.5 minutes per floor for moving from the accommodation final exit
- MICC is strongly recommended for any building more than 7 floors tall
- It is a MUST for metros, airports, prisons, hospitals, tunnels, shopping centres, schools
- And the correct choice for ALL life critical circuits;
  - *Fire alarms*
  - *Smoke alarms*
  - *Emergency lighting*
  - *Ventilation systems*
  - *Fireman's lifts*
  - *Emergency pumps*
  - *And more..*



1300 737 976

# MICC Fire Survival Cables

## The ONLY true fire proof cables!

Feature	LSF FP / FR Cable	Copper MICC Cable	Alloy 825 MICC Cable
Upto 15min egress time	✓	✓	✓
Over 15min egress time	✗	✓	✓
250°C Operating temperature	✗	✓	✓
650°C Operating temperature	✗	✗	✓
Exposure to 1040°C	✗	✓	✓
Exposure to 1350°C	✗	✗	✓
BS6387 CWZ	✓	✓	✓
BS6387 CWZ Enhanced	✗	✓	✓
BS8491 (Furnace test)	✗	✓	✓
Flame Retardant	✓	✓	✓
Seamless tube	N/A	✓	✓
Waterproof, submersible	✗	✓	✓
No self-ignition	✗	✓	✓
Mechanical shock & pressure resistant	✗	✓	✓
Zero toxic emissions, smoke, flame & gas	✗	✓	✓
Self-monitoring	✗	✓	✓
Non-aging, corrosion resistant	✗	✓	✓
Suitable for confined space/tunnel	✗	✓	✓
100% recyclable	✗	✓	✓
No conduit required	✗	✓	✓
High overload resistance	✗	✓	✓
Zero smoke on overload	✗	✓	✓
Gas, Bio / Chemical proof	✗	✓	✓
Rodent proof	✗	✓	✓

# The Low Smoke myth!

Many polymeric cable manufacturers claim the polymers they use for insulation and jackets are low smoke. They often justify this by claiming compliance to tests like BS EN 61034.

These smoke obscuration tests are dependent on a specific sample weight of cable burned in a specific

room / air volume. These results are not predictive end use simulations.

Smoke generation can be greater on high heating before flame and smoke volume is directly related to the amount of material burnt.



*So how can a BS-EN 61034 low smoke cable give off so much smoke?*

PVC gives off more smoke in flame but PE / XLPE (polyethylene) gives off more smoke on heating without flame. extremely costly!

Plasticized UPVC is used to make general electric cable. In flaming and non flaming mode both feature high smoke outputs, indeed very bad as a fire proof cable...

FP200 & FP600 use polyethylene - In a direct flame yes it shows as low smoke generation factor.... But under overload, short circuit or internal heat for any reason... 590DM is a lot of smoke!

It doesn't take an actual fire to cause an emergency evacuation, smoke with no fire is more common and extremely costly!

Material	Thickness (mm)	Maximum Specific Optical Density (DM) Non Flaming	Flaming
UPVC	3	400	580
Polyethylene	3	590	83
FR Polyethylene	3	790	780
Polypropylene	3	550	162
FR Polypropylene	3	820	600
Polystyrene	3	476	960
PMMA	3	63	117
Plasticised PVC	0.75	430	650

# The truth about BS6387 and flame vs furnace tests!

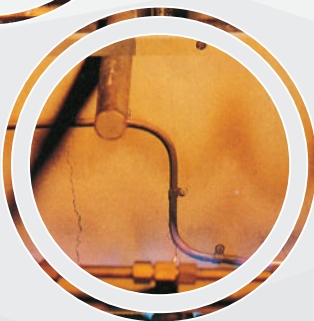
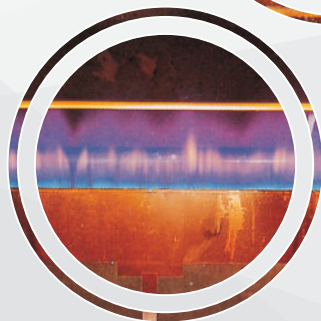
The duration and the maximum temperature of a fire in a building depends on several factors including the amount and configuration of available combustibles (including all electric cables), ventilation conditions, properties of the internal enclosures, weather conditions, etc. In common circumstances, the maximum temperature of a fully developed building fire will rarely exceed 1000°C

## *A flame test like BS6387 (CWZ). Max temperature 860°C (2013 revision)*

- The flame is very small in comparison to a 'real' fire
- Most of heat is lost and not applied directly to cable
- Too many fixings are often used to keep the cable in place, this is just not practical and would be very expensive!
- The temperature isn't even hot enough for the average fire!
- The new BS50200 is worse at only 842°C and only for 2hrs
- Only fire rated cables are tested this way

## *A furnace test like ISO 843-1. Max temperature 1000°C (2014 revision)*

- The closest to a real fire simulation, everything starts to melt!
- Every other fire rated component in the building must pass a furnace test
  - *Fire proof doors*
  - *Partitions etc*
- Only MICC cables pass this test



# Mineral Insulated Cable is the perfect choice for ANY high temperature application!

- MICC (Mineral Insulated Cable Company Ltd) are the UK's only manufacturers of the full range of mineral insulated cable products. We have the history and experience of BICC via our directors and many managerial and production staff. We are the only company in the World to manufacture using the BICC seamless tube technique.



- TRM (Thermal Resources Management Ltd) have the same ownership as MICC and many highly experienced ex-BICC staff, we specialise in designing and turning our MI cable into an installable products / units. We also offer consultation and installation services.
- Both MICC and TRM have strong R&D and engineering teams ready to work with you on special and innovative solutions to your project challenges.
- We work across a wide range of industrial and commercial sectors including, Oil & Gas, Petrochemical, Iron & Steel, Pharmaceutical, Refrigeration, Water, Food & Beverage, Automotive, General Engineering, Chemical, Commercial Buildings; Metro Systems, Airports, Hospitals, Prisons and Power Generation; including all UK and many International Nuclear Power Stations.
- We specialise design, manufacture and installation of the 3 key areas of temperature control;
  - *Electric Trace Heating > Raise or maintain temperature on pipelines, tanks / vessels, rock crushers, car park access ramps, even helicopter pads & submarine power systems.*
  - *Temperature measurement > Industrial thermocouples and RTDs used to measure temperature upto 1200°C! They are used in a wide range of applications from pipelines to steel foundry's and extremely hazardous areas like Nuclear Power Station boilers.*
  - *Fire-Survival > The only true fire survival cable on the market, it guarantees 3hr plus escape time in the harshest of fires... our commercially focused copper system is rated upto 1083°C. These are used in high rise buildings, tunnels, metro systems, hospitals and war / refuge shelters in Kuwait.*

# Why take the risk? The facts!..

## *When it comes to smoke...*

Cables which emit NO smoke will provide significantly improved evacuation speed and aid saving more lives!

## *About temperature rise and Oxygen depletion...*

Cables with NO calorific value which have a ZERO heat of combustion per Kg will eat NO oxygen and generate NO heat will aid saving more lives!

## *Concerning toxic and irritant gasses*

Cables with NO organic content, NO calorific values and Halogen Free will generate NO toxic or irritant gasses at all including Carbon Monoxide WILL aid saving more lives!

(Statistically CO is responsible for >90% of toxicity deaths in fires)

## *So what do we do now ?*

Soft skin fire resistant cables are not bad cables...

They just don't give the performance they claim to.

We need to review the application and understand the limits of the current standards, this will allow the right product to be specified for the right application...

**Life depends on it, choose a Cable for Life!**



Local Distributor

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