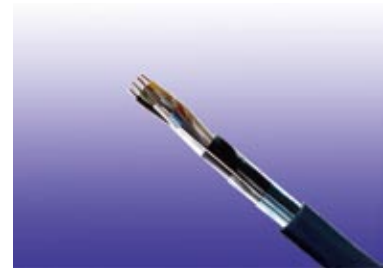


## MICA/LSZH Insulated & LSZH Sheathed Fire Resistant Cables to DIN VDE 0815

JE-H(St)H...Bd FE180 E90 JE-H(St)H...Bd FE180 E90 BMK

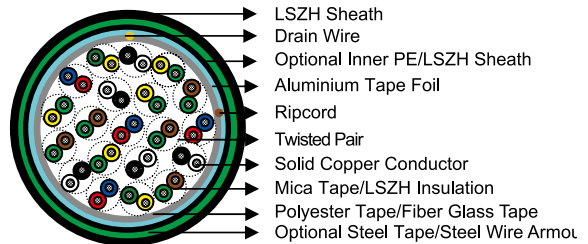
### APPLICATION

The cables are similar in design and application to CW 1600, but with fire barrier tape. They are used for the internal wiring of building when the circuit integrity during fire is paramount. The cable is intended to take the place of LSZH sheathed cables and will withstand similar environments with a similar working life. The cables are intended for use in fire fighting plants with mica tapes, with and without aluminium foil and LSZH outer sheath.



### STANDARDS

- EN 50200:2000-02
- EN 50266
- EN 50267
- EN 50268
- BS 6387
- IEC 60331



### CONSTRUCTION

- **Conductors:** Solid annealed bare or tinned copper sized 0.8mm as per class 1 of VDE 0295/IEC 60228.
- **Fire Barrier:** Mica tape.
- **Insulation:** LSZH compound HI1 as per VDE 0207-23.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Twisted Pairs.
- **Core Assembly:** The twisted pairs are stranded to the core in layers.
- **Core Wrapping:** One or more non hygroscopic polyester tapes are helically or longitudinally laid with an overlap prior to sheathing.
- **Screen:** A laminated Aluminium/Polyester tape in contact with solid copper 0.6mm or 0.8mm drain wire.
- **Inner bedding (for armoured cables):** PE or LSZH compound HM2 as per VDE 0207-24
- **Armour (for armoured cables):** Either corrugated steel tape armour or galvanized steel wire is applied over an inner polyethylene sheath. For steel tape armour, the 0.15mm thick steel tape is coated with a copolymer and applied with an overlap. For steel wire armour, single layer of galvanized steel wire armour is applied.
- **Sheath:** LSZH compound HM2 as per VDE 0207-24.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Drain Wire:** A solid tinned earth/continuity wire shall be laid longitudinally for screened cables.

### TYPE CODES

JE- Fire Alarm Cable  
H Halogen Free & Zero Halogen



# Caledonian

## INDOOR TELEPHONE CABLES

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk) [www.addison-cables.com](http://www.addison-cables.com)

Bd Unit stranding.  
 (St) Static Shield of aluminium tape  
 FE180 Insulation Integrity (950°C 180 minutes)  
 E90 90 minutes Circuit Integrity.

### ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.8
Conductor Size	mm <sup>2</sup>	0.5
Maximum Conductor Resistance @20°C	Ω/km	34.6
Maximum Loop Resistance @20°C	Ω/km	73.2
Minimum Insulation Resistance @500V DC @20°C	MΩ.km	100
Maximum Average Attenuation @0.8KHz	dB/km	1.1
Average Mutual Capacitance	nF/km	120
Capacitance Unbalance K1 @0.8KHz pair-to-pair	pF/100m	200
Working Voltage	V	300
Nominal Insulation Thickness	mm	0.4
Nominal Insulated Conductor Diameter	mm	1.6

### MECHANICAL AND THERMAL PROPERTIES

**Temperature range during operation (fixed state):** -30°C – +70°C

**Temperature range during installation (mobile state):** -20°C – +50°C

**Minimum bending radius:** 10 x Overall Diameter (unarmoured cables); 15 x Overall Diameter (armoured cables)

### FIRE HAZARD PERFORMANCE

- 1) Minimum Smoke Emission IEC 61034, EN 50268 (New: EN 61034), VDE 0482-268 (New: VDE 0482-1034)  
 These standards specify a method to measure the generation of smoke from cables during fire. The result is expressed as percentage of light transmitted. Usually, the smoke density shall not be less than 60%.
- 2) Halogen Free IEC 60754-1, EN 50267-2-1  
 These standards specify a method for determination of the amount of halogen acid gas, evolved during combustion of compound. The hydrochloric acid yield should be less than 0.5%.
- 3) Non corrosive gases IEC 60754-2, EN 50267-2-2, VDE 0482-267  
 These standards specify a method for determination of acidity of gas evolved during combustion of cables by measuring PH and conductivity. The specimen is deemed to pass this test if the pH value is less than 4.3 when related to 1 litre of water and conductivity is less than 10 µs/min.
- 4) Reduced Fire Propagation IEC 60332-3C, EN 50266-2-4, VDE 0482-266-2-4  
 These standards specify a method for flame propagation test for bunched cables.
- 5) Flame Retardancy IEC 60332-1, VDE 0482-265-2-1  
 These standards specify a method for flame propagation test for single core cables.
- 6) Insulation Integrity FE 180 DIN VDE 0472-814, IEC 60331, EN 50200, VDE 0482-1

These standards specify the performance requirements for cables required to maintain insulation integrity under fire conditions.

#### 7) Circuit Integrity E30

DIN 4102-12

These standards specify the performance requirements for cables required to maintain circuit integrity under fire conditions.

## COLOUR CODE

Quad colour in each bundle:

Pair 1: Blue-Red

Pair 2: Grey-Yellow

Pair 3: Green-Brown

Pair 4: White-Black

The individual bundles are identified by a numbered helix.

## DIMENSIONS AND WEIGHT

VDE CODE: JE-H(St)H...x2x0.8 Bd FE180 E90

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.8mm Conductor, 1.6mm Insulated Wirez					
TP815JE-H(St)H-Bd-FE180-E90-2P08	2	0.4	1.0	12.8	177
TP815JE-H(St)H-Bd-FE180-E90-4P08	4	0.4	1.0	16.3	284
TP815JE-H(St)H-Bd-FE180-E90-8P08	8	0.4	1.0	20.3	447
TP815JE-H(St)H-Bd-FE180-E90-12P08	12	0.4	1.2	23.9	615
TP815JE-H(St)H-Bd-FE180-E90-16P08	16	0.4	1.2	26.6	756
TP815JE-H(St)H-Bd-FE180-E90-20P08	20	0.4	1.2	29.4	921
TP815JE-H(St)H-Bd-FE180-E90-32P08	32	0.4	1.4	30.7	1074
TP815JE-H(St)H-Bd-FE180-E90-40P08	40	0.4	1.4	33.6	1278
TP815JE-H(St)H-Bd-FE180-E90-52P08	52	0.4	1.6	43.7	2011

