



# Caledonian

## Railway Cables

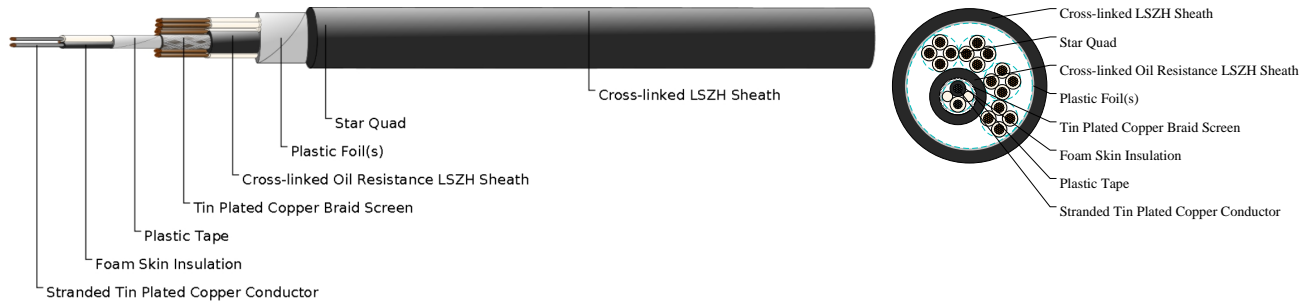
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### Firerail Databus Cables For Railway Applications

Integrated 18 Cores 0.75mm sq UIC Databus Cables

FRA-UIC-4Q1S+2C0.75S



### APPLICATIONS

The cables are used as connecting cables to transmit digital signals inside railway rolling stocks.

### STANDARDS

DIN 5510-1

### CABLE CONSTRUCTION

For 18 cores UIC databus cables:

Star Quad: Four LSZH insulated 1mm<sup>2</sup> stranded tinned copper conductors are twisted to form a star quad.

UIC Data Bus 0.75mm<sup>2</sup>: Two foam skin insulated tinned copper stranded conductors are twisted together with two filling elements to form a pair.

Wrapping: Overlapped plastic-foil(s).

Screen: Tinned copper wire braid screen.

Element sheaths: TPE.

Wrapping: Overlapped plastic-foil(s).

Stranding: 4 star quads are stranded together with 2 or 4 UIC data bus cable and several fillers.

Core Wrapping: Overlapped plastic-foil(s).

Screen: Tinned copper-wire braid screen.

Outer Sheath: Cross-linked oil resistant LSZH compound.

### PHYSICAL AND THERMAL PROPERTIES

Minimum Bending Radius: 6xOD (single); 12xOD (multiple)

Temperature Range: -40°C to +90°C (during operation); -20°C +50°C (during installation)

### Electrical Properties

Electrical Characteristics at 20°C:

Nominal Cross Section: 0.75 mm<sup>2</sup>

No of Strand/Strand Diameter: 19/0.22

Maximum Conductor Resistance: 26.7 Ω/km



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Impedance@1.0-10MHz:120+/-12 Ω

Maximum Attenuation @1MHz:10 dB/km

Maximum Attenuation @1.5MHz:13 dB/km

Maximum Attenuation @2MHz:14 dB/km

Maximum Attenuation @3MHz:18 dB/km

Maximum Transfer Impedance:30 mΩ/m

Nominal Voltage Rating:300 V

Nominal Cross Section:1 mm<sup>2</sup>

No of Strand/Strand Diameter:19/0.25

Maximum Conductor Resistance:20 Ω/km

### DIMENSION AND PARAMETERS

No. of Cores × Cross-sectional Area	Nominal Sheath Thickness	Nom. Overall Diameter	Approx. Weight
No.×mm <sup>2</sup>	mm	mm	kg/km
4 x 4 x 1.0+ 2 x 0.75	1.8	18.5	498



Fire Retardant  
NF C20-078-2-2&C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardant  
NF C32-078-2-1&C2)  
IEC60332-1-2/EN50265-2-1



Highly Flexible



Impact Resistant



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



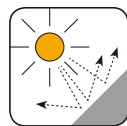
Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



Low Toxicity



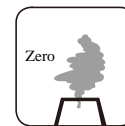
Oil Resistant



UV Resistant



Water Resistant



Zero Halogen  
IEC 60754-1/EN 50267-2-1  
NF C20-454