Caledonian
Railway Cables
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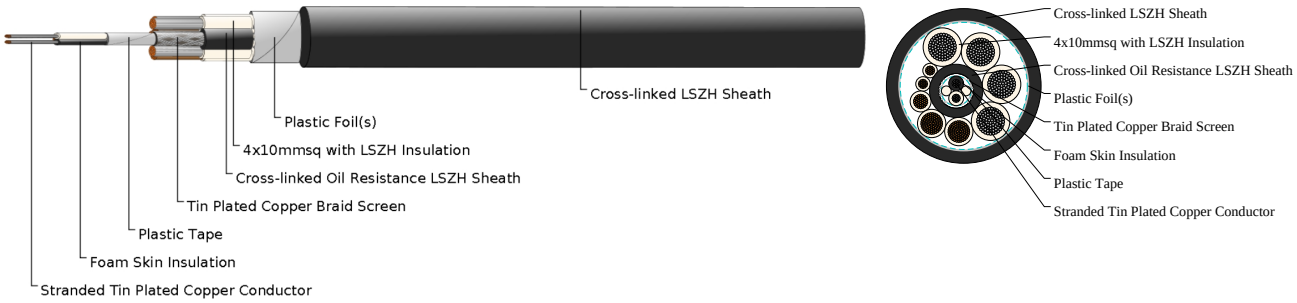
Firerail Databus Cables For Railway Applications

Integrated 11 Cores 0.75mm sq UIC Databus Cables
FRA-UIC-4C10S+2C6S+1C2.5S+2C1S+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 11 cores UIC databus cables:
4 cores: 10 mm2 stranded tinned copper conductor with LSZH insulation.
Combined Element: 5 cores(with Cu-strand 2 x 6mm2, 1 x 2.5mm2 and 2 x 1.0 mm2) are twisted with a filling element to form a combined element.
Wrapping:Overlapped plastic-foil(s).
Elements sheaths: TPE.
UIC Data Bus 0.75 mm²: Two foam skin insulated tinned copper stranded conductors are twisted together with two filling elements to a pair.
Wrapping: Overlapped plastic-foil(s).
Screen: Tinned copper wire braid screen.
Element sheaths: TPE.
Wrapping: Overlapped plastic-foil(s).
Stranding: 4 strands are twisted to a core together with 3 cored element, the UIC data bus and two fillers.
Core Wrapping: Overlapped plastic-foil(s).
Outer Sheath: Cross-linked oil resistant LSZH compound.

PHYSICAL AND THERMAL PROPERTIES

Minimum Bending Radius: 6xOD (single); 12xOD (multiple)
Temperature Range: -40℃ to +90℃ (during operation); -20℃ +50℃ (during installation)

Electrical Properties

Electrical Characteristics at 20°C:

Nominal Cross Section:0.75 mm²
No of Strand/Strand Diameter:19/0.22
Maximum Conductor Resistance:26.7 Ω/km
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 mm²
No of Strand/Strand Diameter:19/0.25
Maximum Conductor Resistance:20 Ω/km

Nominal Cross Section:2.5 mm²
No of Strand/Strand Diameter:37/0.29
Maximum Conductor Resistance:8.21 Ω/km

Nominal Cross Section:6 mm²
No of Strand/Strand Diameter:84/0.3
Maximum Conductor Resistance:3.39 Ω/km

Nominal Cross Section:10 mm²
No of Strand/Strand Diameter:80/0.4
Maximum Conductor Resistance:1.95 Ω/km

DIMENSION AND PARAMETERS

No. of Cores × Cross-sectional Area	Nominal Sheath Thickness	Nom. Overall Diameter	Approx. Weight
No.×mm²	mm	mm	kg/km
4 x 10+2 x 6+1 x 2.5+2 x 1.0+2 x 0.75	1.8	25	969

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Fire Retardant
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4

Flame Retardant
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1

Highly Flexible

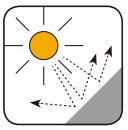
Impact Resistant

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 Toxcity

Oil Resistant



UV Resistant

Water Resistant

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