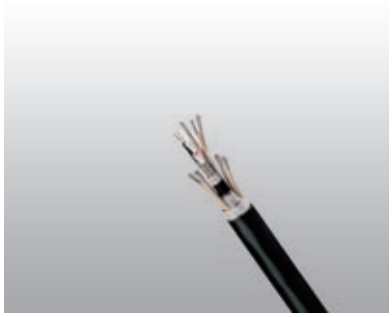
Integrated 9/11/18/20 Cores 0.75mm² UIC Databus Cables



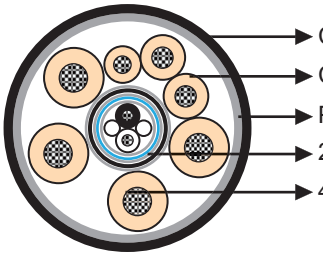
Applications

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

Standards

- DIN 5510-1

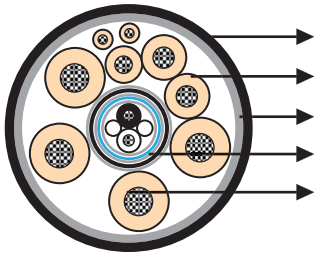
Construction



For 9 cores UIC databus cables:

- 4 cores: 10 mm² stranded tinned copper conductor with LSZH insulation.
- Combined Element: 3 cores (with Cu-strand 2×6mm², 1×2.5mm²) are twisted with a filling element to a combined element. Wrapping: Overlapped plastic-foil(s). Elements sheaths: TPE
- UIC Data Bus 0.75mm²: 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.



For 11 cores UIC databus cables:

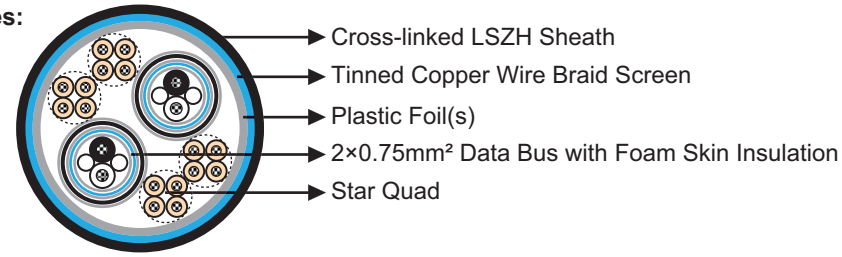
- 4 cores: 10 mm² stranded tinned copper conductor with LSZH insulation.
- Combined Element: 5 cores (with Cu-strand 2×6mm², 1×2.5mm² and 2×1.0 mm²) are twisted with a filling element to form a combined element.

  Wrapping: Overlapped plastic-foil(s).
  Elements sheaths: TPE.
- UIC Data Bus 0.75mm²: Two foam skin insulated tinned copper r 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 5 cored element, the UIC data bus and two fillers.
- Core Wrapping: Overlapped plastic-foil(s).
- Outer Sheath: Cross-linked oil resistant LSZH compound.

Caledonian

For 18/20 cores UIC databus cables:



● Star Quad: Four LSZH insulated 1mm² stranded tinned copper conductors are twisted to form a star quad.

● UIC Data Bus 0.75mm²: 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.

↘ Electrical Characteristics at 20℃

Nominal Cross Section	mm²	0.75	1	2.5	6	10
No of Strand/Strand Diameter		19/0.22	19/0.25	37/0.29	84/0.3	80/0.4
Maximum Conductor Resistant	Ω/km	26.7	20	8.21	3.39	1.95
Impedance@1.0-10MHz	Ω	120+/-12	-	-	-	-
Maximum Attenuation @1MHz	dB/km	10	-	-	-	-
Maximum Attenuation @1.5MHz	dB/km	13	-	-	-	-
Maximum Attenuation @2MHz	dB/km	14	-	-	-	-
Maximum Attenuation @3MHz	dB/km	18	-	-	-	-
Maximum Transfer Impedance	mΩ/m	30	-	-	-	-
Nominal Voltage Rating	V	300	-	-	-	-

↘ Mechanical and Thermal Properties

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

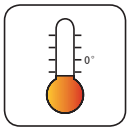
↘ Dimensions and Weight

Cable Code	No. of cores& Nominal Conductor Cross Sectional Area No.×mm²	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
RD-UIC-4C10S+2C6S+1C2.5S+2C0.75S	4×10+2×6+1×2.5+2×0.75	1.8	25	917
RD-UIC-4C10S+2C6S+1C2.5S+2C1S+2C0.75S	4×10+2×6+1×2.5+2×1.0+2×0.75	1.8	25	969
RD-UIC-4Q1S+2C0.75S	4×4×1.0+ 2×0.75	1.8	18.5	498
RD-UIC-4Q1S+2P0.75S	4×4×1.0+ 2×2×0.75	1.8	23	530


Impact Resistant


Highly Flexible


UV Resistant


Weather Resistant


Oil Resistant


Flame Retardant
NF C32-070-2.1(C2)
IEC 60332-1/EN 50265-2-1


Fire Retardant
NF C32-070-2.2(C1)
IEC 60332-3/EN50266

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


Low Smoke Emission
IEC 61034/NFC20-902
EN 50268/NF C32-073


Low Corrosivity
EN 50267-2-2/NF C32-074
IEC 60754-2/NF C20-453


Low Toxicity