



# Caledonian

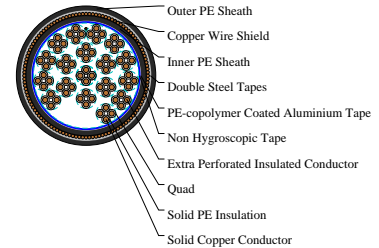
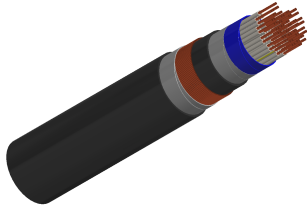
## Railway Cables

www.caledonian-cables.com

marketing@caledonian-cables.com

### AJ-2Y(L)2YDB2Y S(H45)

1.4mm conductor, 2.6mm Insulated wire rk 401 Series  
RS109y-2Y(L)2YDB2Y-20Q1.4-S(H45)-R4



### APPLICATIONS

The cables are designed for transmission of low frequent signals up to 90 KHz through symmetric circuits in railway networks, and are suitable for laying directly into the ground or in ducts.

### STANDARDS

DIK 1.013.109y

DIK 1.013.110y

### VOLTAGE RATING

600V DC/420V AC

### CABLE CONSTRUCTION

Conductors: Solid Annealed copper.

Insulation: Solid polyethylene.

Cabling Element: Four insulated conductors are twisted together to form a quad.

Stranding: Quads are helically stranded in concentric layers. Cables from 7 quads on, have two extra conductors of 0.5mm with perforated insulation (surveillance conductors).

Core Wrapping: Plastic tape(s) with overlapping.

Core Colour : Basi natural color+ring marking as below table,counter quad in each layers with open blue tape.

Moisture Barrier: One laminated sheath made of aluminium tape (0.15mm) coated with PE-Copolymer on at least one side is applied with longitudinally overlap.

Inner Sheath: Low density polyethylene.

Electrostatic Shield: One layer of helically applied copper wires (1.4 mm).

Electromagnetic Shield: Two helically applied steel tapes (0.5 or 0.8mm thick, depending on required reduction factor).

Outer Sheath: Low density polyethylene

### PHYSICAL AND THERMAL PROPERTIES

Minimum Bending Radius: 10xOD

Temperature Range: -40°C to +60°C (during operation); -10°C +60°C (during installation)



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## Electrical Properties

Electrical Characteristics at 20°C:

Nominal Conductor Diameter:1.4 mm

Maximum Conductor Resistance:23.4Ω/km

Minimum Insulation Resistance @500 V DC (1min) :10000 MΩ.km

Maximum Mutual Capacitance @800Hz (AC): 45 nF/km

Maximum Capacitance Unbalance @800Hz:

K1 (100% / 50% all values):650 pF/km

K9-12 neighboured quads:500 pF/km

K9-12 over-neighboured quads:150 pF/km

Ea1/2:1300 pF/km

Minimum Far-end Crosstalk Attenuation @90KHz:

100% / 80% all values:33 dB/km

Maximum Attenuation @90KHz:2.6 dB/km

Dielectric Strength, conductor to conductor (DC voltage 1min) : 3535 V

Surveillance Conductors:

Loop resistance, maximum: 190Ω/km

Insulation resistance:

- dry cable core, minimum:1000 MΩ.km

- wet cable core, maximum:30 MΩ.km

Nominal Reduction Factor @ 100 V/km, 16 2/3 Hz:rk 401 series: 0.15

Operating Voltage AC/DC:420/600 V

Test Voltage 50 Hz 1 min:

Core to Core:2500 Veff

Core to Screen:2500 Veff

## DIMENSION AND PARAMETERS

No. of Quad	Conductor Diameter	Nominal Diameter over Insulation	Nominal Inner Sheath Thickness	Nominal Outer Sheath Thickness	Nom. Overall Diameter	Approx. Weight
	mm	mm	mm	mm	mm	kg/km
20	1.4	2.6	1.3	1.2	49	4180



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Anti Induction



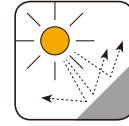
Buried in Ground



Laid In Ducts



Rated voltage



UV Resistant



Water Resistant



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