

## A-2Y(L)2YB2Y S(H45)

### 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.

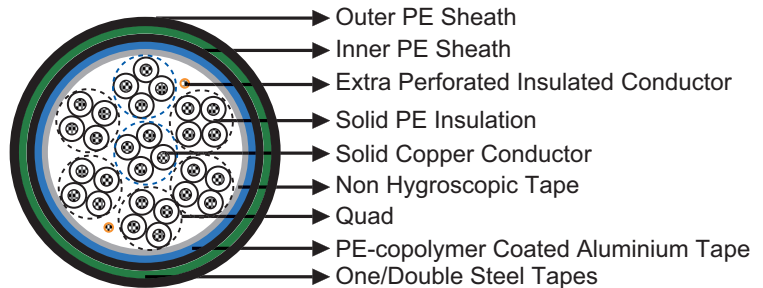


### Standards

- Dlk 1.013.109y
- Dlk 1.013.110y

### Construction

- Conductor: Solid annealed copper, 0.9 or 1.4 mm nominal diameter.
- 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.
- 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.
- Electromagnetic Shield: One helically applied steel tape (0.2-0.3mm) or two helically applied steel tapes (0.1mm).
- Outer Sheath: Low density polyethylene.

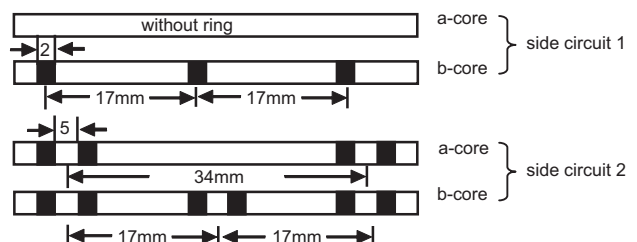
### Type Codes

A-	outdoor cable	2Y	solid PE conductor insulation
(L)2Y	PE inner laminated sheath	B	steel tape armor
2Y	PE outer sheath	S	signal cable
LG	layer stranding	H(n)	operating capacity

### Ring marking of Quad

The single core is identified by black ring markings:

Side Circuit 1	a-wire	without marking
	b-wire	1 mark distance 17mm
Side Circuit 2	a-wire	2 marks distance 34mm
	b-wire	2 marks distance 17mm





## Electrical Characteristics at 20°C

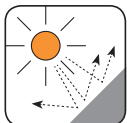
Nominal Conductor Diameter	mm	0.9	1.4
Maximum Conductor Resistance	Ω/km	56.6	23.4
Minimum Insulation Resistance @500 V DC (1min)	MΩ.km	10000	10000
Maximum Conductor Capacitance @800Hz (AC)	nF/km	45	45
Maximum Capacitance unbalance @800Hz			
K <sub>1</sub> (100% / 50% all values)	pF/km	650/150	650/150
K <sub>9-12</sub> neighboured quads	pF/km	500/150	500/150
K <sub>9-12</sub> over-neighboured quads	pF/km	150	150
ea <sub>1/2</sub>	pF/km	1300	1300
Minimum Far-end Crosstalk Attenuation @90KHz			
100% / 80% all values	dB/km	58/62	33/45
Maximum Attenuation @90KHz	dB/km	3.3	2.6
Dielectric Strength, conductor to conductor (DC voltage 1min)	V	3535	3535
Surveillance Conductors			
Loop resistance, maximum	Ω/km	190	190
Insulation resistance			
- dry cable core, minimum	MΩ.km	1000	1000
- wet cable core, maximum	KΩ.km	30	30
Operating Voltage AC/DC	V	420/600	420/600
Test Voltage @50 Hz 1 min			
Core to Core	V <sub>eff</sub>	2500	2500
Core to Screen	V <sub>eff</sub>	2500	2500

## Mechanical and Thermal Properties

- Minimum Bending Radius: 10×OD
- Temperature Range: -40°C to +60°C (during operation); -10°C +60°C (during installation)

## Dimensions and Weight

Cable Code	Number of Quads	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
0.9mm Conductor, 1.8mm Insulated Wire					
RS109y-2Y(L)2YB2Y-1Q0.9-S(H45)	1	1.3	1.2	12.0	170
RS109y-2Y(L)2YB2Y-3Q0.9-S(H45)	3	1.3	1.2	17.0	310
RS109y-2Y(L)2YB2Y-5Q0.9-S(H45)	5	1.3	1.2	19.0	410
RS109y-2Y(L)2YB2Y-7Q0.9-S(H45)	7	1.3	1.2	21.0	500
RS109y-2Y(L)2YB2Y-10Q0.9-S(H45)	10	1.3	1.2	24.0	640
RS109y-2Y(L)2YB2Y-14Q0.9-S(H45)	14	1.3	1.2	27.0	800
1.4mm Conductor, 2.8mm Insulated Wire					
RS109y-2Y(L)2YB2Y-1Q1.4-S(H45)	1	1.3	1.2	14.0	240
RS109y-2Y(L)2YB2Y-3Q1.4-S(H45)	3	1.3	1.2	21.0	490
RS109y-2Y(L)2YB2Y-5Q1.4-S(H45)	5	1.3	1.2	24.0	710
RS109y-2Y(L)2YB2Y-7Q1.4-S(H45)	7	1.3	1.2	26.0	880
RS109y-2Y(L)2YB2Y-10Q1.4-S(H45)	10	1.3	1.2	33.0	1190
RS109y-2Y(L)2YB2Y-14Q1.4-S(H45)	14	1.3	1.2	36.5	1550



UV Resistant



Water Resistant



Rated Voltage



Laid In Ducts



Buried in Ciround



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

