

SHIELDED PAIR RAILWAY SIGNALING CABLES, ARMoured LSZH SHEATH, ADIF SPECIFICATION



Signaling cable



Impact Resistant



Fire Retardant



Low smoke emission



Zero Halogen



UV Resistant



Rodent Resistant



ROHS Compliant

STANDARDS

Construction: ADIF ET 03.365.051.6 2nd edition

Other complementary standards: EN 50266-2-4 CAT. C, EN 50267-2-2, EN 50268-2 and NF-C 20454

DESCRIPTION AND APPLICATION

Cables of 1 to 20 pairs individually shielded with an aluminium/polyester laminate. Conductors of 0.9 and 1.4 mm nominal diameter, PE insulation. Pairs are stranded in layers to form the core that is protected with an armoured LSZH sheath type ATISTI. They are used as signalling cables in railways networks and railways infrastructures. For external installation and for installation in ducts or directly buried in tunnels where fire resistance is needed. Protected against rodents.

CONSTRUCTION

- **Conductors:** Annealed copper, 0.9 and 1.4 mm of nominal diameter.
- **Insulation:** Solid polyethylene.
- **Cabling elements:** Shielded pairs with an aluminium/polyester tape. Continuity tinned wire under the tape.
- **Core formation.** Stranded in layers.
- **Core wrapping:** Dielectric tape longitudinally applied with overlap.
- **Cable screen.** Copolymer coated aluminium tape longitudinally applied with overlap and bonded to the inner sheath.
- **Inner sheath:** LSZH material.
- **Armour:** Corrugated copolymer coated aluminium tape longitudinally applied with overlap
- **Outer sheath:** UV resistant LSZH material coloured green RAL 6018.
- **Sheath marking:** The outer sheath shall be marked in white ink, at regular intervals, with the following information:
 - Name of manufacturer/ Year/ Length marks
 - Other type of marks according to the costumer



All drawings, designs, specifications and particulars of weights, dimensions, etc. in this documentation are only indicative and must not be considered contractual.

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ELECTRICAL CHARACTERISTICS (20°C)	0,9 mm	1,4 mm
Conductor resistance (Ω/km)	Average: 28,5±0,5 / Maximum: 30	Average: 11,2±0,5 / Maximum: 11,9
Loop Resistance unbalance (%) $100 \times (R_{max} - R_{min}) / (R_{max} + R_{min})$	Average: 1 % / Maximum 2 %	
Minimum insulation resistance ($M\Omega \times km$, 20°C, 500 V)	35000	
Mutual capacitance (nF/km, 1000 Hz)	Average: 59±3 / Maximum 65	
Note :Average limit apply only to cables from 7 pairs		
Dielectric strength (Vdc, 3 s)		
conductor – conductor		4500
conductor – individual shield		1500
Between individual shields		300
Inductance (mH/Km, 20°C, 1000Hz)	-	0,72

TRANSMISSION CHARACTERISTICS (20°C)	0,9	1,4
Far-end crosstalk (ELFEXT, dB/km)		
1 kHz		80
3 kHz		80
5kHz		75
10kHz		65
Near- end crosstalk (NEXT)		
1 kHz		80
3 kHz		80
5kHz		80
10kHz		75

MECHANICAL CHARACTERISTICS

Temperature range: from -25° C to +75° C

Bending radius: 15 x R_{cable}

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DIMENSIONS AND WEIGHTS

Diameter : 0.90 mm					
Code	No. quad.	Cable Diam. (mm)	Aprox weight. (kg/km)	Length (m)	Drum type

EA491DA90000102N	1	15.2	256	1000	A0
EA491DA90000302N	3	21.6	432	1000	A4
EA491DA90000502N	5	23.6	526	1000	A4
EA491DA90000602N	6	24.2	559	1000	A4
EA491DA90001002N	10	28.5	738	1000	A6
EA491DA90001402N	14	32.4	931	1000	A6

Diameter : 1.40 mm					
Code	No. quad.	Cable Diam. (mm)	Aprox weight. (kg/km)	Length (m)	Drum type

EA491DAA4000102N	1	17.1	319	1000	A2
EA491DAA4000202N	2	23.3	500	1000	A4
EA491DAA4000402N	4	26.5	656	1000	A4
EA491DAA4000602N	6	29.1	812	1000	A6
EA491DA90000802N	8	32.4	986	1000	A6
EA491DAA4001002N	10	35.2	1150	1000	A8
EA491DAA4001202N	12	38.1	1335	1000	B0
EA491DAA4001402N	14	40.3	1477	1000	B0
EA491DAA4001602N	16	42.7	1659	1000	B0
EA491DAA4001802N	18	44.7	1799	1000	B0
EA491DAA4002002N	20	47.1	1993	1000	BB

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