

EA610M5-Ed1

## PETROLEUM FILLED QUADED RAILWAY SIGNALING CABLES, ARMOURED PE SHEATH WITH A RF OF 0,3. ADIF SPECIFICATION



Telecommunication  
cable



Impact  
Resistant



Estanco al paso  
de agua



UV Resistant



Rodent  
Resistant



Resistant to EM  
interferences



ROHS  
compliant

### SPECIFICATIONS

Construction: ADIF ET-03.365.051.6 2<sup>nd</sup> edition

### DESCRIPTION AND APPLICATION

Cables from 1 to 27 star quads, conductors of 0.9 and 1.4 mm, polyethylene insulated. The quads are stranded in layers to form the core which is filled with petroleum filling compound and then protected by an anti inductive sheath with a reduction factor of 0.3. They are used as telecommunication cables or in rail circuits, especially in rail infrastructures when protection is required against the induction of high voltage lines. For installation in ducts or directly buried. The cable is rodent resistant.

### CONSTRUCTION

- **Conductors:** Annealed copper wire, 0.9 and 1.4 mm in diameter.
- **Insulation:** Solid polyethylene.
- **Cabling element:** Star quads.
- **Core formation.** Stranded in layers.
- **Filling compound:** PE jelly.
- **Core wrapping.** Dielectric tape longitudinal applied with overlap.
- **Inner sheath:** Polyethylene.
- **Cable screen.** Corrugated copper tape longitudinally applied with overlap.
- **Inner sheath:** Polyethylene.
- **Armour:** Two helically applied steel tapes with a thickness of 0.5 mm each.
- **Outer sheath:** UV resistant black polyethylene.
- **Sheath marks** : The sheath shall be marked, at a 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 maximum resistance ( $\Omega$ /km)	29,0	11,90
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)	25000	
Mutual capacitance (nF/km, 1000 Hz)	Average: 38±3 / Maximum 45	Average: 41±4 / Maximum 48
Capacitance unbalance (pF/460m, 1000 Hz)		
Pair-pair	Average < 35 / Maximum < 250	
Pair-earth	Average < 320 / Maximum < 1200	
<i>*Note: average values are applied on cables of at least 7 quads.</i>		
Dielectric Strength (Vdc, 3 s)		
conductor – conductor	3000	
conductor - screen	5000	

TRANSMISSION CHARACTERISTICS (20°C)	0,90	1,4
Nominal attenuation (dB/km)		
1 KHz	0.70	0.46
10 KHz	1.60	0.85
30 KHz	2.10	1.30

REDUCTION FACTOR, R <sub>k</sub> (50 Hz)	0,90	1,4
Induced Voltage (V/km)		
110	0.3	0.3
320	0.3	0.3

### MECHANICAL CHARACTERISTICS

Operating temperature range : from -25° C to +75° C

Minimum radius of curvature: 15 x R<sub>cable</sub>

### DIMENSIONS AND WEIGHTS

Diameter : 0.90 mm					
Code	no. quads	Cable Diam. (mm)	Approx. weight (kg/km)	Delivery length (m)	Drum type

EA610M590000102N	1	19.2	630	920	A2
EA610M590000302N	3	25.0	990	920	A4
EA610M590000502N	5	30.0	1160	920	A4
EA610M590000702N	7	30.5	1250	920	A4
EA610M590001002N	10	34.5	1550	920	A6
EA610M590001402N	14	37.0	1865	920	A6
EA610M590001902N	19	38.8	2145	920	A8
EA610M590002502N	25	44.6	2625	920	B0
EA610M590002702N	27	44.8	2740	920	B0

Diameter : 1.40 mm					
Code	no. quads	Cable Diam. (mm)	Approx. weight (kg/km)	Delivery length (m)	Drum type

EA610M5A4000102N	1	19.8	675	920	A2
EA610M5A4000302N	3	28.0	1260	920	A6
EA610M5A4000502N	5	34.1	1660	920	A6
EA610M5A4000702N	7	34.6	1915	920	A6
EA610M5A4001002N	10	39.8	2330	920	A8
EA610M5A4001402N	14	45.3	2965	920	B0

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