ADDISON

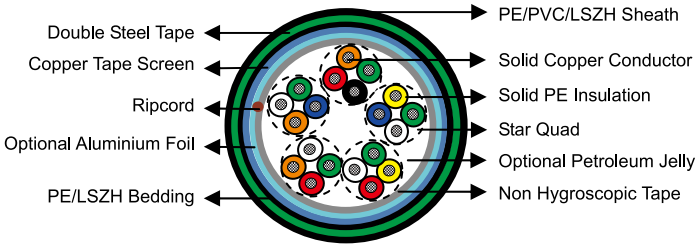
PE Insulated Air Core/Jelly Filled Star Quad Railway Signalling Cables (RF 0.3)

APPLICATION

The cables are designed to give good protection to the core against inductive interference (RF=0.3).The cables are used for outdoor signaling equipment.

STANDARDS

• RENFE E.T. 03.365.051.6



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.9/1.4mm as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Cabling Element:** Four insulated conductors are twisted together to form a quad.
- **Cable Core Assembly:** The cores are cabled together in concentric layers to form the cable core. Units are identified by colour coded binders.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Electrostatic Screen:** Corrugated copper tape of 0.12mm is applied longitudinally with overlap.
- **Bedding:** PE or LSZH.
- **Electrostatic Armour:** Two steel tapes of 0.5mm are helically applied with gap. The outer tape will cover the gap left by the inner one.
- **Sheath:** PE, PVC or LSZH.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.9	1.4
Conductor Size	mm^2	0.636	1.539
Maximum Conductor Resistance @20°C	Ω/km	28	12.1
Minimum Insulation Resistance @500V DC	MΩ·km	35000	5000
Reduction Factor Rk (50Hz) Induced Voltage Em 100V/Km		0.3	0.3
Induced Voltage Em 500V/Km		0.5	0.5
Maximum Resistance Unbalance	%	2.5	2.5
Maximum Mutual Capacitance @0.8Hz	nF/km	45	50
Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/500m	250	250

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Maximum Capacitance Unbalance @1KHz pair-to-ground	pF/500m	1200	1200
Maximum Average Attenuation @1KHz	dB/km	0.7	0.46
Maximum Average Attenuation @10KHz	dB/km	1.6	0.85
Maximum Average Attenuation @30KHz	dB/km	2.1	1.3
Dielectric Strength Conductor to Conductor 3secs	V DC	3000	3000
Conductor to Screen 3secs	V DC	3500	3500
Nominal Insulation Thickness	mm	0.45	0.65
Nominal Insulated Conductor Diameter	mm	1.8	2.7

MECHANICAL AND THERMAL PROPERTIES

Temperature range during operation (fixed state): -30°C– +70°C

Temperature range during installation (mobile state): -20°C – +50°C

Minimum bending radius: 15 x Overall Diameter

COLOUR CODE

Layer	Quad Position	Colour of conductors			
		1	2	3	4
Centre and even layers	First	ORANGE	GREEN	RED	WHITE
	Even	YELLOW	GREEN	BLUE	WHITE
	Odd	YELLOW	GREEN	RED	WHITE
	Last	ORANGE	GREEN	BLUE	WHITE
Odd Layers	First	ORANGE	GREEN	RED	BLACK
	Even	YELLOW	GREEN	BLUE	BLACK
	Odd	YELLOW	GREEN	RED	BLACK
	Last	ORANGE	GREEN	BLUE	BLACK

DIMENSIONS AND WEIGHT

Cable Code	Number of Quads	Nominal Bedding/Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.9mm Conductor, 1.8mm Insulated Wire				
TP365-2Y(CTS)2Y(DSTA)Y1Q09-RF03	1	1.5/1.6	18.3	1300
TP365-2Y(CTS)2Y(DSTA)Y3Q09-RF03	3	1.5/1.6	21.7	1425
TP365-2Y(CTS)2Y(DSTA)Y5Q09-RF03	5	1.5/1.6	25.2	1650
TP365-2Y(CTS)2Y(DSTA)Y7Q09-RF03	7	1.5/1.6	26.7	1800
TP365-2Y(CTS)2Y(DSTA)Y10Q09-RF03	10	1.5/1.6	29.2	2275
TP365-2Y(CTS)2Y(DSTA)Y14Q09-RF03	14	1.6/1.8	32.3	2450
TP365-2Y(CTS)2Y(DSTA)Y19Q09-RF03	19	1.7/1.8	36.0	2895
TP365-2Y(CTS)2Y(DSTA)Y27Q09-RF03	27	1.7/1.8	40.5	3275
TP365-2Y(CTS)2Y(DSTA)Y37Q09-RF03	37	1.8/2.0	45.6	3775
TP365-2Y(CTS)2Y(DSTA)Y48Q09-RF03	48	1.9/2.0	49.8	4275
1.4mm Conductor, 2.7mm Insulated Wire				
TP365-2Y(CTS)2Y(DSTA)Y1Q14-RF03	1	1.5/1.6	20.2	1615
TP365-2Y(CTS)2Y(DSTA)Y3Q14-RF03	3	1.5/1.6	25.7	1775
TP365-2Y(CTS)2Y(DSTA)Y5Q14-RF03	5	1.6/1.8	30.8	2200
TP365-2Y(CTS)2Y(DSTA)Y7Q14-RF03	7	1.6/1.8	32.8	2525
TP365-2Y(CTS)2Y(DSTA)Y10Q14-RF03	10	1.7/1.8	36.5	2975
TP365-2Y(CTS)2Y(DSTA)Y14Q14-RF03	14	1.7/1.8	40.5	3150
TP365-2Y(CTS)2Y(DSTA)Y19Q14-RF03	19	1.8/2.0	45.6	3695
TP365-2Y(CTS)2Y(DSTA)Y27Q14-RF03	27	2.0/2.2	52.3	3975
TP365-2Y(CTS)2Y(DSTA)Y37Q14-RF03	37	2.1/2.2	59.1	4475
TP365-2Y(CTS)2Y(DSTA)Y48Q14-RF03	48	2.2/2.3	66.0	4975