

## ZCO3 & ZCO3-SH Main Signalling Cables (AC Electrified High Speed Lines)

### Applications

The cables are designed for connection between traffic control centers and equipment shelters along the trackside. The cables are specially designed to give good induction protection (R.F=0.21 at inductive voltage 100V/km) and are suitable for installation in high speed railway lines electrified at 25KV ac.



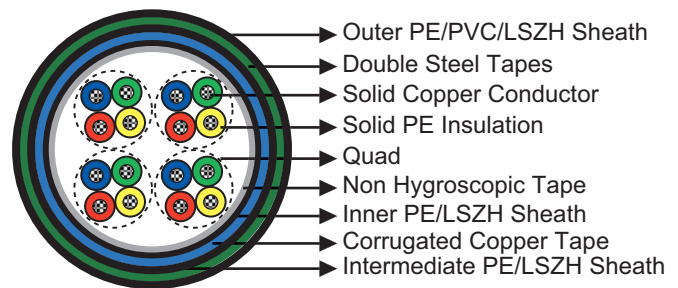
### Standards

- SNCF CT 445
- NF F 55-698

### Construction

• Conductors: Solid annealed copper, 1.0 mm<sup>2</sup> nominal cross section area.

- Insulation: Solid polyethylene.
- Cabling Element: Four conductors are twisted to form a quad.
- Stranding: Quads are helically stranded to get the cable core.
- Core Wrapping: Plastic tape(s) with overlapping.
- Inner Sheath: Low density polyethylene. LSZH FR option can be offered upon request to NF C 32 070.2.2 (C1).
- Electrostatic Shield: Corrugated copper tape.
- Intermediate Sheath: Low density polyethylene. LSZH FR option can be offered upon request to NF C 32 070.2.2 (C1).
- Electromagnetic Shield: Two helically applied steel tapes (0.5mm).
- Outer Sheath: PE/PVC compound. LSZH FR option can be offered upon request to NF C 32 070.2.2 (C1).
- Remarks: ZCO3: PE/PVC Sheath; ZCO3-SH: LSZH Sheath.



### Electrical Characteristics at 20°C

Nominal Conductor Diameter	mm	1.13
Nominal Cross Section Area	mm <sup>2</sup>	1.0
Maximum Conductor Resistance (DC)	Ω/km	18.1
Minimum Insulation Resistance @500 V DC (3mins)	MΩ.km	5000
Maximum Mutual Capacitance (AC) @1000Hz	nF/km	40
Maximum Capacitance Unbalance @800Hz	pF/500m	400
Dielectric Strength, conductor to conductor (DC voltage 3mins)	V	4500
Operating Voltage AC/DC	V	450/750



## Reduction Factor

Inductive voltage(V/km)	50	70	100	370	400	470
Reduction factor @50Hz	0.42	0.30	0.21	0.16	0.18	0.31

## Mechanical and Thermal Properties

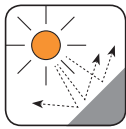
- Minimum Bending Radius: 8×OD (static); 16×OD (dynamic)
- Temperature Range: -40°C to +70°C (during operation); -20°C to +50°C (during installation)

## Dimensions and Weight

Cable Code	No. of Quads	Nominal Sheath Thickness mm			Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Interm.	Outer		
1.13mm Conductor, 2.33 Insulated Wire						
RS/ZCO3-2Y2Y(K)2YB2Y-2Q1S	2	0.8	1.0	1.6	27.0	1295
RS/ZCO3-2Y2Y(K)2YB2Y-4Q1S	4	0.8	1.0	1.6	29.5	1490



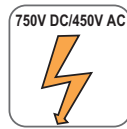
Anti Induction



UV Resistant



Mineral Oil Resistant



Rated voltage

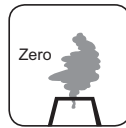


Buried in Ciround



Laid In Ducts

PE Sheath



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

PVC Sheath



Flame Retardant  
NF C32-070-2.1(C2)  
IEC 60332-1/EN 50265-2-1

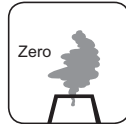
LSZH Sheath



Flame Retardant  
NF C32-070-2.1(C2)  
IEC 60332-1/EN 50265-2-1



Fire Retardant  
NF C32-070-2.2(C1)  
IEC 60332-3/EN50266



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



Low Smoke Emission  
IEC 61034/NFC20-902  
EN 50268/NF C32-073



Low Corrosivity  
EN 50267-2-2/NF C32-074  
IEC 60754-2/NF C20-453



Low Toxicity

