

ZPFU & ZPFU-SH Main & Local Signalling Cables (DC Electrified Lines)

Applications

The cables are designed for the main signalling circuits of 1500V DC electrified lines.



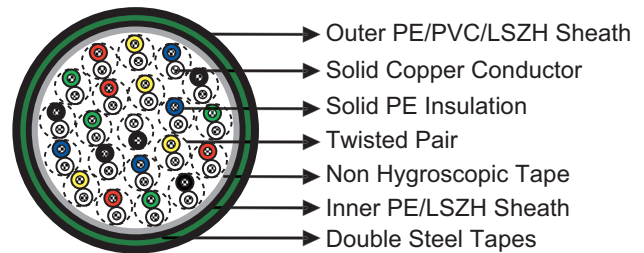
Standards

- SNCF CT 445
- NF F 55-698

Construction

- Conductors: Solid annealed copper, 1.0mm² nominal cross section area.

- Insulation: Solid polyethylene.
- Cabling Element: Two conductors are twisted to form a pair.
- Stranding: Pairs are helically stranded to form the cable core.
- Core Wrapping: Plastic tape(s) with overlapping.
- Inner Sheath: PE. LSZH FR option can be offered upon request to NF C 32 070.2.2 (C1).
- Mechanical Protection: Two helically applied steel tapes (0.15, 0.2/0.5mm, depending on pair count).
- Outer Sheath: PE/PVC. LSZH FR option can be offered upon request to NF C 32 070.2.2 (C1).
- Remark: ZPFU: PE/PVC Sheath; ZPFU-SH: LSZH Sheath.



Electrical Characteristics at 20°C

Nominal Conductor Diameter	mm	1.13
Nominal Cross Section Area	mm ²	1
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	55
Maximum Capacitance Unbalance @1000Hz	pF/500 m	400
Attenuation @45KHz	dB/km	2.5
Characteristic Impedance @45KHz	Ω	120
Dielectric Strength, conductor to conductor (DC voltage 3mins)	V	4500
Operating Voltage AC/DC	V	450/750

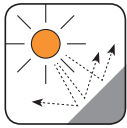
Mechanical and Thermal Properties

- 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

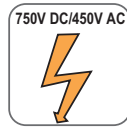
Cable Code	No. of Pairs	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km	Armour Thickness mm
		Inner	Outer			
1.13mm Conductor, 2.3 Insulated Wire						
RS/ZPFU-2Y2YB2Y-1P1S	1	1.0	1.5	11.7	207	0.15
RS/ZPFU-2Y2YB2Y-2P1S	2	1.0	1.5	12.9	257	0.2
RS/ZPFU-2Y2YB2Y-4P1S	4	1.0	1.6	16.8	509	0.2
RS/ZPFU-2Y2YB2Y-7P1S	7	1.0	1.7	19.0	653	0.5
RS/ZPFU-2Y2YB2Y-14P1S	14	1.2	1.8	24.1	1011	0.5
RS/ZPFU-2Y2YB2Y-21P1S	21	1.2	2.0	27.8	1304	0.5
RS/ZPFU-2Y2YB2Y-28P1S	28	1.2	2.2	31.0	1594	0.5
RS/ZPFU-2Y2YB2Y-56P1S	56	1.3	2.5	40.5	2630	0.5



UV Resistant



Mineral Oil Resistant



Rated voltage

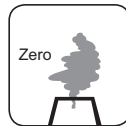


Buried in Ground



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

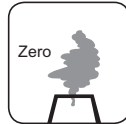
LSZH Sheath



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

