



**Caledonian**

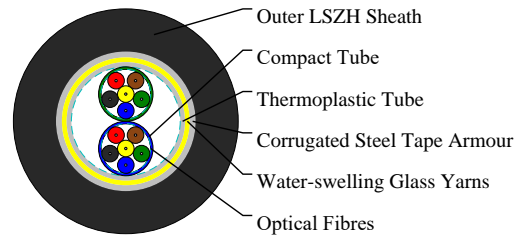
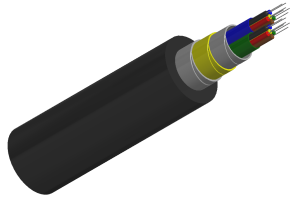
Railway Cables

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## K209A LSZH Armoured Optical Fiber Cables

RO/K209A-ML-C-9-2x6-SR-(STA)H



## APPLICATIONS

The cables are designed for long distance telecommunication and using optical fibres in urban railways infrastructure. These low smoke halogen-free cables are laid on hooks, pulled through ducts or cable trays.

## STANDARDS

RATP K209B or RATP K209A

## CABLE CONSTRUCTION

Compact Tube: 6 or 12 singlemode optical fibres G652 or multimode fibers assembled under thermoplastic “peelable” skin. Tube diameter: 1mm.

Filling: Water-swelling yarns.

Tube: Thermoplastic

Peripheral Strength Member: Water-swelling glass yarns.

Armour: Corrugated steel tape armour 25/100.

Sheath: LSZH

K209A Type : For K209A type, the cables have loose tubes with 6-12 fibers, steel wire strand as central strength member, glass yarn reinforced, incorporating a corrugated steel tape armour and an outer UV stabilized LSZH jacket.

## PHYSICAL AND THERMAL PROPERTIES

Bending Radius: 20 x OD

Temperature Range: -40°C to +60°C (during operation); -10°C +60°C (during installation)

## Electrical Properties

Electrical Characteristics at 20°C:

Optical & Geometrical Properties for Single Mode Fibers :

Maximum Attenuation: G652

@1310nm: 0.35 dB/km

@1550nm: 0.22 dB/km

Maximum Chromatic Dispersion:

Between 1260 and 1360nm: 3.5 ps/(nm/km)



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## Railway Cables

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Between 1530 and 1565nm:19 ps/(nm/km)  
 Zero Dispersion Wavelength:1310±11 nm  
 Zero Dispersion Slope:0.09 ps/(nm<sup>2</sup>.km)  
 Numerical Aperture:0.14  
 Point discontinuity:0.1 dB  
 PMD (individual fiber):0.2 ps/km  
 Maximum Cutoff Wavelength:1260 nm  
 Cladding Diameter:125±1 um  
 Core/Cladding Concentricity Error:≤0.5 um  
 Cladding Non Circularity:≤1%  
 Coating Non Circularity:≤6%  
 Proof Test Level:100 (0.7) Kpsi (GN/m<sup>2</sup>)  
 Crush Resistance:30N/cm  
 Maximum Laying Tension:3000 N

### DIMENSION AND PARAMETERS

No. of fibres	No. of Tubes × No. of Fibres/Tube	Nominal Sheath Thickness	Nom. Overall Diameter	Approx. Weight
		mm	mm	kg/km
12	2 tubes of 6 OF	1.8	12	190



Acid & Alkaline Resistant



Fire Retardant  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardant  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



Impact Resistant



Laid In Cable Tray



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



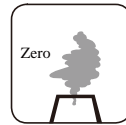
Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



Low Toxicity



Mineral Oil Resistant



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