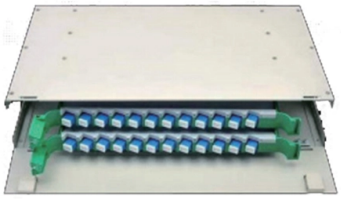
ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Railway self-closing optical cable model



Overview

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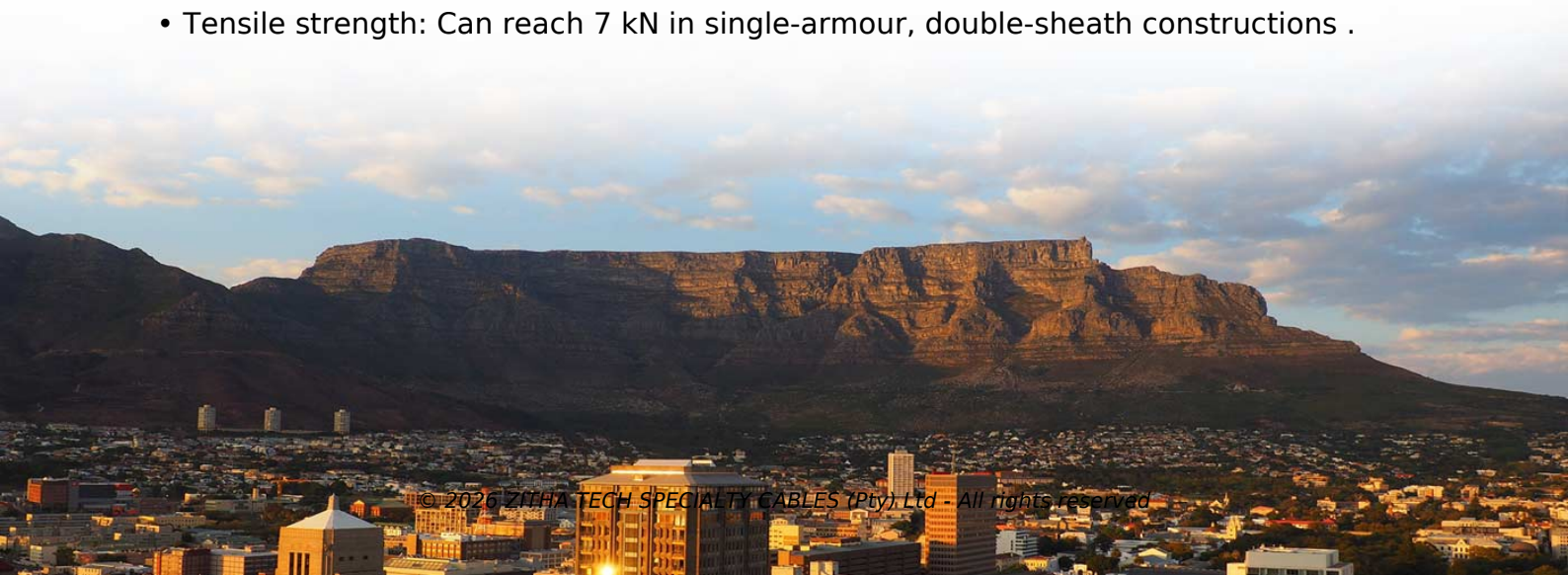
Key Takeaways

Railway self-closing optical cables are designed for high-resistance, trackside, and duct installations, featuring armoured, crush-resistant, and water-blocking constructions suitable for urban and long-distance railway networks.Key Features

Construction and Materials: Railway optical cables typically use single-mode or multimode fibres housed in loose or compact tubes with water-swelling yarns for moisture protection. The tubes are reinforced with glass yarns or steel wire strands as peripheral strength members. Armouring options include corrugated steel tape or polymer-laminated steel, providing protection against mechanical stress and rodent damage. Outer jackets are often LSZH (Low Smoke Zero Halogen) for fire safety in tunnels and urban environments . Mechanical Properties:

• Crush resistance: Up to 10,000 N/10 cm in semi-dry double-armoured designs .

• Tensile strength: Can reach 7 kN in single-armour, double-sheath constructions .



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• Water-blocking: Water-swelling yarns or tapes prevent moisture ingress, ensuring long-term reliability . Installation Suitability: These cables are designed for duct, direct-buried, and trackside installations, and can also be used in underwater or high-crush environments. They are compatible with hooks, ducts, or cable trays, making them versatile for urban railways and long-distance telecommunication networks . Notable Models
• SUMEC Railway Optical Cables: Semi-dry structure with single or double armour, double sheaths, and glass yarn reinforcement. Suitable for high tensile and crush requirements in railway communication systems .

• NR/PS/TEL/00014 Trackside Fibre Cable (Eland Cables): Step-index single-mode fibre, loose tube PE carrier, non-metallic strength member, water-blocking, and optional corrugated steel/polymer laminate armouring. Network Rail approved for high-traffic and high data-rate applications .

• K209B LSZH Armoured Optical Fibre Cable (Caledonian Cables): Compact tube with 6–12 fibres, water-swelling yarns, corrugated steel tape armour, and LSZH sheath. Designed for urban railway infrastructure and long-distance telecommunication . Applications
• Urban and metro railways: CBTC (Communication-Based Train Control) and signalling systems.

• Long-distance rail networks: ETCS (European Train Control System) and GSM-R communications.

• High-traffic trackside installations: Supporting high data-rate telecommunication and control networks. These self-closing optical cables ensure durable, safe, and reliable communication along railway lines, meeting both mechanical and environmental challenges while complying with international railway standards .

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In the last 50 years, Tratos has been key in helping enhance many of the existing Fire Performance standards for cables within the

K209B LSZH Armoured Optical Fiber Cables|Railway

The K209B LSZH Armoured railway Optical Fiber cables are designed for long distance telecommunication

Railway Cables and Solutions | Prysmian

Prysmian Group have developed new cable designs and materials to provide the latest in chemical and mechanical resistance, fire

Railway Main Line Cables

Halogen free, UV resistant, flame retardant and self-extinguishing Installation cable, low smoke. The cable is for fixed installation, in

NR/PS/TEL/00014 Cable | Eland Cables

These Network Rail approved trackside fibre cables are manufactured in accordance with standard NR/PS/TEL/00014. The

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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