rapidconnect® TR-Series Mini Loose Tube Fibre Optic Cable System

rapidconnect
BY ANDERSON

TR-Series -

Engineered for Harsh Australian Outdoor Networks

Product Overview

RapidConnect® TR Series Mini Loose Tube Fibre Optic Cable is engineered for harsh Australian outdoor deployments where UV exposure, Termite activity, Thermal Aging and Installation damage drive premature cable failures.

Standard PE-based cables are vulnerable to moisture ingress, UV degradation and termite damage in Australian environments. TR Series addresses these failure modes through material selection and engineered stabilisation.

The TR Series is built around a PA12 Blue Nylon outer jacket, selected for its inherently low water absorption and long-term stability in wet, humid and buried environments. This is enhanced by Triple Protection Technology - a specialised additive system, providing Termite deterrent additives, UV Protection and Antioxidant Stabilisation - intended to enhance durability, support clean stripability and contribute to long-term reliability across enterprise and distribution networks

Designed around two key advantages

- **PA12 Blue Nylon Jacket (inherent performance)**
  - Naturally high moisture resistance (low water absorption) for wet, humid and buried installs

- **Triple Protection Technology (additive system)**
  - Termite Deterrent formulation, plus UV Protection, plus Antioxidant Protection engineered into the jacket compound

Designed as a high-performance alternative to standard PE-jacketed loose tube cables.

Installer-focused performance

- Smooth, predictable stripability
- Reduced sticking between layers
- Compact, lightweight design for easier pulls and better conduit utilisation
- Singlemode as a standard option with Bend-Insensitive fibre (G.657.A2) for tight routing.

Installation Outcome

- Reduced installation time
- Lower rework risk
- Improved long-term reliability

PA12 Nylon Jacket plus Triple Protection Jacket

The TR Series utilises a PA12 Blue Nylon outer jacket, selected for its low water absorption and long-term stability in buried and humid environments. Compared with traditional PE and standard Nylon jackets, PA12 provides low water absorption characteristics relative to many standard jacket materials and maintains consistent mechanical performance over time, making it particularly suited to underground conduit and outdoor deployments.

In addition, the jacket compound incorporates Triple Protection Technology, a targeted additive system engineered for Australian conditions. This includes Termite deterrent additives to reduce jacket breach risk in high-activity zones, UV Stabilisers are designed to reduce the risk of photodegradation and embrittlement under intense sunlight and Antioxidant Protection intended to improve resistance to thermal ageing and oxidation. Together, these enhancements are designed to support durable, long-term jacket performance for demanding outdoor networks.

Triple Protection Technology - Additives Engineered for Australia

1) Termite Deterrent Formulation

- Deterrent additives reduce risk of termite related jacket damage
- Ideal for rural, regional and high-risk underground areas

2) UV Protection

- UV stabilisers designed to reduce the risk of photodegradation, cracking and embrittlement
- Supports long life in partially exposed outdoor runs

3) Antioxidant Stability

- Designed to improve resistance to thermal ageing, oxidation and material fatigue
- Preserves jacket toughness and flexibility over service life

Engineered for Australian environmental conditions, not adapted from global standard designs

TR Series vs Standard PE Cable

Feature	Standard PE	TR Series
Moisture Resistance	Moderate	High (PA12)
UV Stability	Limited	Stabilised
Termite Resistance	None	Engineered
Stripability	Standard	Engineered
Mechanical Performance	Standard	Engineered

TR Series is manufactured to a controlled specification to ensure consistent material composition and mechanical performance.

Bottom line: PA12 provides inherent moisture resistance, while Triple Protection Technology incorporates termite deterrent additives, UV stabilisation and antioxidant stabilisation to support jacket durability

Construction and Installer Benefits

Installer Friendly Stripability

- Clean jacket removal
- Reduced sticking between layers
- Minimised risk of buffer tube tearing
- Faster preparation and fewer reworks

Compact and Lightweight Profile

Built for modern conduit networks and space constrained pathways.

- Easier pulling through congested ducts
- Improved flexibility for tight routing
- Reduced conduit occupancy

Fibre Options for Network Requirements

The TR-Series is available in both Singlemode and Multimode configurations to suit access, enterprise and backbone applications.

Singlemode (OS2 – G657.A2) — Bend-Insensitive Advantage

- G.657.A2 standard feature supports tighter bend radii with reduced attenuation risk
- Ideal for compact pits, tight conduits, risers and high-density routing
- Supports tighter bend radii compared to conventional G.652.D fibre

Multimode (OM4) — High-Bandwidth Enterprise Performance

- Designed for high-speed short reach applications
- Ideal for data centres, campus networks and enterprise interconnects
- Supports modern high-bandwidth optical transceivers (application dependent)

Where to use it:-

- Underground conduit/duct networks
- Rural, regional and termite risk environments
- Outdoor routes with UV exposure (boundary runs, pits and risers)
- FTTx distribution networks
- Enterprise, campus and backhaul links
- High-reliability links and backhaul

Installation & Handling

Parameter	Specification
Stripability	Clean sheath removal ≥1 m, no delamination
Flexibility	Compact, lightweight design for duct installation
Application	Outdoor duct, direct burial, carrier & enterprise networks

Why it matters:-

Designed for a Wide Range of Deployment Scenarios the RapidConnect TR-Series is engineered to support modern fibre networks across Australia's varied environmental and installation conditions. Its combination of PA12 moisture resistance, Triple Protection Technology and installer friendly construction makes it suitable for both access and high-performance network segments.

Certification and Design Standards

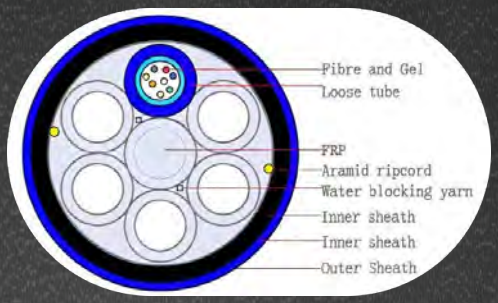
- EN 50173 Information technology - Generic cabling systems
- IEC 60794-1-1 Generic Specification Fibre Optic Cables
- IEC60794-1-2 Optical Cable Test Procedures
- IEC 60794-1-21 Mechanical Test Methods
- IEC 60794-1-22 Environmental Test Procedures
- ISO/IEC 11801 Generic telecom cabling for customer premises
- ITU-T G652 / G657 / G651 Standards
- Complies with AS/CA S008 — Requirements for Customer Cabling Products
- Is supplied under the **Regulatory Compliance Mark (RCM) supplier registration E3921
- Suitable for installation to **AS/CA S009

Technical Specifications — Singlemode G.657.A2 / Multimode OM4

Number of Elements:	2 / 6 / 12 / 24 / 48 / 72
Tube Diameter:	1.55 mm
Cable Diameter:	6.2 mm (±0.2)
Cable Weight:	35 kg/km
Tensile Strength:	≥1500 N (short-term) / ≥600 N (long-term)
Crush Resistance:	≥1000 N / 100 mm
Bend Radius:	10×OD (install) / 20×OD (operation)
Temperature Range:	-40°C to +70°C
Installation Temp:	-20°C to +60°C

Installer-Friendly Construction

- Smooth, clean stripability
- No sticking between layers
- No tearing of buffer tubes



Manufactured to a controlled specification and supported by supplier-verified material systems.

Fibre and Buffer Tube Identification

No.	1	2	3	4	5	6	7	8	9	10	12
Colour	blue	orange	green	brown	grey	white	red	black	yellow	violet	aqua

Product Warranty:

RapidConnect TR-Series Mini Loose Tube Fibre Optic Cable is covered by a 5-Year Limited Product Warranty against manufacturing and material defects, subject to standard terms and conditions, when installed and operated in accordance with relevant standards.

Example Ordering Information - TRS2-12

TR= Termite Deterrent Formulation
S2 = OS2 Singlemode Loose Tube
12 = 12 Fibres

Associated Products:
rapidconnect Fibre Optic Pigtails
rapidconnect Fibre Optic Connectors

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