JCS TECHNOLOGIES

# Loose Tube Fibre Cable

JCSTECH.COM.AU

# LOOSE TUBE FIBRE OPTIC CABLE

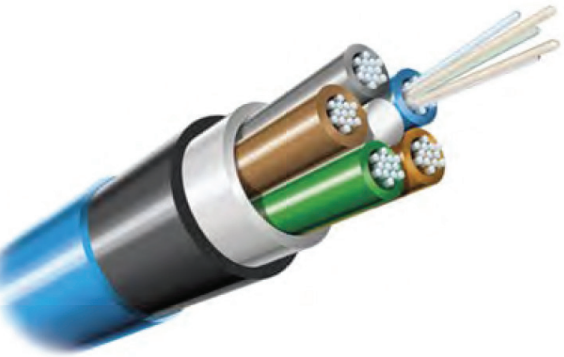
### CUSTOM SOLUTIONS

If you require other loose tube cable constructions then please don't hesitate to contact your friendly JCS Sales team. We have a trusted solution for you today.

JCS Technologies offers a variety of outdoor optical cables for external underground duct installation and direct burial. Cables are available in a range of fibre counts, fibre types and mechanical constructions depending on the specific application.

### OPTICAL FIBRE

JCS loose tube cables can be supplied in the full range of optical fibres available to meet the demands of different applications, including multimode OM1, OM3, OM4 and singlemode OS1 and OS2 fibres.



## SM@RTCORE LOOSE TUBE FIBRE OPTIC CABLE

Multi-loose tube dielectric optical cable designed for external underground duct installation or direct burial. Advanced design with GRP central strength member for greatly reduced cable size, offering fibre counts from 2 to 144 and many benefits for both installers and network owners.

## ARM@CORE LOOSE TUBE FIBRE OPTIC CABLE

All-dielectric multi-loose tube fibre optic cable for external underground duct installation or direct burial. Advanced design with GRP central strength member for greatly reduced cable size, offering fibre counts from 2 to 144. A protective layer of lightweight, flat GRP non-metallic armour to withstand rodent attack.

NOTE: If there is a particular product not listed that you require, please don't hesitate to contact the JCS Technologies Sales and Support Team today

# SM@RTCORE LOOSE TUBE FIBRE OPTIC CABLE

Loose tube dielectric optical cable designed for external underground installations in ducts by pulling, jetting or floating techniques or by direct burial in open-cut trenches. Low-viscosity gel-filled fibre tubes. Advanced cable design and manufacturing has enabled greatly reduced cable size, offering many benefits for both installers and network owners. GRP central strength member, UV stabilised polyethylene sheath.

## APPLICATION

- External underground duct installation
- Direct burial

## CABLE DESIGN

- Single layer multi-loose tube construction
- Central strength member (CSM)
- Thermoplastic Tube with up to 12 fibres filled with a low viscosity, thixotropic, non-melting gel
- Tube and filler elements SZ stranded around CSM
- Water swellable elements (dry-core) for water tightness
- UV stabilised polyethylene sheath
- Two ripcords beneath sheath for easy removal
- UV stabilised nylon outer jacket bonded to PE sheath

## FEATURES

- Reduced diameter, smaller cable cross section, high fibre density
- Multi-loose tube construction, with fibre counts from 2 to 144
- Internal dry water blocking technology
- Composite UV stabilised polyethylene / bonded outer nylon jacket
- Termite resistant
- Low duct hauling friction

## OPTICAL CHARACTERISTICS

See the relevant cabled optical fibre data sheet.

| | | | | | |
|---|---|---|---|---|---|
| **Number of fibres** | | 2-72 | 84-96 | 108-120 | 132-144 |
| **No. of elements** | | 6 | 8 | 10 | 12 |
| **Tube/filler diameter (mm)** | | 2.1 | | | |
| **Cable nominal diameter (mm)** | | 10.0 | 10.7 | 12.2 | 13.6 |
| **Cable nominal weight (kg/km)** | | 75 | 92 | 126 | 153 |
| **Max installation tension (kN)** | | 2.0 | | 2.5 | |
| **Max crush resistance (kN/100mm)** | | 2.0 (short term) / 1.0 (long term) | | | |
| **Min bend radius (mm)** | | 20 x cable OD (full load) / 10 x cable OD (no load) | | | |
| **Temperature range ˚C** | **installation** | 0 to +50 °C | | | |
| | **storage** | -20 to +70 °C | | | |
| | **operation** | -10 to +70 °C | | | |

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# LOOSE TUBE FIBRE OPTIC CABLE

## IDENTIFICATION

### Fibre and Buffer Tube Colours

| No. Colour | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | blue | orange | green | brown | grey | white | red | black | yellow | violet | pink | aqua |

*Fillers are either natural (opaque) or black. Jelly-filled tubes (no fibres) are also used.*

**Sheath Colour:** The outer sheath colour is blue.

**Sheath Marking:** The outer sheath is marked in 1 metre intervals as follows:

**Packing:** New non-returnable timber drums to AS/NZS 2857 with NOLCO-FLEX protection

**Delivery Lengths:** Standard delivery length is 4 km with a tolerance of - 1% / + 3%

JCS TECHNOLOGIES SM@RTCORE CT Part Number N0514 T/N #### MM/YY *****M

## MECHANICAL CHARACTERISTICS

| Number of Fibres | Test Method | Test Conditions | Acceptance Criteria |
|---|---|---|---|
| **Tensile strength** | IEC 60794-1-2-E1 | Load per cable max tensile strength | max fibre strain < 0.6%/30mins<br>Δ attenuation < 0.1dB |
| **Crush** | IEC 60794-1-2-E3 | 10/120 min, load per max crush resistance, 3 adjacent sections | No sheath or core damage<br>Δ attenuation < 0.1dB |
| **Impact** | IEC 60794-1-2-E4 | Wt: 1.5 kg, Ht: 1.0 m<br>Anvil Ø: 25 mm, Impacts:1 | No fibre, sheath or core damage<br>Δ attenuation < 0.1dB/5 mins |
| **Torsion** | IEC 60794-1-2-E7 | Tension: per cable spec. Rotation 10 half-turn cycles ea. clockwise and anti-clockwise / 1m / 1 min. | No fibre breaks, no sheath or core structure damage.<br>Δ attenuation < 0.1dB |
| **Bend** | IEC 60794-1-2-E11 | Mandrel Ø: 20 x Cable OD, 1 turn | Δ attenuation < 0.1dB |
| **Bend under tension** | Concurrent to tensile test IEC 60794-1-2-E18 | Mandrel Ø: 40 x Cable OD, 1 turn | No fibre, sheath or core damage<br>Δ attenuation < 0.1dB/5 mins |
| **Temperature cycling** | IEC 60794-1-2-F1 | Min. sample length: 1000m –<br>10C to +70C | no avg. attenuation increase /ΔT.<br>No fibre attenuation > 0.15dB/km |
| **Water penetration** | IEC 60794-1-2-F5B | Length = 3m, Water ht. = 1m | No water leakage after 24 hrs. |

# ORDERING INFORMATION

**LT012NDCSM-BU**

**CABLE TYPE**
**LT** - LOOSE TUBE
**LTS** - LOOSE TUBE WITH SACRIFICIAL SHEATH

**FIBRE CORES**
002 TO 144

**FIBRE TYPE**
**SM** - 9µM OS2 SINGLEMODE
**OM1** - 62.5µM OM1 MULTIMODE
**OM3** - 50µM OM3 MULTIMODE
**OM4** - 50µM OM4 MULTIMODE

**OUTER SHEATH COLOUR**
**BU** - BLUE
**BL** - BLACK

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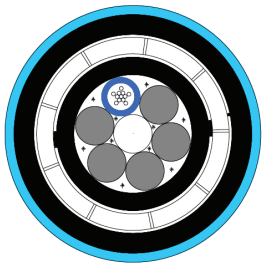
# ARM@CORE ALL DIELECTRIC RODENT PROOF LOOSE TUBE OPTICAL CABLE

All dielectric loose tube fibre optic cable for external underground installations in ducts or direct burial in open-cut trenches, and designed to withstand rodent attack. Low-viscosity gel-filled fibre tubes. Advanced cable design and manufacture has enabled greatly reduced cable size, offering many benefits for both installers and network owners. Glass fibre reinforced plastic non-conductive central strength member and armour rods, UV stabilised Polyethylene / Nylon sheath.

## APPLICATION

- External underground duct installation
- Direct burial

## CABLE DESIGN



- Single layer multi-loose tube construction
- GRP central strength member (CSM) with/without over-sheath
- Thermoplastic Tube with up to 12 fibres filled with a low viscosity, thixotropic, non-melting gel
- Tubes and fillers are SZ stranded around the CSM
- Water swellable elements (dry-core technology)
- Polyethylene AS1049 compliant bedding
- Flat GRP rod armour
- AS1049 compliant polyethylene sheath with 2 ripcords
- UV resistant AS1049 compliant bonded nylon outer jacket

## FEATURES

- Reduced diameter, high fibre density
- Multi-loose tube with 2 to 144 fibres
- Rodent proof GRP layer, independently tested
- Internal dry water blocking technology
- Composite UV stabilised polyethylene / bonded outer nylon jacket
- Termite resistant
- Low duct hauling friction
- Non-conductive

## OPTICAL CHARACTERISTICS

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| | | | | | |
|---|---|---|---|---|---|
| **Number of Fibres** | | 2-72 | 84-96 | 108-120 | 132-144 |
| **No. of elements** | | 6 | 8 | 10 | 12 |
| **Tube/filler diameter (mm)** | | 2.1 | | | |
| **Cable nominal diameter (mm)** | | 13.8 | 14.8 | 16.6 | 18.5 |
| **Cable nominal weight (kg/km)** | | 165 | 189 | 224 | 298 |
| **Max installation tension (kN)** | | 4.0 | | | |
| **Max crush resistance (kN/100mm)** | | 4.0 (short term) / 2.0 (long term) | | | |
| **Min bend radius (mm)** | | 30 x cable OD (full load) / 15 x cable OD (no load) | | | |
| **Temperature range ˚C** | **installation** | 0 to +50 °C | | | |
| | **storage** | -20 to +70 °C | | | |
| | **operation** | -10 to +70 °C | | | |

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JCS TECHNOLOGIES ARM@CORE Part Number △ N10514 T/N #### MM/YY MADE IN AUSTRALIA *****M

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RESPONSIVE: FAST SERVICE & TURN AROUND

ADVANCED IN-HOUSE ENGINEERING

FIBRE & COPPER CABLE MANUFACTURING

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**LOCAL MANUFACTURE, SALES AND SOLUTIONS**

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