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Rodent Proof Fibre Optic Cables

Dielectric Armoured
(PE+Nylon+FRP+PE)

Dielectric Armoured
(PE+FRP+PE+Nylon)

Dielectric Armoured
(PE+Nylon+FRP+PE+Nylon)

Steel Tape Armoured
(PE+ECCS Tape+PE+PA)

www.veyrafibre.com.au

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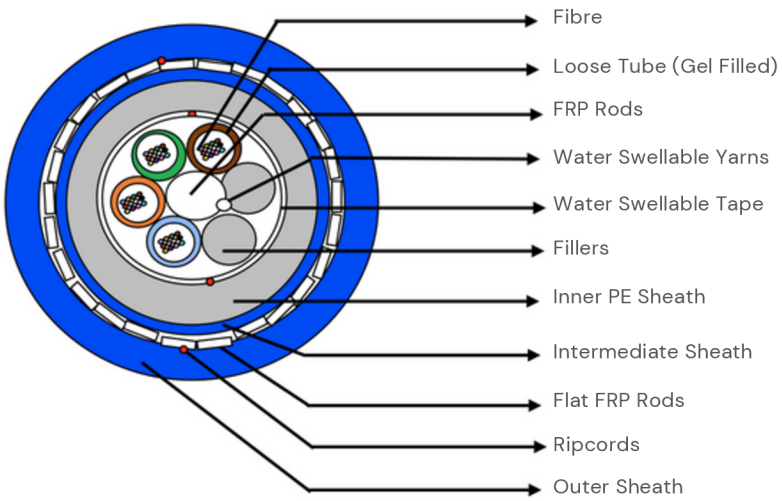
VEYRA FIBRE

PRODUCT SPECIFICATION

Dielectric Armoured (PE+PA+FRP+PE) Fibre Optic Cable

0xxx-xx-xxMTD2-YF00-BL

The Dielectric Armoured Fiber Optic Cable is designed for demanding outside plant (OSP) environments where mechanical strength and environmental durability are critical. This cable features a stranded loose tube construction, with optical fibres housed in water-blocked buffer tubes laid around a central fibre reinforced plastic (FRP) strength member. A flat FRP armour layer is applied over a protective nylon sheath, enhancing crush resistance. The cable is further protected by a rugged, UV-stabilized polyethylene outer jacket, ensuring long-term performance in harsh conditions.



*Representative diagram, not to scale

Key Features

- UV, Rodent & Termite Resistant: Engineered to withstand long-term outdoor exposure and pest-infested environments
- FRP Central Strength Member & Flat FRP Armor: Provides excellent tensile strength and enhanced crush resistance

Applications and Benefits

- Long-Term Reliability: Multi-layered armouring and jacket system provide lasting protection against environmental stressors and physical impacts, making it suitable for Direct Burial installation

Cable Construction

Fibre Count	Number of Fibres per Tube	Number of Loose Tubes - PBT	Number of Fillers - HDPE - Black	Central Strength Member	Cable Diameter	Cable Weight
6	6	1	5	FRP Rod	14.0 mm ± 5 %	166 kg/km ± 10%
12	12	1	5	FRP Rod	14.0 mm ± 5 %	166 kg/km ± 10%
24	12	2	4	FRP Rod	14.0 mm ± 5 %	166 kg/km ± 10%
48	12	4	2	FRP Rod	14.0 mm ± 5 %	166 kg/km ± 10%
72	12	6	-	FRP Rod	14.0 mm ± 5 %	166 kg/km ± 10%
96	12	8	-	FRP Rod	15.5 mm ± 5 %	215 kg/km ± 10%
144	12	12	-	FRP Rod PE Upcoated	18.0 mm ± 5 %	280 kg/km ± 10%

Loose Tube OD	2.0 ± 0.1 mm
Moisture Barrier	Water Swellable Yarn
Core Wrapping	Water Swellable Tape
Inner Sheath	HDPE – Black – UV Stabilized
Intermediate Sheath	Nylon – Blue – UV Stabilized
Armouring	Flat FRP Rods
Outer Sheath	HDPE – Blue* – UV Stabilized *other outer jacket colours available on request - see ordering guide for details
Number of Ripcords	4 - Polyester

Colour Coding – Fibre and Loose Tubes

Fibre Count	1	2	3	4	5	6	7	8	9	10	11	12
Fibre Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Tube Count	1	2	3	4	5	6	7	8	9	10	11	12
Tube Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Cable Performance

Tensile Strength	4000 N	IEC-60794-1-21-E1
Crush Resistance	4000 N / 100 mm x 100 mm	IEC-60794-1-21-E3
Impact Strength	20 N.m	IEC-60794-1-21-E4
Torsion	± 180 °	IEC-60794-1-21-E7
Minimum Bend Radius	20 x D	IEC-60794-1-21-E11
Water Penetration Test	1 m water head, 3 m sample, 24 hours	IEC-60794-1-22-F5
Drip Test	30 cm , 70 ^{0}C, 24 hr	IEC-60794-1-21-E14
Environmental Performance	Installation -10 °C to + 70 °C Operation -30 ° C to + 60°C Storage. -40 °C to + 70 °C	IEC-60794-1-22-F1

Fibre Characteristics

Fibre Type	ITU-T G.652D
Attenuation (Cabled)	1310 nm ≤ 0.35 dB/km 1550 nm ≤ 0.21 dB/km 1625 nm ≤ 0.23 dB/km
Chromatic Dispersion	1285-1330 nm ≤ 3.5 ps/nm.km 1550 nm ≤ 18 ps/nm.km
PMD (Max. Individual)	≤ 0.2 ps/√km
PMD (Link design value)	≤ 0.06 ps/√km
Cable cut off wavelength λcc	≤ 1260 nm
MFD	1310 nm 9.2 ± 0.4 µm 1550 nm 10.4 ± 0.5 µm
Core-Cladding Concentricity Error	≤ 0.5 µm
Cladding Diameter	125 ± 0.7 µm
Cladding Non Circularity	≤ 0.8 %
Coating Diameter	242 ± 5 µm

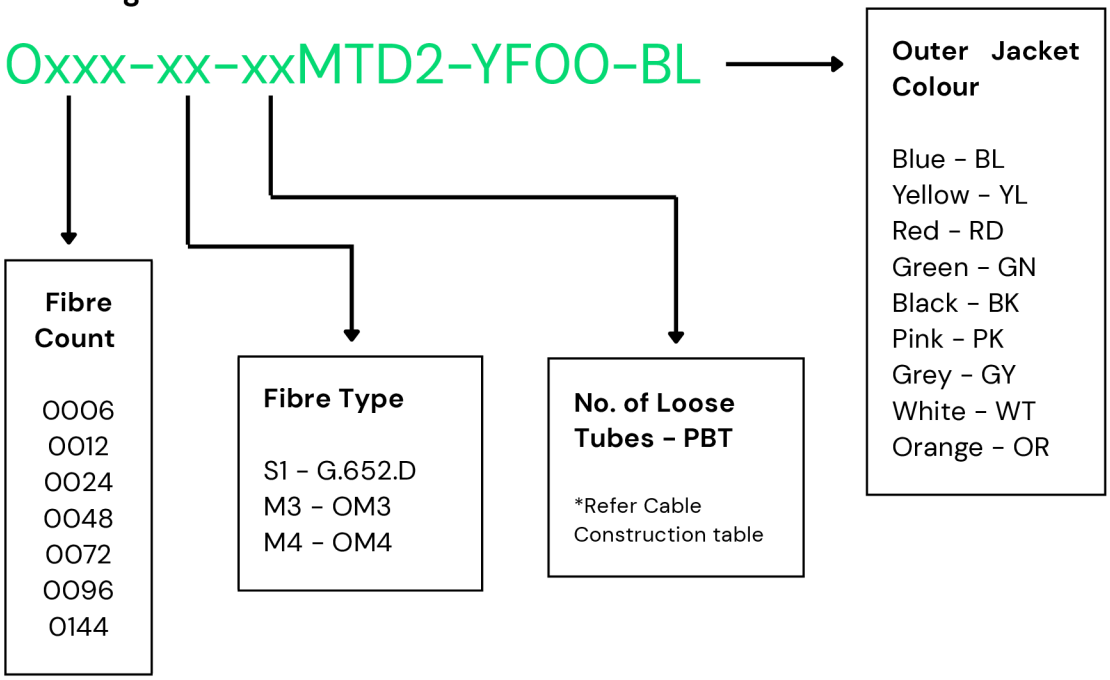
Fibre Type	OM3	OM4
Attenuation	850 nm ≤ 3.0 dB/km 1300 nm ≤ 1.5 dB/km	850 nm ≤ 3.0 dB/km 1300 nm ≤ 1.5 dB/km
Bandwidth	850 nm ≥ 1500 MHz.km 1300 nm ≥ 500 MHz.km	850 nm ≥ 3500 MHz.km 1300 nm ≥ 500 MHz.km

Core Diameter	50.0 ± 2.5 µm
Core-Cladding Concentricity Error	≤ 1.0 µm
Cladding Diameter	125 ± 1.0 µm
Cladding Non Circularity	≤ 1.0 %
Coating Diameter	242 ± 7 µm

Applicable Standards

IEC 60793, IEC 60794, ITU-T, RoHS, REACH, AS/CA S008, AS 1049, AS 2857, AS/NZS ISO 9001

Ordering Guide



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Dielectric Armoured
(PE+Nylon+FRP+PE)

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Steel Tape Armoured
(PE+ECCS Tape+PE+PA)

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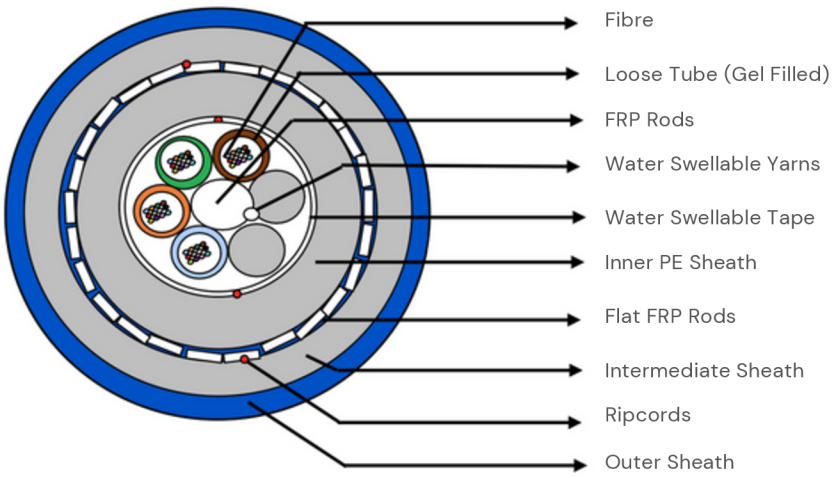
VEYRA FIBRE

PRODUCT SPECIFICATION

Dielectric Armoured (PE+FRP+PE+PA) Fibre Optic Cable

0xxx-xx-xxMTD1-YF00-BL

Multi-tube Double Jacket Fibre Optic Cables are designed for outside plant (OSP) use and are suitable for installation in underground conduits using either pulling or blowing methods. The cable features a stranded loose tube design with optical fibres laid around a central FRP (Fibre Reinforced Plastic) strength member. Water-blocking gel in the tubes and water-swellable tape in the core protect against moisture ingress. The construction includes an inner polyethylene sheath, flat FRP armouring, an intermediate polyethylene jacket, and a rugged nylon outer sheath for enhanced durability.



Representative diagram, not to scale

Key Features

- Dry water-blocking elements for gel-free core access
- Dual-layer thermoplastic jackets for durability
- Flat FRP armouring for tensile and crush resistance
- UV stabilised, rodent- and termite-resistant

Applications and Benefits

- Suitable for long-haul, metro, and access networks
- Easy access and gel-free core reduce prep time
- Robust construction ensures long-term protection in harsh Australian environments

Cable Construction

Fibre Count	Number of Fibres per Tube	Number of Loose Tubes - PBT	Number of Fillers - HDPE - Black	Central Strength Member	Cable Diameter	Cable Weight
6	6	1	5	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
12	12	1	5	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
24	12	2	4	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
48	12	4	2	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
72	12	6	-	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
96	12	8	-	FRP Rod PE Upcoated	16.5 mm ± 5 %	240 kg/km ± 10%
144	12	12	-	FRP Rod PE Upcoated	19.6 mm ± 5 %	330 kg/km ± 10%

Loose Tube OD	2.2 ± 0.1 mm
Moisture Barrier	Water Swellable Yarn
Core Wrapping	Water Swellable Tape
Inner Sheath	HDPE – Black – UV Stabilized
Armouring	Flat FRP Rods
Intermediate Sheath	HDPE – Black – UV Stabilized
Outer Sheath	Nylon – Blue* – UV Stabilized *other outer jacket colours available on request - see ordering guide for details
Number of Ripcords	4 - Polyester

Colour Coding – Fibre and Loose Tubes

Fibre Count	1	2	3	4	5	6	7	8	9	10	11	12
Fibre Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Tube Count	1	2	3	4	5	6	7	8	9	10	11	12
Tube Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Cable Performance

Tensile Strength	6000 N	IEC-60794-1-21-E1
Crush Resistance	6000 N / 100 x 100 mm	IEC-60794-1-21-E3
Impact Strength	20 N.m	IEC-60794-1-21-E4
Torsion	± 180 °	IEC-60794-1-21-E7
Minimum Bend Radius	20 x D	IEC-60794-1-21-E11
Water Penetration Test	1 m water head, 3 m sample, 24 hours	IEC-60794-1-22-F5
Drip Test	30 cm , 70 ^{0}C, 24 hr	IEC-60794-1-21-E14
Environmental Performance	Installation -10 °C to + 70 °C Operation -40 ° C to + 60°C Storage. -40 °C to + 70 °C	IEC-60794-1-22-F1

Fibre Characteristics

Fibre Type	ITU-T G.652D
Attenuation (Cabled)	1310 nm ≤ 0.35 dB/km 1550 nm ≤ 0.21 dB/km 1625 nm ≤ 0.23 dB/km
Chromatic Dispersion	1285-1330 nm ≤ 3.5 ps/nm.km 1550 nm ≤ 18 ps/nm.km
PMD (Max. Individual)	≤ 0.2 ps/√km
PMD (Link design value)	≤ 0.06 ps/√km
Cable cut off wavelength λcc	≤ 1260 nm
MFD	1310 nm 9.2 ± 0.4 µm 1550 nm 10.4 ± 0.5 µm
Core-Cladding Concentricity Error	≤ 0.5 µm
Cladding Diameter	125 ± 0.7 µm
Cladding Non Circularity	≤ 0.8 %
Coating Diameter	242 ± 5 µm

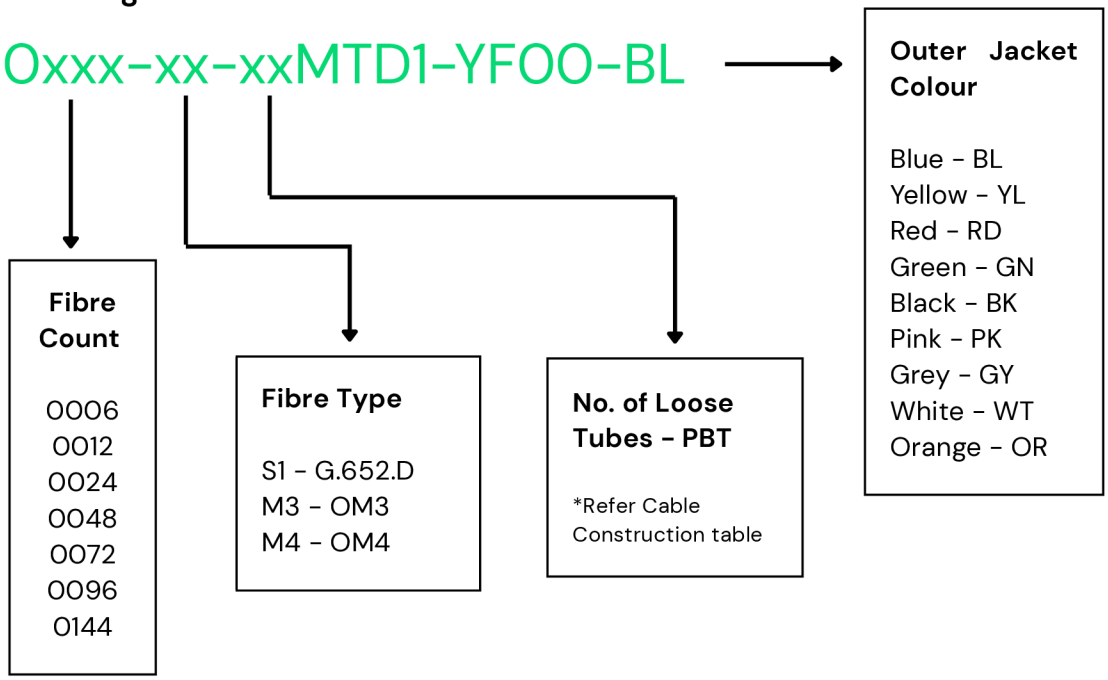
Fibre Type	OM3	OM4
Attenuation	850 nm ≤ 3.0 dB/km 1300 nm ≤ 1.5 dB/km	850 nm ≤ 3.0 dB/km 1300 nm ≤ 1.5 dB/km
Bandwidth	850 nm ≥ 1500 MHz.km 1300 nm ≥ 500 MHz.km	850 nm ≥ 3500 MHz.km 1300 nm ≥ 500 MHz.km

Core Diameter	50.0 ± 2.5 µm
Core-Cladding Concentricity Error	≤ 1.0 µm
Cladding Diameter	125 ± 1.0 µm
Cladding Non Circularity	≤ 1.0 %
Coating Diameter	242 ± 7 µm

Applicable Standards

IEC 60793, IEC 60794, ITU-T, RoHS, REACH, AS/CA S008, AS 1049, AS 2857, AS/NZS ISO 9001

Ordering Guide



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Dielectric Armoured
(PE+Nylon+FRP+PE)

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Dielectric Armoured
(PE+Nylon+FRP+PE+Nylon)

Steel Tape Armoured
(PE+ECCS Tape+PE+PA)

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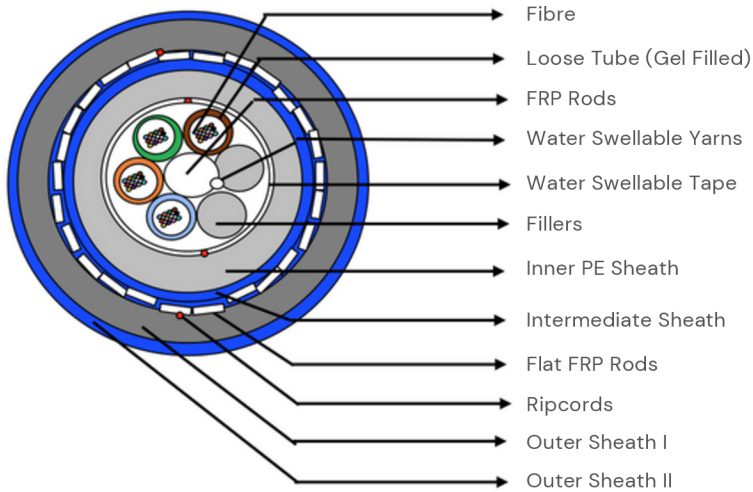
PRODUCT SPECIFICATION

Dielectric Armoured (PE+PA+FRP+PE+PA) Fibre Optic Cable

0xxx-xx-xxMTD6-YF00-xx

The FRP Armoured Multitube Quad Sheath Fibre Optic Cable is a high-performance, all-dielectric cable designed for harsh outdoor environments. Ideal for critical infrastructure and road corridor deployments, the cable is constructed with multiple gel-filled loose tubes stranded around a central strength member, the core is protected with water-swellable tape, an inner polyethylene sheath, an intermediate nylon sheath, and robust flat FRP armouring. The cable features a dual thermoplastic outer jacket of polyethylene and nylon, offering enhanced mechanical strength, rodent resistance, and long-term durability in demanding conditions.



Representative diagram, not to scale

Key Features

- Flat FRP dielectric armouring for superior crush, impact, and rodent resistance
- UV-stabilized, rugged dual jackets (polyethylene & nylon) ensure environmental and mechanical protection

Applications and Benefits

- Ideal for Outside Plant (OSP) environments
- Suitable for direct burial
- Perfect for long-haul backbone networks, rural broadband, and utility infrastructure
- Recommended for deployments requiring high durability and rodent resistance

Cable Construction

Fibre Count	Number of Fibres per Tube	Number of Loose Tubes - PBT	Number of Fillers - HDPE - Black	Central Strength Member	Cable Diameter	Cable Weight
12	12	1	5	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
24	12	2	4	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
48	12	4	2	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
72	12	6	-	FRP Rod	15.2 mm ± 5 %	200 kg/km ± 10%
96	12	8	-	FRP Rod	16.5 mm ± 5 %	240 kg/km ± 10%
144	12	12	-	FRP Rod PE Upcoated	19.5 mm ± 5 %	330 kg/km ± 10%
192	12	Layer I : 6 Layer II : 10	Layer II : 2	FRP Rod	19.5 mm ± 5 %	335 kg/km ± 10%

Moisture Barrier	Water Swellable Yarn
Core Wrapping	Water Swellable Tape
Inner Sheath	HDPE – Black – UV Stabilized
Intermediate Sheath	Nylon – Blue – UV Stabilized
Armouring	Flat FRP Rods
Outer Sheath I	HDPE – Black – UV Stabilized
Outer Sheath II	Nylon – Blue – UV Stabilized
Number of Ripcords	4 - Polyester

Colour Coding – Fibre and Loose Tubes

Fibre Count	1	2	3	4	5	6	7	8	9	10	11	12
Fibre Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Tube Count	1	2	3	4	5	6	7	8	9	10	11	12
Tube Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Tube Count	1	2	3	4	5	6
Tube Colour Layer I	Bl	Or	Gr	Br	Sl	Wh

Tube Count	1	2	3	4	5	6	7	8	9	10	11	12
Tube Colour Layer II	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Filler	Filler

Cable Performance

Max. Tensile Strength	6000 N	IEC-60794-1-21-E1
Crush Resistance	6000 N / 100 mm x 100 mm	IEC-60794-1-21-E3
Impact Strength	10 N.m	IEC-60794-1-21-E4
Torsion	± 180 °	IEC-60794-1-21-E7
Minimum Bend Radius	20 x D	IEC-60794-1-21-E11
Water Penetration Test	1 m water head, 3 m sample, 24 hours	IEC-60794-1-22-F5
Drip Test	30 cm , 70 ^{0}C, 24 hr	IEC-60794-1-21-E14
Environmental Performance	Installation - 10 °C to + 70 °C Operation - 20 ° C to + 70°C Storage. - 30 °C to + 70 °C	IEC-60794-1-22-F1

Fibre Characteristics

Fibre Type	ITU-T G.652D
Attenuation (Cabled)	1310 nm ≤ 0.35 dB/km 1550 nm ≤ 0.21 dB/km 1625 nm ≤ 0.23 dB/km
Chromatic Dispersion	1285-1330 nm ≤ 3.5 ps/nm.km 1550 nm ≤ 18 ps/nm.km
PMD (Max. Individual)	≤ 0.2 ps/√km
PMD (Link design value)	≤ 0.06 ps/√km
Cable cut off wavelength λcc	≤ 1260 nm
MFD	1310 nm 9.2 ± 0.4 µm 1550 nm 10.4 ± 0.5 µm
Core-Cladding Concentricity Error	≤ 0.5 µm
Cladding Diameter	125 ± 0.7 µm
Cladding Non Circularity	≤ 0.8 %
Coating Diameter	242 ± 5 µm

Packaging & Printing

Drum Type	Pinewood Drums AS 2857, Cable end sealed
Length Multiple	4, 6 km ± 5 %
Sheath Print	As per request

Applicable Standards

IEC 60793, IEC 60794, ITU-T, RoHS, REACH, AS/CA S008, AS 1049, AS 2857, AS/NZS ISO 9001, MRTS234 2022

Ordering Guide

Oxxx-S1-xxMTD6-YF00-xx

Fibre Count

0012
0024
0048
0072
0096
0144
0192

Fibre Type

S1 - G.652.D
S2 - G.657.A1

No. of Loose Tubes - PBT

*Refer Cable Construction table

Outer Jacket Colour

Blue - BL
Yellow - YL
Red - RD
Green - GN
Black - BK
Pink - PK
Grey - GY
White - WT
Orange - OR

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Dielectric Armoured
(PE+Nylon+FRP+PE)

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Steel Tape Armoured
(PE+ECCS Tape+PE+PA)

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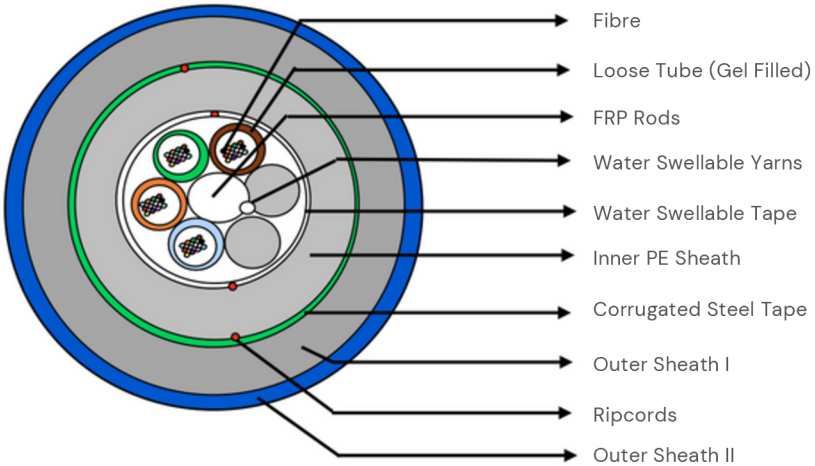
VEYRA FIBRE

PRODUCT SPECIFICATION

Armoured (PE+ECCS TAPE+PE+PA) Fibre Optic Cable

0xxx-xx-xxMTD1-YS00-BL

Our Steel Tape Armored Optical Fibre Cable is engineered for high-performance connectivity in both direct burial and duct applications. Designed with a central strength member, the cable is built to withstand harsh environments, ensuring reliability and durability. Featuring water-blocked loose tubes and a robust construction, it provides long-lasting protection against moisture and physical damage. The combination of a polyethylene inner sheath, water-swellable tape, and corrugated steel tape armor offers enhanced protection and effective resistance to rodents, safeguarding the cable's integrity in hostile environments.



Representative diagram, not to scale

Key Features

- Water Resistance: Water-blocking gel inside the buffer tubes and water-swellable tape around the core prevent water ingress.
- Post-installation Locate-ability: The steel tape armor allows for easy post-installation cable location.

Applications and Benefits

- Suitable for use in utility networks where reliability and durability are critical, including power stations, substations, and remote facilities.
- Designed for direct burial and environments prone to physical damage, this cable is ideal for locations where protection from rodents and environmental factors is essential.

Cable Construction

Fibre Count	Number of Fibres per Tube	Number of Loose Tubes - PBT	Number of Fillers - HDPE - Black	Central Strength Member	Cable Diameter	Cable Weight
6	6	1	5	FRP Rod	13.5 mm ± 5 %	160 kg/km ± 10%
12	12	1	5	FRP Rod	13.5 mm ± 5 %	160 kg/km ± 10%
24	12	2	4	FRP Rod	13.5 mm ± 5 %	160 kg/km ± 10%
48	12	4	2	FRP Rod	13.5 mm ± 5 %	160 kg/km ± 10%
72	12	6	-	FRP Rod	13.5 mm ± 5 %	160 kg/km ± 10%
96	12	8	-	FRP Rod PE Upcoated	15.0 mm ± 5 %	206 kg/km ± 10%
144	12	12	-	FRP Rod PE Upcoated	17.0 mm ± 5 %	270 kg/km ± 10%

Moisture Barrier	Water Swellable Yarn
Core Wrapping	Water Swellable Tape
Inner Sheath	HDPE – Black – UV Stabilized
Intermediate Sheath	Nylon – Blue – UV Stabilized
Armouring	Corrugated Steel Tape
Outer Sheath	HDPE – Blue* – UV Stabilized *other outer jacket colours available on request - see ordering guide for details
Number of Ripcords	4 - Polyester

Colour Coding – Fibre and Loose Tubes

Fibre Count	1	2	3	4	5	6	7	8	9	10	11	12
Fibre Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Tube Count	1	2	3	4	5	6	7	8	9	10	11	12
Tube Colour EIA/TIA – 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Cable Performance

Tensile Strength	6 -72F : 2500 N 96F/144F : 3000 N	IEC-60794-1-21-E1
Crush Resistance	4000 N / 100 mm x 100 mm	IEC-60794-1-21-E3
Impact Strength	10 N.m	IEC-60794-1-21-E4
Torsion	± 180 °	IEC-60794-1-21-E7
Minimum Bend Radius	During Installation : 20 x D After Installation : 15 x D	IEC-60794-1-21-E11
Water Penetration Test	1 m water head, 3 m sample, 24 hours	IEC-60794-1-22-F5
Drip Test	30 cm , 70 ^{0}C, 24 hr	IEC-60794-1-21-E14
Environmental Performance	Installation -10 °C to + 70 °C Operation -40 ° C to + 70°C Storage. -40 °C to + 70 °C	IEC-60794-1-22-F1

Fibre Characteristics

Fibre Type	ITU-T G.652D
Attenuation (Cabled)	1310 nm ≤ 0.35 dB/km 1550 nm ≤ 0.21 dB/km 1625 nm ≤ 0.23 dB/km
Chromatic Dispersion	1285-1330 nm ≤ 3.5 ps/nm.km 1550 nm ≤ 18 ps/nm.km
PMD (Max. Individual)	≤ 0.2 ps/√km
PMD (Link design value)	≤ 0.06 ps/√km
Cable cut off wavelength λcc	≤ 1260 nm
MFD	1310 nm 9.2 ± 0.4 µm 1550 nm 10.4 ± 0.5 µm
Core-Cladding Concentricity Error	≤ 0.5 µm
Cladding Diameter	125 ± 0.7 µm
Cladding Non Circularity	≤ 0.8 %
Coating Diameter	242 ± 5 µm

Fibre Type	OM3	OM4
Attenuation	850 nm ≤ 3.0 dB/km 1300 nm ≤ 1.5 dB/km	850 nm ≤ 3.0 dB/km 1300 nm ≤ 1.5 dB/km
Bandwidth	850 nm ≥ 1500 MHz.km 1300 nm ≥ 500 MHz.km	850 nm ≥ 3500 MHz.km 1300 nm ≥ 500 MHz.km

Core Diameter	50.0 ± 2.5 µm
Core-Cladding Concentricity Error	≤ 1.0 µm
Cladding Diameter	125 ± 1.0 µm
Cladding Non Circularity	≤ 1.0 %
Coating Diameter	242 ± 7 µm

Applicable Standards

IEC 60793, IEC 60794, ITU-T, RoHS, REACH, AS/CA S008, AS 1049, AS 2857, AS/NZS ISO 9001

Ordering Guide