

# ExTell MicroCore Series | SM G.657A2 Micro-Tube ID LSZH | Dual-Flame Retardant | FO Cable

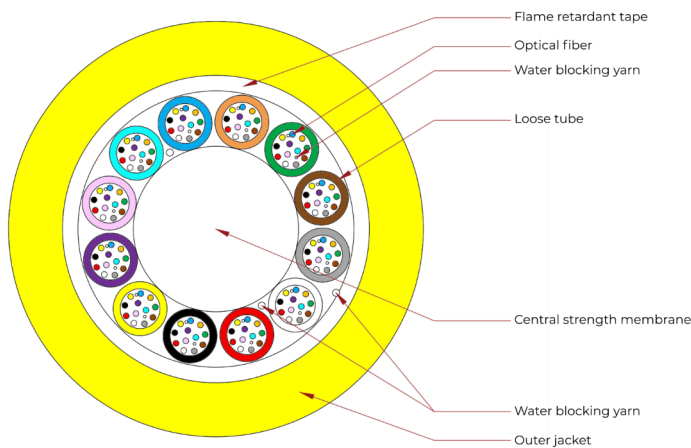
Reference Standard- ITU-T G.652D | IEC 60794-1-1 | IEC 60794-1-2 | ANSI/TIA-598-D | IEC 60304 | IEC 60332-1-2 | IEC 60332-3-24 Cat C | IEC 61034-2 | IEC 60754-2 | ROHS

## Product Overview

The ExTell MicroCore Indoor Series represents the pinnacle of high-density indoor optical engineering. Designed for congested data center pathways, high-rise risers, and enterprise backbones, this series utilizes a micro-stranded architecture to achieve a significantly reduced footprint compared to traditional designs.

By integrating ITU-T G.657.A2 bend-insensitive fibers, the MicroCore series ensures maximum signal integrity even in tight-radius routing environments. Encased in a high-safety Dual-Flame LSZH jacket, this cable provides superior life-safety performance and is fully non-metallic, ensuring total immunity to electromagnetic interference.

## Cable Construction Schematic



## Design Highlights

- **Space-Efficient Micro Architecture:** 1.6 mm micro-loose tubes reduce cable diameter by up to 40%, maximizing conduit capacity.
- **Superior Bend Performance:** G.657.A2 fibers support tight bends (down to 7.5 mm radius) with minimal signal loss : ideal for indoor installations.
- **Dry-Core Technology:** Water-blocking yarns replace gels for clean, fast, and mess-free splicing.
- **Total Dielectric Construction:** FRP strength member and non-metallic design ensure EMI/RFI immunity with no grounding required.
- **Premier Fire Safety Compliance:** LSZH sheath meets international flame-retardant and low-smoke standards.
- **Anti-Repellent Protection:** Chemically treated jacket resists rodents and insects : no metal armor needed.

## Technical Specifications ( Fiber & Materials )

Parameters	Specification
Fiber Type	SM G.657A2 - Fully Backward Compatible with G.652.D
Mode Field Diameter (1310nm)	8.6 - 9.5 $\mu$ m
Cladding Diameter	125 $\pm$ 0.7 $\mu$ m
Cladding Non-Circularity	$\leq$ 0.8 %
Coating Diameter	245 $\pm$ 10 $\mu$ m
Coating / Cladding Concentricity Error	$\leq$ 12.5 $\mu$ m
Attenuation Coefficient (1310nm)	$\leq$ 0.35 dB/km
Attenuation Coefficient (1550nm)	$\leq$ 0.21 dB/km
Macro-bend Loss (1550nm , 1 turn , 7.5mm radius )	$\leq$ 0.5 dB/km
Macro-bend Loss (1625nm , 1 turn , 7.5mm radius )	$\leq$ 1.0 dB/km
Proof Stress Level	$\geq$ 100 kpsi



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Parameters	Specification
Fiber Color	Full Color Spectrum
Loose Tube Material	Polypropylene
Loose Tube Color	Full Color Spectrum
Filler Material	LSZH
Filler Color	Black
Outer Jacket Material	Dual-Flame LSZH + Anti-Repellent Additives
Outer Jacket Color	Yellow
Water Blocking	Dry-Core Technology (High-Performance Water-blocking Yarns)
Central Strength Member (CSM)	Dielectric Fiber Reinforced Plastic (FRP)

### Cable Construction Design

Fiber Count	Structure	Fibers / Tube	Loose Tube Diameter	CSM / PAD Diameter	Outer Jacket Thickness	Cable Diameter	Nominal Weight
24 Core	1+5	12	1.6 ± 0.1 mm	1.5/1.5 mm	1.6 mm	8.9 ± 0.5 mm	83 kg/km
48 Core	1+5	12	1.6 ± 0.1 mm	1.5/1.5 mm	1.6 mm	8.9 ± 0.5 mm	83 kg/km
72 Core	1+6	12	1.6 ± 0.1 mm	2.0/2.0 mm	1.6 mm	9.4 ± 0.5 mm	92 kg/km
96 Core	1+8	12	1.6 ± 0.1 mm	2.8/2.8 mm	1.6 mm	10.2 ± 0.5 mm	110 kg/km
144 Core	1+12	12	1.6 ± 0.1 mm	3.2/4.9 mm	1.6 mm	12.3 ± 0.5 mm	151 kg/km

### Mechanical & Environmental Performance

Test Description	Standard Reference	Performance Requirement
Tensile Strength (Short-Term)	IEC 60794-1-2-E1	24-48C : 150N
		72C : 300N
		96-144C : 600N
Crush Resistance (Short-Term)	IEC 60794-1-2-E3	450N / 100mm
Min. Bending Radius (Static)	IEC 60794-1-2-E11	10 times cable diameter
Min. Bending Radius (Dynamic)	IEC 60794-1-2-E11	20 times cable diameter
Temperature Range	IEC 60794-1-2-F1	-40°C to +70°C



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### Standards & Compliance

Category	International Standards	Description
Optical Fiber Standard	ITU-T G.652D	Defines characteristics of single-mode optical fiber.
Cable Design	IEC 60794-1-1	General requirements for optical fiber cable construction and marking.
Cable Test Procedures	IEC 60794-1-2	Mechanical and environmental test methods for fiber cables.
Color Identification	ANSI/TIA-598-D	Primary standard for optical fiber color identification.
Color Coding	IEC 60304	Global reference standard for insulation and fiber color coding.
Flame Retardancy	IEC 60332-1-2	Vertical flame spread on single cable.
Fire Safety	IEC 60332-3-24 (Cat. C)	Flame spread on bunched vertical cables.
Smoke Density	IEC 61034-2	Measurement of low smoke emission.
Halogen Content	IEC 60754-2	Zero halogen / acidity of gases .
Environmental	RoHS	Global sustainability compliance.

### Ordering Information

Part Number	Product Description
ES2A2MCL10M1-F024-YW	ExTell MicroCore Series   24C SM G.657A2 Micro-Tube ID FO Cable   FRP Central Strength Member   LSZH Sheath   Dual-Flame Compliant   Yellow.
ES2A2MCL10M1-F048-YW	ExTell MicroCore Series   48C SM G.657A2 Micro-Tube ID FO Cable   FRP Central Strength Member   LSZH Sheath   Dual-Flame Compliant   Yellow.
ES2A2MCL10M1-F072-YW	ExTell MicroCore Series   72C SM G.657A2 Micro-Tube ID FO Cable   FRP Central Strength Member   LSZH Sheath   Dual-Flame Compliant   Yellow.
ES2A2MCL10M1-F096-YW	ExTell MicroCore Series   96C SM G.657A2 Micro-Tube ID FO Cable   FRP Central Strength Member   LSZH Sheath   Dual-Flame Compliant   Yellow.
ES2A2MCL10M1-F144-YW	ExTell MicroCore Series   144C SM G.657A2 Micro-Tube ID FO Cable   FRP Central Strength Member   LSZH Sheath   Dual-Flame Compliant   Yellow.

