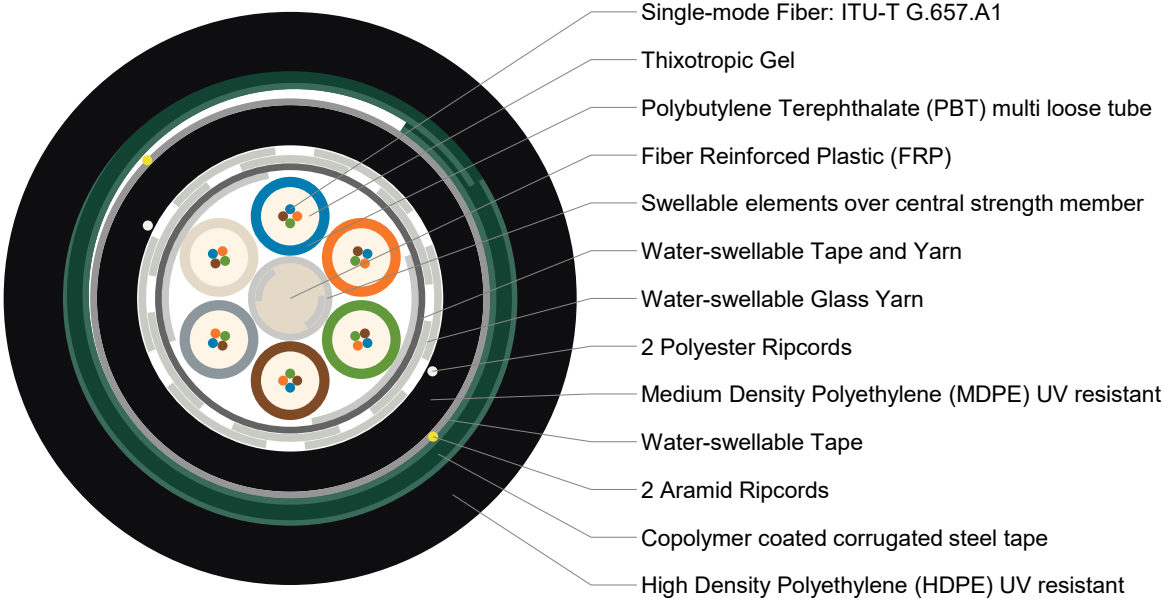


SM7.A1-MLT-SA-DJ-(GY40)-24FO(6x4)-(D)

Multi loose tube, corrugated steel tape armor, double polyethylene jacket, direct buried, fiber optic cable

Fiber Optic Cable Drawing



• Not to scale.

Fiber Optic Cable Tube and Fiber Core Colors

Tube Color Scheme

1	2	3	4	5	6
Blue	Orange	Green	Brown	Slate	White

Fiber Optic Core Color Scheme

1	2	3	4
Blue	Orange	Green	Brown

• The images are for illustrative purposes only.

SM7.A1-MLT-SA-DJ-(GY40)-24FO(6x4)-(D)

Multi loose tube, corrugated steel tape armor, double polyethylene jacket, direct buried, fiber optic cable

Characteristics	
Cable Part Number	3.222.6.0.1.1 1.g40.0971.0024.1
Optical Fiber Core and Tube Color Standard	ANSI/TIA 598-D Color Coding
Optical Fiber Type	Single-mode Fiber: ITU-T G.657.A1
Optical Fiber Dimensions	9/125/245/260 µm
Optical Fiber Count	24
Cable Type	Multi Loose Tube
Tube Material	Polybutylene Terephthalate (PBT)
Tube Diameter	2,06 mm
Tube Filling Compound Material	Thixotropic Gel
Active Tube Count	6
Optical Fibers per Tube	4
Central Strength Member Material	Fiber Reinforced Plastic (FRP)
Central Strength Member Diameter	2,2 mm
Water Blocking Method	Water-swellaable Elements
Cable Core Binder	Water-swellaable Yarn
Cable Core Wrapping	Water-swellaable Tape
Tensile Strength	4000 N
Dielectric Tensile Strength Member	Water-swellaable Glass Yarn
1st Jacket Strip Method	2 Polyester Ripcords
1st Jacket Material	Medium Density Polyethylene (MDPE) UV resistant
1st Jacket Color	Black
1st Jacket Wall Thickness	1,05 mm
Armor Material	Copolymer coated corrugated steel tape
Armor Thickness	255 µm
Below Armor Water Blocking Method	Water-swellaable Tape
2nd Jacket Strip Method	2 Aramid Ripcords
2nd Jacket Material	High Density Polyethylene (HDPE) UV resistant
2nd Jacket Color	Black
2nd Jacket Wall Thickness	1,55 mm
Outer Jacket Marking Method	Hot foil stamping
Outer Jacket Marking Area	One side
Outer Jacket Marking Application	Applied in one meter intervals
Nominal Cable Diameter	14,2 mm
Net Cable Weight	205 kg/km
Reel Length	2000 meters %±5

ETK Kablo 2025 SM7.A1-MLT-SA-DJ-(GY40)-24FO(6x4)-(D) Fiber Optic Cable <Length marking in meters>

SM7.A1-MLT-SA-DJ-(GY40)-24FO(6x4)-(D)

Multi loose tube, corrugated steel tape armor, double polyethylene jacket, direct buried, fiber optic cable

Mechanical Characteristics (Cabled)		
Test	Reference Standard	Specified Value
Maximum Tensile Strength	IEC 60794-1-21-E1	≥ 4000 N
Crush Resistance	IEC 60794-1-21-E3	4000 N/100 mm (15 minutes)

Chemical Characteristics	
RoHS	Free of hazardous substances according to RoHS regulation.
REACH	Safe to use according to REACH regulation.

Temperature Range (Cabled)	
Transportation	-40 °C to 70 °C
Storage	-40 °C to 70 °C
Installation	-30 °C to 60 °C
Operation	-40 °C to 70 °C

Optical Fiber Attenuations (Cabled)		
ITU-T G.657.A1	Property	Value
	Maximum attenuation at 1310 nm	0.36 dB/km
	Maximum attenuation at 1550 nm	0.24 dB/km

SM7.A1-MLT-SA-DJ-(GY40)-24FO(6x4)-(D)

Optical Fiber Core Specification Low Macro Bending Sensitive Single-Mode Optical Fiber Standard, ITU-T G.657.A1 (Uncolored Fiber)

Structural Specifications		
Fiber Materials		
Core Material		Silica (SiO ₂) Doped with Germanium Dioxide (GeO ₂)
Cladding Material		Pure silica (SiO ₂)
Coating Material		Dual layers of UV-cured acrylate.
Dimensions		
Mode Field Diameter	at 1310 nm	9.0 ± 0.4 µm
	at 1550 nm	10.1 ± 0.5 µm
Cladding Diameter		125.0 ± 0.7 µm
Coating Diameter (Uncolored)		242 ± 7 µm
Core/Cladding Concentricity Error		≤ 0.5 µm
Cladding Non-circularity		≤ 0.7 %
Coating/Cladding Concentricity Error		≤ 12 µm
Coating Non-circularity		≤ 5 %
Fiber Curl Radius		≥ 4.0 m
Optical Characteristics		
Attenuation Coefficient	at 1310 nm	0.33 – 0.35 dB/km
	at 1383 nm ¹	0.32 – 0.35 dB/km
	at 1550 nm	0.19 – 0.21 dB/km
	at 1625 nm	0.20 – 0.23 dB/km
Point Discontinuity	at 1310 nm / 1550 nm	≤ 0.05 dB
Cable Cut-off Wavelength (λ _{cc})		< 1260 nm
Zero-dispersion Wavelength (λ ₀)		1300nm ≤ λ ₀ ≤ 1322 nm
Zero-dispersion Slope (S ₀)		≤ 0.09 ps/(nm ² ·km)
Chromatic Dispersion Coefficient	at 1310 nm	≤ 3 ps/(nm·km)
	at 1550 nm	≤ 18 ps/(nm·km)
	at 1625 nm	≤ 22 ps/(nm·km)
Maximum Individual Fiber PMD		≤ 0.1 ps/√km
Fiber PMD Link Design Value		≤ 0.06 ps/√km
Mechanical Characteristics		
Proof Stress Level		0.70 GPa (1.0%, 100 kpsi)
Bending Induced Attenuation	Ø=10 mm, 1 turn at 1550 nm	≤ 0.75 dB
	Ø=10 mm, 1 turn at 1625 nm	≤ 1.50 dB
	Ø=15 mm, 10 turns at 1550 nm	≤ 0.25 dB
	Ø=15 mm, 10 turns at 1625 nm	≤ 1.00 dB
Coating Strip Force (F)	peak	1.2 N ≤ F ≤ 8.9 N
	average	1.0 N ≤ F ≤ 3.0 N
Dynamic Tensile Strength	median; 0.5 m, unaged	≥ 3.8 Gpa (550 kpsi)
	median; 0.5 m, aged	≥ 3.8 Gpa (550 kpsi)
Fatigue	nominal value	20
Environmental Characteristics ²		
Temperature Cycling	-60 °C to 85 °C	≤ 0.05 dB/km
Temperature Humidity Cycling	-10 °C to 85 °C at 98% R. H.	≤ 0.05 dB/km
Water Immersion	at 23 °C, 14 days	≤ 0.05 dB/km
Dry Heat	at 85 °C, 30 days	≤ 0.05 dB/km
Damp Heat	85 °C at 85% R. H., 30 days	≤ 0.05 dB/km
Performance Characteristics		
Effective Group Index of Refraction N _{eff}	at 1310 nm	1.467
	at 1550 nm	1.468
	at 1625 nm	1.468

1. Attenuation increase due to hydrogen aging at this wavelength will be 0.01 db/km or less in accordance with IEC IEC60793-2-50 test procedure.

2. Induced attenuation at 1310 nm, 1550 nm and 1625 nm