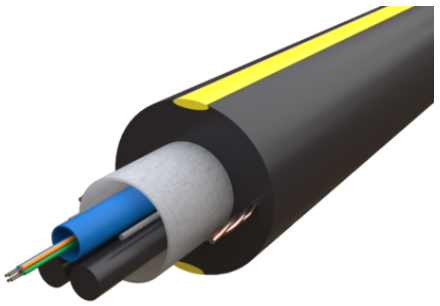
Product name	4F G657A1 ULW overhead OFC micromodule Black/Yellow OD 7mm 4km/dr
Product code	MU1504004
GTIN	7332811364396
ETIM-Class	EC000034



PRODUCT SPECIFICATIONS

4F G657A1 Ultra-Lightweight (ULW) aerial cables are designed for overhead pole installation. But can also be Installed underground in ducts by pulling. Cable parameters such as cable diameter, stiffness and tensile strength are optimized for best installation performance. Openreach PIA approved, suitable for use alongside 11kV power cables and with tensile breaking force for maximum security, less than 2000N.

Measurements

Length	1,000 mm
Height	7 mm
Width	7 mm
Weight	35 g

Technical Specifications - Cable Construction

Fibre Count	4
Cable Construction	Micro Module
Fibres per Tube	4
Fibre Colour Sequence	EIA/TIA-598A
Tube Colour Sequence	EIA/TIA-598A
Embedding Strength Member	3 x 0.32 mm - brass coated steel wire
Moisture Barrier	Water blocking yarn & water swellable tape
Outer Sheath Material	HDPE (High Density Polyethene)

Colour of Cable Sheath	Black
Strip Marking Width	Yellow 1.25 mm (nominal)
Halogen Free	Yes
UV Proof	Yes
Metal free	No
Cable Diameter	7 mm
Cable Diameter Tolerance	+/- 0.3 mm
Nominal Cable Weight	35 kg/km

Technical Specifications - Cable Characteristics

Tensile Break Load	1,900 N
Tensile Strength (N) IEC-60794-1-21-E1	1,250 N
Crush Resistance - IEC- 60794-1-21-E3	2,000 N/10cm
Min. Bend Radius (During Installation) IEC-60794-1-21-E11	70 mm
Water Penetration TestIEC-60794-1-22-F5	1 m water head, 3m sample, 24 hours
Temperature Performance Installation IEC-60794-1-22-F1	-10°c to +60°c (max. change in attenuation shall be ≤ 0.15 db/km)
Temperature Performance Operation IEC-60794-1-22-F1	-30°c to +70°c (max. change in attenuation shall be ≤ 0.15 db/km)
Temperature Performance Storage IEC-60794-1-22-F1	-40°C to +70°C (Max. change in attenuation shall be ≤ 0.15 dB/km)
Voltage Test 11 KV	If installed along power line minimum vertical distance of 1.8 m should be maintained
Resistance to wind/ice	Cable shall withstand 97 kph wind, no ice. 80 kph wind + 5mm ice. 0 kph wind, + 10mm ice. without appreciable sag
Max Span Length	68 m
Maximum Span (in exceptional circumstances)	80 m

Technical Specifications - Fibre Characteristics

Fibre Type	ITU-T G.657 A1
Attenuation 1310nm	≤ 0.35 dB/km
Attenuation 1550nm	≤ 0.21 dB/km
Attenuation 1625nm	≤ 0.23 dB/km
Chromatic Dispersion 1285-1330nm	≤ 3.5 ps/(nm·km)
Chromatic Dispersion 1550nm	≤ 18 ps/(nm·km)
Chromatic Dispersion 1625nm	≤ 22 ps/(nm·km)
PMD (Max. Individual)	≤ 0.15 ps/√km
PMD (Link design value)	≤ 0.06 ps/√km
Cable cut off wavelength	≤ 1260 nm
MFD 1310nm	9.1 nm
MFD 1550nm	10.3 nm
Bending Inducted Attenuation 1550nm 1 Turn ⌀ 20mm	0.75 dB

Bending Inducted Attenuation 1550nm 10 Turn ⌀ 30mm	0.25 dB
Bending Inducted Attenuation 1625nm 1 Turn ⌀ 20mm	1.5 dB
Bending Inducted Attenuation 1625nm 10 Turn ⌀ 30mm	1.0 dB
Core-Cladding Concentricity Error	≤ 0.5 µm
Cladding Diameter	125 +/- 0.7 µm
Cladding Non Circularity	≤ 0.8 %
Priamry Coating Diameter	242 +/- 5 µm