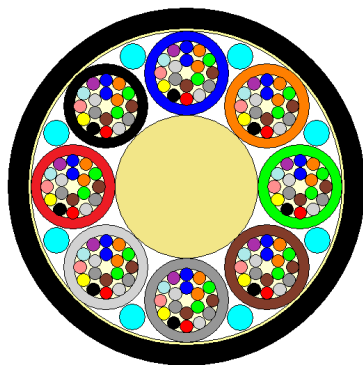


# Stranded Loose Tube Optical Minicables for use in Ducts

## Cable Design

**DRAFT**



- not to scale -

- **Fibres:** see attached datasheet for G.657.A1 200µm or G.657.A2 200µm.
- **Central Strength Member (CSM):** glass fibre reinforced plastic rod (FRP).
- **Loose Tube:** thermoplastic material, containing optical fibres and filled with a suitable water tightness compound.
- **Filler Elements:** thermoplastic rods, where needed.
- **Stranding:** loose tubes (and fillers), SZ stranded around the CSM.
- **Longitudinal Water Tightness:** dry core with water swellable elements.
- **Peripheral Strength Elements:** aramid yarns.
- **Outer Sheath:** PE, two ripcords beneath.

This loose tube dielectric optical cable is designed for outdoor installation in ducts and microducts by blowing or pulling techniques.

## Technical data

<b>No. of Fibres</b>		<b>192</b>		
Design (no. tubes x fibres/tube)		8 x 24		
Cable Diameter	mm	6.3		
Cable Weight	kg / km	47		
Minimum Bending Radius	mm	Without Tension 15 x Cable-Ø		Under Maximum Tension 25 x Cable-Ø
Temperature Range	°C	Installation -15 to +40	Transport & Storage -40 to +70	Operation -40 to +60

Please refer to our General Installation, Safety & Handling recommendations before handling.

## Main characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile strength	IEC 60794-1-2-E1	1000 N (Installation)	$\Delta\alpha$ reversible
Crush	IEC 60794-1-2-E3	500 N / 100mm plate/plate 1 min 1000 N / 100 mm plate/plate 1 min	$\Delta\alpha \leq 0.05$ dB during test, no damage $\Delta\alpha \leq 0.05$ dB after test, no damage
Impact	IEC 60794-1-2-E4	2 Nm, 3 impacts, R= 300 mm	no damage
Repeated Bending	IEC 60794-1-2-E6	R=15xD, 20 N, 100 cycles	no damage
Torsion	IEC 60794-1-2-E7	$\pm 180^\circ$ , L=1m, 10 cycles	no damage
Kink	IEC 60794-1-2-E10	Min diameter=100mm	$\Delta\alpha \leq 0.05$ dB, no damage
Cable Bend	IEC 60794-1-2-E11	D=250mm, 5 turns, 3 cycles, -10°C	$\Delta\alpha \leq 0.05$ dB, no damage
Temperature range	IEC 60794-1-2-F1	-40 to +70°C	$\Delta\alpha \leq 0.15$ dB/km
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water column=1m	no water leakage in 24h

All optical measurements at 1550 nm.

## Optical Characteristics

See the attached cabled optical fibre data sheet for G.657.A1 200µm or G.657.A2 200µm.

## Identification

### Fibre Colours

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

No.	13	14	15	16	17	18	19	20	21	22	23	24
Colour	blue <sup>1</sup>	orange <sup>1</sup>	green <sup>1</sup>	brown <sup>1</sup>	grey <sup>1</sup>	white <sup>1</sup>	red <sup>1</sup>	white <sup>2</sup>	yellow <sup>1</sup>	violet <sup>1</sup>	pink <sup>1</sup>	aqua <sup>1</sup>

<colour><sup>1</sup> with evenly spaced black ring marks

<colour><sup>2</sup> with evenly spaced double black ring marks

### Buffer Tube Colours

No.	1	2	3	4	5	6	7	8
Colour	blue	orange	green	brown	grey	white	red	black

### Sheath Colour:

The outer sheath colour is black. Other colours available under request.

### Sheath Marking:

The outer sheath is marked in 1 meter intervals as follows:

<Optional: Customer name> <Manufacturer> <year of manufacture> <no. and type of fibres>  
<length marking in meters>

## Logistic

### Packing:

Plastic or plywood drums with protection.

### Delivery Length:

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

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