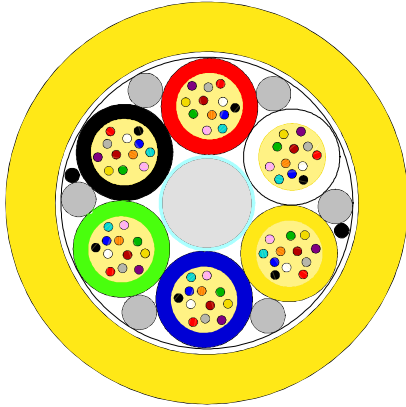


## stranded loose tube mini cables for use in ducts

### Cable Design



- not to scale -

- **Secondary coating:** The fibres are, uniquely identified by a different colour, placed inside 'loose tubes' made of high tensile strength thermoplastic compound.
- **Gel compound:** The tubes are fully filled with a non-toxic and dermatological safe gel compound.
- **Central Strength Member (CSM):** The central element consists of FRP (Fibre Reinforced Plastic), with a water-swellable layer.
- **Cable core:** The required number of tubes (and dummy elements) are stranded (SZ method) around the central element.
- **Strength members:** Under the outer sheath 2 aramid yarns are applied, serving as ripcord and as strengthening yarns
- **Fillers:** between stranded tubes and sheath to improve mechanical characteristics.
- **Outer sheath:** HDPE

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

### Technical data

<b>No. of Fibres</b>		<b>96</b>
<b>Design</b>		<b>8x12</b>
Loose Tube- Ø	mm	1.35
Sheath thickness	mm	0.4
Cable Diameter	mm	5.8
Cable Weight	kg / km	31
Tensile performance	N	500

### Main characteristics

Test	Standard	Specified value	Acceptance Criteria**
Tensile performance	IEC 60794-1-2-E1	See table above	$\Delta\alpha \leq 0.05\text{dB}$
Crush	IEC 60794-1-2-E3	1000N, 100mm plate/plate 5min.	$\Delta\alpha \leq 0.05 \text{ dB}$ , after test, no damage
Impact	IEC 60794-1-2-E4	5 Nm, R=300mm, 3 impacts	No damage
Torsion	IEC 60794-1-2-E7	$\pm 180^\circ$ , L=1m, 10 cycles, 40N	$\Delta\alpha \leq 0.05 \text{ dB}$ , No damage
Kink	IEC 60794-1-2-E10	Min diameter=100mm	$\Delta\alpha \leq 0.05 \text{ dB}$ , no damage
Repeated bending	IEC 60794-1-2-E6	R= 15x cable Ø, 100 cycles, 20N	No damage
Cable bend	IEC 60794-1-2-E11	R= 10x cable Ø, 5 turns, 3 cycles*	$\Delta\alpha \leq 0.05 \text{ dB}$ , No damage
Temperature range	IEC 60794-1-2-F1	-30 to +60°C -40 to +70°C	$\Delta\alpha \leq 0.05 \text{ dB}$ $\Delta\alpha \leq 0.10 \text{ dB}$
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water=1m	No water leakage after 24 hour

\*\* values for single-mode fibres, all optical measurements performed at 1550 nm, \* At room temperature 23°C ± 2°C













Min. bending radius	mm	Without Tension 15 x Cable-Ø	Under Maximum Tension 25 x Cable-Ø
Temperature range	°C	Installation -10 to +40	Transport. & Storage -40 to +70
			Operation -30 to +60

## Optical Characteristics


See the attached cabled optical fibre data sheet C17 for G657A1 or datasheet C24 for G657A2.

## Identification

### Fibre Colours

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Red	White	Yellow	Blue	Green	Violet	Brown	Black	Orange	Turquoise	Pink	Grey
												

### Tube colouring

No.	1	2	3	4	5	6	7	8
Color	Red	White	Yellow	Blue	Green	Black	Brown	Violet
								

### Sheath Marking:

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

**Cogas Kabel 96v Mini-GVK ITU-T G.657.Ax DRAKA(DL)[year] IDno:[12345] - [length]m**

n = Fibre Count

x is 1 or 2

## Logistic

### Packing:

Plastic or Plywood Drums with protection.

### Delivery Lengths:

Standard delivery length is 4km, 6 km with a tolerance of - 1% / + 3%

### Article numbers:

96xG.657A2: 60049

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