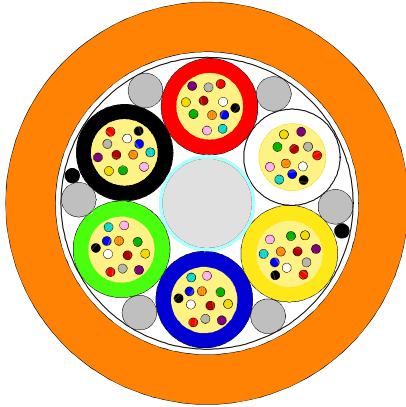


stranded loose tube mini cables for use in ducts

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.
- **Fillers:** between stranded tubes and sheath to improve mechanical characteristics.
- **Outer sheath:** HDPE, with 2 ripcords underneath.

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

Technical data

No. of Fibres		12	24	48	72	96
Design		1 x 12	2 x 12	4 x 12	6 x 12	8x12
Loose Tube- Ø	mm	1.35				
Sheath thickness	mm	0.4				
Cable Diameter	mm	4.9				5.8
Cable Weight	kg / km	22				31
Tensile performance	N	250				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 \pm 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 fibre G.657.A1.

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	Violet	Brown	Black

Sheath Colour

The colour is orange.

Sheath Marking

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

[n]v GVK G.657.A1 DRAKA(DL) - [Prod. Length No.] - [length]m

Where n = fibre count

(DL) = factory code Delfzijl

Logistic

Packing:

Plastic or Plywood Drums with protection.

Delivery Lengths:

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

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