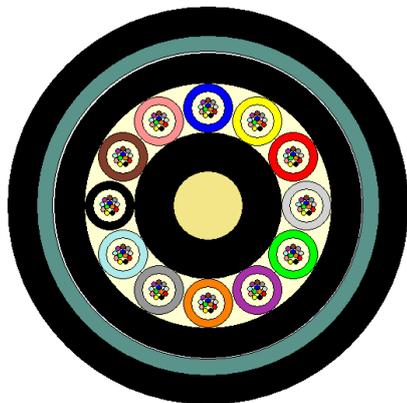


## Optical Fibre Underground Cable

### Cable Design

IEC/EN 60794



- not to scale -

- **Central Strength Member (CSM):** glass fibre reinforced plastic rod (FRP), with plastic oversheathing when needed.
- **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:** the cable core is flooded with filling compound.
- **Inner Sheath:** PE, 2 ripcords beneath.
- **Peripheral Strength Elements:** aramid yarns (if required).
- **Armour:** both sides copolymer coated corrugated steel tape with overlap. Steel thickness: 0.15 mm. 2 ripcords beneath the tape.
- **Outer Sheath:** HDPE with graphite coating.

### Technical data

No. of Fibres		24	48	144
Design		4 x 6	6 x 8	12 x 12
Loose Tube / Filler - Ø	mm		2.5	
CSM - Ø	mm		2.6	3.5
CSM-Oversheathing - Ø	mm		-	7.5
Inner Sheath Thickness	mm		1.5	
Outer Sheath Thickness	mm		1.6	
Cable Diameter	mm		15.8	20.6
Cable Weight	kg / km		235	385
Minimum Bending Radius	mm	Without Tension 15 x Cable-Ø		Under Maximum Tension 20 x Cable-Ø
Temperature Range	°C	Installation -20 to +60	Transport & Storage -20 to +70	Operation -20 to +70

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

### Main characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Max. Installation Tension	IEC 60794-1-2-E1	3000 N	$\Delta\alpha$ reversible, fibre strain $\leq 0.33\%$
Max. Operation Tension	IEC 60794-1-2-E1	1500 N	no fibre strain, $\Delta\alpha \leq 0.05$ dB
Crush	IEC 60794-1-2-E3	2500 N / 100 mm, max. 15 min	$\Delta\alpha \leq 0.05$ dB, no damage
Impact	IEC 60794-1-2-E4	10 Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0.05$ dB after the test
Cable Bend	IEC 60794-1-2-E11	R=20x D, 4 turns, 3 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Temperature Cycling	IEC 60794-1-2-F1	-20°C to +70°C	$\Delta\alpha \leq 0.1$ 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.

## Identification

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### Fibre Colours

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

### Buffer Tube Colours

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

### Filler Elements Colours:

All filler elements are uncoloured (natural).

### Sheath Colour:

The inner and outer sheath colour is black.

### Sheath Marking:

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

<name of manufacturer> <year of manufacture> FIBRE OPTICAL CABLE  
 PROPERTY OF ADWEA/ADDC/AADC – UAE <no. and type of fibre> <length marking in meter>

## Logistic

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### Packing:

Wooden drums with protection.

### Delivery Lengths:

Standard delivery lengths are 2 km, 4 km, 6 km with a tolerance of -1% / +3%

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