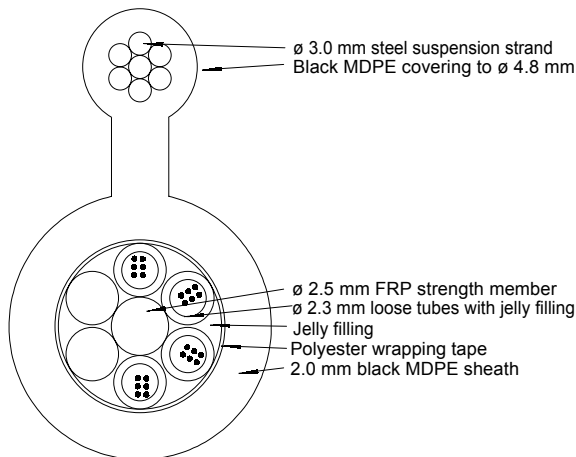




2 - 48 fibres aerial cable for short spans lengths

Self supporting, figure 8 design



GENERAL

This specification covers an optical cable to be used for aerial application.

The cable has 2 - 48 optical fibres. The cables can be used for spans of up to 100 m depending of the loading conditions.

The cable core is fully dielectric for immunity against lightning.

The cable sheathing consists of a 2.0 mm MDPE sheath.

The supporting strand is a 7 x 1.0 mm galvanised steel strand. It is covered with black MDPE.

The cable fulfils the requirements of:

- EN 187 000
- IEC 60794
- ETSI I-ETS 300 229

The physical properties of the cable are given in Table 1.

Table 2 gives the major stringing data for 50m, 80m, and 100m spans.

CABLE CONSTRUCTION

OPTICAL FIBRES

The cable can be supplied with Draka Denmark optical fibre. For optical fibre properties and performance please see the appropriate Fibre Specification.

The fibres are individually coloured for identification. Standard colours are: Red, Green, Blue, Yellow, White Grey, Brown, and Violet. The fibre colours are marking colours according to IEC 304.

CABLE CORE

The cable has a ø 2,5 mm glass fibre rod as central strength member.

The fibres are contained in jelly filled loose tubes. The loose tubes

have a nominal outer diameter of 2.3 mm.

There are 2 - 8 fibres in each of the loose tubes.

6 loose tubes or dummies are stranded around the central strength member.

The cable core is water blocked using jelly.

The jellies for filling of the cables fulfil the requirements of IEC 811-5-1.

A wrapping of non-hydroscopic polyester tape protects the cable core.

SHEATH

The cables have a 2.0 mm thick black MDPE sheath.

The black MDPE contains 2.5 ± 0.5 % carbon black and fulfils the requirements of IEC 811.

**SUSPENSION STRAND**

The suspension strand is a \varnothing 3,0 mm strand in a 7 x 1.0 mm construction.

It is covered with black MDPE to an outer diameter of \varnothing 4.8 mm.

The fin between cable and suspension strand is 3 mm high and 2.5 mm

Table 1: Physical properties

Property	Reference according to IEC 794-1	Reference according to EN 187 000	Value
Nominal outer diameter cable	-	-	11.5 mm
Nominal height of cable	-	-	20 mm
Nominal weight	-	-	220 kg/km
Min. Bending radius	E11	513	R = 230 mm
Tensile strength (dynamic)	E1	501	>10 kN
Tensile strength (permanent)	E1	501	6 kN
Compressive strength (crush)	E3	504	3000N
Impact	E4	505	20 Nm
Temperature range	F1	601	-40°C to +70°C
Water penetration	F5	605	No water on free end
Nominal EA			1300 kN
Coefficient of linear expansion			15 mm/km/°C
Maximum span length			100 m

Table 2: Stringing and loading data

Span [m]	50	80	100
Initial sag (2 % of span length) [m]	1.0	1.6	2.0
Nominal stringing force [kN]	0.5	0.8	1.0
Conditions at an external load of 20 N/m (ice or wind):			
Cable sag [m]	1.8	3.3	4.3
Cable tension [kN]	3.7	5.3	6.2
Cable strain [%]	0.3	0.4	0.5
Fibre strain [%]	0.0	0.0	0.0
Conditions at an external load of 30 N/m (ice or wind):			
Cable sag [m]	2.0	-	-
Cable tension [kN]	4.8	-	-
Cable strain [%]	0.4	-	-
Fibre strain [%]	0.0	-	-
Conditions at an external load of 40 N/m (ice or wind):			
Cable sag [m]	2.2	-	-
Cable tension [kN]	5.9	-	-
Cable strain [%]	0.5	-	-
Fibre strain [%]	0.0	-	-