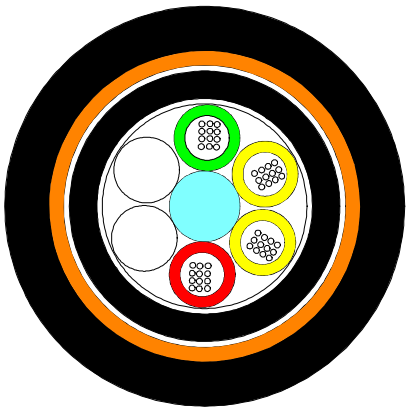
UC$^{FIBRE™}$ ADSS

Round aramid reinforced ADSS cable for intermediate and long spans, 4 – 96 fibres

DIN/VDE A- DF 2Y (ZN) 2Y NO FR DK = O04A



Application and Installation

Telecom trunk and access lines
CATV trunk lines
Data communication connections
The cable may be installed on poles with a span length of from 50 m to 250 m, depending on climatic conditions and the grade

Standards

IEC 60794-3
IEC 60794-3-20
IEC 60794-4
ISO 11801 2nd edition
EN 50173-1: 2002

General

This specification covers a family of optical cables with 4 - 96 fibres for intermediate and long spans. The expected installation conditions for this family of optical cables are the power grid poles of utilities.
The cables are designed with two different grades of reinforcement, thus making the cables suitable for different span lengths and loads.
The cables have a sheathing of weatherproof black polyethylene. The cables can resist high voltage of up to 132 kV by suitable positioning of the cable with regard to the conductors.

Grades, overview

Grade	Cable stiffness; EA	Cable ultimate tensile strength
T-028-1100	1100 kN	>30 kN
T-028-1900	1900 kN	>45 kN

Note: The Draka policy of continuous improvement may cause in changed specifications without prior notice

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Construction

Central strength member	Ø 3.0 mm FRP rod
Loose tube	Ø 2.8 mm loose tubes with 4 – 12 fibres
Water blocking	Jelly filling
Wrapping	Polyester tape
Inner sheath	1.3 mm black HDPE, IEC 60811, IEC 60708
Water blocking of yarn layer	Swelling tape
Reinforcement	High modulus aramid yarns
Outer sheath	1.4 mm black HDPE, IEC 60811, IEC 60708

Physical properties

IEC 60974-1-2

Property	IEC 60794-1	T-028-1100		T-028-1900	
		6 units	8 units	6 units	8 units
Outer diameter of cable	-	16 mm	17.5 mm	16.5 mm	18.5 mm
Nominal weight		200 kg/km	235 kg/km	220 kg/km	255 kg/km
Min. bending radius	E11	320 mm	350 mm	330 mm	370 mm
Coefficient of thermal expansion	-	12 · 10-6	14 · 10-6	6.2 · 10-6	7.9 · 10-6
Tensile strength (permanent)	E1	8.5 kN		14.5 kN	
Tensile strength (dynamic)	E1	13 kN		21 kN	
Cable breaking strength (UTS)	(E1)	>30 kN		>45 kN	
Cable stiffness (EA)	(E1)	1100 kN		1900 kN	
Compressive strength (crush)	E3	3000 N/100 mm			
Impact	E4	25 J			
Torsion	E11	1/m 5 times			
Temperature range	F1	-40°C to +70°C			
Water penetration	F5	No water on free end			

Stringing example for cable type T-028-1100 and 100 m span

External loading For 100 m span And 2% (= 2 m) initial sag	Number of optical units in cable	Initial cable load without external load	Sag with external load	Cable load with external load
25 m/s (90 km/h) wind load	6	1.2 kN	3.1 m	3.1 kN
	8	1.5 kN	3.3 m	3.4 kN
50 m/s (180 km/h) wind load	6	1.2 kN	5.1 m	7.7 kN
	8	1.5 kN	5.2 m	8.3 kN
1 kg/m ice load	6	1.2 kN	3.7 m	4.0 kN
	8	1.5 kN	4.2 m	6.2 kN
2 kg/m ice load	6	1.2 kN	4.5 m	6.1 kN
	8	1.5 kN	4.5 m	6.2 kN
3 kg/m ice load	6	1.2 kN	5.1 m	7.8 kN
	8	1.5 kN	5.1 m	7.9 kN

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*) The dynamic tensile strength may be used as maximum acceptable tension in this case

Stringing example for cable type T-028-1100 and 150 m span

External loading For 150 m span And 2% (= 3 m) initial sag	Number of optical units in cable	Initial cable load without external load	Sag with external load	Cable load with external load
25 m/s (90 km/h) wind load	6	1.8 kN	5.2 m	4.3 kN
	8	2.2 kN	5.3 m	4.7 kN
50 m/s (180 km/h) wind load	6	1.8 kN	8.6 m	10.4 kN *)
	8	2.2 kN	8.8 m	11.1 kN *)
1 kg/m ice load	6	1.8 kN	6.1 m	5.5 kN
	8	2.2 kN	6.0 m	5.7 kN
2 kg/m ice load	6	1.8 kN	7.6 m	8.1 kN
	8	2.2 kN	7.5 m	8.4 kN

Stringing example for cable type T-028-1900 and 150 m span

External loading For 150 m span And 2% (= 3 m) initial sag	Number of optical units in cable	Initial cable load without external load	Sag with external load	Cable load with external load
25 m/s (90 km/h) wind load	6	2.0 kN	4.7 m	5.0 kN
	8	2.4 kN	4.8 m	5.5 kN
50 m/s (180 km/h) wind load	6	2.0 kN	7.4 m	12.4 kN
	8	2.4 kN	7.6 m	13.5 kN
1 kg/m ice load	6	2.0 kN	5.3 m	6.4 kN
	8	2.4 kN	5.3 m	6.6 kN
2 kg/m ice load	6	2.0 kN	6.5 m	9.5 kN
	8	2.4 kN	6.5 m	9.7 kN
3 kg/m ice load	6	2.0 kN	7.4 m	12.2 kN
	8	2.4 kN	7.5 m	12.5 kN

Stringing example for cable type T-028-1900 and 200 m span

External loading For 200 m span And 2% (= 4 m) initial sag	Number of optical units in cable	Initial cable load without external load	Sag with external load	Cable load with external load
25 m/s (90 km/h) wind load	6	2.7 kN	6.6 m	6.3 kN
	8	3.1 kN	6.8 m	6.9 kN
50 m/s (180 km/h) wind load	6	2.7 kN	10.7 m	15.2 kN *)
	8	3.1 kN	11.1 m	16.6 kN *)
1 kg/m ice load	6	2.7 kN	7.6 m	8.0 kN
	8	3.1 kN	7.5 m	8.3 kN
2 kg/m ice load	6	2.7 kN	9.4 m	11.8 kN
	8	3.1 kN	9.3 m	12.0 kN

*) The dynamic tensile strength may be used as maximum acceptable tension in this case

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Stringing example for cable type T-028-1900 and 250 m span

External loading For 250 m span And 2% (= 5 m) initial sag	Number of optical units in cable	Initial cable load without external load	Sag with external load	Cable load with external load
25 m/s (90 km/h) wind load	6	3.4 kN	8.7m	7.5 kN
	8	3.9 kN	8.9 m	8.3 kN
50 m/s (180 km/h) wind load	6	3.4 kN	14.3 m	17.9 kN *)
	8	3.9 kN	14.8 m	19.5 kN *)
1 kg/m ice load	6	3.4 kN	10.0 m	9.5 kN
	8	3.9 kN	9.9 m	9.8 kN
2 kg/m ice load	6	3.4 kN	12.5 m	13.9 kN
	8	3.9 kN	12.3 m	14.3 kN

*) The dynamic tensile strength may be used as maximum acceptable tension in this case

Product codes – ordering information

Item No.	Fibre count	Product code	Fibre type	Fibre data sheet

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