

All-Dielectric Self Supporting (ADSS) Aerial Fibre Optic Cable

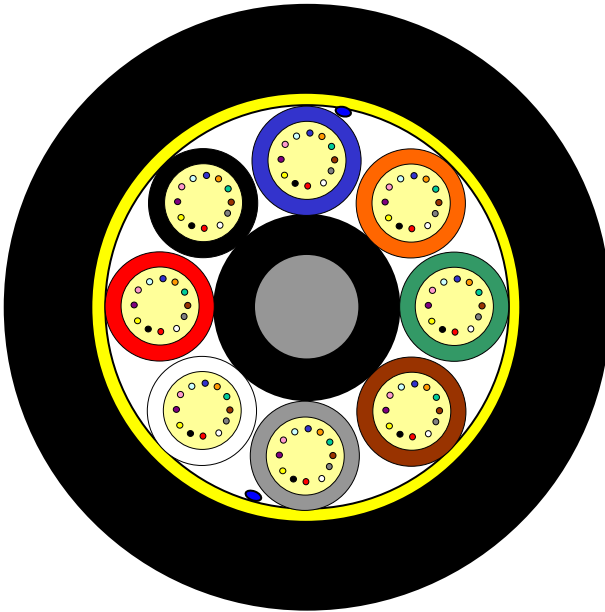
8 Element Dry Core Design



Authorized Licensee of OFS Fiber Optic Cable Technology

PE Aramid Yarn Aerial Short Span Cable

Issue October 2019
according to **Transnet SPC-00573 Rev. 9 (July 2019)**



Design

- Optical Fibres
- Gel-filled Buffer Tubes
- Non-metallic Central Member
- Water Blocking Threads
- Non-metallic Aramid Strength Elements
- 2 Ripcords
- PE-Jacket (1.6 mm min. Thickness)

Benefits

- Outstanding optical performance, durability, and field reliability
- Fast, one-step installation for valuable time and cost savings
- Easily strippable sheath for quick, convenient cable preparation

Version illustrated is the 96 Fibre Cable

Fibre Count	Tubes	Core Design	Outer Diameter [mm]	Approx. Cable Weight [kg/km]	Standard Length [m]
96	8 (12F)	1+8 (0 Filler*)	14.8 ± 0.4	170	>2050 / >4050

This table shows nominal diameter and weight values which may differ in shipments.

Identification

Tube and Fibre Colour Code :

1	Blue	2	Orange	3	Green	4	Brown	5	Grey	6	White
7	Red	8	Black	9	Yellow	10	Violet	11	Rose	12	Aqua

Sheath Marking (Inkjet):

TRANSNET FREIGHT RAIL AAA BBBB CCCCC OFC/DD/ S2/3 HHHH

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Mechanical Properties and Environmental Behaviour

Tests according to IEC 60794-1-21 and -1-22

	Parameter	Requirement	Value
Tensile Performance: IEC 60794-1-21-E1	Short term load	- Max. fibre strain 0.05% - No changes in attenuation before versus after load*	Load: 3000 N
Crush Performance: IEC 60794-1-21-E3A	Short term load (60s)	- No attenuation increase >0.1 dB at any time - No damage**	Load (Plate / Plate): 2000 N
Bending Performance: IEC 60794-1-21-E11	Handling fixed installed	- No attenuation increase* - No damage	Bend Diameter: 12 x D <i>D is cable diameter</i>
Torsion Performance: IEC 60794-1-21-E7	5 cycles +/- 180°	- No attenuation increase* - No damage	Length: 1000 mm
Impact Performance: IEC 60794-1-21-E7	2 times per spot 3 spots 100 mm apart	- No attenuation increase* - No damage	D=25 mm 1 kg from 100 mm height
Water Penetration IEC 60794-1-22-F2B	1 m height of water column, dyed Water	- No water visible at end	3 m sample, 24 hours
Creeping Test: IEC 60794-1-21-F1B	10 days, dyed Water	- No slippage in clamps - No Fibre strain - Cable elongation <0.1%	Load (N) = (1000 + T(installation))/2
Drip Test Performance: IEC 60794-1-22-F14	65°C for 1 hour 65°C	- No dripping of tube gel - No slippage of jacket	1 m sample Load: 3000 N
Temperatures: IEC 60794-1-22-F1	Operation Installation Storage/Shipping	- No attenuation increase >0.10 dB at any time from mean	- 5 to +70°C + 0 to +40°C -20 to +70°C

*No changes in attenuation means that any changes in measurement value, either positive or negative within the uncertainty of measurement shall be ignored. The total uncertainty of measurement shall be less than or equal to 0.05 dB.

**Mechanical damage – when examined visually without magnification, there shall be no evidence of damage to the fibres and cable elements. The imprint of plates or impact hammer will not be considered as damage of the cable jacket.

The information is believed to be accurate at time of issue.

DFS reserves the right to improve, enhance and modify the features and specifications of DFS products without prior notification.

Please ensure you have the latest version of the data sheet.

This data sheet is property of DFS.

For additional information please contact your sales representative.

You can also visit our website at <http://www.dartcom.co.za>.

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Sag and Tension Calculation

PowerGuide® CLGA 8pos

Loading Conditions

Ice Thickness	0 mm
Wind Pressure	684 N/m ² (120 km/h)
Temperature	0 °C
Safety Factor	0 N/m

Tension @ Maximum Span for 1,5 % Installation Sag

Short Term	324 kg
Long Term	207 kg

Maximum Span	70.1 m (230 ft)
Cable Weight	170 kg/km
Cable Diameter	14.8 mm
Installation Temperature	20 °C
Cable Modulus	282.5 kg/mm ²
LEC	0,00002188 1/°C
Breaking Load	725 kg

Further Cable Information

Fibre refractive index at 1310 nm: 1.467
Fibre refractive index at 1550 nm: 1.468
Fibre Overlength: >2.0 %

Installation Tension (normal condition): 2030 N
Installation Tension (Worst Case condition): 3178 N
Minimum installation bending radius: 222 mm
Maximum cable strain for zero fibre strain: 0.3 %
Ultimate tensile strength of the cable: 7112 N

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Sag Information

No Loading @ Install Temperature 68 F

Span ft	Sag ft	Install Sag %	Tension lb
25	0.2	0.70	50
50	0.3	0.70	99
75	0.5	0.70	149
100	0.7	0.70	198
125	0.9	0.70	248
150	1.0	0.70	298
175	1.2	0.70	347
200	1.4	0.70	397
225	1.6	0.70	447
230	1.6	0.70	457

All Loading Conditions @ Temperature 32 F

Vertical Sag % of Span	Tension lb	Vertical Sag ft	Horizontal Sag ft	Angle Deg
0.2	147	0.1	0.4	81
0.3	233	0.1	0.9	81
0.3	311	0.3	1.6	81
0.4	381	0.4	2.3	81
0.4	450	0.5	3.0	81
0.4	515	0.6	3.8	81
0.4	579	0.7	4.6	81
0.4	641	0.9	5.4	81
0.4	702	1.0	6.2	81
0.4	714	1.0	6.4	81

The recommended maximum space potential at ADSS attachment point is 12 kV

Dead End Assembly:

MOSDORFER Dead-End: AS01-FDES-0560, Max. Tension: 2,500 lbs. (1,134 kg)
PLP Dead-End: 2872007C1E1, Max. Tension: 2,500 lbs. (1135 kg)

Fixed Tangent Support (Line Angle Changes <= 20 deg & Spans <= 600 ft (183 m))

MOSDORFER: Support Clamp: FOSC 0625
PLP: Dielectric block: 44009798
PLP: Aluminum Support: 4450102

Suspended Support (Line Angle Changes <= 20 deg & Spans <= 600 ft (183 m))

PLP: Aluminum Suspension: 4450202-S

Low Tension / Short Span Hardware:

MOSDORFER: Light Tension DE: FOLT1415-CTO, Max. Tension: 800 lbs. (362 kg)
PLP: Lite Tension DE: 2875005C1N, Max. Tension: 800 lbs. (362 kg)
PLP: Lite Support: 4800116, Max. Span 300 ft (91 m)
PLP: PGTH Dead End: Not Available

Slack Storage Devices: Not recommended for TR cables

PLP Fiberlign® CLAS Storage System w/cable guide: 710012375U

Heliformed Suspension Units (Line angle changes <= 30 degrees):

PLP: 43009945YC :Spans 1200ft to 2000ft (365m to 610m)
PLP: 4470202-S Aluminum Suspension with SRR rods, Max Span: 1200 ft (365m)

Vibration Dampers, see Application Note 812 for recommendations:

MOSDORFER Vibration Dampers: SVD0564
PLP Vibration Dampers: 50509862

Down Lead Cushion & Abrasion Protector:

PLP: 8003043, Add "H1" - Wood Attachment Kit & "LTC1" - Lattice Clamp Kit
PLP Abrasion Protector: PTG-0203 Length: 6 ft

Corona coils not required

PLP: Sized to fit appropriate hardware, part numbers available upon request