zion communication

ADSS
Optical Fiber Cable

Specializing in designing, manufacturing cables
and providing customized services for our customers

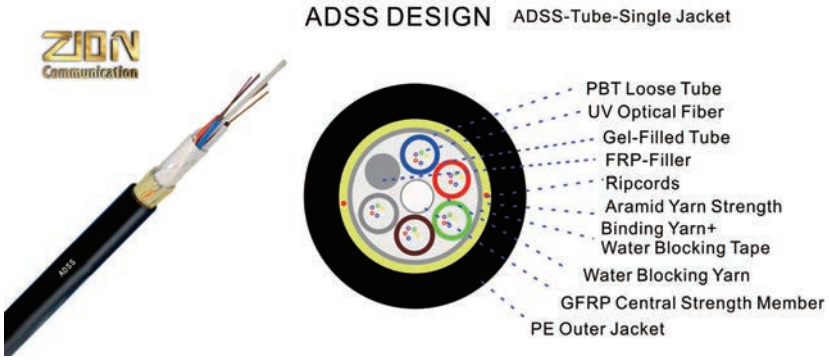
ADSS All Dielectric Self-supporting Aerial Optical Cable

Introduction:

All-dielectric self-supporting (ADSS) cable is a type of optical fiber cable that is strong enough to support itself between structures without using conductive metal elements. It is used by electrical utility companies as a communications medium, installed along existing overhead transmission lines and often sharing the same support structures as the electrical conductors.Design different specifications according to span, voltage level and tensile force(MAT)
No metal wires are used in an ADSS cable. Optical fibers are either supported in loose buffer tubes or arranged in a ribbon configuration. To prevent strain on the fibers, most types provide the fibers with excess slack length compared to the length of the supporting member.

For longer spans, the most common design gets its strength from aramid fiber yarns, which are coated to prevent water wicking. The aramid yarn strength member surrounds a core made up of multiple buffer tubes, each containing multiple fibers, all surrounding a plastic core. The outer sheath provides protection from water and sunlight.

Cross Section:



Product Series:

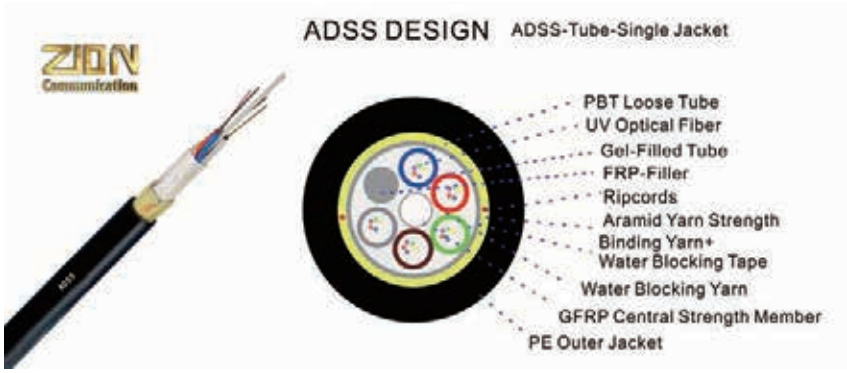
SPAN 80M	ADSS-6	9.5mmHDPE	MAT=1850N
	ADSS-12	9.5mmHDPE	MAT=1850N
	ADSS-24	9.5mmHDPE	MAT=1850N
	ADSS-48	9.5mmHDPE	MAT=1850N
	ADSS-96	11.4mmHDPE	MAT=1850N
SPAN 120M	ADSS-6	10.0mmHDPE	MAT=1850N
	ADSS-12	10.0mmHDPE	MAT=2950N
	ADSS-24	10.0mmHDPE	MAT=2950N
	ADSS-48	10.0mmHDPE	MAT=2950N
	ADSS-96	12.5mmHDPE	MAT=2950N

ADSS-SS ADSS Single Sheath Span 80m to 150m All Dielectric Self-supporting Aerial Fiber Optic Cable

Introduction:

All-dielectric self-supporting (ADSS) cable is a type of optical fiber cable that is strong enough to support itself between structures without using conductive metal elements. It is used by electrical utility companies as a communications medium, installed along existing overhead transmission lines and often sharing the same support structures as the electrical conductors.Design different specifications according to span, voltage level and tensile force(MAT)

Cross Section:



Structure Description:

1. Loose Tube: Thermoplastic material,containing optical fibres and filled with gel.
2. Filler Elements: Thermoplastic rods.
3. Central Strength Member(CSM):Glass fibre reinforced plasticrod (GFRP), Coated with polyethylene when needed.
4. Longitudinal Water Blocking Material:Water blocking tape.
5. Peripheral Strength Member: Aramid yarn.
6. Ripcord
7. Outer Sheath: Black polyethylene.

Features and Applications:

√ High tensile strength

√ All dielectric structure and semi-dry core design

√ Small diameter and light weight

√ Self-supporting aerial installation

Optical Characteristics:

		G.652.D	G.655	50/125um	62.5/125um
Attenuation	@850nm	-	-	≤3.0 dB/km	≤3.0 dB/km
	@1300nm	-	-	≤1.0 dB/km	≤1.0 dB/km
	@1310nm	≤0.36 dB/km	≤0.40 dB/km	-	-
	@1550nm	≤0.22 dB/km	≤0.23 dB/km	-	-
Bandwidth	@850nm	-	-	≥500 MHz · km	≥200 MHz · km
	@1300nm	-	-	≥1000 MHz · km	≥600 MHz · km
Polarization mode dispersion	Individual fibre	≤0.20 ps/√km	≤0.20 ps/√km	-	-
	Design link value (M=20,Q=0.01%)	≤0.10 ps/√km	≤0.10 ps/√km	-	-

Technical Data:

Item	Contents	Fibers					
	Fiber Count	6|12|24	48	72	96	144	288
Loose Tube	Tubes* Fbres/Tube	1x6 | 2x6 4x6	6x 8 4x12	6x12	8x12	12x12	24x12
	Outer diameter (mm)	1.8	2.0	2.5	2.5	2.5	2.5
	Adjustable (OEM)	1.5|2.0	1.8|2.3	2.1|2.3	2.1|2.3	2.1|2.3	2.1|2.3
Central strength member	Material	Glass Fbre Reinforced Plasticrod (GFRP)					
	Diameter (mm)	2.0	2.0	2.5	2.8	3.7	2.6
	Adjustable (OEM)	1.8|2.3	1.8|2.3	2.5	2.8	3.7	2.6
	PE coated diameter (mm)	No			4.2	7.4	4.8
Water Blocking	Material	Water blocking tape					
Peripheral Strength	Material	Aramid Yarn					
Outer Sheath	Thickness (mm)	1.8mm(1.5-2.0mm OEM)					
Cable diameter(mm)Approx.		9.5	9.5|10	12.2	13.9	17.1	20.2
Cable diameter(mm) Adjustable (OEM)		8.0|8.5|9.0	10.5|11.0				
Operating temperature range(℃)		From -40~+70					
Max. span (m)		50m | 80m | 100m | 120m | 150m					
Climate condition		No Ice,25m/s Max Wind Speed					
MAT		Design according to customer requirements					

√ Other structure and fibre count are also available according to customer requirements.

√ Cable diameter and weight in this table is typical value, which will fluctuate according to different designs

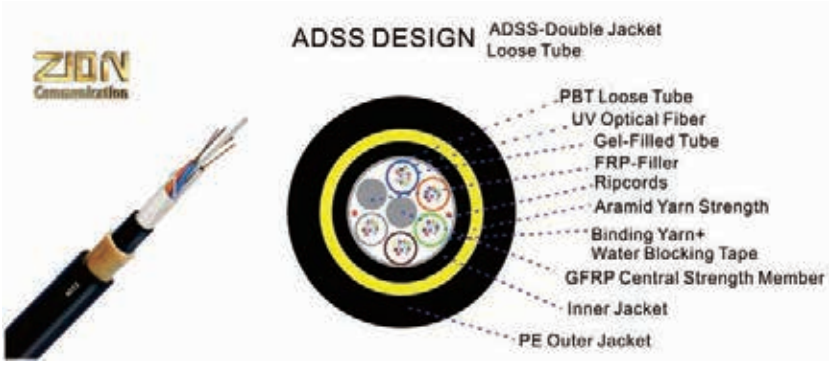
√ The span needs to be recalculated due to other climate conditions according to the installation area.

ADSS-DS ADSS Double Sheath Span 200m to 400m All Dielectric Self-supporting Aerial Fiber Optic Cable

Introduction:

All-dielectric self-supporting (ADSS) cable is a type of optical fiber cable that is strong enough to support itself between structures without using conductive metal elements. It is used by electrical utility companies as a communications medium, installed along existing overhead transmission lines and often sharing the same support structures as the electrical conductors.Design different specifications according to span, voltage level and tensile force(MAT)

Cross Section:



Structure Description:

1. Loose Tube: Thermoplastic material,containing optical fibres and filled with gel.
2. Filler Elements: Thermoplastic rods.
3. Central Strength Member(CSM):Glass fibre reinforced plasticrod (GFRP), Coated with polyethylene when needed.
4. Longitudinal Water Blocking Material:Water blocking tape.
5. Peripheral Strength Member: Aramid yarn.
6. Ripcord
7. Inner and Outer Sheath: Black Polyethylene.

Features and Applications:

√ High tensile strength

√ All dielectric structure and semi-dry core design

√ Self-supporting aerial installation

Optical Characteristics:

		G.652.D	G.655	50/125um	62.5/125um
Attenuation	@850nm	-	-	≤3.0 dB/km	≤3.0 dB/km
	@1300nm	-	-	≤1.0 dB/km	≤1.0 dB/km
	@1310nm	≤0.36 dB/km	≤0.40 dB/km	-	-
	@1550nm	≤0.22 dB/km	≤0.23 dB/km	-	-
Bandwidth	@850nm	-	-	≥500 MHz · km	≥200 MHz · km
	@1300nm	-	-	≥1000 MHz · km	≥600 MHz · km
Polarization mode dispersion	Individual fibre	≤0.20 ps/√km	≤0.20 ps/√km	-	-
	Design link value (M=20,Q=0.01%)	≤0.10 ps/√km	≤0.10 ps/√km	-	-

Technical Data:

Item	Contents	Fibers					
	Fiber Count	6|12	24	48	72	96	144
Loose Tube	Tubes* Fbres/Tube	1x6 | 2x6	4x6	6x 8 4x12	6x12	8x12	12x12
	Outer diameter (mm)	1.8	1.8	2	2.5	2.5	2.5
	Adjustable (OEM)	1.5|2.0	1.5|2.0	1.8|2.3	2.1|2.3	2.1|2.3	2.1|2.3
Central strength member	Material	Glass Fbre Reinforced Plasticrod (GFRP)					
	Diameter (mm)	2.0	2.0	2.0	2.5	2.8	3.7
	Adjustable (OEM)	1.8|2.3	1.8|2.3	1.8|2.3	2.5	2.8	3.7
	PE coated diameter (mm)	No				4.2	7.4
Water Blocking	Material	Water blocking tape					
Peripheral Strength	Material	Aramid Yarn					
Innter Sheath	Thickness (mm)	1.0mm					
Outer Sheath	Thickness (mm)	1.8mm(1.5-2.0mm OEM)					
Cable diameter(mm)Approx.		12.6	12.6	13.2	14	15.3	18
Cable diameter(mm) Adjustable (OEM)							
Operating temperature range(℃)		From -40~+70					
Max. span (m)		150m | 200m | 250m | 300m | 400m					
Climate condition		No Ice,25m/s Max Wind Speed					
MAT		Design according to customer requirements					

√ Other structure and fibre count are also available according to customer requirements.

√ Cable diameter and weight in this table is typical value, which will fluctuate according to different designs

√ The span needs to be recalculated due to other climate conditions according to the installation area.

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