

# TECHNICAL SPECIFICATION

## All-Dielectric Self-Supporting Fiber Cable




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<b>Version</b>	<b>Date</b>	<b>Prepared</b>	<b>Reviewed</b>	<b>Approved</b>

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## 1. Application / Construction

Identification	ADSS-PE-12/24/48/144G.652D-span 250m		
Application	All-Dielectric Self-Supporting Fiber Cable		
Cross Section (not to scale)	12/24/48/144 fibers 		
Configuration	<ul style="list-style-type: none"> <li>- Loose tubes with 12 optical fibers, filled with thixotropic compound</li> <li>- Stranded loose tubes</li> <li>- Central strength member made of fibre reinforced plastic (FRP)</li> <li>- Cable strand: dry, with water blocking yarns and water blocking tape</li> <li>- Aramid yarns</li> <li>- Outer sheath: HDPE, UV proof, black, 2 ripcords under outer sheath</li> </ul>		
Temperature Range	Storage and transport -40 to +70°C	Installation -10 to +50°C	Operation -40 to +70°C
Standards / ISO	IEC 60793-1, IEC 60793-2, IEC 60794-4-20, ITU-T G.652, EIA-TIA 598 / ISO9001, ISO14001		
Customer Reference	Common standard		

## 2. Dimensions

Number of fibres		12	24	48	144
Loose tubes x fibres		2x6	4x6	4x12	8x12
Loose tubes/ filler		2/4	4/2	4/2	8/0
Outer diameter (± 5%)	mm	10.9			15.8
Weight/km (± 15%)	kg	98			190

Sizes and values without tolerances are nominal values, sheath thickness not consider ripcord portion  
 Suitable for space induction voltage ≤12kv, line voltage ≤110kv

## 3. Mechanical Properties

Max. tensile load	12/24/48:3900N 144:6600N	
Installation SAG	1.4%	
Crush resistance / 10 cm	2200N	
Min. Bending radius	20x cable-Ø(installation), 10x cable-Ø(operation)	

Remark: Climate condition Max wind speed: 25m/s; Max ice thickness:0mm  
 See Point 6: Test Method

## 4. Marking

Fiber Colors	1	2	3	4	5	6	7	8	9	10	11	12
	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua
Tube Colors	1	2	3	4	5	6	7	8	9	10	11	12
	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua

**ZTT    OPTICAL CABLE    ADSS-PE-24G.652D    <batch ID>    <meter marking >**

## 5. Optical Fiber

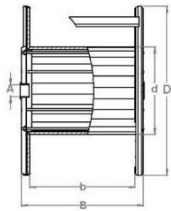
Standard	ITU-T G.652D ZTT-ALF®		
Optical	Fibre attenuation .. cabled	@ 1310 nm ≤0.36 dB/km	@ 1550 nm ≤0.22 dB/km
	Mode field diameter (MFD)	@1310nm 9.2 ± 0.4 μm	
	Zero dispersion wavelength	1300~1324 nm	
	Zero dispersion slope	≤0.092 ps/nm <sup>2</sup> ·km	
	Polarisation mode dispersion (PMD)	≤0.2 ps/√km	
	Cut-off wavelength	≤1260 nm	
	Macro bending loss .. 100 turns Ø50 mm	@1550 nm ≤0.05 dB	@1625 nm ≤0.10 dB
Geometric	Cladding diameter	125 ± 1.0 μm	
	Core/clad concentricity error	≤0.6 μm	
	Cladding non-circularity	≤1.0 %	
Mechanical	Proof stress	≥0.69 Gpa	

## 6. Test Methods

Test	Conditions	Acceptance criteria
Tensile strength IEC 60794-1-2 E1	Tensile load: see Point 3 Sample length: ≥ 50 m, 1 min	- Δα reversible - No damage
Crush resistance IEC 60794-1-2 E3	Crush: see Point 3 Test duration: 1 min, number of tests: 3	- Δα reversible - No damage
Impact IEC 60794-1-2 E4	Impact energy: 5 J; R = 300 mm Impact points: 5; Impact number: 1	- Δα reversible - No damage
Repeated bending IEC 60794-1-2 E6	Bending radius: 20D Cycles: 25 cycles	- Δα reversible - No damage
Torsion IEC 60794-1-2 E7	Sample length: 2 m; Angles: ± 180° Cycles: 5 cycles	- Δα reversible - No damage
Bend IEC 60794-1-2 E11A	Mandrel radius: 20D; Turn number: 4 Cycles: 3 cycles	- Δα reversible - No damage
Temperature cycling IEC 60794-1-2 F1	Steps: -40°C~+70°C Time per each step: 12 hours,Cycles: 2	- Δα ≤ 0.15 dB/km
Water penetration IEC 60794-1-2 F5	Sample length: 3 m Water column height: 1 m, Duration: 24 h	- No water leakage from the core

All optical measurements at 1550 nm

## 7. Logistics

Cable type	Length ±3%	4km/reel	
ADSS-PE-12/24/48G.652D	Drum type Dimensions Weight(± 15%)	Wooden 125*50*75 (474 kg)	
ADSS-PE-144G.652D	Drum type Dimensions Weight(± 15%)	Wooden 175*70*75 (931 kg)	

D\*d\*B in(± 5)cm

Dimensions including protection. Indicative values, actually delivered drum sizes and weights may deviate. Cable ends sealed with caps