

20.01.2020

Product Datasheet №0325-011564-29

fiber optic cable

DPT-E-48U (2x24)-13kN

Benefits:



All-dielectric design

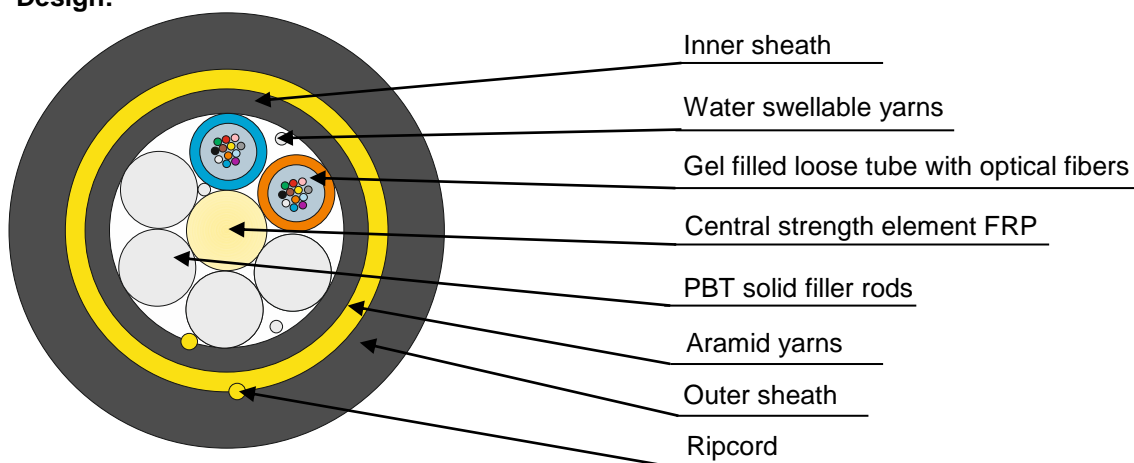


UV-resistant

Application:

As all-dielectric self-supporting (ADSS) cable for aerial installation between buildings and constructions, or for cabling in ducts, tunnels, on bridges and overpasses, up to 50 ft inside buildings, and construction sites.

Design:



Cable consists of stranded core with central strength element (FRP), gel filled loose tubes with optical fibers and PBT solid filler rods (natural color). Stranded core is fixed by water swellable yarns. Inner sheath is made of LDPE. Aramid yarns are laid over inner sheath. Outer sheath is made of tracking-resistant PE. One ripcord is laid under each sheath. Meets IEEE 1222-2011.

Optical fibers and loose tubes color identification:

№	Color (Fibers/Tubes)	№	Color (Fibers)
1	Blue	13	Blue + 1 ring
2	Orange	14	Orange + 1 ring
3	Green	15	Green + 1 ring
4	Brown	16	Brown + 1 ring
5	Gray	17	Gray + 1 ring
6	White	18	White + 1 ring
7	Red	19	Red + 1 ring
8	Black	20	Natural+ 1 ring
9	Yellow	21	Yellow + 1 ring
10	Violet	22	Violet + 1 ring
11	Pink	23	Pink + 1 ring
12	Turquoise	24	Turquoise+ 1 ring

Other colors upon request.

Cable marking example:

Marking is made on each meter of the cable.

Fiber optic cable	= INCAB =	DPT	E	48U (2x24)	13 kN	2020	= 0001 m =
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Marking description:

INCAB – company name;

DPT – type of the cable;

E – outer sheath material (tracking-resistant PE);

48 – number of optical fibers;

U – type of optical fibers (single-mode fiber according to the ITU-T Recommendation G.652D+G.657.A1);

2 – number of loose tubes;

24 – number of optical fibers per loose tube;

13 kN – maximum allowed tensile strength;

2020 – year of production;

0001 m – meter marking.

Additional information in cable marking upon request. Marking can also be in feet.

Design details:

Number of optical fibers in cable	48
Number of loose tubes	2
Number of optical fibers per loose tube	24
Number of PBT fillers	4
Loose tube diameter, mm (in.)	3.0 (0.118)
Inner sheath thickness, mm (in.)	1.0 (0.039)
Outer sheath thickness, mm (in.)	2.25 (0.089)
Cable diameter, mm (in.)	16.1 (0.634) ±0.2 (0.008)
Cable weight, kg/km (lb/ft)	208.2 (0.14)

Maximum rated design tension strength, kN (lb) (MRDT = MRCL)	13.0 (2923)
Maximum installation tension (for stringing), kN (lb)	3.25 (731)
Rated breaking strength, kN (lb)	25.18 (5662)
Initial modulus of elasticity, kN/ mm ² (ksi)	7.75 (1124)
Final modulus of elasticity, kN/ mm ² (ksi)	8.37 (1214)
10-year modulus of elasticity, kN/ mm ² (ksi)	5.425 (787)
Cross section, mm ² (in ²)	203.0 (0.3)
Coefficient of thermal expansion, 10 ⁻⁶ , 1/°C (1/°F)	7.57 (4.2)

Other design upon request.

Optical fiber:

Fiber type	«U»
Fiber brand	Corning
ITU-T Recommendation	SMF 28 ULTRA
	G.652D + G.657.A1
Dimensional Specifications	
Core-Clad Concentricity	0,5 µm
Cladding Diameter	125±0.7 µm
Cladding Non-Circularity	0.7 %
Coating Diameter	242±5 µm

Additional information about optical fibers can be found on our web site at www.incabamerica.com

Transmission specifications:

Fiber brand	Corning SMF 28®ULTRA
Attenuation in the cable (dB/km):	
1310 nm wavelength	0.32
1550 nm wavelength (Typical* / Max.)	0.19 / 0.20

* Typical attenuation is the real level of optical attenuation of at the least 90% fibers after cabling.

Operating parameters:

Operating temperature	-40°C...+70°C (-40°F...+158°F)
Installation temperature	-30°C...+50°C (-22°F...+122°F)
Transportation and storage temperature	-60°C...+70°C (-76°F...+158°F)
Minimum bending radius of the cable	15 x diameters of cable
Life time	25 years (per fiber supplier)
Potential	25 kV

Cable parameters:

Parameter	Nominal value	Evaluation criterion
Tensile strength (IEC 60794-1-21 method E1)	13 kN	- $\Delta\alpha^* \leq 0.05$ dB - no damage
Crush (IEC 60794-1-21 method E3)	0.3 kN/cm	
Repeated bending (IEC 60794-1-21 method E6)	20 cycles, bending radius $\pm 90^\circ$	
Torsion (IEC 60794-1-21 method E7)	- 10 cycles - torsion angle $\pm 360^\circ$ length 4 m	
Impact (IEC 60794-1-21 method E4 plate radius of 300 mm)	Impact energy 30 J	No water on end of the cable
Water penetration (IEC 60794-1-22 method F5C)	Sample length: 3 m Testing time: 24 hours	
Temperature cycling** (IEC 60794-1-22 method F1)	- temperature range from -40 to 70 °C - 2 cycles - cycle period ≥ 16 hours	$\Delta\alpha^* \leq 0.05$ dB/km
Compound flow (IEC 60794-1-21 method E14)	at 70 °C	No dripped compound

* - attenuation increasing at standard wavelengths.

** - other temperature range upon request.

Packing and marking:

Cables are supplied on non-returnable wooden reels. Drum diameter is not less than 40 diameters of the cable. Not less than 2 m of the inside end of the cable is fixed to the reel flange. The ends of the cable are protected with waterproof covers.

The label on the reel flange contains our trademark, type of the cable, production date, cable length, and gross weight.

The following information is printed on the reel flange: reel number, notice “do not lay on side”, allowed rotation direction.

Our cable passport shows: the type of the cable, technical standard number, cable length, fiber type, colors of the fibers, distribution of the fibers in the loose tubes, colors of the loose tubes, attenuation for each fiber, refractive index of the fiber, fiber manufacturer, and production date.

The passport is fixed to the inner flange in a plastic bag.

Additional information can be included on the passport upon request.

Order information:

Design	Part number	Optical fiber color identification
DPT-P-48U (2x24)-13kN	0325-77687-29	FC00038