**Incab America LLC**
640 107th Street
Arlington, TX 76011
+1-833-34-INCAB
+1-833-344-6222
sales@incabamerica.com
www.incabamerica.com

Jul-03-2020

# Product Datasheet
## fiber optic cable DOTa-P-3kN

## Order information

| Design | Part number |
|---|---|
| DOTa-P-12U (1x12)-3kN | 0039-84070-14 |
| DOTa-P-24U (2x12)-3kN | 0039-84071-14 |
| DOTa-P-48U (4x12)-3kN | 0039-84072-14 |
| DOTa-P-72U (6x12)-3kN | 0039-84073-14 |
| DOTa-P-96U (8x12)-3kN | 0039-84074-14 |
| DOTa-P-144U (12x12)-3kN | 0039-84075-14 |

Other fiber counts available upon request

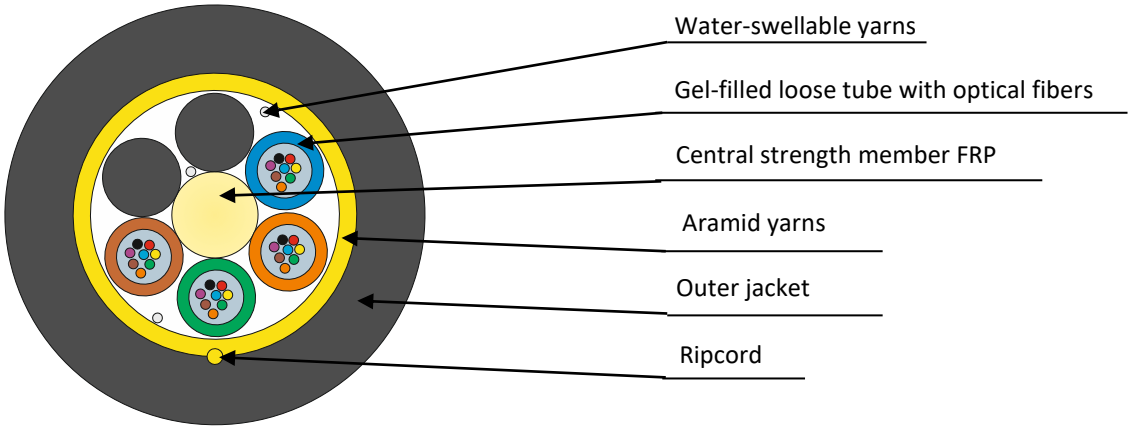
## Application and features

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

All-dielectric design

UV-resistant

## Design




Cable consists of stranded core with central strength member (FRP), gel-filled loose tubes with optical fibers and PE fillers. Stranded core is fixed by water-swellable yarns. Aramid yarns are laid over stranded core. Outer jacket is made of MDPE. Ripcord is laid under outer jacket. Meets IEEE 1222-2011.

**Optical fibers and loose tubes color identification:**

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

Other colors upon request

## Cable marking example

Marking is made on each foot of cable

| Fiber optic cable | = INCAB = | DOTa | P | 48 | U | ( 4 x 12 ) | 3 kN | 2020 | = 0001 ft = |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

| | | | |
|---|---|---|---|
| 1 | Company name | 6 | Number of loose tubes |
| 2 | Cable type | 7 | Fibers per loose tube |
| 3 | Outer jacket material | 8 | Maximum rated design tension |
| 4 | Fiber count | 9 | Year of production |
| 5 | Fiber type | 10 | Foot marking |

Additional information upon request. Marking can also be in meters

## Design details

| | | | | |
|---|---|---|---|---|
| Fiber count | | 12 – 72 | 96 | 144 |
| Number of loose tubes | | 6 | 8 | 12 |
| Fibers per loose tube | | 12 | | |
| Loose tube diameter | mm (in) | 2.0 (0.079) | | |
| Outer jacket thickness | mm (in) | 1.6 (0.063) | | |
| Cable diameter ± 0.2 (0.008) | mm (in) | 9.6 (0.378) | 10.9 (0.429) | 13.7 (0.539) |
| Cable weight | kg/km (lb/ft) | 96.5 (0.065) | 86.4 (0.058) | 132.4 (0.089) |
| Maximum rated design tension | kN (lb) | 3.0 (675) | | |
| Installation tension (for stringing) | kN (lb) | 0.75 (169) | | |
| Rated breaking strength (RBS) | kN (lb) | 7.73 (1738) | 7.51 (1689) | 7.84 (1763) |
| Modulus of elasticity, initial | kN/ $mm^2$ (ksi) | 6.65 (965) | 5.02 (728) | 3.34 (484) |
| Modulus of elasticity, final | kN/$mm^2$ (ksi) | 7.18 (1042) | 5.42 (786) | 3.6 (523) |
| Modulus of elasticity, creep | kN/$mm^2$ (ksi) | 4.65 (675) | 3.51 (510) | 2.33 (339) |
| Cable cross-sectional area | $mm^2$ ($in^2$) | 72.7 (0.113) | 93.4 (0.145) | 146.5 (0.227) |
| Coefficient of thermal expansion, $10^{-6}$ | 1/°C (1/°F) | 11.02 (6.12) | 13.21 (7.34) | 18.29 (10.16) |

Other design upon request

## Optical fiber

| | |
|---|---|
| Fiber type | **«U»** |
| Fiber brand | Corning SMF 28®ULTRA |
| ITU-T Recommendation | 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 |
| Transmission Specifications | |
| 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 least 90% fibers after cabling

Additional information about optical fiber at www.incabamerica.com

## Operating parameters

| | | |
|---|---|---|
| Operation temperature | -50°C…+70°C | -58°F…+158°F |
| Installation temperature | -30°C…+50°C | -22°F…+122°F |
| Transportation and storage temperature | -50°C…+70°C | -58°F…+158°F |
| Minimum bending radius | 15 x cable diameter | |
| Life time | 25 years (per fiber supplier) | |

## Cable parameters

| Parameter | Nominal value | Evaluation criterion |
|---|---|---|
| Tensile strength<br>(IEC 60794-1-21 method E1) | 3 kN | - Δα* ≤ 0.05 dB<br>- no damage |
| Crush<br>(IEC 60794-1-21 method E3) | 0.3 kN/cm | |
| Repeated bending<br>(IEC 60794-1-21 method E6) | 20 cycles, bending radius ±90° | |
| Torsion<br>(IEC 60794-1-21 method E7) | - 10 cycles<br>- torsion angle ±360° length 4 m | |
| Impact<br>(IEC 60794-1-21 method E4) | Impact energy 5 J | |
| Water penetration<br>(IEC 60794-1-22 method F5C) | Sample length: 3 m<br>Testing time: 24 hours | No water at the cable end |
| Temperature cycling**<br>(IEC 60794-1-22 method F1) | - temperature range from -50°C to 70°C<br>- 3 cycles<br>- cycle period ≥16 hours | Δα ≤ 0.05 dB/km |
| Compound flow<br>(IEC 60794-1-21 method E14) | at 70°C | No dripped compound |

* - attenuation increasing at standard wavelengths

## Safety standards compliance

| | |
|---|---|
| RoHS: 2011/65/EU; 2015/863/EU | ”Restriction on the use of certain Hazardous Substances” |
| REACH: 1907/2006/EU | “Registration, Evaluation, Authorisation and Restrictions of Chemicals” |

** - other temperature range upon request

## Reel packing and marking

Cables are supplied on non-returnable wooden reels. Reel diameter is not less than 40 diameters of the cable. Not less than 2 m of inside end of the cable is fixed to the reel flange. The cable ends are sealed with waterproof covers.
The label on the outer reel flange contains our trademark, cable type, customer's name and PO, reel number, production date, cable length, cable weight net/gross.
The following information is printed on the reel flange: manufacturer's name and website, rotation direction, cable end indication, shipping and handling summary, labels "Fragile" and "Handle with care".
Our cable passport shows: cable type, technical standard number, cable length, fiber type, fiber coloring, fibers per tube, tube identification coloring, final attenuation for all fibers, refractive index of the fiber, fiber manufacturer and production date.
Cable passport is affixed to the inner flange in a plastic bag. Additional information can be included on the passport upon request.