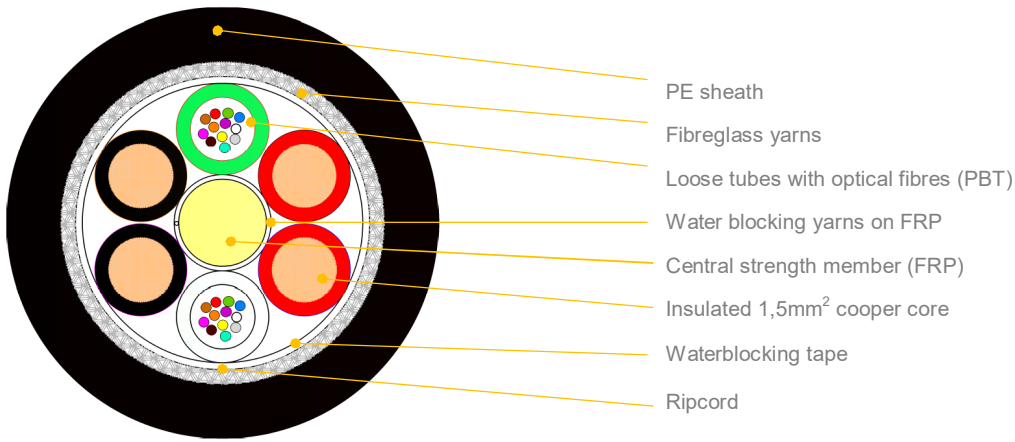


Basic duct cable with multitube structure and copper conductors reinforced with fiberglass yarns - BDC-CIP



*schematic drawing, not to scale

APPLICATION:

For installation into existing duct or directly buried
Good resistance to traction and compression

STRUCTURE AND COMPOSITION:

FRP strength and anti-buckling element
Insulated cooper cores 1,5mm² (Ø 2.2mm)
Loose tubes with filling compound (PBT Ø 2.2mm)
Tape and dry yarns to prevent moisture into the cable
Fiberglass yarns as strain relief elements
UV stabilized PE outer sheath
Other outer sheaths materials available

CABLE DESIGNS:

Variant	Quantity [pcs]				Ø nominal (±5%) [mm]	Nominal weight (±10%) [kg/km]	Max allowed tension [N]	Max static tension [N]
	Fibres	Fibres per tube	Total elements	Active tubes				
1T x 4F + 2 x 1,5mm ²	4	4	6	1	10,7	127	2700	1300
1T x 4F + 3 x 1,5mm ²	4	4	6	1	10,7	149	2700	1300
1T x 4F + 4 x 1,5mm ²	4	4	6	1	10,7	170	2700	1300
1T x 4F + 5 x 1,5mm ²	4	4	6	1	10,7	192	2700	1300
-								
1T x 12F + 2 x 1,5mm ²	12	12	6	1	10,7	127	2700	1300
1T x 12F + 3 x 1,5mm ²	12	12	6	1	10,7	149	2700	1300
1T x 12F + 4 x 1,5mm ²	12	12	6	1	10,7	170	2700	1300
1T x 12F + 5 x 1,5mm ²	12	12	6	1	10,7	192	2700	1300
-								
2T x 12F + 1 x 1,5mm ²	24	12	6	2	10,7	107	2700	1300
2T x 12F + 2 x 1,5mm ²	24	12	6	2	10,7	128	2700	1300
2T x 12F + 3 x 1,5mm ²	24	12	6	2	10,7	150	2700	1300
2T x 12F + 4 x 1,5mm ²	24	12	6	2	10,7	171	2700	1300
-								
3T x 12F + 1 x 1,5mm ²	36	12	6	3	10,7	108	2700	1300
3T x 12F + 2 x 1,5mm ²	36	12	6	3	10,7	129	2700	1300
3T x 12F + 3 x 1,5mm ²	36	12	6	3	10,7	151	2700	1300
-								
4T x 12F + 1 x 1,5mm ²	48	12	6	4	10,7	109	2700	1300
4T x 12F + 2 x 1,5mm ²	48	12	6	4	10,7	130	2700	1300
-								
5T x 12F + 1 x 1,5mm ²	60	12	6	5	10,7	110	2700	1300
-								
1T x 12F + 7 x 1,5mm ²	12	12	8	1	12,1	253	2700	1300
1T x 12F + 6 x 1,5mm ²	12	12	8	1	12,1	231	2700	1300
2T x 12F + 5 x 1,5mm ²	12	12	8	1	12,1	211	2700	1300
2T x 12F + 6 x 1,5mm ²	24	12	8	2	12,1	232	2700	1300
3T x 12F + 4 x 1,5mm ²	36	12	8	3	12,1	190	2700	1300
3T x 12F + 5 x 1,5mm ²	36	12	8	3	12,1	212	2700	1300
4T x 12F + 3 x 1,5mm ²	48	12	8	4	12,1	170	2700	1300
4T x 12F + 4 x 1,5mm ²	48	12	8	4	12,1	191	2700	1300

Other fibre counts available on demand. Cooper wires colours to consult.

The information is believed to be correct at the time of issue. Fibrain reserves the right to change this specification without prior notice. This specification is not contractually valid unless specifically authorised by Fibrain. Buyer and/or user of this product has to make sure before using this product that it is suitable for the intended use. All questions of liability relating to this product are subject – in accordance with the prevailing – to the Terms of Sale of the selling Fibrain subsidiary.

Type:	BDC-CIP T22	REV: 2.2
Issued:	25/02/2015	PB
Modified:	10/10/2016	MM

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Crush performance:	2700 [N/10 cm]	IEC 60794-1-2-E3, $\Delta\alpha\leq 0,05$ dB
Bending radius:	Static: 15 x D Dynamic: 20 x D	IEC 60794-1-2-E11, $\Delta\alpha\leq 0,05$ dB
Water penetration:	3m sample, 1m head, 24h	IEC 60794-1-2-F5, no leakage
Temperature range:	Installation: -15... +55 [°C] Operation: -40... +70 [°C] Transport & Storage: -40... +70 [°C]	IEC 60794-1-2-F1, $\Delta\alpha\leq 0,05$ dB/km

The customer (as a system designer) is responsible for selection of the amount, and a cross section of copper wires suitable for his needs in such a way that the current load does not result in exceeding the maximum allowed fibre operating temperature (+ 70 ° C) or permissible operating temperature of insulated conductors.

TECHNICAL COOPER WIRE CHARACTERISTICS

Max DC resistance	12,3 Ω /km@20°C
Electric strength	3400 V DC/1 minute
Current carrying capacity	7A
Operating voltage	65V AC/DC
Conductor material	Bare copper
Conductor cross section	1,5mm ²
Insulated conductor dia.	2,2mm
Insulation material	PVC

OPTICAL FIBRES AND LOOSE TUBES COLOUR IDENTIFICATION

Fibres and tubes identification information see **DSH_Colors_CODE_XXXX** document.

FIBRES PARAMETERS

Optical fibres parameters see **DSH_OFP** document.

MARKING

The following print (white / hot foil) is applied at 1-meter intervals:

- Supplier: FIBRAIN
- Standard code (Product type, fibre type, fibre count)
- Year of manufacture: xxxx
- Length marking in meters
- Cable ID / Drum No

Example:

FIBRAIN BDC-CIP T22 24F SM G652D 2T12F + 4x1,5CU AC/DC 65 V MAX " YEAR OF MANUFACTURE" "LASER SYMBOL" "LENGTH MARKING" "BATCH NUMBER"

The accuracy of marking is $\pm 0,5\%$. Remarking is in accordance with Bellcore GR 20 and supersedes earlier markings. Occasional loss of marking is possible. Cables can be supplied with a range of single mode or multimode fibres and customized print.

PACKING

Cables will be shipped on disposable wooden or treated wooden drums. Both ends of the cable will be capped and accessible for testing. Rotation direction arrow will be marked on the drum together with identification information.

DELIVERY LENGTH

2000 – 8000 meters $\pm 5\%$, with possibility of supplying up to 5% of total contract quantity as short length cables which should be above 1000 meters long. Tolerance of 5 % of order quantity shall be allowed.

