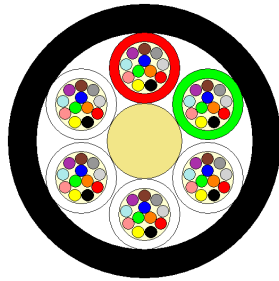


Micro Duct Cable – SZ stranded, Nano, Loose Tube

Cable Design

Acc. to IEC 60794-5

Micro Duct Loose Tube Fiber Optic Cable - Dry Core - Single Sheath



- **Central Strength Member (CSM):** glass fiber reinforced plastic rod (FRP).
- **Loose Tube:** thermoplastic material, containing up to 12 fibers and filled with a suitable water tightness compound.
- **Filler Elements:** thermoplastic rods, where needed.
- **Stranding:** loose tubes (and fillers), SZ stranded around the CSM.
- **Longitudinal Water Tightness:** dry core with water swellable elements.
- **1 Ripcord.**
- **Outer Sheath:** HDPE

- not to scale -

Configuration

No. of Fibers		12	24	36	48	72	96	144
Design		6x12					8x12	6x24
Loose Tube / Filler - Ø	mm	1.5					1.5	2.2
CSM – Ø	mm	1.6					2.0	1.8
CSM-Oversheathing - Ø	mm	-					2.6	2.4
Outer Sheath Thickness	mm	0.6					0.6	0.6
Cable Diameter	mm	6.0 (max)					7.2 (max)	8.1 (max)
Cable Weight	kg / km	30					40	50

Application

Temperature Range	Transportation & Storage: - 40 to + 70 °C	Minimum Bending Radius	
	Installation: - 30 to + 60 °C		Under Maximum Tension: 20 x Cable-Ø
	Operation: - 30 to + 70 °C		Without Tension: 10 x Cable-Ø













Main Mechanical and Environmental Characteristics













Test	Test Standard	Specified Value	Acceptance Criteria
Max. Installation Tension	IEC 60794-1-2-E1	700 N – 1000 N (96) – 900 N (144)	$\Delta\alpha$ reversible, fiber strain $\leq 0.5\%$
Max. Operation Tension	IEC 60794-1-2-E1	130 N – 130 N (96) – 250 N (144)	no fiber strain, $\Delta\alpha \leq 0.05$ dB
Crush	IEC 60794-1-2-E3	700 N / 100 mm, max. 15 min	$\Delta\alpha \leq 0.05$ dB, no damage
Impact	IEC 60794-1-2-E4	1 Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0.05$ dB after the test
Torsion	IEC 60794-1-2-E7	100N, +/- 180°, 10 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20x D, 100N, 35 cycles	no damage
Cable Bend	IEC 60794-1-2-E11	R=20x D, 4 turns, 3 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Temperature Cycling	IEC 60794-1-2-F1	-15 °C to +60 °C -30 °C to +70 °C	$\Delta\alpha \leq 0.05$ dB/km $\Delta\alpha \leq 0.10$ dB/km
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water column=1m	no water leakage in 24h

All optical measurements at 1550 nm.









Identification and Packing

Fiber Colors (acc. to EN187105)

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	blue	yellow	red	white	green	violet	orange	grey	aqua	black	brown	pink
												

No.	13	14	15	16	17	18	19	20	21	22	23	24
Color	blue ¹	yellow ¹	red ¹	white ¹	green ¹	orange ¹	aqua ¹	pink ¹	natural ¹	blue ²	yellow ²	red ²
												
	<color> ¹ with black ring marks in 50mm intervals						<color> ² with black ring marks in 25mm intervals					

Buffer Tube Colors (acc. to EN187105 – alternative tube identification)

Tube	1	2	3	4	5	6	7	8
Color	red	green	white	white	white	white	white	white
								

(tubes 7 and 8 for 96 FO Micro Duct Cable)

Filler Elements Colors:

All filler elements are uncolored (natural).

Sheath Color:

The outer sheath color is black.

Sheath Marking:

The outer sheath is marked in 1 meter intervals as follows:

DRAKA <year of manufacture> <number x SMF> <length marking in meter>

Packing:

Plastic or plywood drums with protection.

Delivery Lengths:

Standard delivery lengths are 2 km, 4 km, 6 km with a tolerance of - 1% / + 3%