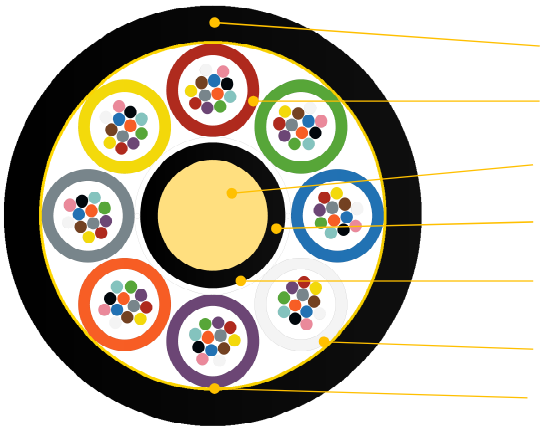
FIBRAIN® metrojet

MetroJET microduct cabling air-blowing

Type:	Metrojet MK-LXS7	REV: 1.9
Issued:	30/04/2021	KP
Modified:	04/03/2024	NJ

MetroJET MK-LXS7 - Multi loose tube microcable (up to 96F)



*Schematic drawing, not to scale

APPLICATION

Microduct cabling air-blowing system application
Metro networks
Flexible network design
Distribution network

DESIGN

HDPE, UV stabilized outer jacket with low coefficient of friction
SZ stranded cable core
Gelly filled loose tubes with up to 12 optical fibres
Dummy fillers – if applicable
Water-blocking binder yarns
Ripcord – two pieces on opposite sides
Smallest outer diameter for blowing into 8mm (ID) ducts

VARIANTS

Variant	Quantity [pcs]			Ø nominal (±5%)	Nominal weight (±10%)
	Fibres	Fibres per tube	Total elements	[mm]	[kg/km]
1-8T x 4F	4-32	4	8	6.2	28
1-8T x 6F	6-48	6	8	6.2	28
1-8T x 8F	8-64	8	8	6.2	29
1-8T x 10F	10-80	10	8	6.2	30
1-8T x 12F	12-96	12	8	6.2	31

Suggested Duct - Ø (min)	16/12mm, 14/12mm, 12/10mm, 14/10mm, 12/8mm, 10/8mm				
Temperature Range	Transport & Storage:	- 40 to + 70℃		**Minimum Bending Radius**	
	Installation:	- 15 to + 55℃		Under Maximum Tension:	15 x cable Ø
	Operation:	- 40 to + 60℃		Without Tension:	10 x cable Ø

TECHNICAL AND ENVIRONMENTAL CABLE CHARACTERISTICS

Test	Standard	Conditions	Requirements*
Tensile strength	IEC60794-1-21 Method E1	**Max allowed tension:** 1200 N	$\Delta\varepsilon_f \leq$ 0.33 %, $\Delta\alpha$ reversible No significant damage to fibre unit
		Max operating tension: 350N	$\Delta\varepsilon_f \leq$ 0.05 %, $\Delta\alpha \leq$ 0.05 dB/km No significant damage to fibre unit
Crush	IEC 60794–1–21 Method E3	**Load:** 1000 N / 100 mm **Time:** 1min	$\Delta\alpha$ reversible, No significant damage to fibre unit
Impact	IEC 60794–1–21 Method E4	**Impact energy**: 5J **Radius**: 300 mm **No. of impacts**: 3 (500mm apart)	$\Delta\alpha$ reversible, No jacket cracking and fibre breakage
Torsion	IEC 60794–1–21 Method E7	**Cable length to be twisted:** 2m **No. of cycles:** 10 **Twist angle:** ±180°	$\Delta\alpha \leq$ 0.05 dB/km, No jacket cracking and fibre breakage
Repeated bending	IEC 60794–1–21 Method E6	**Radius:** 10 x OD	No jacket cracking and fibre breakage
Cable bend	IEC 60794–1–21 Method E11	**Mandrel radius:** 15 x OD **No. of turns:** 4 **No. of cycles:** 3	$\Delta\alpha \leq$ 0.05 dB/km, No jacket cracking and fibre breakage

Temperature Cycling	IEC 60794–1–22 Method F1	**1st cycle:** +23 ℃ → -30 ℃(Ta1) → +60 ℃(Tb1) → -40 ℃(Ta2) → +70 ℃(Tb2) **2nd cycle:** -30 ℃(Ta1) → -40 ℃(Ta2) → +60 ℃(Tb1) → +70 ℃(Tb2) → +23 ℃ Soak time: 8 h	For TA2 and TB2 Δα ≤ 0,05 dB/km For TA1 and TB1 Δα ≤ 0,05 dB/km
Water penetration	IEC 60794–1–22 Method F5B	**Water head:** 1 m **Sample length**: 3 m **Time:** 24 hrs	No water leakage

(*) values for single-mode fibres, all optical measurements performed at @1550nm

OPTICAL FIBRE AND LOOSE TUBES COLOUR IDENTIFICATION

For optical fibres and loose tube identification information please see DSH_Colors_CODE_XXXX document.

FIBRE PARAMETERS

For selected post-production optical fibres parameters please see DSH_OFP document.

MARKING

The following print (inkjet / laser or other suitable printing method) 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 METROJET MK-LXS7 96F SM G657A1 8T12F "YEAR OF MANUFACTURE" "LASER SYMBOL" "LENGTH MARKING" "BATCH NUMBER"

The accuracy of marking is ±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 are shipped on disposable wooden or treated wooden drums. Both ends of the cable are capped and at least one is accessible for testing. Identification information is placed on a drum. Typical spool length is 2000 – 8000 meters ± 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.

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