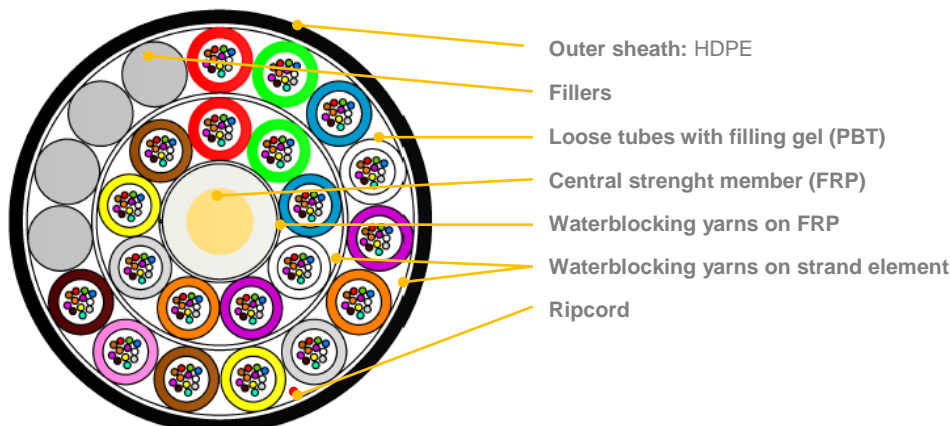


Type:	Metrojet MK-LX11	REV: 2
Issued:	06/10/2014	SK
Modified:	13/11/2014	SK

MetroJET MK-LX11 multi loose tube microcable (up to 288F)



- Outer sheath: HDPE
- Fillers
- Loose tubes with filling gel (PBT)
- Central strenght member (FRP)
- Waterblocking yarns on FRP
- Waterblocking yarns on strand element
- Ripcord

*not in scale

APPLICATION:

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

STRUCTURE AND COMPOSITION:

HDPE, UV resistance external jacket with low friction
 Loose tubes (and fillers), SZ stranded around the CSM
 Each PBT tubes containing 12 optical fibers
 Smallest outer diameter for blowing into 14/12mm ducts

CONSTRUCTION:

Version	Qty					Ø nominal [+0,2mm] [mm]	Nominal weight (+/-10%) [kg/km]
	Fibers	Fibers per tube	Total elements	Active tubes	Fillers		
20T x 12F	240	12	24	20	4	10.5	85
22T x 12F	264	12	24	22	2	10.5	86
24T x 12F	288	12	24	24	0	10.5	87
*	*Other fiber counts are also available on demand						

APPLICATION:

Suggested Duct - Ø (min)	mm	16/12mm, 14/12mm	
Temperature Range	Transport & Storage:	- 40 to + 70°C	Minimum bending radius
	Installation:	- 5 to + 55°C	Under maximum tension:
	Operation:	- 30 to + 60°C	Without tension:
			20 x cable Ø
			10 x cable Ø

MAIN MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS (according to IEC 60794-5 and EN 187000)

Test	Test Standard	Specified Value	Requirement*
Max. installation tension	IEC 60794-1-2-E1	900 N	$\Delta\alpha$ reversible, fiber strain $\leq 0.5\%$
Max. operation tension	IEC 60794-1-2-E1	350 N	no fiber strain, $\Delta\alpha \leq 0.05$ dB
Crush	IEC 60794-1-2-E3	1000 N / 100 mm, max. 15 min	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	10 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, 24h	no water leakage

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

OPTICAL FIBER AND LOOSE TUBES COLOR IDENTIFICATION

The colors of identifications see on **DSH_Colors_CODE_XXXX**

FIBER PARAMETERS

The value of characteristic fibers parameters see on **DSH_OFF**

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MARKING

The following printing (white hot foil indentation) is applied at 1-meter intervals.

- Supplier: FIBRAIN
- Standard Code (product type, fiber count, fiber type,), other sales name, jacket type
- Year of manufacture: xxxx
- Length marking in meters
- Cable ID / Drum No

Example: METROJET MK-LX11 240F SM G652D 20T12F "YEAR OF MANUFACTURE" "LASER SYMBOL" "LENGTH MARKING" "BATCH NUMBER"

The accuracy of marking is $\pm 1.0\%$. Occasional loss of printing and remarking is in accordance with Bellcore GR 20 and supersedes earlier markings. Cables can be supplied with a range of single mode or multimode fibers, alternative sheath materials (e.g. MDPE/LSZH) and customized printing.

DRUMS & PACKING

The cables will be shipped on metal or treated wooden drums, with protective battens around the circumference. The inner and outer ends of the cable will be capped and made accessible for testing. A direction of rotation arrow is marked on the drum together with the identification information.

Delivery Length: 1000, 2000, 4000 meters $\pm 5\%$, with an allowance of supplying a maximum of 5% of the total contract quantity as short length cable which should be above 1000 meters length. Tolerance of 5 % of on Order Quantity shall be allowed.

Important notice

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 Term of Sale of the selling Fibrain subsidiary.