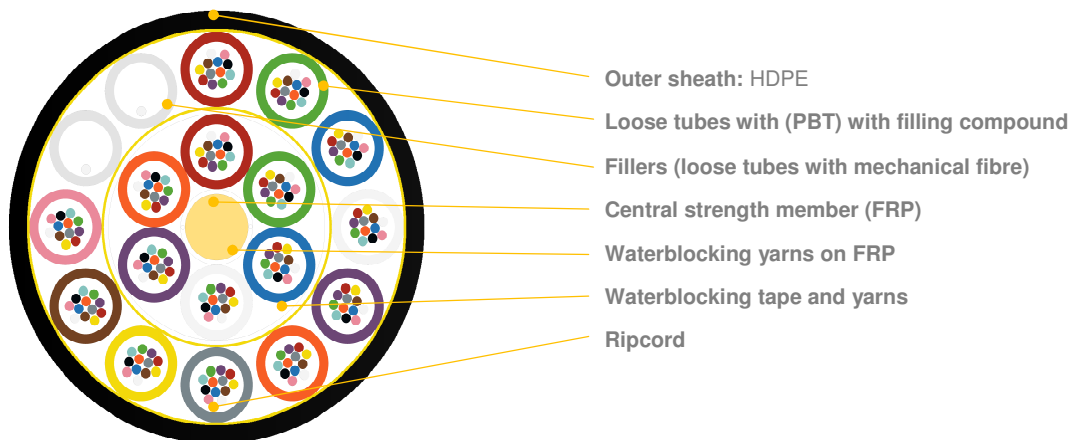


Type:	Metrojet MK-LXS9	REV: 1.6
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**MetroJET MK-LXS9 Multi Loose Tube microcable (up to 216F)**



\*schematic drawing, not to scale

**APPLICATION:**

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

**DESIGN:**

HDPE, UV stabilized external jacket with low friction coefficient  
 Loose tubes (and fillers), SZ stranded around the FRP  
 PBT tubes containing up to 12 optical fibres  
 Smallest outer diameter for blowing into 14/12mm ducts

**CONFIGURATION:**

Version	Quantity [pcs]					Ø nominal [±0,2mm] [mm]	Nominal weight (±10%) [kg/km]
	Fibres	Fibres per tube	Total elements	Active tubes	Fillers		
14T x 12F	168	12	18	14	4	8.7	53
16T x 12F	192	12	18	16	2	8.7	54
18T x 12F	216	12	18	18	0	8.7	55
*	*Other fibre counts are also available on demand						

**APPLICATION:**

<b>Suggested Duct - Ø (min)</b>	mm	16/12mm, 14/12mm	
<b>Temperature Range</b>	Transport & Storage:	- 40 to + 70°C	<b>Minimum Bending Radius</b>
	Installation:	- 15 to + 55°C	Under Maximum Tension: 20 x cable Ø
	Operation:	- 30 to + 60°C	Without Tension: 10 x cable Ø

**MAIN MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS**

Test	Test Standard	Specified Value	Requirement
Max allowed tension	IEC 60794-1-21 Method E1	650 N	$\Delta\epsilon_r \leq 0.33\%$ , $\Delta\alpha$ reversible No significant damage to fibre unit
Max operating tension		200 N	$\Delta\epsilon_r \leq 0.05\%$ , $\Delta\alpha \leq 0.05$ dB/km No significant damage to fibre unit
Crush	IEC 60794-1-21 Method E3	<b>Load:</b> 500 N / 100 mm, max. 15 min	$\Delta\alpha$ reversible, No significant damage to fibre unit
Impact	IEC 60794-1-21 Method E4	<b>Impact energy:</b> 5Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0.05$ dB/km after the test No jacket cracking and fibre breakage
Torsion	IEC 60794-1-21 Method E7	<b>Cable length to be twisted:</b> 2m <b>No. of cycles:</b> 10 <b>Twist angle:</b> $\pm 180^\circ$	$\Delta\alpha \leq 0.05$ dB/km, No jacket cracking and fibre breakage
Repeated bending	IEC 60794-1-21 Method E6	<b>Sheave Radius:</b> 20 x OD / 100N / 35 cycles	No jacket cracking and fibre breakage
Cable bend	IEC 60794-1-21 Method E11	<b>Mandrel radius:</b> 20 x OD / 4 turns / 3 cycles	$\Delta\alpha \leq 0.05$ dB/km, No jacket cracking and fibre breakage

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Temperature cycling	IEC 60794-1-22 Method F1	<b>1st cycle:</b> +23 °C → -30 °C(Ta1) → +60 °C(Tb1) → -40 °C(Ta2) → +70 °C(Tb2) <b>2nd cycle:</b> -30 °C(Ta1) → -40 °C(Ta2) → +60 °C(Tb1) → +70 °C(Tb2) → +23 °C Soak time: 8 h	For TA2 and TB2 $\Delta\alpha \leq 0,1$ dB/km For TA1 and TB1 $\Delta\alpha \leq 0,05$ dB/km
Water penetration	IEC 60794-1-22 Method F5B	<b>Water head:</b> 1 m <b>Sample length:</b> 3 m <b>Time:</b> 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 method) is applied at 1-meter intervals

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

Example: FIBRAIN METROJET MK-LXS9 192F SM G652D 16T12F "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. Identification information label will be placed on the drum.

### 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.

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