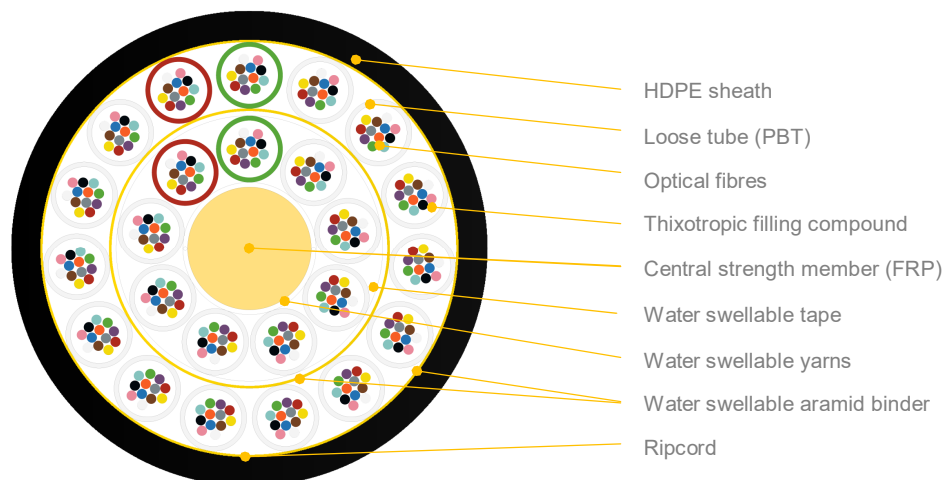


Type:	Metrojet MK-LXS11	REV: 1.2
Issued:	29/07/2015	PB
Modified:	10/11/2015	

## MetroJET MK-LXS10 loose tube microcable



\*schematic drawing, not to scale

### DESIGN:

- FRP strength and anti-buckling element
- Dry yarns to prevent moisture ingress into the cable
- SZ stranded cable core
- Loose tubes (PBT Ø 1,4mm) with thixotropic filling compound and ITU-T G.652D optical fibres
- PBT fillers (loose tubes with mechanical fibre - when applicable)
- Water-swellaable aramid binder
- Polyester ripcord
- UV stabilized black HDPE sheath

Variant	Quantity [pcs]				Ø nominal (±3%)	Nominal weight (±5%)	Max allowed tension	Max static tension
	Fibres	Fibres per tube	Total elements	Active tubes				
	[mm]	[kg/km]	[N] / ε=0,33%	[N] / ε=0,05%				
24T x 12F	288	12	24	24	9,3	72	1000	250

### 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\_OFFP** document.

### MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Temperature range:

Installation:	-15... +60 [°C]
Operation:	-30... +70 [°C]
Transport & Storage:	-40... +70 [°C]

Cable bending radius:

- 12 x cable diameter (during operation)
- 20 x cable diameter (during installation)

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Test	Specification	Method	Requirements
Tensile strength	IEC60794-1-21 Method E1	<b>Sustained load:</b> 250N	$\Delta\epsilon_f = 0.05\%$ $\Delta\alpha \leq 0.05\text{dB @ } 1550\text{nm}$ (after test) No significant damage to fibre unit
		<b>Extended load:</b> 1000N or $\Delta\epsilon_f = 0.33\%$	$\Delta\epsilon_f < 0.33\%$ (during test) $\Delta\epsilon_f \leq 0.05\%$ (after test) $\Delta\alpha \leq 0.05\text{dB @ } 1550\text{nm}$ (after test) No significant damage to fibre unit
Crush resistance	IEC60794-1-21 Method E3	<b>Load:</b> 500 N / 10 cm	$\Delta\alpha \leq 0.1\text{dB @ } 1550\text{nm}$ (after test) No jacket cracking and fibre breakage
Impact resistance	IEC60794-1-21 Method E4	<b>Impact energy:</b> 2J	$\Delta\alpha \leq 0.1\text{dB @ } 1550\text{nm}$ (after test) No jacket cracking and fibre breakage
Torsion	IEC60794-1-21 Method E7	<b>Cable length to be twisted:</b> 2m <b>No. of cycles:</b> 10 <b>Twist angle:</b> $\pm 180^\circ$	$\Delta\alpha \leq 0.1\text{dB @ } 1550\text{nm}$ (after test) No jacket cracking and fibre breakage
Bending	IEC60794-1-21 Method E11	<b>Mandrel radius:</b> 20 x OD / 4 turns / 3 cycles	$\Delta\alpha \leq 0.1\text{dB @ } 1550\text{nm}$ (after test) No jacket cracking and fibre breakage
Repeated bending	IEC60794-1-21 Method E6	<b>Sheave Radius:</b> 20 x OD	$\Delta\alpha \leq 0.1\text{dB @ } 1550\text{nm}$ (after test) No jacket cracking and fibre breakage
Water penetration	IEC 60794-1-22 Method F5B	<b>Water head:</b> 1m <b>Sample length:</b> 3m <b>Time:</b> 24 hrs	No water leakage

### MARKING

The following print (white / ink jet) is applied at 1-meter intervals:

**Example:** METROJET MK-LXS10 288F SM G652D 24T12F "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.