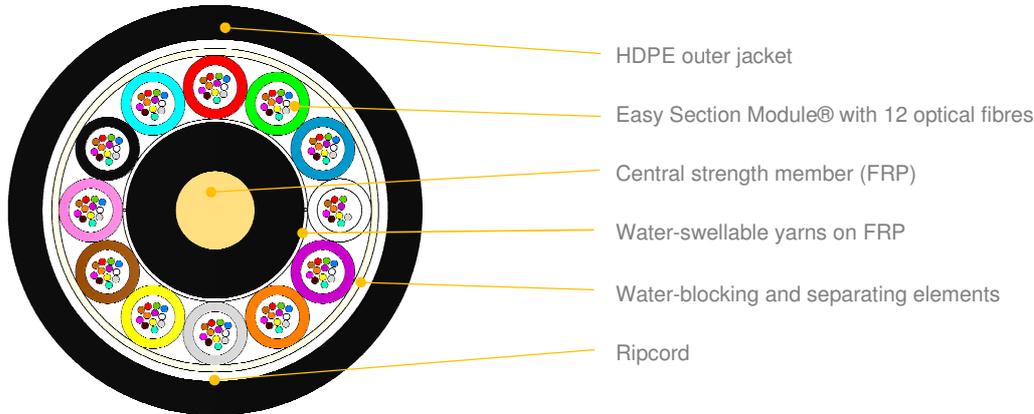


Single HDPE jacket ESM™ module microcable with aramid yarns and FRP rod reinforcement MK-FM8 PE



*Schematic drawing, not to scale

DESIGN

HDPE, UV stabilized outer jacket with low coefficient of friction
 SZ stranded cable core
 Easy Section Modules with 12 fibres each
 FRP central rod
 Dry cable core - water-blocking tape and/or yarns
 Ripcord – two pieces on opposite sides
 Fillers (if applicable) – micromodules with mechanical fibres, all fillers are coloured according to the last colour in the colour code sequence.

VARIANTS

Variant	Quantity [pcs]				Ø nominal (±5%) [mm]	Nominal weight (±10%) [kg/km]
	Fibres	Fibres per tube	Total elements	Active tubes		
12T x 12F	144	12	12	12	7,9	61

APPLICATION

Temperature range	Transport & Storage:	- 40 to + 70 °C	Minimum Bending Radius		
	Installation:	- 15 to + 60 °C		Under maximum tension:	20 x cable Ø
	Operation:	- 30 to + 70 °C		Without tension:	15 x cable Ø

TECHNICAL AND ENVIRONMENTAL CABLE CHARACTERISTICS

Test	Standard	Conditions	Requirements*
Tensile strength	IEC60794-1-21 Method E1	Max allowed tension	1500N $\epsilon_r \leq 0.33\%$, $\Delta\alpha$ reversible
			2500N $\epsilon_r \leq 0.6\%$, $\Delta\alpha$ reversible
		Max operating tension 250N	$\epsilon_r \leq 0.05\%$, $\Delta\alpha \leq 0.05$ dB/km
Crush	IEC60794-1-21 Method E3	Load: 400N / 100mm, max.5 min	$\Delta\alpha \leq 0.1$ dB, no significant damage
Impact	IEC60794-1-21 Method E4	Impact energy: 5J Radius: 300mm No. of impacts: 3 (500mm apart)	$\Delta\alpha \leq 0.1$ dB, no significant damage
Torsion	IEC60794-1-21 Method E7	No. of cycles: 10 Twist angle: $\pm 180^\circ$ Load: 50N	$\Delta\alpha \leq 0.1$ dB, no significant damage
Repeated bending	IEC60794-1-21 Method E6	Radius: 15xD Load: 40N No. of cycles: 35	$\Delta\alpha \leq 0.1$ dB, no significant damage
Cable bend	IEC60794-1-21 Method E11	Radius: 15xD No. of turns: 5 No. of cycles: 3	$\Delta\alpha \leq 0.1$ dB, no significant damage
Temperature cycling	IEC 60794-1-22 Method F1	-30°C to +70°C -40°C to +70°C	$\Delta\alpha \leq 0.1$ dB/km $\Delta\alpha$ reversible

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

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OPTICAL FIBRES AND LOOSE TUBES COLOUR IDENTIFICATION

For optical fibres and modules identification information please see **DSH_Colors_CODE_XXXX** document.

FIBRES PARAMETERS

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

MARKING

The following print (laser or inkjet) 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-FM8 144F SM G657A1 12T12F "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 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 – 6000 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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