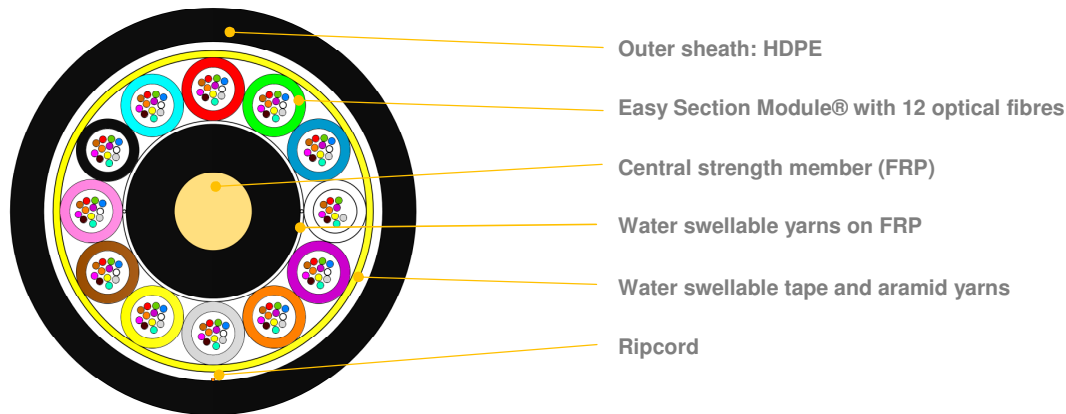


Single HDPE jacket ESM™ module microcable with aramid yarns and FRP rod reinforcement MK-FM8 PE



*Schematic drawing, not to scale

CABLE DESIGNS

| 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 |

MAIN MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

| Test | Test Standard | Specified Value | Requirement |
|-----------------------|--------------------|---|--|
| Max allowed tension | IEC 60794-1-21-E1 | 1500 N $\epsilon_t \leq 0.33\%$ 2500 N $\epsilon_t \leq 0.6\%$ | $\Delta\alpha$ reversible |
| Max operating tension | IEC 60794-1-21-E1 | 250 N $\epsilon_t \leq 0.05\%$ | $\Delta\alpha \leq 0.05$ dB/km |
| Crush | IEC 60794-1-21-E3 | 400 N / 100 mm, max.5 min | $\Delta\alpha \leq 0.1$ dB, no significant damage |
| Impact | IEC 60794-1-21-E4 | 9 Nm, 3 impacts, R= 300 mm | $\Delta\alpha \leq 0.1$ dB, no significant damage |
| Torsion | IEC 60794-1-21-E7 | 50N, $\pm 180^\circ$, 10 cycles | $\Delta\alpha \leq 0.1$ dB, no significant damage |
| Repeated bending | IEC 60794-1-21-E6 | R=15x D, 40N, 35 cycles | $\Delta\alpha \leq 0.1$ dB, no significant damage |
| Cable bend | IEC 60794-1-21-E11 | R=15x D, 5 turns, 3 cycles | $\Delta\alpha \leq 0.1$ dB, no significant damage |
| Temperature cycling | IEC 60794-1-22-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

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_OFP** document.

MARKING

The following print (ink jet, laser or other suitable method depending on availability) 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 G652D 12T12F "YEAR OF MANUFACTURE" "LASER SYMBOL" "LENGTH MARKING" "BATCH NUMBER"

| | | |
|-----------|------------|----------|
| Type: | MK-FM8-PE | REV: 1.4 |
| Issued: | 06/08/2019 | AM |
| Modified: | 23/12/2020 | AM |

The accuracy of marking is $\pm 0,5\%$. Remarkings 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 – 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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