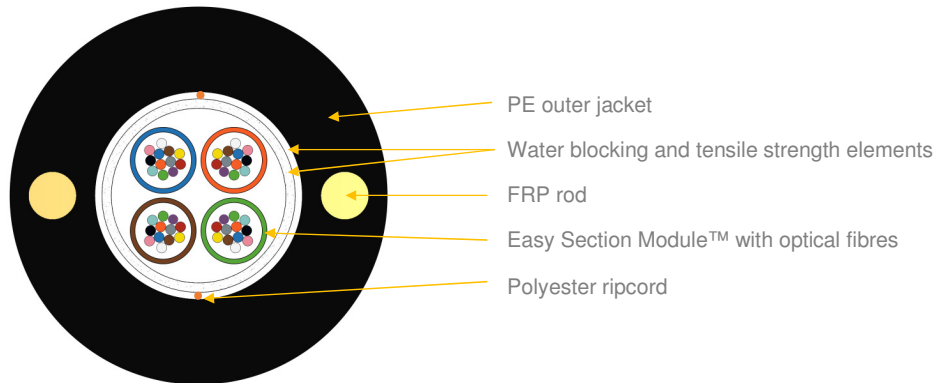


Single HDPE jacket duct cable with Easy Section Modules™ MDC-FM (modulo 12)



*schematic drawing of 48F configuration, not to scale

APPLICATION

Duct cable
FTTH access networks
Fully dielectric
Rodent protection

DESIGN

Highly resistant, UV stabilized HDPE outer jacket
1,3mm ESM™ modules with 12 fibres each
Dry design, no filling compound inside ESM™
High modulus reinforcement yarns
Dry cable core – water blocking yarns and/or tape
FRP rods embedded into outer jacket
Polyester ripcord, two pieces on opposite sides

VARIANTS

Variant	Quantity [pcs]				Ø nominal (±5%, min 0,5mm) [mm]	Nominal weight (±10%) [kg/km]	Max allowed tension T _M [N]	Max static tension T _L [N]
	Fibres	Fibres per module	Total elements	Active modules				
1M x 12F	12	12	1	1	5,9	24	800	270
2M x 12F	24	12	2	2	7,0	33	800	270
3M x 12F	36	12	3	3	7,2	42	800	270
4M x 12F	48	12	4	4	7,9	45	1000	350
6M x 12F	72	12	6	6	9,0	55	1600	500
8M x 12F	96	12	8	8	10,2	70	1800	600
12M x 12F	144	12	12	12	11,2	94	2300	750
16M x 12F	192	12	16	16	13,0	129	2800	900
18M x 12F	216	12	18	18	14,0	135	3100	1000
24M x 12F	288	12	24	24	14,5	140	3100	1000

Other variants, designs, mechanical and environmental properties available on demand

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Test	Specification	Method	Requirements*
Tensile strength	IEC60794-1-21 Method E1	Mandrel diameter: ≥ 30 x OD Max allowed tension: as provided in table above	Fibre strain: e ≤ 0.5%, during test, reversible Cable strain: e ≤ 0.6%, during test, reversible Δα ≤ 0,5dB/km, during test, reversible
		Mandrel diameter: ≥ 30 x OD Max static tension: as provided in table above	Fibre strain: e ≤ 0.2%, no attenuation change
Crush resistance	IEC60794-1-21 Method E3	Load: 2000 N / 10 cm / 5 minutes Plate size: 100 mm x 100mm Number of pts: 3 (500mm apart)	Δα ≤ 0.05dB @ 1550nm (after test) No jacket cracking and fibre breakage
Impact resistance	IEC60794-1-21 Method E4	Impact energy: 5J Radius: 300 mm Distance: 1m No. of impacts: 3 at different points 500mm apart	Δα ≤ 0.1dB @ 1550nm (after test) No jacket cracking and fibre breakage

Type:	MDC-FM PE	REV: 4.2
Issued:	29/01/2018	PB
Modified:	12/11/2024	NJ



Repeated bending	EC60794-1-21 Method E6	Mandrel radius: 15 x OD No. of cycles: 20	No jacket cracking and fibre breakage
Torsion	IEC60794-1-21 Method E7	Cable length to be twisted: 2m No. of cycles: 5 Twist angle: $\pm 180^\circ$	$\Delta\alpha \leq 0.1 \text{ dB @ } 1550 \text{ nm}$ (after test) No jacket cracking and fibre breakage
Bending	IEC60794-1-21 Method E11	Mandrel radius: 12 x OD / 5 turns (wrapped and unwrapped) / 10 flexing cycles	$\Delta\alpha \leq 0.05 \text{ dB @ } 1550 \text{ nm}$ (after test) No jacket cracking and fibre breakage
Water penetration	IEC 60794-1-22 Method F5A	Water head: 1m Sample length: 3m Time: 24 hrs	No water leakage
Temperature range	IEC 60794-1-22 Method F1	Installation: -5... +60 [°C]	No attenuation change
		Operation: -30... +60 [°C]	$\Delta\alpha \leq 0,1 \text{ dB/km}$, reversible
		Transport: -40... +70 [°C]	$\Delta\alpha$ reversible

(*) 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 (laser printer or other suitable printing method) is applied at 1-meter intervals:

Example: FIBRAIN MDC-FM 48F SM G657A1 4M12F "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 plywood 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 4000 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. Dedicated reel length can be determined individually at the ordering stage.

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