

FIBRECO EXPANDED BEAM CONNECTIONS

Percon has developed the ideal cable (FO410DMPUR/ARMoured, FO450DMOM3PUR/ARMoured, FO450DMOM4PUR/ARMoured) for FIBRECO (HMA) SENIOR EXPANDED BEAM connectors: an abrasion-resistant, highly flexible, waterproof (IP68) cable, impact-resistant (short-term 5,000 N), with steel-tape armour and internal aramid yarn, among other features — making it ideal for the most demanding applications in hostile environments: military use, tactical communications, petrochemical plants, mining, and broadcast P.A. systems. Paired with FIBRECO (IP68) hermaphroditic connectors, designed to MIL-DTL-83526 and MIL-C-39029 standards and gold-plated, the system goes further still: if seriously damaged in use, the connector allows the expanded-beam insert in the front housing and crimp to be replaced without re-terminating the fiber. Thanks to Expanded Beam technology and precision optical alignment, the system delivers high immunity to dust, mud, liquids, and other contaminants. The FIBRECO hermaphroditic system eliminates the need for male/female adapters — the same connector mates with itself. Terminated cables are supplied to the customer's required length, with a standard lead time of approximately 15 days depending on laboratory workload.

CABLE CHARACTERISTICS

Metallic armoured distribution cable (DM/ARMoured). A highly robust cable for indoor-outdoor installation. **Advantages:** very robust construction, ideal for mobile applications; excellent mechanical resistance; very easy to strip (gel-free); the fibers provide strong resistance to additional losses from macrobending. Compliant with IEC 60793-2-50, ITU-T G.652D, G.657A1, G.657A2, G.657B2, G.657B3, Telcordia GR-20-CORE, and ANSI/ICEA S-87-640, IEC 60794. Built to military standard MIL-C-85045. Tactical military-grade cable.

CONNECTOR CHARACTERISTICS

- ✓ 1 to 8 optical channels
- ✓ Hybrid fiber optic / electrical variants
- ✓ Single-mode or multimode
- ✓ Field-terminable / field-repairable
- ✓ Hermaphroditic design
- ✓ Aluminum, nickel-aluminum bronze, or stainless steel housing options
- ✓ Four bulkhead mounting options: square flange and D-hole, in standard and low-profile versions
- ✓ RoHS compliant

IP68

MIL-DTL-83526

Hermaphroditic

5,000 N Impact



SENIOR EXPANDED BEAM CONNECTOR — TECHNICAL SPECIFICATIONS

Insertion Loss	9/125 fiber at 1310/1550 nm: 1–4 channels ≤1.5 dB, 6&8 channels ≤2.0 dB* 50/125 fiber at 850/1300 nm: 1–4 channels ≤1.0 dB, 6&8 channels ≤1.5 dB*
Return Loss	>32 dB (typical 40 dB) singlemode / >20 dB multimode*
Electrical: Power Contacts	Size 20 & size 16, MIL-C-39029/93A & 94A. Contact resistance <4 mΩ. Operating voltage 1000 VAC. Operating current 5A (short-term 15A)
Electrical: Test Voltage	Between contacts and contact/housing: 3000V / 50 Hz, 1 minute, EN61984
Durability	3,000 matings minimum
Operating Temperature	–40°C to +85°C
Storage Temperature	–55°C to +85°C
Water Immersion	IP68
Free Fall Resistance	500 falls from 1.2 m height
Vibration	10–500 Hz, 3 directions, 0.75 mm amplitude @ 10g acceleration
Bump	4,000 bumps @ 40g acceleration
Crush Resistance	6.7 kN
Corrosion Resistance	500 hours salt spray
Cable Retention	1,500 N (cable dependent)
Connector Shell Material / Color	Black anodised aluminum, nickel-aluminum bronze, or stainless steel. Grip & boot: black or olive green

WEIGHT (APPROX.)

	Aluminum	Stainless Steel	Nickel Aluminum Bronze
Plug	160 g	300 g	285 g
Bulkhead	150 g	255 g	240 g



FO410DMPUR/ARMOURED — TACTICAL ARMOURED OPTICAL FIBER CABLE

Singlemode 9.3/125 μm

Metallic armoured distribution cable (DM/ARMOURED). A strong cable for indoor-outdoor installation, offering very robust construction and direct connection. Excellent mechanical resistance and very easy to strip (gel-free). Provides high resistance to additional losses caused by macrobending. Compliant with IEC 60793-2-50, ITU-T G.652D, G.657A1, G.657A2, G.657B2, G.657B3, Telcordia GR-20-CORE, and ANSI/ICEA S-87-640, IEC 60794. Built to military standard MIL-C-85045.

CONSTRUCTION

1. Conductor (4 fibers)

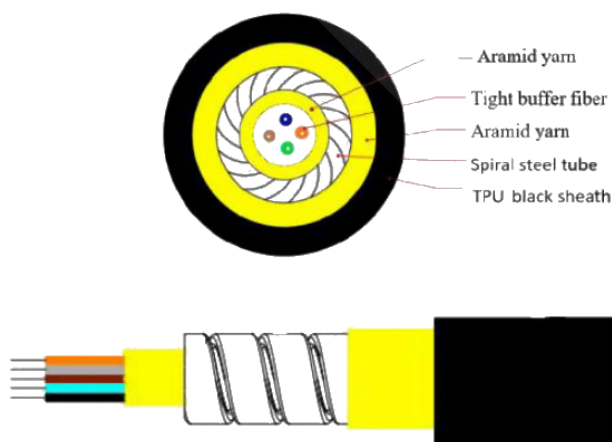
Fiber Type	Singlemode 9.3/125 μm
Core Diameter	9.30 μm
Cladding Diameter	125 μm
Coating Diameter	900 μm

2. Inner Armour: Aramid yarns

3. Outer Armour: Spiral metallic armour + aramid yarns

4. General Jacket: $\varnothing$ 5.80 mm · PUR

Color: Black



Revision Date: 21 Feb 2024 · Specifications subject to change without prior notice

FO450DMOM3PUR/ARMOURED — TACTICAL ARMOURED OPTICAL FIBER CABLE

Multimode 50/125 µm

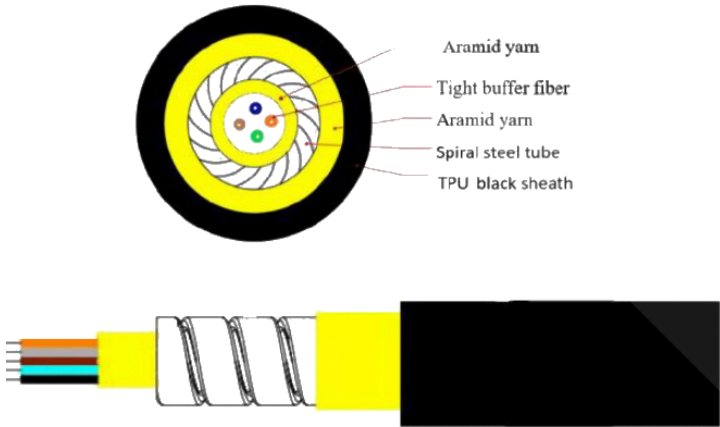
Metallic armoured distribution cable (DM/ARMOURED). A strong cable for indoor-outdoor installation, offering very robust construction and direct connection. Excellent mechanical resistance and very easy to strip (gel-free). Provides high resistance to additional losses caused by macrobending. Based on IEC 60793-2-10 Category A1a, EN 60793-2-10 type A1a, ITU Recommendation G.651, TIA/EIA-492AAAB, EN 50173-1:2007 Category OM2, IEEE 802.3-2002 with amendment 802.3ae-2002, and ANSI/TIA/EIA 568.B.3-2000, IEC 60794.

CONSTRUCTION

1. Conductor (4 fibers)

Fiber Type	Multimode 50/125 µm
Core Diameter	50 µm
Cladding Diameter	125 µm
Coating Diameter	900 µm

- 2. Inner Armour:** Aramid yarns
- 3. Outer Armour:** Spiral metallic armour + aramid yarns
- 4. General Jacket:** Ø 5.80 mm · PUR
- Color:** Black



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FO450DMOM4PUR/ARMOURED — TACTICAL ARMOURED OPTICAL FIBER CABLE

Multimode 50/125 µm

Metallic armoured distribution cable (DM/ARMOURED). A strong cable for indoor-outdoor installation, offering very robust construction and direct connection. Excellent mechanical resistance and very easy to strip (gel-free). Provides high resistance to additional losses caused by macrobending. Based on IEC 60793-2-10 Category A1a, EN 60793-2-10 type A1a, ITU Recommendation G.651, TIA/EIA-492AAAB, EN 50173-1:2007 Category OM2, IEEE 802.3-2002 with amendment 802.3ae-2002, and ANSI/TIA/EIA 568.B.3-2000, IEC 60794.

CONSTRUCTION

1. Conductor (4 fibers)

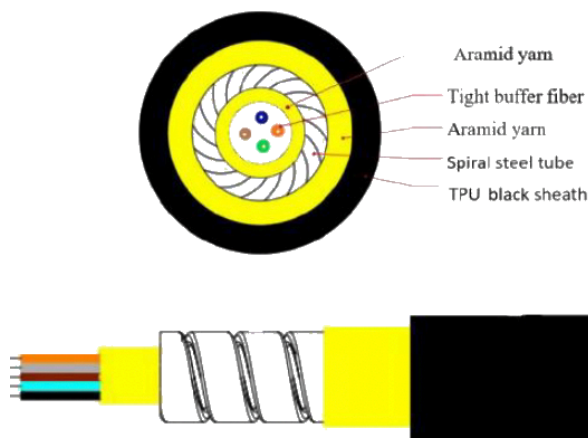
Fiber Type	Multimode 50/125 µm
Core Diameter	50 µm
Cladding Diameter	125 µm
Coating Diameter	900 µm

2. Inner Armour: Aramid yarns

3. Outer Armour: Spiral metallic armour + aramid yarns

4. General Jacket: Ø 5.80 mm · PUR

Color: Black



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