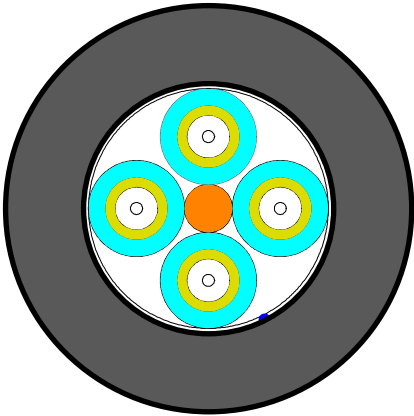


## OceanLine™ Break-out Cable

**Indoor/Outdoor, break-out cable with ES9 tight buffer in  $\varnothing 2.0$  mm units, up to 24 fibres and SHF1 classified sheath, VDE: J-V(ZN)HH**



### Application and Installation

This break-out or heavy duty tightly buffered cable features  $\varnothing 2.0$  mm single fibre break-out units.

This cable features ES9 easy strippable tight buffer.

Applications include: LAN backbones, central office interconnections, backbones in data centres, and many other.

The cable is suited for installation in ducts and on trays.

The cable features an UV stabilised, water and moisture resistant SHF1 sheathing. The cable is thus well suited for shorter outdoor runs.

### Standards

DNVGL-CP-0402, ISO 11801 2<sup>nd</sup> edition, EN 187 000, IEC 60794-2, EN 50 173-1, IEC 60794-2-20

### Flame Resistance

LSHF-FR (FRNC): IEC 60332-1-2; IEC 60332-3-24, IEC 60754-2; IEC 61034; Class D<sub>ca</sub>S2d2; Class E<sub>ca</sub>

# OceanLine™ Break-out Cable

## Construction

|                                    |  |                        |
|------------------------------------|--|------------------------|
| ø2.0 mm unit                       | ES9 tightly buffered fiber 900 µm ± 50 µm<br>Aramid yarn strength member<br>LSZH sheath, in the same colour as the outer sheath, marked with unit number |                        |
| Strength member                    | Central FRP strength member, covered with LSZH material as appropriate   |                        |
| 2 – 24 units                       | SZ stranded around the strength member   |                        |
| Sheath colours, fiber units only   | Cable with SM fibres: BendBright <sup>XS</sup> G.657.A2, BendBright G.657.A1   | Yellow, RAL 1018       |
|                                    | Cable with M6-OM1 fibres   | Grey, RAL 7037         |
|                                    | Cable with MaxCap-BendBright-OM2   | Orange, RAL 2009       |
|                                    | Cable with MaxCap-BendBright-OM3   | Aqua, RAL 6027         |
|                                    | Cable with MaxCap-BendBright-OM4   | Erika-Violet, RAL 4003 |
|                                    | Cable with MaxCap-BendBright-OM5   | Lime-Green             |
| Wrapping                           | Polyester foil   |                        |
| Ripcord                            | Polyester  |                        |
| Outer Sheath<br>(Class and colour) | SHF1 classified(Other colours on request)  | Black                  |
| Sheath marking                     | <b>DRAKA OceanLine</b>   |                        |

## Physical Properties

| Attribute                                   | Method<br>IEC<br>60974-1-<br>21/22 | Limits                     |      |                 |      |        |      |
|---|------------------------------------|----------------------------|------|-----------------|------|--------|------|
|   |                                    | 2, 4                       | 6    | 8               | 12   | 16     | 24   |
| Fibre count                                 |                                    | 2, 4                       | 6    | 8               | 12   | 16     | 24   |
| Nominal diameter [mm]                       | -                                  | 7.5                        | 8.5  | 10              | 12.5 | 12     | 14.5 |
| Nominal weight [kg/km]                      | -                                  | 60                         | 75   | 100             | 160  | 145    | 210  |
| Maximum installation load (a few hours) [N] | -                                  | 1300                       | 1800 | 2400            | 3500 | 3000   | 4500 |
| Short term tensile strength (some days) [N] | E1                                 | 900                        | 1200 | 1600            | 2300 | 2000   | 3000 |
| Permanent tensile strength [N]              | E1                                 | 450                        | 600  | 800             | 1150 | 1000   | 1500 |
| Impact [J]                                  | E4                                 | 5 J                        |      |                 |      |        |      |
| Crush (compressive strength)                | E3                                 | 1500 N/ 100 mm             |      |                 |      |        |      |
| Torsion                                     | E7                                 | 5 cycles ± 1 turn          |      |                 |      |        |      |
| Minimum bending radius(mm)                  | E11                                | 75                         | 100  | 100             | 150  | 140    | 175  |
| Minimum bending radius under tension(mm)    | E18A                               | 130                        | 150  | 150             | 250  | 240    | 280  |
| Temperature range                           | F1                                 | Operation                  |      | -25 °C to 70 °C |      |        |      |
|   |                                    | Installation               |      | -20 °C to 70 °C |      |        |      |
|   |                                    | Storage                    |      | -40 °C to 70 °C |      |        |      |
| Minimum bending radius of the 2.0 mm units  | G01                                | With standard fibres       |      |                 |      | 20 mm  |      |
|   |                                    | With MaxCap-BB-OMx fibres  |      |                 |      | 7.5 mm |      |
|   |                                    | With BendBright-XS fibers: |      |                 |      | 7.5 mm |      |
| Heat of combustion [MJ/km] – [kW/m]         |                                    | 870                        | 1200 | 1500            | 2500 | 2500   | 3600 |
|   |                                    | 0.24                       | 0.33 | 0.42            | 0.70 | 0.70   | 1.00 |

# OceanLine™ Break-out Cable

## Product Codes

| Product Code | Product description                          | Fibre count | Fibre type                              | Fibre data sheet |
|--------------|--|-------------|---|------------------|
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 4 MM61  | 4           | OM1 62.5/125 multimode                  | C02              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 8 MM61  | 8           | OM1 62.5/125 multimode                  | C02              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 12 MM61 | 12          | OM1 62.5/125 multimode                  | C02              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 24 MM61 | 24          | OM1 62.5/125 multimode                  | C02              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 2 OM2B  | 2           | MaxCap-BB-OM2                           | C34              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 4 OM2B  | 4           | MaxCap-BB-OM2                           | C34              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 6 OM2B  | 6           | MaxCap-BB-OM2                           | C34              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 8 OM2B  | 8           | MaxCap-BB-OM2                           | C34              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 12 OM2B | 12          | MaxCap-BB-OM2                           | C34              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 24 OM2B | 24          | MaxCap-BB-OM2                           | C34              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 4 OM3B  | 4           | MaxCap-BB-OM3                           | C31              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 8 OM3B  | 8           | MaxCap-BB-OM3                           | C31              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 12 OM3B | 12          | MaxCap-BB-OM3                           | C31              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 24 OM3B | 24          | MaxCap-BB-OM3                           | C31              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 2 OM4B  | 2           | MaxCap-BB-OM4                           | C32              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 4 OM4B  | 4           | MaxCap-BB-OM4                           | C32              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 8 OM4B  | 8           | MaxCap-BB-OM4                           | C32              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 12 OM4B | 12          | MaxCap-BB-OM4                           | C32              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 24 OM4B | 24          | MaxCap-BB-OM4                           | C32              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 4 OM5   | 4           | WideCap-OM5                             | C39              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 8 OM5   | 8           | WideCap-OM5                             | C39              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 12 OM5  | 12          | WideCap-OM5                             | C39              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 24 OM5  | 24          | WideCap-OM5                             | C39              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 2 SM2D  | 2           | OS2 - G.652.D                           | C03e             |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 4 SM2D  | 4           | OS2 - G.652.D                           | C03e             |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 6 SM2D  | 6           | OS2 - G.652.D                           | C03e             |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 8 SM2D  | 8           | OS2 - G.652.D                           | C03e             |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 12 SM2D | 12          | OS2 - G.652.D                           | C03e             |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 24 SM2D | 24          | OS2 - G.652.D                           | C03e             |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 4 SM7B  | 4           | OS2 - BendBright <sup>XS</sup> G.657.A2 | C24              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 8 SM7B  | 8           | OS2 - BendBright <sup>XS</sup> G.657.A2 | C24              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 12 SM7B | 12          | OS2 - BendBright <sup>XS</sup> G.657.A2 | C24              |
|              | <b>OceanLine</b> I B LSHF-FR ES9 2.0 24 SM7B | 24          | OS2 - BendBright <sup>XS</sup> G.657.A2 | C24              |

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