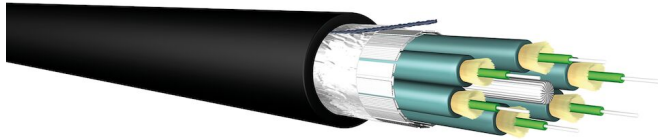# draka
A Prysmian Brand

OCEANLINE BREAKOUT CABLE LSHF-FR ES9 2.0
Ship break-out cable with 2.0 mm units, 2-24 fibres, FireRes sheath

Dca
CPR

GENERAL INFO

This break-out or heavy duty tightly buffered cable features ⌀2.0 mm single fibre break-out units. This cable features ES9easy 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 FireRes®sheathing. The cable is thus well suited for shorter outdoor runs.

CABLE FEATURES

- Fiber optic cable as breakout design for structured cabling.
- The cable is metal-free and has a tensile strength of 3000N.
- The jacket is made of halogen-free, flame-retardant material according to IEC 60332-1-2; IEC 60332-3-24; IEC 60754-2; IEC 61034; EN 50399 and Euro fire class Dca s2d2a1.
- The fiber optic cable exceeds the requirements of EN50173-1, ISO/IEC11801 and EN/IEC60794-2.

More information on fiber optic cable applications: read more

Latest version of this data sheet is available for download: ProductFamily349490

CERTIFICATIONS AND DESIGN STANDARDS

ISO/IEC 11801   Generic telecom cabling for customer premises
EN 50173   Information technology - Generic cabling systems
IEC 60794-1-1   Generic Specification Fibre Optic Cables
IEC 60794-1-21   Mechanical Test Methods
IEC 60794-1-22   Environmental Test Procedures

APPLICATION PROPERTIES

Resistant to UV

Outdoor installation With rodent protection   Not applicable

Operation temperature (min) [°C]   -10 and (max) [°C] 60

Installation temperature (min) [°C]   -10 and (max) [°C] 60

Storage temperature (min) [°C]   -10 and (max) [°C] 60

Bending radius (rule)   During installation (loaded) = 20xOD, Permanent (unloaded) = 10xOD

CABLE CONSTRUCTION

Type of tube	
Longitudinal water blocking cable	No
Material outer sheath	Low smoke zero halogen, FireRes®
Cable shape	Round
Cable marking example	

IDENTIFICATION

Tight buffer colour code

in accordance with IEC 60794-3 and VDE 0888 read more

* Fibre is uncoloured.

1 Red	13 Red w/mark every 70mm
2 Green	14 Green w/mark every 70mm
3 Blue	15 Blue w/mark every 70mm
4 Yellow	16 Yellow w/mark every 70mm
5 White	17 White w/mark every 70mm
6 Grey	18 Grey w/mark every 70mm
7 Brown	19 Brown w/mark every 70mm
8 Violet	20 Violet w/mark every 70mm
9 Turquoise	21 Turquoise w/mark every 70mm
10 Black	22 White w/mark every 35mm
11 Orange	23 Orange w/mark every 70mm
12 Pink	24 Pink w/mark every 70mm

Sheath color   Black, RAL 9005

MECHANICAL PROPERTIES

Crush test	IEC 60794-1-21 E3	1,500 N/10cm
Impact test	IEC 60794-1-21 E4	5 N·m
Torsion test	IEC 60794-1-21 E7	5 cycles ±1turn
Kink test	IEC 60794-1-21 E10	The cables do not form a kink when a loop is drawn together to a diameter 12 times the cable nominal diameter.

CABLE DETAILS

Number of fibres	Nominal outer diameter [mm]	Nominal thickness outer sheath [mm]	Permanent tensile strength [N]	Max. tensile strength during installation [kN]	Cable weight [kg/km]	Fire load [MJ/km]
2	7.5		450	1.3	53.6	981
4	7.5		450	1.3	54.6	980
8	10		450	2.4	97.8	1,629
8	10		450	2.4	97.6	1,629
12	12.4		450	3.5	156.9	2,471
12	12.4		450	3.5	156.6	2,471
24	14.9		450	4.5	214.8	4,067
24	14.9		450	4.5	215.3	4,067
24	14.9		450	4.5	214.4	4,067

* Maximum tensile strength during installation in accordance with IEC 60794-1-21 E1.

ORDERING DETAILS

Product name	Colour outer sheath	Number of fibres	Category (fibre)	Fibre datasheet	DOP number	SAP code
OCEANLINE I B LSHF-FR ES9 2.0 2 SM2D BK	Black	2	OS2	C24	1009485	60079643
OCEANLINE I B LSHF-FR ES9 2.0 4 SM2D BK	Black	4	OS2	C24	1007490	60070741
OCEANLINE I B LSHF-FR ES9 2.0 8 SM2D BK	Black	8	OS2	C24	1008701	60076689
OCEANLINE I B LSHF-FR ES9 2.0 12 SM2D BK	Black	12	OS2	C24	1009340	60078281
OCEANLINE I B LSHF-FR ES9 2.0 24 SM2D BK	Black	24	OS2	C24	1007813	60071919
OCEANLINE I B LSHF-FR ES9 2.0 24 SM7B BK	Black	24	OS2	C24	1008961	60077304
OCEANLINE I B LSHF-FR ES9 2.0 4 OM3B BK	Black	4	OM3	C31	1007815	60071932
OCEANLINE I B LSHF-FR ES9 2.0 4 OM4B BK	Black	4	OM4	C32	1006922	60066161
OCEANLINE I B LSHF-FR ES9 2.0 8 OM3B BK	Black	8	OM3	C31	1007924	60072804
OCEANLINE I B LSHF-FR ES9 2.0 12 OM2B BK	Black	12	OM2	C34	1009441	60078481
OCEANLINE I B LSHF-FR ES9 2.0 12 OM4B BK	Black	12	OM4	C32	1004795	60066187
OCEANLINE I B LSHF-FR ES9 2.0 24 OM3B BK	Black	24	OM3	C31	1007814	60071920
OCEANLINE I B LSHF-FR ES9 2.0 24 OM4B	Black	24	OM4	C32	1006923	60066194

DoP Numbers are per product code and any DoP number proves CPR approval for the cable. DoP files can be downloaded from the website: DoP