



ShiplinePlus FR BIOI(C) 250V

Fire resistant and flame retardant halogen-free instrumentation cable. Braided



BIOI(c) 250V

MGT/HFXLPE/PO/TCWB/PO

Operating temperature : 90°C
Operating Voltage : 250V

Application

Armoured fire resistant cable for fixed installation in offshore installations where cable protection is required. Recommended for instrumentation, communication, control, alarm, emergency and critical systems. Can be installed and operated both indoors and outdoors.

Standards applied

IEC 60092-376:2003-05	- Design
IEC 60228 class 2	- Conductor
IEC 60092-351	- Insulation
IEC 60092-359	- Sheath
IEC 60332-1	- Flame Retardant
IEC 60332-3-22	- Flame Retardant
IEC 60331-21/31	- Fire Resistant
IEC 600754-1,2	- Halogen Free
IEC 61034-1,2	- Low Smoke

Construction

	Code Letter	
Conductor		Annealed stranded circular copper, IEC 60228 class 2
Insulation	B	Mica-tape + HFXLPE, IEC 60092-351 (HFXLPE)
Pair / Triple / Quad twisting		Numbered cores twisted together and wrapped with polyester tape. Pairs are twisted together and wrapped with polyester tape. The pairs are twisted with different lay length to reduce mutual interference. Pairs are identified by numbered tape.
Lay up / Shielding		Collective shield by laminated aluminium backed PETP-tape with a multistranded tinned copper drainwire.
Inner covering	I	Flame retardant halogen-free thermoplastic compound, SHF1
Tape over inner covering		Additional tape may be applied
Armour/screen	O	Tinned annealed copper wire braid
Tape over armour/screen		Additional tape may be applied
Outer sheath	I	Flame retardant halogen-free thermoplastic compound, SHF1
Marking text		E.g. "meter" "år" DRAKA 01 BIOI(c) 250V 10 PAIR 0,75 mm ² IEC 60092-376 IEC 60331-21 IEC 60332-3-22 ShiplinePlus
Manufacturing unit		DRAKA 01 = Draka Norsk Kabel, DRAKA 02 = Draka Kabel BV Amsterdam, DRAKA 03 = Draka Kabel BV Emmen
Outer sheath colour		Grey



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Core identification instrumentation cables

The pairs have the following number identification according to IEC 60092-376

Pair no. 1
 Pair no. 2
 Pair no. 3
 Pair no. 4
 Pair no. 5

Core no.
 1 - 2
 3 - 4
 5 - 6
 7 - 8
 etc - etc

Range and dimensions

Number of elements	No of cores in element	Cross section core, mm ²	Conductor Diameter, mm	Insulation Thickness, mm	Thickness Inner Sheath, mm	Diameter Inner Sheath, mm	Diameter Braid Wire, mm	Thickness Outer Sheath, mm	Diameter outer sheath, mm	Weight of Cable Approx. (Kg/Km)	Copper content Approx. (kg/km)
2	2	0.75	1.1	0.5	1.1	12.5 ± 0.8	0.3	0.9	15.5 ± 0.8	275	116
4	2	0.75	1.1	0.5	1.2	15 ± 0.8	0.3	0.9	17.5 ± 0.8	370	160
7	2	0.75	1.1	0.5	1.3	18 ± 0.8	0.3	1	21 ± 1	510	219
12	2	0.75	1.1	0.5	1.5	23.5 ± 1	0.3	1.1	27 ± 1	780	322
19	2	0.75	1.1	0.5	1.6	27.5 ± 1	0.3	1.2	30.5 ± 1.5	1060	446
24	2	0.75	1.1	0.5	1.7	31.5 ± 1.5	0.3	1.3	35 ± 1.5	1320	564
2	2	1.5	1.6	0.6	1.2	14.5 ± 0.8	0.3	0.9	17.5 ± 0.8	350	162
4	2	1.5	1.6	0.6	1.3	17 ± 0.8	0.3	1	20 ± 1	490	234
7	2	1.5	1.6	0.6	1.4	21 ± 1	0.3	1.1	24 ± 1	710	351
12	2	1.5	1.6	0.6	1.6	27.5 ± 1	0.3	1.2	31 ± 1.5	1090	540
19	2	1.5	1.6	0.6	1.8	32 ± 1.5	0.3	1.3	35.5 ± 1.5	1500	760
24	2	1.5	1.6	0.6	2	37 ± 1.5	0.4	1.5	41.5 ± 2	1990	1029

Electrical values instrumentation cables

Type	Capacitance, approx. (nF/km)	Inductance, approx. (mH/km)	Resistance at 20°C, max. (ohm/km)	L/R ratio, (microH/Ohm)
Unshielded pair/quad 0,75 mm ²	55	0.75	26.0	14.42
Unshielded pair/quad 1,5 mm ²	65	0.67	12.8	26.17

Ordering information

Part number	Description	Sheath Colour	EAN No. DNK	EL No.	KDN Part number	EAN no. KDN
833100	BIOI(C) 250V 2PAIR 0.75mm ²	GREY	7021528331004	-	-	-
833102	BIOI(C) 250V 4PAIR 0.75mm ²	GREY	7021528331028	-	-	-
833104	BIOI(C) 250V 7PAIR 0.75mm ²	GREY	7021528331042	-	-	-
833106	BIOI(C) 250V 12PAIR 0.75mm ²	GREY	7021528331066	-	-	-
833108	BIOI(C) 250V 19PAIR 0.75mm ²	GREY	7021528331080	-	-	-
833110	BIOI(C) 250V 24PAIR 0.75mm ²	GREY	7021528331103	-	-	-
833150	BIOI(C) 250V 2PAIR 1.5mm ²	GREY	7021528331509	-	-	-
833152	BIOI(C) 250V 4PAIR 1.5mm ²	GREY	7021528331523	-	-	-
833154	BIOI(C) 250V 7PAIR 1.5mm ²	GREY	7021528331547	-	-	-
833156	BIOI(C) 250V 12PAIR 1.5mm ²	GREY	7021528331561	-	-	-
833158	BIOI(C) 250V 19PAIR 1.5mm ²	GREY	7021528331585	-	-	-
833160	BIOI(C) 250V 24PAIR 1.5mm ²	GREY	7021528331608	-	-	-

Installation recommendations

Minimum Bending Radius during Installation	Minimum Bending Radius Fixed Installed	Maximum Tensile Load During Installation	Minimum Installation Temperature
8 x D	6 x D	50 N /mm ²	-10°C