

## GAALSHIP® HF 250 ISOSA FR WSR

Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened, armoured, fire resistant and water spray resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR WSR



### Applications:

Fire resistant and water spray instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, suitable for the signal and telecommunication of safety-fire devices. These cables prevent the cable short-circuit due to water sprays of Fire Fighters' hydrants used during the fire, allowing the continuous operation of these devices.

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	Fire resistant tape + GAALTHERM® 597
<b>Cores color:</b>	pair: black- light blue triple: black- light blue - brown
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Wrapping:</b>	Polyester tape on each pair/triples
<b>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Stranding:</b>	Laying up of pairs/triples
<b>Wrapping:</b>	Polyester tape
<b>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Inner sheath:</b>	Polyester tape or extruded halogen free compound
<b>1<sup>st</sup> Wrapping:</b>	Fire resistant glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper tapes + polyester tape
<b>3<sup>rd</sup> Wrapping:</b>	Fire resistant glass fiber tape
<b>Armour:</b>	Tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Orange (RAL 2003), Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR WSR cross nominal section, 150/250 V, IEC 60092-376 IEC 60331, BS 8491 A48 production date. Progressive meter marking.

### Technical data:

<b>Nominal voltage:</b>	150/250 V
<b>Temperature range:</b>	-40°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

**RINA** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**DNV-GL** (Det Norske Veritas - Germanischer Lloyd)  
**ABS** (American Bureau of Shipping)  
Other approvals on request

### Resistance:



**Fire resistant acc. to:**  
IEC 60331-21,  
IEC 60331-2, EN 50200 Annex E Water Spray Test  
(under 20 mm Ø),  
IEC 60331-1, BS 8491 Water Jet Test (over 20 mm Ø)



**Flame and fire retardant acc. to:**  
IEC 60332-1-2,  
IEC 60332-3-22



**Halogen free acc. to:**  
IEC 60754-1/2



**Smoke emission properties acc. to:**  
IEC 61034-1/2

### Features:

Sheathing and insulating materials acc. to IEC 60092-360  
Design guidelines acc. to IEC 60092-376  
Cold bend test at low temperatures  
acc. to CSA C22.2 No. 0.3-09 (-40°C)  
Cold bend impact at low temperatures  
acc. to CSA C22.2 No. 0.3-09 (-35°C)  
On request class 5 conductor acc. to IEC 60228  
On request plain annealed copper wires braid armour  
or galvanized steel wires braid armour acc. to IEC 60092-350

# GAALSHIP® MARINE CABLES

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Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened, armoured, fire resistant and water spray resistant



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Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer diameter ca.mm			Cable weight approx. kg/km	Max. resistance of conductors at 20°C (Ohm/km)	Current rating in open air at 45°C (A)	Capacitance approx. (nF/km)	Inductance approx. (mH/km)	Reactance approx. (Ohm/km)		Impedance approx. (Ohm/km)				Short circuit rating I sec. (kA)
		50 Hz	60 Hz	at 20°C						at 90°C						
				50 Hz						60 Hz	50 Hz	60 Hz				
Min.	Nom.	Max.														
11210CGX052M05	5 x 2 x 0,5	20,6	22,1	23,6	602	41,6	5	75	0,64	0,201	0,241	41,6	41,6	53,04	53,04	0,07
11210CGX022M07	2 x 2 x 0,75	16,8	18,3	19,8	440	26,3	10	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX042M07	4 x 2 x 0,75	19,6	21,1	22,6	547	26,3	7	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX052M07	5 x 2 x 0,75	21,5	23	24,5	653	26,3	7	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX072M07	7 x 2 x 0,75	23	25	26,5	763	26,3	7	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX102M07	10 x 2 x 0,75	27,8	30,3	32,8	1074	26,3	7	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX142M07	14 x 2 x 0,75	31,8	34,3	36,8	1307	26,3	6	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX242M07	24 x 2 x 0,75	41,5	44	46,5	2155	26,3	5	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX372M07	37 x 2 x 0,75	49,4	51,9	54,4	2938	26,3	5	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX032M10	3 x 2 x 1	18,7	20,2	21,7	507	19,3	10	65	0,64	0,201	0,241	19,3	19,3	24,61	24,61	0,14
11210CGX042M10	4 x 2 x 1	20,5	22	23,5	612	19,3	8	65	0,64	0,201	0,241	19,3	19,3	24,61	24,61	0,14
11210CGX072M10	7 x 2 x 1	24	26	27,5	847	19,3	8	65	0,64	0,201	0,241	19,3	19,3	24,61	24,61	0,14
11210CGX022M15	2 x 2 x 1,5	19,3	20,8	22,3	568	19,3	16	60	0,52	0,163	0,196	19,3	19,3	24,61	24,61	0,21
11210CGX042M15	4 x 2 x 1,5	22,6	24,1	25,6	719	12,9	11	60	0,52	0,163	0,196	12,9	12,9	16,45	16,45	0,21
11210CGX052M15	5 x 2 x 1,5	24,8	26,3	27,8	867	12,9	11	60	0,52	0,163	0,196	12,9	12,9	16,45	16,45	0,21
11210CGX072M15	7 x 2 x 1,5	26,7	28,7	30,2	1022	12,9	11	60	0,52	0,163	0,196	12,9	12,9	16,45	16,45	0,21
11210CGX082M15	8 x 2 x 1,5	31,5	33,5	35	1234	12,9	11	60	0,52	0,163	0,196	12,9	12,9	16,45	16,45	0,21
11210CGX102M15	10 x 2 x 1,5	32,9	34,9	36,4	1456	12,9	11	60	0,52	0,163	0,196	12,9	12,9	16,45	16,45	0,21
11210CGX122M15	12 x 2 x 1,5	35,8	38,3	40,8	1704	12,9	11	60	0,52	0,163	0,196	12,9	12,9	16,45	16,45	0,21
11210CGX192M15	19 x 2 x 1,5	42,3	44,8	47,3	2376	12,9	9	60	0,52	0,163	0,196	12,9	12,9	16,45	16,45	0,21
11210CGX073M07	7 x 3 x 0,75	26,2	27,7	29,7	942	26,3	7	70	0,64	0,201	0,241	26,3	26,3	33,54	33,54	0,11
11210CGX073M10	7 x 3 x 1	27,3	28,8	30,8	1054	19,3	8	65	0,64	0,201	0,241	19,3	19,3	24,61	24,61	0,14

Other dimensions and colors available on request.