

# **ELEIROTTEK** **KABEL**® **GROUP**

GAALSHIP® MARINE CABLES





# **ELETTROTEK** **KABEL** <sup>®</sup> **GROUP**

*Elettrotek Kabel was founded in Italy at the end of 2001.*

*We are focused in offering electrical wire & cable for SPECIAL applications in several different sectors, Industrial Automation in particular.*

*Through the years, the company expanded and created a network of branches and subsidiaries that exports to over 45 different countries all around the globe.*

*Elettrotek Kabel has warehouses in Italy, Switzerland, Germany, USA, Dubai and Abu Dhabi.*

*We are one of the first companies in the world that produces and distributes SPECIAL cables for use in the following industries: Industrial Automation, Iron & Steel, Mining, Port & Cranes, Marine and Oil & Gas.*

*This rapid expansion has been possible thanks to the competence of Elettrotek Kabel Group's management team and their constant focus on using only the highest quality products.*

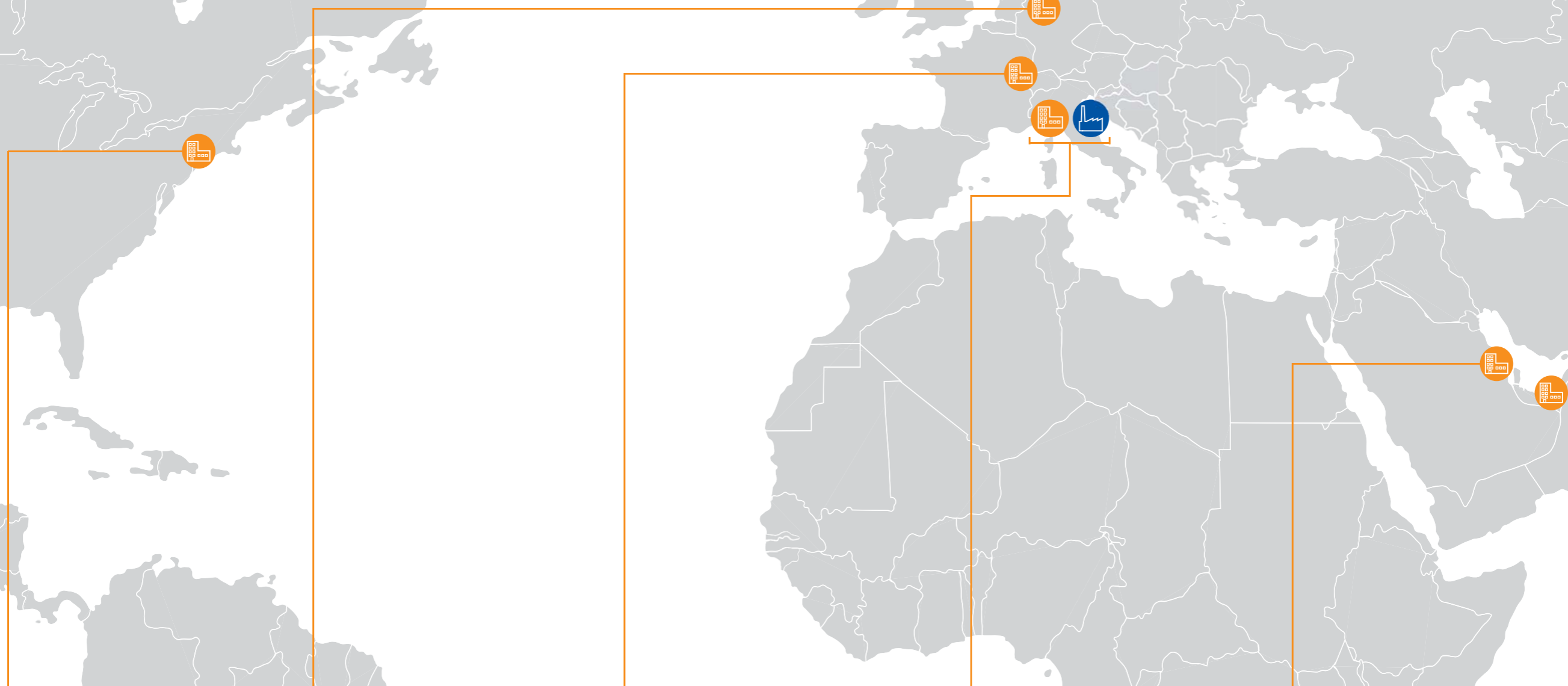
*Elettrotek Kabel continues investing in the quality of our product lines and the customer care experience.*

*These elements have helped the company grow swiftly in a short period and have contributed in establishing Elettrotek Kabel's worldwide partnerships.*



Roberto Gallingani  
General manager

# WORLDWIDE PRESENCE



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## **ELETTROTEKKABEL®** SWISS

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## **ELETTROTEKKABEL®** MIDDLE EAST

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# The Business Units:

## STOCKS:



## PRODUCTION PLANTS:



# Certifications:

GOST-EAC



ISO 9001:2015



UL



CSA



LLOYD'S REGISTER



DNV-GL (in progress)



BUREAU VERITAS



ABS



RINA / RINAMIL



RMRS



<b>INTRODUCTION GAALSHIP® MARINE</b> .....	<b>3</b>
<b>GAALSHIP® MARINE POWER &amp; CONTROL CABLES</b> .....	<b>4</b>
<b>GAALSHIP® HF 1000</b> .....	<b>5/7</b>
<b>GAALSHIP® HF 1000 A - Armoured</b> .....	<b>8/10</b>
<b>GAALSHIP® HF 1000 A EMC - Armoured / EMC</b> .....	<b>11/12</b>
<b>GAALSHIP® HF 1000 FR - Fire Resistant</b> .....	<b>13/15</b>
<b>GAALSHIP® HF 1000 A FR - Armoured , Fire Resistant</b> .....	<b>16/18</b>
<b>GAALSHIP® HF 1000 FR WSR - Fire Resistant , Water Spray Resistant</b> .....	<b>19/21</b>
<b>GAALSHIP® HF 1000 A FR WSR - Armoured , Fire Resistant , Water Spray Resistant</b> .....	<b>22/24</b>
<b>GAALSHIP® MARINE INSTRUMENTATION CABLES</b> .....	<b>25</b>
<b>GAALSHIP® HF 250 OS - Overall Screen</b> .....	<b>26/28</b>
<b>GAALSHIP® HF 250 OS FR - Overall Screen , Fire Resistant</b> .....	<b>29/31</b>
<b>GAALSHIP® HF 250 OS FR WSR - Overall Screen , Fire Resistant , Water Spray Resistant</b> .....	<b>32/33</b>
<b>GAALSHIP® HF 250 A - Armoured</b> .....	<b>34/36</b>
<b>GAALSHIP® HF 250 A FR - Armoured , Fire Resistant</b> .....	<b>37/39</b>
<b>GAALSHIP® HF 250 A FR WSR - Armoured , Fire Resistant , Water Spray Resistant</b> .....	<b>40/41</b>
<b>GAALSHIP® HF 250 OSA - Overall Screen , Armoured</b> .....	<b>42/44</b>
<b>GAALSHIP® HF 250 OSA FR - Overall Screen , Armoured , Fire Resistant</b> .....	<b>45/47</b>
<b>GAALSHIP® HF 250 OSA FR WSR - Overall Screen , Armoured , Fire Resistant , Water Spray Resistant</b> .....	<b>48/49</b>
<b>GAALSHIP® HF 250 IS - Individual Screen</b> .....	<b>50/51</b>
<b>GAALSHIP® HF 250 IS FR WSR - Individual Screen , Fire Resistant , Water Spray Resistant</b> .....	<b>52/53</b>
<b>GAALSHIP® HF 250 ISA - Individual Screen , Armoured</b> .....	<b>54/55</b>
<b>GAALSHIP® HF 250 ISA FR WSR - Individual Screen , Armoured , Fire Resistant , Water Spray Resistant</b> .....	<b>56/57</b>
<b>GAALSHIP® HF 250 ISOS - Individual &amp; Overall Screen</b> .....	<b>58/60</b>
<b>GAALSHIP® HF 250 ISOS FR - Individual &amp; Overall Screen , Fire Resistant</b> .....	<b>61/62</b>
<b>GAALSHIP® HF 250 ISOS FR WSR - Individual &amp; Overall Screen , Fire Resistant , Water Spray Resistant</b> .....	<b>63/64</b>
<b>GAALSHIP® HF 250 ISOSA - Individual &amp; Overall Screen , Armoured</b> .....	<b>65/67</b>
<b>GAALSHIP® HF 250 ISOSA FR - Individual &amp; Overall Screen , Armoured , Fire Resistant</b> .....	<b>68/70</b>
<b>GAALSHIP® HF 250 ISOSA FR WSR - Individual &amp; Overall Screen , Armoured , Fire Resistant , Water Spray Resistant</b> .....	<b>71/72</b>

<b>GAALSHIP® MARINE MEDIUM VOLTAGE CABLES</b> .....	<b>73</b>
<b>GAALSHIP® MEDIUM SHF</b> - 1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, single core.....	<b>74/76</b>
<b>GAALSHIP® MEDIUM MHF</b> - 1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, three cores.....	<b>77/79</b>
<b>GAALSHIP® MEDIUM MHF VFD</b> - 1,8/3 kV, armoured and screened medium voltage VFD power cable, three cores.....	<b>80</b>
<b>GAALSHIP® MARINE DATA CABLES</b> .....	<b>81/82</b>
<b>TECHNICAL DATA</b> .....	<b>84/98</b>



## INTRODUCTION

With our range of GAALSHIP® Marine cables we want to offer the best service to our customer.

Our GAALSHIP® Marine cables are suitable for all possible uses on board. Their high flexibility helps to facilitate the installations as well as their small diameters help to save space on the ship.

GAALSHIP® Marine cables are Halogen Free and Low Smoke, manufactured in accordance to IEC 60092 Standards.

We are glad to present our new line of GAALSHIP® Marine Cables FR-WSR (Fire resistant - Water spray Resistant) according to the following normatives:

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)

GAALSHIP® FR-WSR Cables:

Fire resistant and water spray resistant cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, suitable for power, control, 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.



Moreover, we are also able to provide other cables such as: Fiber optic, Modbus, Profinet, Profibus and Coaxial Cables

We firmly believe that our competence in finding the best cable solution according to our customers requests will increase the productivity and the satisfaction of the end users.

## Our range of cables is approved by the following Certification Authorities:

Bureau Veritas (BV)

Lloyd's Register (LR)

Det Norske Veritas - Germanischer Lloyd (DNV- GL)

Registro Italiano Navale (RINA / RINAMIL)

American Bureau of Shipping (ABS)

Russian Maritime Register of Shipping (RMRS)



GAALSHIP® MARINE  
POWER & CONTROL CABLES

## GAALSHIP® HF 1000

Power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000

### Applications:

Power and control cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2 flexible up to 10 mm <sup>2</sup> Cl. 5 from 16 mm <sup>2</sup> , acc. to EN IEC 60228
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334 green-yellow earth-wire from 3 cores
<b>Inner sheath (if any):</b>	Halogen free compound or synthetic tape
<b>Outer sheath:</b>	Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360, Thickness acc. to IEC 60092-353
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 1000, cross nominal section sqmm, 0,6/1 kV, part n°, IEC 60092-353, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

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

### Resistance:



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



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



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

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0,6/1 kV
<b>Test voltage:</b>	3,5 kV
<b>Temperature range:</b>	-40°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

Sheathing and insulating materials acc. to: IEC 60092-360  
Design guidelines acc. to IEC 60092-350/353  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor for sections up to 10 mm<sup>2</sup>

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000

Power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12041G7L010M15	1 x 1,5	Black	4,6	4,8	5,3	50	12,1	23	0,21
12041G7L010M25	1 x 2,5	Black	5,0	5,3	5,8	60	7,4	30	0,36
12041G7L010M40	1 x 4	Black	5,5	5,8	6,3	80	4,6	40	0,57
12041G7L010M60	1 x 6	Black	6,1	6,3	7,0	100	3,1	52	0,85
12041G7L010M61	1 x 10	Black	7,0	7,3	8,1	140	1,8	72	1,43
12041G7L010M62	1 x 16	Black	8,0	8,3	9,2	195	1,2	96	2,29
12041G7L010M63	1 x 25	Black	9,8	10,2	11,2	295	0,7	127	3,57
12041G7L010M64	1 x 35	Black	10,9	11,3	12,3	390	0,5	157	5,00
12041G7L010M65	1 x 50	Black	12,7	13,2	14,4	660	0,4	196	7,15
12041G7L010M66	1 x 70	Black	14,6	15,2	16,6	880	0,3	242	10,01
12041G7L010M67	1 x 95	Black	16,2	16,8	18,3	1150	0,2	293	13,59
12041G7L010M68	1 x 120	Black	18,2	18,9	20,6	1430	0,2	339	17,16
12041G7L010M69	1 x 150	Black	20,0	20,9	22,6	1750	0,1	389	21,45
12041G7L010M70	1 x 185	Black	22,2	23,1	25,0	2150	0,1	444	26,45
12041G7L010M71	1 x 240	Black	24,9	25,9	28,0	2730	0,1	522	34,32
12041G7L010M72	1 x 300	Black	27,8	28,9	31,2	3320	0,1	601	42,90
12041G73020M15	2 x 1,5	Black	7,4	7,7	8,4	120	12,1	20	0,21
12041G73020M25	2 x 2,5	Black	8,4	8,8	9,6	140	7,4	26	0,36
12041GE3020M40	2 x 4	Green	9,4	9,8	10,8	190	4,6	34	0,57
12041GE3020M60	2 x 6	Green	10,5	10,9	11,9	250	3,1	44	0,85
12041G73020M61	2 x 10	Black	12,6	13,1	14,3	350	1,8	61	1,43
12041G73020M62	2 x 16	Black	14,7	15,3	16,7	490	1,2	82	2,29
12041G73020M63	2 x 25	Black	18,2	18,9	20,6	750	0,7	108	3,57
12041G73020M64	2 x 35	Black	20,5	21,3	23,0	1230	0,5	133	5,00
12041G73030M15	3 x 1,5	Black	7,8	8,1	8,9	130	12,1	16	0,21
12041GE2031M15	3 G 1,5	Green	7,8	8,1	8,9	130	12,1	20	0,21
12041G73030M25	3 x 2,5	Black	8,9	9,3	10,2	160	7,4	21	0,36
12041GE2031M25	3 G 2,5	Green	8,9	9,3	10,2	160	7,4	26	0,36
12041G73030M40	3 x 4	Black	10,0	10,4	11,3	230	4,6	28	0,57
12041G72031M40	3 G 4	Black	10,0	10,4	11,3	230	4,6	34	0,57
12041G73030M60	3 x 6	Black	11,3	11,8	12,9	300	3,1	36	0,85
12041G72031M60	3 G 6	Black	11,3	11,8	12,9	300	3,1	44	0,85
12041G73030M61	3 x 10	Black	13,4	14,0	15,2	440	1,8	50	1,43
12041G72031M61	3 G 10	Black	13,4	14,0	15,2	440	1,8	61	1,43
12041G73030M62	3 x 16	Black	15,7	16,3	17,8	630	1,2	67	2,29
12041G72031M62	3 G 16	Black	15,7	16,3	17,8	630	1,2	82	2,29
12041G73030M63	3 x 25	Black	19,4	20,2	21,8	980	0,7	89	3,57
12041G73030M64	3 x 35	Black	21,9	22,8	24,6	1250	0,5	110	5,00
12041G73030M65	3 x 50	Black	25,8	26,9	29,0	1740	0,4	137	7,15
12041G73030M66	3 x 70	Black	29,7	30,9	33,1	2390	0,3	169	10,01
12041G73030M67	3 x 95	Black	33,2	34,6	37,0	3220	0,2	205	13,59
12041G73030M68	3 x 120	Black	37,5	39,1	41,8	4130	0,2	237	17,16
12041G73030M69	3 x 150	Black	41,4	43,1	45,7	5100	0,1	272	21,45
12041G73030M70	3 x 185	Black	46,4	48,3	51,2	6390	0,1	311	26,45
12041G73030M71	3 x 240	Black	52,2	54,4	57,6	8330	0,1	365	34,32
12041GG3040M15	4 x 1,5	Orange	8,7	9,1	10,0	160	12,1	16	0,21
12041G73040M15	4 x 1,5	Black	8,7	9,1	10,0	160	12,1	16	0,21
12041GE2041M15	4 G 1,5	Green	8,7	9,1	10,0	160	12,1	16	0,21
12041GG3040M25	4 x 2,5	Orange	9,7	10,1	11,1	200	7,4	21	0,36
12041G73040M25	4 x 2,5	Black	9,7	10,1	11,1	200	7,4	21	0,36
12041GE2041M25	4 G 2,5	Green	9,7	10,1	11,1	200	7,4	21	0,36
12041G73040M40	4 x 4	Black	11,1	11,6	12,6	280	4,6	28	0,57
12041G72041M40	4 G 4	Black	11,1	11,6	12,6	280	4,6	28	0,57
12041G73040M60	4 x 6	Black	12,4	12,9	14,1	370	3,1	36	0,85
12041G72041M60	4 G 6	Black	12,4	12,9	14,1	370	3,1	36	0,85
12041G73040M61	4 x 10	Black	14,9	15,6	17,0	550	1,8	50	1,43
12041G72041M61	4 G 10	Black	14,9	15,6	17,0	550	1,8	50	1,43
12041G73040M62	4 x 16	Black	17,5	18,2	19,8	820	1,2	67	2,29
12041G72041M62	4 G 16	Black	17,5	18,2	19,8	820	1,2	67	2,29
12041G73040M63	4 x 25	Black	21,6	22,5	24,3	1250	0,7	89	3,57
12041G73040M64	4 x 35	Black	24,4	25,4	27,4	1570	0,5	110	5,00

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000

Power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12041G73040M65	4 x 50	Black	28,7	29,9	32,3	2210	0,4	137	7,15
12041G73040M66	4 x 70	Black	33,1	34,4	36,9	3070	0,3	169	10,01
12041G73040M67	4 x 95	Black	37,2	38,7	41,4	4120	0,2	205	13,59
12041G73040M68	4 x 120	Black	41,8	43,5	46,1	5290	0,2	237	17,16
12041G73040M69	4 x 150	Black	46,2	48,1	51,0	6570	0,1	272	21,45
12041G73040M70	4 x 185	Black	51,8	54,0	57,2	8220	0,1	311	26,45
12041GG3050M15	5 x 1,5	Orange	9,5	9,9	10,9	190	12,1	16	0,21
12041G72051M15	5 G 1,5	Black	9,5	9,9	10,9	190	12,1	16	0,21
12041GG3050M25	5 x 2,5	Orange	10,6	11,1	12,1	250	7,4	21	0,36
12041G72051M25	5 G 2,5	Black	10,6	11,1	12,1	250	7,4	21	0,36
12041G73050M40	5 x 4	Black	12,2	12,7	13,8	340	4,6	28	0,57
12041G72051M40	5 G 4	Black	12,2	12,7	13,8	340	4,6	28	0,57
12041G73050M60	5 x 6	Black	13,8	14,4	15,7	460	3,1	36	0,85
12041G72051M60	5 G 6	Black	13,8	14,4	15,7	460	3,1	36	0,85
12041G73050M61	5 x 10	Black	16,4	17,1	18,6	690	1,8	50	1,43
12041G72051M61	5 G 10	Black	16,4	17,1	18,6	690	1,8	50	1,43
12041G73050M62	5 x 16	Black	19,2	20,0	21,8	1010	1,2	67	2,29
12041G72051M62	5 G 16	Black	19,2	20,0	21,8	1010	1,2	67	2,29
12041G73050M63	5 x 25	Black	24,0	25,0	27,0	1550	0,7	89	3,57
12041G73050M64	5 x 35	Black	27,0	28,1	30,4	2350	0,5	110	5,00
12041GG3040M10	4 x 1	Orange	8,0	8,4	9,2	130	18,1	13	0,14
12041GG3050M10	5 x 1	Orange	8,9	9,3	10,2	150	18,1	13	0,14
12041GG1070M10	7 x 1	Orange	9,7	10,1	11,0	180	18,1	8	0,14
12041GG1100M10	10 x 1	Orange	12,4	13,0	14,1	240	18,1	7	0,14
12041GG1120M10	12 x 1	Orange	12,4	13,0	14,1	280	18,1	7	0,14
12041GG1140M10	14 x 1	Orange	13,1	13,7	14,8	320	18,1	6	0,14
12041GG1160M10	16 x 1	Orange	14,4	15,0	16,4	350	18,1	6	0,14
12041GG1190M10	19 x 1	Orange	15,2	15,8	17,2	400	18,1	6	0,14
12041GG1240M10	24 x 1	Orange	17,8	18,6	20,2	500	18,1	5	0,14
12041GG1270M10	27 x 1	Orange	18,3	19,1	20,8	540	18,1	5	0,14
12041GG1300M10	30 x 1	Orange	18,5	19,4	21,0	600	18,1	5	0,14
12041GG1370M10	37 x 1	Orange	20,6	21,5	23,2	710	18,1	5	0,14
12041GG1070M15	7 x 1,5	Orange	10,3	10,8	11,7	230	12,1	10	0,21
12041GG1100M15	10 x 1,5	Orange	13,2	13,8	15,0	320	12,1	9	0,21
12041GG1120M15	12 x 1,5	Orange	13,4	14,0	15,2	360	12,1	9	0,21
12041GG1140M15	14 x 1,5	Orange	14,1	14,8	16,0	400	12,1	8	0,21
12041GG1160M15	16 x 1,5	Orange	15,4	16,0	17,4	470	12,1	8	0,21
12041GG1190M15	19 x 1,5	Orange	16,4	17,1	18,6	530	12,1	7	0,21
12041GG1240M15	24 x 1,5	Orange	19,2	20,0	21,8	660	12,1	7	0,21
12041GG1270M15	27 x 1,5	Orange	19,3	20,1	21,7	720	12,1	7	0,21
12041GG1300M15	30 x 1,5	Orange	20,0	20,8	22,5	790	12,1	6	0,21
12041GG1370M15	37 x 1,5	Orange	22,2	23,2	25,0	950	12,1	6	0,21
12041GG1070M25	7 x 2,5	Orange	11,8	12,3	13,4	300	7,4	14	0,36
12041GG1100M25	10 x 2,5	Orange	15,1	15,8	17,2	420	7,4	12	0,36
12041GG1120M25	12 x 2,5	Orange	15,1	15,8	17,2	490	7,4	11	0,36
12041GG1140M25	14 x 2,5	Orange	16,1	16,8	18,3	560	7,4	11	0,36
12041GG1160M25	16 x 2,5	Orange	17,5	18,3	19,9	630	7,4	10	0,36
12041GG1190M25	19 x 2,5	Orange	18,5	19,3	21,0	720	7,4	10	0,36
12041GG1240M25	24 x 2,5	Orange	21,9	22,8	24,6	900	7,4	9	0,36
12041GG1270M25	27 x 2,5	Orange	22,0	23,0	24,8	1000	7,4	9	0,36
12041GG1300M25	30 x 2,5	Orange	22,8	23,8	25,7	1100	7,4	8	0,36
12041GG1370M25	37 x 2,5	Orange	25,4	26,5	28,6	1320	7,4	8	0,36

Other dimensions and colors available on request.

## GAALSHIP® HF 1000 A

Armoured, power and control cable 0,6/1 kV



### Applications:

Power and control cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2 flexible up to 10 mm <sup>2</sup> Cl. 5 from 16 mm <sup>2</sup> , acc. to EN IEC 60228
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334 green-yellow earth-wire from 3 cores
<b>Inner sheath (if any):</b>	Halogen free compound or synthetic tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360, Thickness acc. to IEC 60092-353
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 1000 A, cross nominal section sqmm, 0,6/1 kV, part n°, IEC 60092-353, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

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

### Resistance:



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



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



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

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0,6/1 kV
<b>Test voltage:</b>	3,5 kV
<b>Temperature range:</b>	-40°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

Sheathing and insulating materials acc. to: IEC 60092-360  
Design guidelines acc. to IEC 60092-350/353  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor for sections up to 10 mm<sup>2</sup>

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 A

Armoured, power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 A

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12051G7L010M60	1 x 6	Black	6,8	7,1	7,8	135	3,1	52	0,85
12051G7L010M61	1 x 10	Black	7,8	8,1	8,9	185	1,8	72	1,43
12051G7L010M62	1 x 16	Black	9,0	9,3	10,3	250	1,2	96	2,29
12051G7L010M63	1 x 25	Black	10,6	11,0	12,0	360	0,7	127	3,57
12051G7L010M64	1 x 35	Black	11,8	12,3	13,4	465	0,5	157	5,00
12051G7L010M65	1 x 50	Black	13,5	14,0	15,3	850	0,4	196	7,15
12051G7L010M66	1 x 70	Black	15,8	16,4	17,9	1100	0,3	242	10,01
12051G7L010M67	1 x 95	Black	17,5	18,2	19,9	1370	0,2	293	13,59
12051G7L010M68	1 x 120	Black	19,3	20,1	21,7	1690	0,2	339	17,16
12051G7L010M69	1 x 150	Black	21,2	22,1	23,8	2070	0,1	389	21,45
12051G7L010M70	1 x 185	Black	23,5	24,5	26,5	2500	0,1	444	26,45
12051G7L010M71	1 x 240	Black	26,2	27,3	29,5	3120	0,1	522	34,32
12051G7L010M72	1 x 300	Black	29,1	30,3	32,5	3740	0,1	601	42,90
12051G73020M15	2 x 1,5	Black	8,3	8,7	9,5	135	12,1	20	0,21
12051G73020M25	2 x 2,5	Black	9,2	9,6	10,5	160	7,4	26	0,36
12051GE3020M40	2 x 4	Green	10,2	10,6	11,5	210	4,6	34	0,57
12051GE3020M60	2 x 6	Green	11,4	11,9	13,0	260	3,1	44	0,85
12051G73020M61	2 x 10	Black	13,4	13,9	15,2	390	1,8	61	1,43
12051G73020M62	2 x 16	Black	15,8	16,5	18,0	530	1,2	82	2,29
12051G73020M63	2 x 25	Black	19,3	20,1	21,7	760	0,7	108	3,57
12051G73020M64	2 x 35	Black	21,6	22,5	24,3	1450	0,5	133	5,00
12051G73030M15	3 x 1,5	Black	8,8	9,1	10,0	160	12,1	16	0,21
12051GE2031M15	3 G 1,5	Green	8,8	9,1	10,0	160	12,1	20	0,21
12051G73030M25	3 x 2,5	Black	9,7	10,1	11,0	200	7,4	21	0,36
12051GE2031M25	3 G 2,5	Green	9,7	10,1	11,0	200	7,4	26	0,36
12051G73030M40	3 x 4	Black	10,9	11,4	12,4	260	4,6	28	0,57
12051G72031M40	3 G 4	Black	10,9	11,4	12,4	260	4,6	34	0,57
12051G73030M60	3 x 6	Black	12,1	12,6	13,7	330	3,1	36	0,85
12051G72031M60	3 G 6	Black	12,1	12,6	13,7	330	3,1	44	0,85
12051G73030M61	3 x 10	Black	14,8	15,4	16,8	500	1,8	50	1,43
12051G72031M61	3 G 10	Black	14,8	15,4	16,8	500	1,8	61	1,43
12051G73030M62	3 x 16	Black	17,0	17,7	19,3	700	1,2	67	2,29
12051G72031M62	3 G 16	Black	17,0	17,7	19,3	700	1,2	82	2,29
12051G73030M63	3 x 25	Black	20,7	21,6	23,3	1030	0,7	89	3,57
12051G73030M64	3 x 35	Black	23,2	24,2	26,1	1500	0,5	110	5,00
12051G73030M65	3 x 50	Black	26,9	28,1	30,3	1960	0,4	137	7,15
12051G73030M66	3 x 70	Black	31,0	32,3	34,6	2670	0,3	169	10,01
12051G73030M67	3 x 95	Black	34,6	36,0	38,5	3520	0,2	205	13,59
12051G73030M68	3 x 120	Black	39,1	40,7	43,1	4600	0,2	237	17,16
12051G73030M69	3 x 150	Black	43,1	44,9	47,6	5630	0,1	272	21,45
12051G73030M70	3 x 185	Black	48,1	50,1	53,1	6970	0,1	311	26,45
12051G73030M71	3 x 240	Black	53,9	56,2	59,5	9950	0,1	365	34,32
12051GG3040M15	4 x 1,5	Orange	9,5	9,9	10,9	200	12,1	16	0,21
12051G73040M15	4 x 1,5	Black	9,5	9,9	10,9	200	12,1	16	0,21
12051GE2041M15	4 G 1,5	Green	9,5	9,9	10,9	200	12,1	16	0,21
12051GG3040M25	4 x 2,5	Orange	10,5	10,9	11,9	240	7,4	21	0,36
12051G73040M25	4 x 2,5	Black	10,5	10,9	11,9	240	7,4	21	0,36
12051GE2041M25	4 G 2,5	Green	10,5	10,9	11,9	240	7,4	21	0,36
12051G73040M40	4 x 4	Black	11,9	12,4	13,5	320	4,6	28	0,57
12051G72041M40	4 G 4	Black	11,9	12,4	13,5	320	4,6	28	0,57
12051G73040M60	4 x 6	Black	13,8	14,4	15,6	450	3,1	36	0,85
12051G72041M60	4 G 6	Black	13,8	14,4	15,6	450	3,1	36	0,85
12051G73040M61	4 x 10	Black	16,1	16,8	18,3	630	1,8	50	1,43
12051G72041M61	4 G 10	Black	16,1	16,8	18,3	630	1,8	50	1,43
12051G73040M62	4 x 16	Black	18,6	19,4	21,1	890	1,2	67	2,29
12051G72041M62	4 G 16	Black	18,6	19,4	21,1	890	1,2	67	2,29
12051G73040M63	4 x 25	Black	22,9	23,9	25,8	1320	0,7	89	3,57
12051G73040M64	4 x 35	Black	25,7	26,8	28,9	1790	0,5	110	5,00

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 A

Armoured, power and control cable 0,6/1 kV



Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12051G73040M65	4 x 50	Black	29,8	31,1	33,3	2470	0,4	137	7,15
12051G73040M66	4 x 70	Black	34,4	35,8	38,3	3370	0,3	169	10,01
12051G73040M67	4 x 95	Black	38,7	40,3	42,7	4570	0,2	205	13,59
12051G73040M68	4 x 120	Black	43,5	45,3	48,0	5800	0,2	237	17,16
12051G73040M69	4 x 150	Black	47,9	49,9	52,9	7120	0,1	272	21,45
12051G73040M70	4 x 185	Black	53,6	55,8	59,1	8900	0,1	311	26,45
12051GG3050M15	5 x 1,5	Orange	10,2	10,7	11,6	230	12,1	16	0,21
12051G72051M15	5 G 1,5	Black	10,2	10,7	11,6	230	12,1	16	0,21
12051GG3050M25	5 x 2,5	Orange	11,6	12,1	13,1	300	7,4	21	0,36
12051G72051M25	5 G 2,5	Black	11,6	12,1	13,1	300	7,4	21	0,36
12051G73050M40	5 x 4	Black	12,9	13,5	14,7	425	4,6	28	0,57
12051G72051M40	5G4	Black	12,9	13,5	14,7	425	4,6	28	0,57
12051G73050M60	5 x 6	Black	15,0	15,6	17,0	540	3,1	36	0,85
12051G72051M60	5 G 6	Black	15,0	15,6	17,0	540	3,1	36	0,85
12051G73050M61	5 x 10	Black	17,7	18,5	20,1	770	1,8	50	1,43
12051G72051M61	5 G 10	Black	17,7	18,5	20,1	770	1,8	50	1,43
12051G73050M62	5 x 16	Black	20,5	21,4	23,1	1100	1,2	67	2,29
12051G72051M62	5 G 16	Black	20,5	21,4	23,1	1100	1,2	67	2,29
12051G73050M63	5 x 25	Black	25,1	26,2	28,3	1630	0,7	89	3,57
12051G73050M64	5 x 35	Black	28,4	29,5	31,9	2800	0,5	110	5,00
12051GG3040M10	4 x 1	Orange	9,0	9,4	10,3	160	18,1	13	0,14
12051GG3050M10	5 x 1	Orange	9,7	10,1	11,0	180	18,1	13	0,14
12051GG1070M10	7 x 1	Orange	10,5	10,9	11,9	230	18,1	8	0,14
12051GG1100M10	10 x 1	Orange	13,2	13,8	15,0	350	18,1	7	0,14
12051GG1120M10	12 x 1	Orange	13,8	14,4	15,6	390	18,1	7	0,14
12051GG1140M10	14 x 1	Orange	14,4	15,0	16,4	420	18,1	6	0,14
12051GG1160M10	16 x 1	Orange	15,6	16,2	17,7	480	18,1	6	0,14
12051GG1190M10	19 x 1	Orange	16,3	17,0	18,5	530	18,1	6	0,14
12051GG1240M10	24 x 1	Orange	18,9	19,7	21,5	670	18,1	5	0,14
12051GG1270M10	27 x 1	Orange	19,6	20,5	22,1	700	18,1	5	0,14
12051GG1300M10	30 x 1	Orange	19,9	20,7	22,4	750	18,1	5	0,14
12051GG1370M10	37 x 1	Orange	21,8	22,7	24,5	890	18,1	5	0,14
12051GG1070M15	7 x 1,5	Orange	11,3	11,7	12,8	280	12,1	10	0,21
12051GG1100M15	10 x 1,5	Orange	14,6	15,2	16,6	430	12,1	9	0,21
12051GG1120M15	12 x 1,5	Orange	14,6	15,2	16,6	490	12,1	9	0,21
12051GG1140M15	14 x 1,5	Orange	15,3	15,9	17,3	530	12,1	8	0,21
12051GG1160M15	16 x 1,5	Orange	16,7	17,4	19,0	590	12,1	8	0,21
12051GG1190M15	19 x 1,5	Orange	17,5	18,3	19,9	670	12,1	7	0,21
12051GG1240M15	24 x 1,5	Orange	20,3	21,2	22,9	640	12,1	7	0,21
12051GG1270M15	27 x 1,5	Orange	20,5	21,3	23,0	900	12,1	7	0,21
12051GG1300M15	30 x 1,5	Orange	21,3	22,2	24,0	980	12,1	6	0,21
12051GG1370M15	37 x 1,5	Orange	23,4	24,4	26,3	1150	12,1	6	0,21
12051GG1070M25	7 x 2,5	Orange	12,5	13,1	14,2	400	7,4	14	0,36
12051GG1100M25	10 x 2,5	Orange	16,5	17,2	18,7	550	7,4	12	0,36
12051GG1120M25	12 x 2,5	Orange	16,5	17,2	18,7	610	7,4	11	0,36
12051GG1140M25	14 x 2,5	Orange	17,3	18,0	19,6	690	7,4	11	0,36
12051GG1160M25	16 x 2,5	Orange	18,7	19,5	21,2	770	7,4	10	0,36
12051GG1190M25	19 x 2,5	Orange	19,8	20,7	22,3	870	7,4	10	0,36
12051GG1240M25	24 x 2,5	Orange	23,0	24,0	25,9	1080	7,4	9	0,36
12051GG1270M25	27 x 2,5	Orange	23,2	24,2	26,1	1190	7,4	9	0,36
12051GG1300M25	30 x 2,5	Orange	24,2	25,2	27,2	1290	7,4	8	0,36
12051GG1370M25	37 x 2,5	Orange	26,5	27,7	29,9	1530	7,4	8	0,36

Other dimensions and colors available on request.



## GAALSHIP® HF 1000 A EMC

Armoured, power and control cable, EMC, 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 A EMC

### Applications:

EMC power and control cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2 flexible up to 10 mm <sup>2</sup> Cl. 5 from 16 mm <sup>2</sup> , acc. to EN IEC 60228
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334 green-yellow earth-wire from 3 cores
<b>Inner sheath (if any):</b>	Halogen free compound or synthetic tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid + 100% coverage plain annealed copper/polyester tape acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360, Thickness acc. to IEC 60092-353
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 1000 A EMC, cross nominal section sqmm, 0,6/1 kV, part n°, IEC 60092-353, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

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

### Resistance:



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



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



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

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0,6/1 kV
<b>Test voltage:</b>	3,5 kV
<b>Temperature range:</b>	-40°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

Sheathing and insulating materials acc. to: IEC 60092-360  
Design guidelines acc. to IEC 60092-350/353  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor for sections up to 10 mm<sup>2</sup>

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 A EMC

Armoured, power and control cable, EMC, 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 A EMC

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12091G73037M63	3 x 25 + 3 G 6	Black	26,1	30,6	33	1296	0,8 / 3,1	89	3,75
12091G73037M65	3 x 50 + 3 G 10	Black	31,3	35,8	38,4	2374	0,4 / 1,8	137	7,20
12091G73037M66	3 x 70 + 3 G 16	Black	36,6	41,1	43,8	3263	0,3 / 1,2	169	10,10
12091G73037M67	3 x 95 + 3 G 16	Black	41,2	45,7	48,5	4113	0,2 / 1,2	205	13,70
12091G72041M60	4 G 6	Black	13	15,2	17,1	646	3,1	36	0,95
12091G72041M61	4 G 10	Black	16	18,5	20,4	874	1,8	50	1,55

Other dimensions and colors available on request.

## GAALSHIP® HF 1000 FR

Fire resistant power and control cable 0,6/1 kV



### Applications:

Fire resistant power and control cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Construction:

- Conductor:** Plain annealed copper or Tinned annealed copper conductor  
Cl. 2 flexible up to 10 mm<sup>2</sup>  
Cl. 5 from 16 mm<sup>2</sup>, acc. to EN IEC 60228
- Insulation:** MICA glass tape + GAALTHERM® 595
- Cores color:** Acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334 green-yellow earth-wire from 3 cores
- Inner sheath (if any):** Halogen free compound or synthetic tape
- Outer sheath:** Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360, Thickness acc. to IEC 60092-353
- Marking:** ELETTROTEK KABEL® GAALSHIP® HF 1000 FR, cross nominal section sqmm, 0,6/1 kV, part n°, IEC 60092-353, IEC 60332-3-22, IEC 60331, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

- Nominal voltage:** U<sub>0</sub>/U 0,6/1 kV
- Test voltage:** 3,5 kV
- Temperature range:** -40°C up to +90°C
- Installation temp.:** -5°C
- Short circuit temperature:** +250°C
- Min. bending radius:** 4 x Outer diameter

### Type Approvals/Certificates:

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

### Resistance:



**Fire resistant acc. to:**  
IEC 60331-21  
IEC 60331-2 (under 20 mm Ø)  
IEC 60331-1 (over 20 mm Ø)



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



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



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

### Features:

- Sheathing and insulating materials acc. to: IEC 60092-360
- Design guidelines acc. to IEC 60092-350/353
- Choice and installation of electric cables acc. to IEC 60092-352
- Cold bend test at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)
- Cold bend impact at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)
- On request class 5 conductor for sections up to 10 mm<sup>2</sup>

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 FR

Fire resistant power and control cable 0,6/1 kV



Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12061G7L010M15	1 x 1,5	Black	5,0	5,2	5,7	60	12,1	23	0,21
12061G7L010M25	1 x 2,5	Black	5,4	5,7	6,2	70	7,4	30	0,36
12061G7L010M40	1 x 4	Black	5,9	6,2	6,8	90	4,6	40	0,57
12061G7L010M60	1 x 6	Black	6,4	6,7	7,3	110	3,1	52	0,85
12061G7L010M61	1 x 10	Black	7,4	7,7	8,5	150	1,8	72	1,43
12061G7L010M62	1 x 16	Black	8,4	8,7	9,6	210	1,2	96	2,29
12061G7L010M63	1 x 25	Black	10,2	10,6	11,6	310	0,7	127	3,57
12061G7L010M64	1 x 35	Black	11,3	11,7	12,8	420	0,5	157	5,00
12061G7L010M65	1 x 50	Black	13,1	13,6	14,9	680	0,4	196	7,15
12061G7L010M66	1 x 70	Black	15,0	15,6	17,0	910	0,3	242	10,01
12061G7L010M67	1 x 95	Black	16,5	17,2	18,8	1170	0,2	293	13,59
12061G7L010M68	1 x 120	Black	18,6	19,3	21,1	1450	0,2	339	17,16
12061G7L010M69	1 x 150	Black	20,4	21,3	23,0	1750	0,1	389	21,45
12061G7L010M70	1 x 185	Black	22,6	23,5	25,4	2150	0,1	444	26,45
12061G7L010M71	1 x 240	Black	25,3	26,3	28,4	2740	0,1	522	34,32
12061G7L010M72	1 x 300	Black	28,2	29,3	31,7	3330	0,1	601	42,90
12061G73020M15	2 x 1,5	Black	8,1	8,5	9,3	140	12,1	20	0,21
12061G73020M25	2 x 2,5	Black	9,2	9,6	10,5	160	7,4	26	0,36
12061GE3020M40	2 x 4	Green	10,1	10,6	11,5	220	4,6	34	0,57
12061GE3020M60	2 x 6	Green	11,1	11,6	12,6	270	3,1	44	0,85
12061G73020M61	2 x 10	Black	13,4	13,9	15,2	380	1,8	61	1,43
12061G73020M62	2 x 16	Black	15,5	16,1	17,6	530	1,2	82	2,29
12061G73020M63	2 x 25	Black	18,9	19,7	21,5	800	0,7	108	3,57
12061G73020M64	2 x 35	Black	21,2	22,1	23,9	1290	0,5	133	5,00
12061G73030M15	3 x 1,5	Black	8,6	9,0	9,9	160	12,1	16	0,21
12061GE2031M15	3 G 1,5	Green	8,6	9,0	9,9	160	12,1	20	0,21
12061G73030M25	3 x 2,5	Black	9,7	10,1	11,1	190	7,4	21	0,36
12061GE2031M25	3 G 2,5	Green	9,7	10,1	11,1	190	7,4	26	0,36
12061G73030M40	3 x 4	Black	10,8	11,2	12,2	260	4,6	28	0,57
12061G72031M40	3 G 4	Black	10,8	11,2	12,2	260	4,6	34	0,57
12061G73030M60	3 x 6	Black	12,0	12,5	13,6	330	3,1	36	0,85
12061G72031M60	3 G 6	Black	12,0	12,5	13,6	330	3,1	44	0,85
12061G73030M61	3 x 10	Black	14,2	14,8	16,2	480	1,8	50	1,43
12061G72031M61	3 G 10	Black	14,2	14,8	16,2	480	1,8	61	1,43
12061G73030M62	3 x 16	Black	16,5	17,2	18,7	680	1,2	67	2,29
12061G72031M62	3 G 16	Black	16,5	17,2	18,7	680	1,2	82	2,29
12061G73030M63	3 x 25	Black	20,2	21,1	22,8	1030	0,7	89	3,57
12061G73030M64	3 x 35	Black	22,7	23,6	25,5	1310	0,5	110	5,00
12061G73030M65	3 x 50	Black	26,6	27,7	29,9	1820	0,4	137	7,15
12061G73030M66	3 x 70	Black	30,5	31,8	34,0	2490	0,3	169	10,01
12061G73030M67	3 x 95	Black	34,0	35,5	37,9	3300	0,2	205	13,59
12061G73030M68	3 x 120	Black	38,4	40,0	42,8	4210	0,2	237	17,16
12061G73030M69	3 x 150	Black	42,2	43,9	46,6	5100	0,1	272	21,45
12061G73030M70	3 x 150	Black	47,2	49,2	52,2	6490	0,1	311	26,45
12061G73030M71	3 x 240	Black	53,0	55,2	58,5	8410	0,1	365	34,32
12061GG3040M15	4 x 1,5	Orange	9,6	10,0	10,9	180	12,1	16	0,21
12061G73040M15	4 x 1,5	Black	9,6	10,0	10,9	180	12,1	16	0,21
12061GE2041M15	4 G 1,5	Green	9,6	10,0	10,9	180	12,1	16	0,21
12061GG3040M25	4 x 2,5	Orange	10,7	11,1	12,1	240	7,4	21	0,36
12061G73040M25	4 x 2,5	Black	10,7	11,1	12,1	240	7,4	21	0,36
12061GE2041M25	4 G 2,5	Green	10,7	11,1	12,1	240	7,4	21	0,36
12061G73040M40	4 x 4	Black	12,0	12,5	13,6	320	4,6	28	0,57
12061G72041M40	4 G 4	Black	12,0	12,5	13,6	320	4,6	28	0,57
12061G73040M60	4 x 6	Black	13,2	13,7	15,0	420	3,1	36	0,85
12061G72041M60	4 G 6	Black	13,2	13,7	15,0	420	3,1	36	0,85
12061G73040M61	4 x 10	Black	15,9	16,5	18,0	600	1,8	50	1,43
12061G72041M61	4 G 10	Black	15,9	16,5	18,0	600	1,8	50	1,43
12061G73040M62	4 x 16	Black	18,4	19,2	20,9	850	1,2	67	2,29
12061G72041M62	4 G 16	Black	18,4	19,2	20,9	850	1,2	67	2,29
12061G73040M63	4 x 25	Black	22,5	23,5	25,3	1300	0,7	89	3,57
12061G73040M64	4 x 35	Black	25,3	26,3	28,4	1670	0,5	110	5,00

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 FR

Fire resistant power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 FR

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12061G73040M65	4 x 50	Black	29,6	30,9	33,0	2300	0,4	137	7,15
12061G73040M66	4 x 70	Black	34,0	35,4	37,9	3180	0,3	169	10,01
12061G73040M67	4 x 95	Black	38,1	39,7	42,5	4210	0,2	205	13,59
12061G73040M68	4 x 120	Black	42,7	44,5	47,1	5420	0,2	237	17,16
12061G73040M69	4 x 150	Black	47,1	49,1	52,1	6640	0,1	272	21,45
12061G73040M70	4 x 185	Black	52,8	55,0	58,2	8340	0,1	311	26,45
12061GG3050M15	5 x 1,5	Orange	10,5	10,9	11,9	230	12,1	16	0,21
12061G72051M15	5 G 1,5	Black	10,5	10,9	11,9	230	12,1	16	0,21
12061GG3050M25	5 x 2,5	Orange	11,7	12,1	13,2	280	7,4	21	0,36
12061G72051M25	5 G 2,5	Black	11,7	12,1	13,2	280	7,4	21	0,36
12061G73050M40	5 x 4	Black	13,1	13,7	14,9	390	4,6	28	0,57
12061G72051M40	5 G 4	Black	13,1	13,7	14,9	390	4,6	28	0,57
12061G73050M60	5 x 6	Black	14,6	15,2	16,6	500	3,1	36	0,85
12061G72051M60	5 G 6	Black	14,6	15,2	16,6	500	3,1	36	0,85
12061G73050M61	5 x 10	Black	17,4	18,2	19,8	730	1,8	50	1,43
12061G72051M61	5 G 10	Black	17,4	18,2	19,8	730	1,8	50	1,43
12061G73050M62	5 x 16	Black	20,2	21,1	22,7	1050	1,2	67	2,29
12061G72051M62	5 G 16	Black	20,2	21,1	22,7	1050	1,2	67	2,29
12061G73050M63	5 x 25	Black	25,0	26,1	28,1	1610	0,7	89	3,57
12061G73050M64	5 x 35	Black	28,1	29,2	31,6	2440	0,5	110	5,00
12061GG3040M10	4 x 1	Orange	9,0	9,3	10,3	150	18,1	13	0,14
12061GG3050M10	5 x 1	Orange	10,0	10,4	11,3	180	18,1	13	0,14
12061GG1070M10	7 x 1	Orange	10,8	11,3	12,3	220	18,1	8	0,14
12061GG1100M10	10 x 1	Orange	14,0	14,6	15,9	300	18,1	7	0,14
12061GG1120M10	12 x 1	Orange	14,0	14,6	15,9	340	18,1	7	0,14
12061GG1140M10	14 x 1	Orange	14,7	15,3	16,7	380	18,1	6	0,14
12061GG1160M10	16 x 1	Orange	16,2	16,9	18,4	420	18,1	6	0,14
12061GG1190M10	19 x 1	Orange	17,1	17,8	19,4	480	18,1	6	0,14
12061GG1240M10	24 x 1	Orange	20,1	20,9	22,6	610	18,1	5	0,14
12061GG1270M10	27 x 1	Orange	20,2	21,1	22,7	660	18,1	5	0,14
12061GG1300M10	30 x 1	Orange	20,9	21,8	23,6	730	18,1	5	0,14
12061GG1370M10	37 x 1	Orange	23,3	24,3	26,2	870	18,1	5	0,14
12061GG1070M15	7 x 1,5	Orange	11,4	11,9	13,0	270	12,1	10	0,21
12061GG1100M15	10 x 1,5	Orange	14,7	15,4	16,7	370	12,1	9	0,21
12061GG1120M15	12 x 1,5	Orange	14,9	15,6	16,9	430	12,1	9	0,21
12061GG1140M15	14 x 1,5	Orange	15,7	16,4	17,8	480	12,1	8	0,21
12061GG1160M15	16 x 1,5	Orange	17,1	17,8	19,4	540	12,1	8	0,21
12061GG1190M15	19 x 1,5	Orange	18,2	19,0	20,7	620	12,1	7	0,21
12061GG1240M15	24 x 1,5	Orange	21,4	22,3	24,1	780	12,1	7	0,21
12061GG1270M15	27 x 1,5	Orange	21,6	22,5	24,2	850	12,1	7	0,21
12061GG1300M15	30 x 1,5	Orange	22,3	23,3	25,1	940	12,1	6	0,21
12061GG1370M15	37 x 1,5	Orange	24,9	25,9	28,0	1130	12,1	6	0,36
12061GG1070M25	7 x 2,5	Orange	12,9	13,5	14,7	350	7,4	14	0,36
12061GG1100M25	10 x 2,5	Orange	16,7	17,4	18,9	480	7,4	12	0,36
12061GG1120M25	12 x 2,5	Orange	16,7	17,4	18,9	550	7,4	11	0,36
12061GG1140M25	14 x 2,5	Orange	17,7	18,5	20,1	640	7,4	11	0,36
12061GG1160M25	16 x 2,5	Orange	19,3	20,1	21,8	710	7,4	10	0,36
12061GG1190M25	19 x 2,5	Orange	20,4	21,3	23,0	820	7,4	10	0,36
12061GG1240M25	24 x 2,5	Orange	24,2	25,2	27,2	1030	7,4	9	0,36
12061GG1270M25	27 x 2,5	Orange	24,3	25,4	27,4	1130	7,4	9	0,36
12061GG1300M25	30 x 2,5	Orange	25,2	26,3	28,4	1250	7,4	8	0,36
12061GG1370M25	37 x 2,5	Orange	28,1	29,3	31,6	1500	7,4	8	0,36

Other dimensions and colors available on request.

## GAALSHIP® HF 1000 A FR

Armoured, fire resistant power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 A FR

### Applications:

Fire resistant power and control cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2 flexible up to 10 mm <sup>2</sup> Cl. 5 from 16 mm <sup>2</sup> , acc. to EN IEC 60228
<b>Insulation:</b>	MICA glass tape + GAALTHERM® 595
<b>Cores color:</b>	Acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334 green-yellow earth-wire from 3 cores
<b>Inner sheath (if any):</b>	Halogen free compound or synthetic tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360, Thickness acc. to IEC 60092-353
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 1000 A FR, cross nominal section sqmm, 0,6/1 kV, part n°, IEC 60092-353, IEC 60332-3-22, IEC 60331, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

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

### Resistance:



**Fire resistant acc. to:**  
IEC 60331-21  
IEC 60331-2 (under 20 mm Ø)  
IEC 60331-1 (over 20 mm Ø)



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



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



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

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0,6/1 kV
<b>Test voltage:</b>	3,5 kV
<b>Temperature range:</b>	-40°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

Sheathing and insulating materials acc. to: IEC 60092-360  
Design guidelines acc. to IEC 60092-350/353  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor for sections up to 10 mm<sup>2</sup>

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 A FR

Armoured, fire resistant power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 A FR

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12071G7L010M60	1 x 6	Black	7,2	7,5	8,2	230	3,1	52	0,85
12071G7L010M61	1 x 10	Black	8,2	8,5	9,4	280	1,8	72	1,43
12071G7L010M62	1 x 16	Black	9,3	9,7	10,7	350	1,2	96	2,29
12071G7L010M63	1 x 25	Black	11,0	11,4	12,5	475	0,7	127	3,57
12071G7L010M64	1 x 35	Black	12,2	12,7	13,9	650	0,5	157	5,00
12071G7L010M65	1 x 50	Black	13,9	14,4	15,7	870	0,4	196	7,15
12071G7L010M66	1 x 70	Black	16,2	16,8	18,3	1120	0,3	242	10,01
12071G7L010M67	1 x 95	Black	17,9	18,6	20,3	1410	0,2	293	13,59
12071G7L010M68	1 x 120	Black	19,7	20,5	22,2	1720	0,2	339	17,16
12071G7L010M69	1 x 150	Black	21,6	22,5	24,3	2100	0,1	389	21,45
12071G7L010M70	1 x 185	Black	23,9	24,9	26,9	2520	0,1	444	26,45
12071G7L010M71	1 x 240	Black	26,6	27,7	29,9	3140	0,1	522	34,32
12071G7L010M72	1 x 300	Black	29,5	30,7	32,9	3750	0,1	601	42,90
12071G73020M15	2 x 1,5	Black	9,1	9,5	10,4	300	12,1	20	0,21
12071G73020M25	2 x 2,5	Black	9,9	10,4	11,3	350	7,4	26	0,36
12071GE3020M40	2 x 4	Green	10,9	11,4	12,4	400	4,6	34	0,57
12071GE3020M60	2 x 6	Green	12,0	12,6	13,7	470	3,1	44	0,85
12071G73020M61	2 x 10	Black	14,1	14,7	16,0	670	1,8	61	1,43
12071G73020M62	2 x 16	Black	16,6	17,3	18,9	850	1,2	82	2,29
12071G73020M63	2 x 25	Black	20,1	20,9	22,6	1200	0,7	108	3,57
12071G73020M64	2 x 35	Black	22,4	23,3	25,2	1610	0,5	133	5,00
12071G73030M15	3 x 1,5	Black	9,6	10,0	11,0	310	12,1	16	0,21
12071GE2031M15	3 G 1,5	Green	9,6	10,0	11,0	310	12,1	20	0,21
12071G73030M25	3 x 2,5	Black	10,5	10,9	11,9	375	7,4	21	0,36
12071GE2031M25	3 G 2,5	Green	10,5	10,9	11,9	375	7,4	26	0,36
12071G73030M40	3 x 4	Black	11,7	12,2	13,3	450	4,6	28	0,57
12071G72031M40	3 G 4	Black	11,7	12,2	13,3	450	4,6	34	0,57
12071G73030M60	3 x 6	Black	13,2	13,7	14,9	600	3,1	36	0,85
12071G72031M60	3 G 6	Black	13,2	13,7	14,9	600	3,1	44	0,85
12071G73030M61	3 x 10	Black	15,6	16,2	17,7	780	1,8	50	1,43
12071G72031M61	3 G 10	Black	15,6	16,2	17,7	780	1,8	61	1,43
12071G73030M62	3 x 16	Black	17,8	18,6	20,3	1020	1,2	67	2,29
12071G72031M62	3 G 16	Black	17,8	18,6	20,3	1020	1,2	82	2,29
12071G73030M63	3 x 25	Black	21,6	22,5	24,3	1450	0,7	89	3,57
12071G73030M64	3 x 35	Black	24,0	25,0	27,0	1940	0,5	110	5,00
12071G73030M65	3 x 50	Black	27,8	28,9	31,2	2560	0,4	137	7,15
12071G73030M66	3 x 70	Black	31,9	33,2	35,5	3370	0,3	169	10,01
12071G73030M67	3 x 95	Black	35,4	36,9	39,4	4470	0,2	205	13,59
12071G73030M68	3 x 120	Black	40,1	41,8	44,3	5580	0,2	237	17,16
12071G73030M69	3 x 150	Black	43,9	45,7	48,5	6780	0,1	272	21,45
12071G73030M70	3 x 185	Black	49,0	51,0	54,1	8400	0,1	311	26,45
12071G73030M71	3 x 240	Black	54,7	57,0	60,4	10600	0,1	365	34,32
12071GG3040M15	4 x 1,5	Orange	10,4	10,8	11,8	360	12,1	16	0,21
12071G73040M15	4 x 1,5	Black	10,4	10,8	11,8	360	12,1	16	0,21
12071GE2041M15	4 G 1,5	Green	10,4	10,8	11,8	360	12,1	16	0,21
12071GG3040M25	4 x 2,5	Orange	11,6	12,1	13,2	420	7,4	21	0,36
12071G73040M25	4 x 2,5	Black	11,6	12,1	13,2	420	7,4	21	0,36
12071GE2041M25	4 G 2,5	Green	11,6	12,1	13,2	420	7,4	21	0,36
12071G73040M40	4 x 4	Black	12,8	13,3	14,5	580	4,6	28	0,57
12071G72041M40	4 G 4	Black	12,8	13,3	14,5	580	4,6	28	0,57
12071G73040M60	4 x 6	Black	14,5	15,1	16,5	700	3,1	36	0,85
12071G72041M60	4 G 6	Black	14,5	15,1	16,5	700	3,1	36	0,85
12071G73040M61	4 x 10	Black	17,0	17,7	19,3	920	1,8	50	1,43
12071G72041M61	4 G 10	Black	17,0	17,7	19,3	920	1,8	50	1,43
12071G73040M62	4 x 16	Black	19,5	20,4	22,0	1230	1,2	67	2,29
12071G72041M62	4 G 16	Black	19,5	20,4	22,0	1230	1,2	67	2,29
12071G73040M63	4 x 25	Black	23,9	24,9	26,9	1750	0,7	89	3,57
12071G73040M64	4 x 35	Black	26,6	27,7	29,9	2320	0,5	110	5,00

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 A FR

Armoured, fire resistant power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 A FR

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12071G73040M65	4 x 50	Black	30,8	32,0	34,3	3150	0,4	137	7,15
12071G73040M66	4 x 70	Black	35,3	36,8	39,4	4180	0,3	169	10,01
12071G73040M67	4 x 95	Black	39,6	41,3	43,8	5550	0,2	205	13,59
12071G73040M68	4 x 120	Black	44,4	46,3	49,0	6920	0,2	237	17,16
12071G73040M69	4 x 150	Black	48,9	50,9	54,0	8480	0,1	272	21,45
12071G73040M70	4 x 185	Black	54,5	56,8	60,2	10500	0,1	311	26,45
12071GG3050M15	5 x 1,5	Orange	11,3	11,7	12,8	420	12,1	16	0,21
12071G72051M15	5 G 1,5	Black	11,3	11,7	12,8	420	12,1	16	0,21
12071GG3050M25	5 x 2,5	Orange	12,6	13,1	14,3	550	7,4	21	0,36
12071G72051M25	5 G 2,5	Black	12,6	13,1	14,3	550	7,4	21	0,36
12071G73050M40	5 x 4	Black	13,9	14,5	15,8	670	4,6	28	0,57
12071G72051M40	5 G 4	Black	13,9	14,5	15,8	670	4,6	28	0,57
12071G73050M60	5 x 6	Black	15,8	16,4	17,9	830	3,1	36	0,85
12071G72051M60	5 G 6	Black	15,8	16,4	17,9	830	3,1	36	0,85
12071G73050M61	5 x 10	Black	18,8	19,6	21,3	1080	1,8	50	1,43
12071G72051M61	5 G 10	Black	18,8	19,6	21,3	1080	1,8	50	1,43
12071G73050M62	5 x 16	Black	21,6	22,5	24,3	1450	1,2	67	2,29
12071G72051M62	5 G 16	Black	21,6	22,5	24,3	1450	1,2	67	2,29
12071G73050M63	5 x 25	Black	26,2	27,3	29,4	2080	0,7	89	3,57
12071G73050M64	5 x 35	Black	29,4	30,6	32,8	2830	0,5	110	5,00
12071GG3040M10	4 x 1	Orange	9,9	10,3	11,3	320	18,1	13	0,14
12071GG3050M10	5 x 1	Orange	10,7	11,2	12,2	350	18,1	13	0,14
12071GG1070M10	7 x 1	Orange	13,9	14,5	15,8	400	18,1	8	0,14
12071GG1100M10	10 x 1	Orange	17,8	18,6	20,2	600	18,1	7	0,14
12071GG1120M10	12 x 1	Orange	18,4	19,2	20,9	650	18,1	7	0,14
12071GG1140M10	14 x 1	Orange	19,3	20,1	21,7	700	18,1	6	0,14
12071GG1160M10	16 x 1	Orange	21,0	21,9	23,6	750	18,1	6	0,14
12071GG1190M10	19 x 1	Orange	22,1	23,0	24,8	850	18,1	6	0,14
12071GG1240M10	24 x 1	Orange	25,8	26,9	29,0	1020	18,1	5	0,14
12071GG1270M10	27 x 1	Orange	26,7	27,8	30,1	1100	18,1	5	0,14
12071GG1300M10	30 x 1	Orange	27,1	28,2	30,5	1170	18,1	5	0,14
12071GG1370M10	37 x 1	Orange	29,9	31,1	33,3	1350	18,1	5	0,14
12071GG1070M15	7 x 1,5	Orange	14,8	15,5	16,9	550	12,1	10	0,21
12071GG1100M15	10 x 1,5	Orange	19,3	20,2	21,8	710	12,1	9	0,21
12071GG1120M15	12 x 1,5	Orange	19,3	20,2	21,8	770	12,1	9	0,21
12071GG1140M15	14 x 1,5	Orange	20,3	21,2	22,9	840	12,1	8	0,21
12071GG1160M15	16 x 1,5	Orange	22,3	23,2	25,1	890	12,1	8	0,21
12071GG1190M15	19 x 1,5	Orange	23,5	24,5	26,4	1000	12,1	7	0,21
12071GG1240M15	24 x 1,5	Orange	27,4	28,6	30,8	1230	12,1	7	0,21
12071GG1270M15	27 x 1,5	Orange	27,6	28,8	31,1	1330	12,1	7	0,21
12071GG1300M15	30 x 1,5	Orange	28,8	30,0	32,4	1430	12,1	6	0,21
12071GG1370M15	37 x 1,5	Orange	31,7	33,1	35,4	1640	12,1	6	0,21
12071GG1070M25	7 x 2,5	Orange	16,1	16,8	18,3	930	7,4	14	0,36
12071GG1100M25	10 x 2,5	Orange	21,2	22,1	23,9	850	7,4	12	0,36
12071GG1120M25	12 x 2,5	Orange	21,2	22,1	23,9	930	7,4	11	0,36
12071GG1140M25	14 x 2,5	Orange	22,3	23,3	25,1	1020	7,4	11	0,36
12071GG1160M25	16 x 2,5	Orange	24,3	25,3	27,3	1100	7,4	10	0,36
12071GG1190M25	19 x 2,5	Orange	25,8	26,9	29,0	1250	7,4	10	0,36
12071GG1240M25	24 x 2,5	Orange	30,1	31,4	33,6	1540	7,4	9	0,36
12071GG1270M25	27 x 2,5	Orange	30,3	31,6	33,8	1650	7,4	9	0,36
12071GG1300M25	30 x 2,5	Orange	31,6	32,9	35,2	1780	7,4	8	0,36
12071GG1370M25	37 x 2,5	Orange	34,9	36,3	38,9	2080	7,4	8	0,36

Other dimensions and colors available on request.



## GAALSHIP® HF 1000 FR WSR

Fire resistant and water spray resistant, power and control cable 0,6/1 kV



### Applications:

Fire resistant and water spray resistant power and control cables for fixed electrical installations aboard ships, suitable for the power supply 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 flexible up to 10 mm <sup>2</sup> Cl. 5 from 16 mm <sup>2</sup> , acc. to EN IEC 60228
<b>Insulation:</b>	MICA glass tape + GAALTHERM® 597
<b>Cores color:</b>	Acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334 green-yellow earth-wire from 3 cores
<b>Inner sheath (if any):</b>	Halogen free compound or synthetic tape
<b>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Outer sheath:</b>	Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360, Thickness acc. to IEC 60092-353
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 1000 FR WSR, cross nominal section sqmm, 0,6/1 kV, part n°, IEC 60092-353, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)

**BV** (Bureau Veritas)

**LR** (Lloyd's Register)

**DNV-GL** (Det Norske Veritas - Germanischer Lloyd) in progress

**ABS** (American Bureau of Shipping)

**RMRS** (Russian Maritime Register of Shipping)

Other approvals on request

### Resistance:



#### Fire resistant acc. to:

IEC 60331-21,  
IEC 60331-2 (under 20 mm Ø),  
IEC 60331-1 (over 20 mm Ø),  
EN 50200 Annex E Water Spray Test,  
BS 8491 Water Jet Test



#### Flame and fire retardant acc. to:

EN IEC 60332-1-2,  
EN IEC 60332-3-22



#### Halogen free acc. to:

EN IEC 60754-1/2



#### Smoke emission properties acc. to:

EN IEC 61034-1/2

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0,6/1 kV
<b>Test voltage:</b>	3,5 kV
<b>Temperature range:</b>	-40°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

Sheathing and insulating materials acc. to IEC 60092-360

Design guidelines acc. to IEC 60092-350/353

Choice and installation of electric cables acc. to IEC 60092-352

Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)

Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)

On request class 5 conductor for sections up to 10 mm<sup>2</sup>

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 FR WSR

Fire resistant and water spray resistant, power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 FR WSR

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12101G7L010M15	1 x 1,5	Black	6,1	6,4	7,0	70	12,1	23	0,21
12101G7L010M25	1 x 2,5	Black	6,6	6,9	7,5	80	7,4	30	0,36
12101G7L010M40	1 x 4	Black	7,1	7,4	8,1	100	4,6	40	0,57
12101G7L010M60	1 x 6	Black	7,5	7,9	8,6	130	3,1	52	0,85
12101G7L010M61	1 x 10	Black	8,6	8,9	9,8	170	1,8	72	1,43
12101G7L010M62	1 x 16	Black	9,5	9,9	10,9	240	1,2	96	2,29
12101G7L010M63	1 x 25	Black	11,4	11,8	12,9	350	0,7	127	3,57
12101G7L010M64	1 x 35	Black	12,4	12,9	14,1	470	0,5	157	5,00
12101G7L010M65	1 x 50	Black	14,2	14,8	16,2	750	0,4	196	7,15
12101G7L010M66	1 x 70	Black	16,2	16,8	18,3	1010	0,3	242	10,01
12101G7L010M67	1 x 95	Black	17,7	18,4	20,1	1290	0,2	293	13,59
12101G7L010M68	1 x 120	Black	20,1	20,9	22,6	1600	0,2	339	17,16
12101G7L010M69	1 x 150	Black	22,0	22,9	24,7	1930	0,1	389	21,45
12101G7L010M70	1 x 185	Black	24,1	25,1	27,1	2370	0,1	444	26,45
12101G7L010M71	1 x 240	Black	26,8	27,9	30,2	3020	0,1	522	34,32
12101G7L010M72	1 x 300	Black	29,7	30,9	33,1	3670	0,1	601	42,90
12101G73020M15	2 x 1,5	Black	9,3	9,7	10,6	170	12,1	20	0,21
12101G73020M25	2 x 2,5	Black	10,3	10,8	11,7	200	7,4	26	0,36
12101GE3020M40	2 x 4	Green	11,3	11,8	12,8	270	4,6	34	0,57
12101GE3020M60	2 x 6	Green	12,2	12,8	13,9	330	3,1	44	0,85
12101G73020M61	2 x 10	Black	14,5	15,1	16,5	460	1,8	61	1,43
12101G73020M62	2 x 16	Black	16,6	17,3	18,9	640	1,2	82	2,29
12101G73020M63	2 x 25	Black	20,5	21,3	23,0	960	0,7	108	3,57
12101G73020M64	2 x 35	Black	22,8	23,7	25,6	1550	0,5	133	5,00
12101G73030M15	3 x 1,5	Black	9,8	10,2	11,1	200	12,1	16	0,21
12101GE2031M15	3 G 1,5	Green	9,8	10,2	11,1	200	12,1	20	0,21
12101G73030M25	3 x 2,5	Black	10,9	11,3	12,4	230	7,4	21	0,36
12101GE2031M25	3 G 2,5	Green	10,9	11,3	12,4	230	7,4	26	0,36
12101G73030M40	3 x 4	Black	11,9	12,4	13,5	320	4,6	28	0,57
12101G72031M40	3 G 4	Black	11,9	12,4	13,5	320	4,6	34	0,57
12101G73030M60	3 x 6	Black	13,2	13,7	14,9	400	3,1	36	0,85
12101G72031M60	3 G 6	Black	13,2	13,7	14,9	400	3,1	44	0,85
12101G73030M61	3 x 10	Black	15,4	16,0	17,5	580	1,8	50	1,43
12101G72031M61	3 G 10	Black	15,4	16,0	17,5	580	1,8	61	1,43
12101G73030M62	3 x 16	Black	17,7	18,4	20,0	820	1,2	67	2,29
12101G72031M62	3 G 16	Black	17,7	18,4	20,0	820	1,2	82	2,29
12101G73030M63	3 x 25	Black	21,8	22,7	24,5	1240	0,7	89	3,57
12101G73030M64	3 x 35	Black	24,2	25,2	27,3	1580	0,5	110	5,00
12101G73030M65	3 x 50	Black	28,1	29,3	31,7	2190	0,4	137	7,15
12101G73030M66	3 x 70	Black	32,1	33,4	35,7	2990	0,3	169	10,01
12101G73030M67	3 x 95	Black	35,6	37,1	39,7	3960	0,2	205	13,59
12101G73030M68	3 x 120	Black	39,9	41,6	44,1	5060	0,2	237	17,16
12101G73030M69	3 x 150	Black	43,7	45,5	48,3	6120	0,1	272	21,45
12101G73030M70	3 x 185	Black	48,8	50,8	53,8	7790	0,1	311	26,45
12101G73030M71	3 x 240	Black	54,5	56,8	60,2	10100	0,1	365	34,32
12101GG3040M15	4 x 1,5	Orange	10,8	11,2	12,2	220	12,1	16	0,21
12101G73040M15	4 x 1,5	Black	10,8	11,2	12,2	220	12,1	16	0,21
12101GE2041M15	4 G 1,5	Green	10,8	11,2	12,2	220	12,1	16	0,21
12101GG3040M25	4 x 2,5	Orange	11,8	12,3	13,4	290	7,4	21	0,36
12101G73040M25	4 x 2,5	Black	11,8	12,3	13,4	290	7,4	21	0,36
12101GE2041M25	4 G 2,5	Green	11,8	12,3	13,4	290	7,4	21	0,36
12101G73040M40	4 x 4	Black	13,2	13,7	14,9	390	4,6	28	0,57
12101G72041M40	4 G 4	Black	13,2	13,7	14,9	390	4,6	28	0,57
12101G73040M60	4 x 6	Black	14,3	14,9	16,3	510	3,1	36	0,85
12101G72041M60	4 G 6	Black	14,3	14,9	16,3	510	3,1	36	0,85
12101G73040M61	4 x 10	Black	17,0	17,7	19,3	720	1,8	50	1,43
12101G72041M61	4 G 10	Black	17,0	17,7	19,3	720	1,8	50	1,43
12101G73040M62	4 x 16	Black	19,9	20,8	22,4	1020	1,2	67	2,29
12101G72041M62	4 G 16	Black	19,9	20,8	22,4	1020	1,2	67	2,29
12101G73040M63	4 x 25	Black	24,1	25,1	27,1	1560	0,7	89	3,57
12101G73040M64	4 x 35	Black	26,8	27,9	30,2	2010	0,5	110	5,00

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 FR WSR

Fire resistant and water spray resistant, power and control cable 0,6/1 kV



ELETTROTEK KABEL® GAALSHIP® HF 1000 FR WSR

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12101G73040M65	4 x 50	Black	31,2	32,4	34,7	2760	0,4	137	7,15
12101G73040M66	4 x 70	Black	35,7	37,2	39,8	3820	0,3	169	10,01
12101G73040M67	4 x 95	Black	39,6	41,3	43,8	5060	0,2	205	13,59
12101G73040M68	4 x 120	Black	44,4	46,3	49,0	6510	0,2	237	17,16
12101G73040M69	4 x 150	Black	48,7	50,7	53,8	7970	0,1	272	21,45
12101G73040M70	4 x 185	Black	54,3	56,6	59,9	10010	0,1	311	26,45
12101GG3050M15	5 x 1,5	Orange	11,6	12,1	13,2	280	12,1	16	0,21
12101G72051M15	5 G 1,5	Black	11,6	12,1	13,2	280	12,1	16	0,21
12101GG3050M25	5 x 2,5	Orange	12,8	13,3	14,5	340	7,4	21	0,36
12101G72051M25	5 G 2,5	Black	12,8	13,3	14,5	340	7,4	21	0,36
12101G73050M25	5 x 4	Black	14,3	14,9	16,2	470	4,6	28	0,57
12101G72051M40	5 G 4	Black	14,3	14,9	16,2	470	4,6	28	0,57
12101G73050M60	5 x 6	Black	15,8	16,4	17,9	600	3,1	36	0,85
12101G72051M60	5 G 6	Black	15,8	16,4	17,9	600	3,1	36	0,85
12101G73050M61	5 x 10	Black	19,0	19,8	21,5	880	1,8	50	1,43
12101G72051M61	5 G 10	Black	19,0	19,8	21,5	880	1,8	50	1,43
12101G73050M62	5 x 16	Black	21,8	22,7	24,5	1260	1,2	67	2,29
12101G72051M62	5 G 16	Black	21,8	22,7	24,5	1260	1,2	67	2,29
12101G73050M63	5 x 25	Black	26,5	27,7	29,9	1940	0,7	89	3,57
12101G73050M64	5 x 35	Black	29,6	30,8	33,0	2930	0,5	110	5,00
12101GG3040M10	4 x 1	Orange	10,1	10,5	11,5	220	18,1	13	0,14
12101GG3050M10	5 x 1	Orange	11,1	11,6	12,6	220	18,1	13	0,14
12101GG1070M10	7 x 1	Orange	12,0	12,5	13,6	270	18,1	8	0,14
12101GG1100M10	10 x 1	Orange	15,1	15,8	17,2	360	18,1	7	0,14
12101GG1120M10	12 x 1	Orange	15,1	15,8	17,2	410	18,1	7	0,14
12101GG1140M10	14 x 1	Orange	15,8	16,5	18,0	460	18,1	6	0,14
12101GG1160M10	16 x 1	Orange	17,8	18,5	20,2	510	18,1	6	0,14
12101GG1190M10	19 x 1	Orange	18,6	19,4	21,1	580	18,1	6	0,14
12101GG1240M10	24 x 1	Orange	21,6	22,5	24,3	740	18,1	5	0,14
12101GG1270M10	27 x 1	Orange	21,7	22,7	24,5	800	18,1	5	0,14
12101GG1300M10	30 x 1	Orange	22,5	23,5	25,3	880	18,1	5	0,14
12101GG1370M10	37 x 1	Orange	24,9	25,9	28,0	1050	18,1	5	0,14
12101GG1070M15	7 x 1,5	Orange	12,6	13,1	14,3	330	12,1	10	0,21
12101GG1100M15	10 x 1,5	Orange	15,9	16,6	18,0	450	12,1	9	0,21
12101GG1120M15	12 x 1,5	Orange	16,1	16,8	18,3	520	12,1	9	0,21
12101GG1140M15	14 x 1,5	Orange	16,9	17,6	19,1	580	12,1	8	0,21
12101GG1160M15	16 x 1,5	Orange	18,7	19,4	21,2	650	12,1	8	0,21
12101GG1190M15	19 x 1,5	Orange	19,8	20,6	22,2	750	12,1	7	0,21
12101GG1240M15	24 x 1,5	Orange	22,9	23,9	25,8	940	12,1	7	0,21
12101GG1270M15	27 x 1,5	Orange	23,1	24,1	26,0	1020	12,1	7	0,21
12101GG1300M15	30 x 1,5	Orange	23,9	24,9	26,8	1130	12,1	6	0,21
12101GG1370M15	37 x 1,5	Orange	26,4	27,5	29,7	1360	12,1	6	0,21
12101GG1070M25	7 x 2,5	Orange	14,1	14,7	16,0	420	7,4	14	0,36
12101GG1100M25	10 x 2,5	Orange	18,2	19,0	20,7	580	7,4	12	0,36
12101GG1120M25	12 x 2,5	Orange	18,2	19,0	20,7	660	7,4	11	0,36
12101GG1140M25	14 x 2,5	Orange	18,9	19,7	21,5	770	7,4	11	0,36
12101GG1160M25	16 x 2,5	Orange	20,9	21,7	23,5	860	7,4	10	0,36
12101GG1190M25	19 x 2,5	Orange	21,9	22,9	24,7	990	7,4	10	0,36
12101GG1240M25	24 x 2,5	Orange	25,7	26,8	28,9	1240	7,4	9	0,36
12101GG1270M25	27 x 2,5	Orange	25,9	27,0	29,1	1360	7,4	9	0,36
12101GG1300M25	30 x 2,5	Orange	27,0	28,1	30,3	1500	7,4	8	0,36
12101GG1370M25	37 x 2,5	Orange	29,6	30,9	33,0	1800	7,4	8	0,36

Other dimensions and colors available on request.

## GAALSHIP® HF 1000 A FR WSR

Armoured, fire resistant and water spray resistant, power and control cable 0,6/1 kV



### Applications:

Fire resistant and water spray resistant power and control cables for fixed electrical installations aboard ships, suitable for the power supply 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 flexible up to 10 mm <sup>2</sup> Cl. 5 from 16 mm <sup>2</sup> , acc. to EN IEC 60228
<b>Insulation:</b>	MICA glass tape + GAALTHERM® 597
<b>Cores color:</b>	Acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334 green-yellow earth-wire from 3 cores
<b>Inner sheath (if any):</b>	Halogen free compound or synthetic tape
<b>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound type SHF1, acc. to IEC 60092-360, Thickness acc. to IEC 60092-353
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 1000 A FR WSR, cross nominal section sqmm, 0,6/1 kV, part n°, IEC 60092-353, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

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

### Resistance:

-  **Fire resistant acc. to:**  
IEC 60331-21,  
IEC 60331-2 (under 20 mm Ø),  
IEC 60331-1 (over 20 mm Ø),  
EN 50200 Annex E Water Spray Test,  
BS 8491 Water Jet Test
-  **Flame and fire retardant acc. to:**  
EN IEC 60332-1-2,  
EN IEC 60332-3-22
-  **Halogen free acc. to:**  
EN IEC 60754-1/2
-  **Smoke emission properties acc. to:**  
EN IEC 61034-1/2

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0,6/1 kV
<b>Test voltage:</b>	3,5 kV
<b>Temperature range:</b>	-40°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

- Sheathing and insulating materials acc. to IEC 60092-360
- Design guidelines acc. to IEC 60092-350/353
- Choice and installation of electric cables acc. to IEC 60092-352
- Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)
- Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)
- On request class 5 conductor for sections up to 10 mm<sup>2</sup>

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 A FR WSR

Armoured, fire resistant and water spray resistant, power and control cable 0,6/1 kV



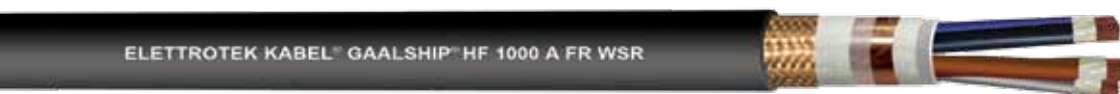
ELETTROTEK KABEL® GAALSHIP® HF 1000 A FR WSR

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12111G7L010M60	1 x 6	Black	8,3	8,7	9,5	260	3,1	52	0,85
12111G7L010M61	1 x 10	Black	9,3	9,7	10,7	310	1,8	72	1,43
12111G7L010M62	1 x 16	Black	10,5	10,9	11,9	390	1,2	96	2,29
12111G7L010M63	1 x 25	Black	12,1	12,6	13,8	530	0,7	127	3,57
12111G7L010M64	1 x 35	Black	13,4	13,9	15,2	720	0,5	157	5,00
12111G7L010M65	1 x 50	Black	15,0	15,6	17,0	960	0,4	196	7,15
12111G7L010M66	1 x 70	Black	17,3	18,0	19,7	1240	0,3	242	10,01
12111G7L010M67	1 x 95	Black	19,0	19,8	21,6	1560	0,2	293	13,59
12111G7L010M68	1 x 120	Black	21,2	22,1	23,9	1900	0,2	339	17,16
12111G7L010M69	1 x 150	Black	23,1	24,1	26,0	2310	0,1	389	21,45
12111G7L010M70	1 x 185	Black	25,5	26,5	28,7	2780	0,1	444	26,45
12111G7L010M71	1 x 240	Black	28,2	29,3	31,7	3460	0,1	522	34,32
12111G7L010M72	1 x 300	Black	31,0	32,3	34,6	4130	0,1	601	42,90
12111G73020M15	2 x 1,5	Black	10,2	10,7	11,6	330	12,1	20	0,21
12111G73020M25	2 x 2,5	Black	11,1	11,6	12,6	390	7,4	26	0,36
12111GE3020M40	2 x 4	Green	12,0	12,6	13,7	440	4,6	34	0,57
12101GE3020M60	2 x 6	Green	13,2	13,8	15,0	570	3,1	44	0,85
12111G73020M61	2 x 10	Black	15,3	15,9	17,3	810	1,8	61	1,43
12111G73020M62	2 x 16	Black	17,8	18,5	20,2	1020	1,2	82	2,29
12111G73020M63	2 x 25	Black	21,6	22,5	24,3	1440	0,7	108	3,57
12111G73020M64	2 x 35	Black	23,9	24,9	26,9	1940	0,5	133	5,00
12111G73030M15	3 x 1,5	Black	10,7	11,2	12,2	380	12,1	16	0,21
12111GE2031M15	3 G 1,5	Green	10,7	11,2	12,2	380	12,1	20	0,21
12111G73030M25	3 x 2,5	Black	11,7	12,1	13,2	450	7,4	21	0,36
12111GE2031M25	3 G 2,5	Green	11,7	12,1	13,2	450	7,4	26	0,36
12111G73030M40	3 x 4	Black	12,9	13,4	14,6	540	4,6	28	0,57
12111G72031M40	3 G 4	Black	12,9	13,4	14,6	540	4,6	34	0,57
12111G73030M60	3 x 6	Black	14,3	14,9	16,2	720	3,1	36	0,85
12111G72031M60	3 G 6	Black	13,9	14,5	15,8	720	3,1	44	0,85
12111G73030M61	3 x 10	Black	16,7	17,4	19,0	940	1,8	50	1,43
12111G72031M61	3 G 10	Black	16,7	17,4	19,0	940	1,8	61	1,43
12111G73030M62	3 x 16	Black	19,0	19,8	21,6	1230	1,2	67	2,29
12111G72031M62	3 G 16	Black	19,0	19,8	21,6	1230	1,2	82	2,29
12111G73030M63	3 x 25	Black	23,1	24,1	26,0	1740	0,7	89	3,57
12111G73030M64	3 x 35	Black	25,6	26,6	28,8	2330	0,5	110	5,00
12111G73030M65	3 x 50	Black	29,3	30,5	32,6	3080	0,4	137	7,15
12111G73030M66	3 x 70	Black	33,4	34,8	37,2	4050	0,3	169	10,01
12111G73030M67	3 x 95	Black	36,9	38,5	41,2	5370	0,2	205	13,59
12111G73030M68	3 x 120	Black	41,4	43,2	45,7	6700	0,2	237	17,16
12111G73030M69	3 x 150	Black	45,4	47,3	50,2	8140	0,1	272	21,45
12111G73030M70	3 x 185	Black	50,5	52,6	55,8	10080	0,1	311	26,45
12111G73030M71	3 x 240	Black	56,3	58,6	62,1	12720	0,1	365	34,32
12111GG3040M15	4 x 1,5	Orange	11,5	12,0	13,1	440	12,1	16	0,21
12111G73040M15	4 x 1,5	Black	11,5	12,0	13,1	440	12,1	16	0,21
12111GE2041M15	4 G 1,5	Green	11,5	12,0	13,1	440	12,1	16	0,21
12111GG3040M25	4 x 2,5	Orange	12,6	13,1	14,3	510	7,4	21	0,36
12111G73040M25	4 x 2,5	Black	12,6	13,1	14,3	510	7,4	21	0,36
12111GE2041M25	4 G 2,5	Green	12,6	13,1	14,3	510	7,4	21	0,36
12111G73040M40	4 x 4	Black	13,9	14,5	15,8	700	4,6	28	0,57
12111G72041M40	4 G 4	Black	13,9	14,5	15,8	700	4,6	28	0,57
12111G73040M60	4 x 6	Black	15,7	16,3	17,8	840	3,1	36	0,85
12111G72041M60	4 G 6	Black	15,7	16,3	17,8	840	3,1	36	0,85
12111G73040M61	4 x 10	Black	18,2	18,9	20,6	1110	1,8	50	1,43
12111G72041M61	4 G 10	Black	18,2	18,9	20,6	1110	1,8	50	1,43
12111G73040M62	4 x 16	Black	21,1	22,0	23,7	1480	1,2	67	2,29
12111G72041M62	4 G 16	Black	21,1	22,0	23,7	1480	1,2	67	2,29
12111G73040M63	4 x 25	Black	25,4	26,5	28,6	2100	0,7	89	3,57
12111G73040M64	4 x 35	Black	28,2	29,3	31,7	2790	0,5	110	5,00

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 1000 A FR WSR

Armoured, fire resistant and water spray resistant, power and control cable 0,6/1 kV



Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
12111G73040M65	4 x 50	Black	32,3	33,6	36,0	3780	0,4	137	7,15
12111G73040M66	4 x 70	Black	36,9	38,4	41,1	5020	0,3	169	10,01
12111G73040M67	4 x 95	Black	41,2	42,9	45,5	6660	0,2	205	13,59
12111G73040M68	4 x 120	Black	46,0	47,9	50,7	8310	0,2	237	17,16
12111G73040M69	4 x 150	Black	50,4	52,5	55,7	10180	0,1	272	21,45
12111G73040M70	4 x 185	Black	56,0	58,4	61,9	12600	0,1	311	26,45
12111GG3050M15	5 x 1,5	Orange	12,4	12,9	14,1	510	12,1	16	0,21
12111G72051M15	5 G 1,5	Black	12,4	12,9	14,1	510	12,1	16	0,21
12111GG3050M25	5 x 2,5	Orange	13,8	14,3	15,6	660	7,4	21	0,36
12111G72051M25	5 G 2,5	Black	13,8	14,3	15,6	660	7,4	21	0,36
12111G73050M40	5 x 4	Black	15,1	15,7	17,1	810	4,6	28	0,57
12111G72051M40	5 G 4	Black	15,1	15,7	17,1	810	4,6	28	0,57
12111G73050M60	5 x 6	Black	16,9	17,6	19,2	1000	3,1	36	0,85
12111G72051M60	5 G 6	Black	16,9	17,6	19,2	1000	3,1	36	0,85
12111G73050M61	5 x 10	Black	20,3	21,2	22,9	1300	1,8	50	1,43
12111G72051M61	5 G 10	Black	20,3	21,2	22,9	1300	1,8	50	1,43
12111G73050M62	5 x 16	Black	23,1	24,1	26,0	1740	1,2	67	2,29
12111G72051M62	5 G 16	Black	23,1	24,1	26,0	1740	1,2	67	2,29
12111G73050M63	5 x 25	Black	27,9	29,1	31,4	2500	0,7	89	3,57
12111G73050M64	5 x 35	Black	30,9	32,2	34,5	3400	0,5	110	5,00
12111GG3040M10	4 x 1	Orange	11,1	11,6	12,6	390	18,1	13	0,14
12111GG3050M10	5 x 1	Orange	11,9	12,4	13,5	420	18,1	13	0,14
12111GG1070M10	7 x 1	Orange	12,8	13,3	14,5	480	18,1	8	0,14
12111GG1100M10	10 x 1	Orange	15,9	16,6	18,0	720	18,1	7	0,14
12111GG1120M10	12 x 1	Orange	16,5	17,2	18,7	780	18,1	7	0,14
12111GG1140M10	14 x 1	Orange	17,2	18,0	19,5	840	18,1	6	0,14
12111GG1160M10	16 x 1	Orange	18,9	19,7	21,5	900	18,1	6	0,14
12111GG1190M10	19 x 1	Orange	19,8	20,6	22,2	1020	18,1	6	0,14
12111GG1240M10	24 x 1	Orange	22,8	23,7	25,6	1230	18,1	5	0,14
12111GG1270M10	27 x 1	Orange	23,5	24,5	26,5	1320	18,1	5	0,14
12111GG1300M10	30 x 1	Orange	23,8	24,9	26,8	1410	18,1	5	0,14
12111GG1370M10	37 x 1	Orange	26,0	27,1	29,3	1620	18,1	5	0,14
12111GG1070M15	7 x 1,5	Orange	13,5	14,1	15,4	660	12,1	10	0,21
12111GG1100M15	10 x 1,5	Orange	17,2	18,0	19,6	860	12,1	9	0,21
12111GG1120M15	12 x 1,5	Orange	17,2	18,0	19,6	930	12,1	9	0,21
12111GG1140M15	14 x 1,5	Orange	18,0	18,8	20,4	1010	12,1	8	0,21
12111GG1160M15	16 x 1,5	Orange	20,0	20,8	22,5	1070	12,1	8	0,21
12111GG1190M15	19 x 1,5	Orange	20,9	21,8	23,5	1200	12,1	7	0,21
12111GG1240M15	24 x 1,5	Orange	24,1	25,1	27,1	1480	12,1	7	0,21
12111GG1270M15	27 x 1,5	Orange	24,2	25,3	27,3	1600	12,1	7	0,21
12111GG1300M15	30 x 1,5	Orange	25,2	26,3	28,4	1720	12,1	6	0,21
12111GG1370M11	37 x 1,5	Orange	27,6	28,7	31,0	1970	12,1	6	0,21
12111GG1070M25	7 x 2,5	Orange	14,8	15,5	16,8	770	7,4	14	0,36
12111GG1100M25	10 x 2,5	Orange	19,5	20,4	22,0	1020	7,4	12	0,36
12111GG1120M25	12 x 2,5	Orange	19,5	20,4	22,0	1120	7,4	11	0,36
12111GG1140M25	14 x 2,5	Orange	20,0	20,9	22,6	1230	7,4	11	0,36
12111GG1160M25	16 x 2,5	Orange	22,0	22,9	24,8	1320	7,4	10	0,36
12111GG1190M25	19 x 2,5	Orange	23,3	24,3	26,2	1500	7,4	10	0,36
12111GG1240M25	24 x 2,5	Orange	26,9	28,0	30,2	1850	7,4	9	0,36
12111GG1270M25	27 x 2,5	Orange	27,0	28,2	30,4	1980	7,4	9	0,36
12111GG1300M25	30 x 2,5	Orange	28,1	29,3	31,6	2140	7,4	8	0,36
12111GG1370M12	37 x 2,5	Orange	31,0	32,3	34,5	2500	7,4	8	0,36

Other dimensions and colors available on request.

# GAALSHIP® MARINE CABLES



## GAALSHIP® MARINE INSTRUMENTATION CABLES

## GAALSHIP® HF 250 OS

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened



ELETTROTEK KABEL® GAALSHIP® HF 250 OS



### Applications:

Instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	GAALTHERM® 595
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 OS, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

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

### Type Approvals/Certificates:

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

### Resistance:



**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 60092-350/376  
 Choice and installation of electric cables acc. to IEC 60092-352  
 Cold bend test at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
 Cold bend impact at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
 On request class 5 conductor acc. to IEC 60228



## GAALSHIP® HF 250 OS

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened



ELETTROTEK KABEL® GAALSHIP® HF 250 OS



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11040CGX012M05	1 x 2 x 0,5	Orange	4,7	6,2	7,7	50	40,4	10	0,07
11040CGX022M05	2 x 2 x 0,5	Orange	5,5	7	8,5	63	40,4	8	0,07
11040CGX032M05	3 x 2 x 0,5	Orange	7,9	9,4	10,9	94	40,4	7	0,07
11040CGX042M05	4 x 2 x 0,5	Orange	8,7	10,2	11,7	115	40,4	6	0,07
11040CGX052M05	5 x 2 x 0,5	Orange	9,8	11,3	12,8	144	40,4	6	0,07
11040CGX062M05	6 x 2 x 0,5	Orange	10,7	12,2	13,7	172	40,4	6	0,07
11040CGX072M05	7 x 2 x 0,5	Orange	10,2	12,2	13,7	168	40,4	6	0,07
11040CGX082M05	8 x 2 x 0,5	Orange	12,3	14,3	15,8	205	40,4	6	0,07
11040CGX102M05	10 x 2 x 0,5	Orange	12,9	14,9	16,4	247	40,4	6	0,07
11040CGX122M05	12 x 2 x 0,5	Orange	13,5	16	18,5	266	40,4	6	0,07
11040CGX142M05	14 x 2 x 0,5	Orange	14,5	17	19,5	309	40,4	5	0,07
11040CGX162M05	16 x 2 x 0,5	Orange	15,4	17,9	20,4	347	40,4	5	0,07
11040CGX192M05	19 x 2 x 0,5	Orange	16,3	18,8	21,3	385	40,4	5	0,07
11040CGX242M05	24 x 2 x 0,5	Orange	19	21,5	24	496	40,4	4	0,07
11040CGX272M05	27 x 2 x 0,5	Orange	20,3	22,8	25,3	558	40,4	4	0,07
11040CGX372M05	37 x 2 x 0,5	Orange	23,2	25,7	28,2	706	40,4	4	0,07
11040CGX012M07	1 x 2 x 0,75	Orange	5,1	6,6	8,1	59	26,0	13	0,11
11040CGX022M07	2 x 2 x 0,75	Orange	6	7,5	9	76	26,0	11	0,11
11040CGX032M07	3 x 2 x 0,75	Orange	8,5	10	11,5	113	26,0	8	0,11
11040CGX042M07	4 x 2 x 0,75	Orange	9,4	10,9	12,4	139	26,0	7	0,11
11040CGX052M07	5 x 2 x 0,75	Orange	10,6	12,1	13,6	175	26,0	7	0,11
11040CGX062M07	6 x 2 x 0,75	Orange	11,6	13,1	14,6	210	26,0	7	0,11
11040CGX072M07	7 x 2 x 0,75	Orange	11,1	13,1	14,6	206	26,0	7	0,11
11040CGX082M07	8 x 2 x 0,75	Orange	13,4	15,4	16,9	250	26,0	7	0,11
11040CGX102M07	10 x 2 x 0,75	Orange	14	16	17,5	304	26,0	7	0,11
11040CGX122M07	12 x 2 x 0,75	Orange	14,9	17,4	19,9	338	26,0	7	0,11
11040CGX142M07	14 x 2 x 0,75	Orange	15,8	18,3	20,8	383	26,0	6	0,11
11040CGX162M07	16 x 2 x 0,75	Orange	17	19,5	22	442	26,0	6	0,11
11040CGX192M07	19 x 2 x 0,75	Orange	18	20,5	23	492	26,0	6	0,11
11040CGX242M07	24 x 2 x 0,75	Orange	20,9	23,4	25,9	633	26,0	5	0,11
11040CGX272M07	27 x 2 x 0,75	Orange	22,4	24,9	27,4	711	26,0	5	0,11
11040CGX372M07	37 x 2 x 0,75	Orange	25,4	27,9	30,4	905	26,0	5	0,11
11040CGX012M10	1 x 2 x 1	Orange	5,5	7	8,5	69	19,2	15	0,14
11040CGX022M10	2 x 2 x 1	Orange	6,4	7,9	9,4	90	19,2	13	0,14
11040CGX032M10	3 x 2 x 1	Orange	9,2	10,7	12,2	134	19,2	10	0,14
11040CGX042M10	4 x 2 x 1	Orange	10,3	11,8	13,3	172	19,2	9	0,14
11040CGX052M10	5 x 2 x 1	Orange	11,4	12,9	14,4	210	19,2	9	0,14
11040CGX062M10	6 x 2 x 1	Orange	12,7	14,2	15,7	259	19,2	9	0,14
11040CGX072M10	7 x 2 x 1	Orange	12,2	14,2	15,7	257	19,2	9	0,14
11040CGX082M10	8 x 2 x 1	Orange	14,6	16,6	18,1	310	19,2	9	0,14
11040CGX102M10	10 x 2 x 1	Orange	15,3	17,3	18,8	378	19,2	9	0,14
11040CGX122M10	12 x 2 x 1	Orange	16,2	18,7	21,2	412	19,2	9	0,14
11040CGX142M10	14 x 2 x 1	Orange	17,3	19,8	22,3	478	19,2	8	0,14
11040CGX162M10	16 x 2 x 1	Orange	18,4	20,9	23,4	540	19,2	8	0,14
11040CGX192M10	19 x 2 x 1	Orange	19,7	22,2	24,7	616	19,2	8	0,14
11040CGX242M10	24 x 2 x 1	Orange	22,8	25,3	27,8	790	19,2	6	0,14
11040CGX272M10	27 x 2 x 1	Orange	24,2	26,7	29,2	874	19,2	6	0,14
11040CGX037M10	37 x 2 x 1	Orange	27,7	30,2	32,7	1133	19,2	6	0,14

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 OS

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened



ELETTROTEK KABEL® GAALSHIP® HF 250 OS



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11040CGX012M15	1 x 2 x 1,5	Orange	6,4	7,9	9,4	87	12,8	20	0,21
11040CGX022M15	2 x 2 x 1,5	Orange	7,8	9,3	10,8	123	12,8	16	0,21
11040CGX032M15	3 x 2 x 1,5	Orange	11	12,5	14	183	12,8	13	0,21
11040CGX042M15	4 x 2 x 1,5	Orange	12,2	13,7	15,2	230	12,8	11	0,21
11040CGX052M15	5 x 2 x 1,5	Orange	13,6	15,1	16,6	290	12,8	11	0,21
11040CGX062M15	6 x 2 x 1,5	Orange	15,2	16,7	18,2	359	12,8	11	0,21
11040CGX072M15	7 x 2 x 1,5	Orange	14,7	16,7	18,2	357	12,8	11	0,21
11040CGX082M15	8 x 2 x 1,5	Orange	17,6	19,6	21,1	428	12,8	11	0,21
11040CGX102M15	10 x 2 x 1,5	Orange	18,5	20,5	22	527	12,8	11	0,21
11040CGX122M15	12 x 2 x 1,5	Orange	19,8	22,3	24,8	587	12,8	11	0,21
11040CGX142M15	14 x 2 x 1,5	Orange	20,9	23,4	25,9	669	12,8	10	0,21
11040CGX162M15	16 x 2 x 1,5	Orange	22,4	24,9	27,4	770	12,8	10	0,21
11040CGX192M15	19 x 2 x 1,5	Orange	23,7	26,2	28,7	865	12,8	10	0,21
11040CGX242M15	24 x 2 x 1,5	Orange	27,7	30,2	32,7	1127	12,8	8	0,21
11040CGX272M15	27 x 2 x 1,5	Orange	29,3	31,8	34,3	1248	12,8	8	0,21
11040CGX372M15	37 x 2 x 1,5	Orange	33,5	36	38,5	1618	12,8	8	0,21
11040CGX013M05	1 x 3 x 0,5	Orange	5,1	6,6	8,1	54	40,4	8	0,07
11040CGX033M05	3 x 3 x 0,5	Orange	8,9	10,4	11,9	120	40,4	6	0,07
11040CGX043M05	4 x 3 x 0,5	Orange	10	11,5	13	154	40,4	6	0,07
11040CGX123M05	12 x 3 x 0,5	Orange	15,6	18,1	20,6	367	40,4	5	0,07
11040CGX013M07	1 x 3 x 0,75	Orange	5,4	6,9	8,4	64	26,0	11	0,11
11040CGX033M07	3 x 3 x 0,75	Orange	9,8	11,3	12,8	151	26,0	7	0,11
11040CGX043M07	4 x 3 x 0,75	Orange	10,8	12,3	13,8	188	26,0	7	0,11
11040CGX073M07	7 x 3 x 0,75	Orange	13,3	14,8	16,8	258	26,0	7	0,11
11040CGX123M07	12 x 3 x 0,75	Orange	17,2	19,7	22,2	469	26,0	6	0,11
11040CGX013M10	1 x 3 x 1	Orange	5,8	7,3	8,8	76	19,2	13	0,14
11040CGX033M10	3 x 3 x 1	Orange	10,5	12,0	13,5	182	19,2	9	0,14
11040CGX043M10	4 x 3 x 1	Orange	11,6	13,1	14,6	227	19,2	9	0,14
11040CGX073M10	7 x 3 x 1	Orange	14,3	15,8	17,8	349	19,2	9	0,14
11040CGX123M10	12 x 3 x 1	Orange	18,6	21,1	23,6	577	19,2	8	0,14
11040CGX013M15	1 x 3 x 1,5	Orange	7	8,5	10	101	12,8	16	0,21
11040CGX033M15	3 x 3 x 1,5	Orange	12,6	14,1	15,6	250	12,8	11	0,21
11040CGX043M15	4 x 3 x 1,5	Orange	14	15,5	17	316	12,8	11	0,21
11040CGX073M15	7 x 3 x 1,5	Orange	17,1	18,6	20,6	489	12,8	11	0,21
11040CGX123M15	12 x 3 x 1,5	Orange	22,7	25,2	27,7	824	12,8	10	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 OS FR

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened, fire resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 OS FR



### Applications:

Fire resistant, instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352.

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	MICA glass tape + GAALTHERM® 595
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 OS FR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

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

### Type Approvals/Certificates:

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

### Resistance:



**Fire resistant acc. to:**  
IEC 60331-21  
IEC 60331-2 (under 20 mm Ø)  
IEC 60331-1 (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 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor acc. to IEC 60228

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 OS FR

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened, fire resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 OS FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11050CGX012M07	1 x 2 x 0,75	Orange	6	7,5	9	69	26,0	13	0,11
11050CGX022M07	2 x 2 x 0,75	Orange	7,2	8,7	10,2	93	26,0	11	0,11
11050CGX032M07	3 x 2 x 0,75	Orange	10,3	11,8	13,3	138	26,0	8	0,11
11050CGX042M07	4 x 2 x 0,75	Orange	11,3	12,8	14,3	171	26,0	7	0,11
11050CGX052M07	5 x 2 x 0,75	Orange	12,7	14,2	15,7	216	26,0	7	0,11
11050CGX062M07	6 x 2 x 0,75	Orange	13,9	15,4	16,9	261	26,0	7	0,11
11050CGX072M07	7 x 2 x 0,75	Orange	13,4	15,4	16,9	252	26,0	7	0,11
11050CGX082M07	8 x 2 x 0,75	Orange	16,2	18,2	19,7	306	26,0	7	0,11
11050CGX102M07	10 x 2 x 0,75	Orange	17	19	20,5	375	26,0	7	0,11
11050CGX122M07	12 x 2 x 0,75	Orange	18,1	20,6	23,1	412	26,0	7	0,11
11050CGX142M07	14 x 2 x 0,75	Orange	19,2	21,7	24,2	467	26,0	6	0,11
11050CGX162M07	16 x 2 x 0,75	Orange	20,6	23,1	25,6	539	26,0	6	0,11
11050CGX192M07	19 x 2 x 0,75	Orange	21,8	24,3	26,8	598	26,0	6	0,11
11050CGX242M07	24 x 2 x 0,75	Orange	25,5	28,0	30,5	786	26,0	5	0,11
11050CGX272M07	27 x 2 x 0,75	Orange	27	29,5	32	867	26,0	5	0,11
11050CGX372M07	37 x 2 x 0,75	Orange	30,9	33,4	35,9	1110	26,0	5	0,11
11050CGX012M10	1 x 2 x 1	Orange	6,3	7,8	9,3	80	19,2	15	0,14
11050CGX022M10	2 x 2 x 1	Orange	7,7	9,2	10,7	108	19,2	13	0,14
11050CGX032M10	3 x 2 x 1	Orange	10,9	12,4	13,9	161	19,2	10	0,14
11050CGX042M10	4 x 2 x 1	Orange	12,1	13,6	15,1	201	19,2	9	0,14
11050CGX052M10	5 x 2 x 1	Orange	13,5	15	16,5	254	19,2	9	0,14
11050CGX062M10	6 x 2 x 1	Orange	14,8	16,3	17,8	307	19,2	9	0,14
11050CGX072M10	7 x 2 x 1	Orange	14,3	16,3	17,8	299	19,2	9	0,14
11050CGX082M10	8 x 2 x 1	Orange	17,4	19,4	20,9	371	19,2	9	0,14
11050CGX102M10	10 x 2 x 1	Orange	18,3	20,3	21,8	455	19,2	9	0,14
11050CGX122M10	12 x 2 x 1	Orange	19,6	22,1	24,6	501	19,2	9	0,14
11050CGX142M10	14 x 2 x 1	Orange	20,7	23,2	25,7	569	19,2	8	0,14
11050CGX162M10	16 x 2 x 1	Orange	22	24,5	27	644	19,2	8	0,14
11050CGX192M10	19 x 2 x 1	Orange	23,5	26	28,5	730	19,2	8	0,14
11050CGX242M10	24 x 2 x 1	Orange	27,2	29,7	32,2	941	19,2	6	0,14
11050CGX272M10	27 x 2 x 1	Orange	29	31,5	34	1056	19,2	6	0,14
11050CGX372M10	37 x 2 x 1	Orange	33,1	35,6	38,1	1366	19,2	6	0,14
11050CGX012M15	1 x 2 x 1,5	Orange	7,5	9	10,5	104	12,8	20	0,21
11050CGX022M15	2 x 2 x 1,5	Orange	8,8	10,3	11,8	139	12,8	16	0,21
11050CGX032M15	3 x 2 x 1,5	Orange	12,8	14,3	15,8	214	12,8	13	0,21
11050CGX042M15	4 x 2 x 1,5	Orange	14,1	15,6	17,1	269	12,8	11	0,21
11050CGX052M15	5 x 2 x 1,5	Orange	15,8	17,3	18,8	341	12,8	11	0,21
11050CGX062M15	6 x 2 x 1,5	Orange	17,3	18,8	20,3	415	12,8	11	0,21
11050CGX072M15	7 x 2 x 1,5	Orange	16,8	18,8	20,3	405	12,8	11	0,21
11050CGX082M15	8 x 2 x 1,5	Orange	20,4	22,4	23,9	498	12,8	11	0,21
11050CGX102M15	10 x 2 x 1,5	Orange	21,4	23,4	24,9	617	12,8	11	0,21
11050CGX122M15	12 x 2 x 1,5	Orange	23	25,5	28	679	12,8	11	0,21
11050CGX142M15	14 x 2 x 1,5	Orange	24,3	26,8	29,3	775	12,8	10	0,21
11050CGX162M15	16 x 2 x 1,5	Orange	26	28,5	31	893	12,8	10	0,21
11050CGX192M15	19 x 2 x 1,5	Orange	27,7	30,2	32,7	1012	12,8	10	0,21
11050CGX242M15	24 x 2 x 1,5	Orange	32,1	34,6	37,1	1304	12,8	8	0,21
11050CGX272M15	27 x 2 x 1,5	Orange	34,2	36,7	39,2	1462	12,8	8	0,21
11050CGX372M15	37 x 2 x 1,5	Orange	38,9	41,4	43,9	1880	12,8	8	0,21

## GAALSHIP® HF 250 OS FR

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened, fire resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 OS FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11050CGX013M07	1 x 3 x 0,75	Orange	6,4	7,9	9,4	74	26,0	11	0,11
11050CGX033M07	3 x 3 x 0,75	Orange	11,6	13,1	14,6	179	26,0	7	0,11
11050CGX043M07	4 x 3 x 0,75	Orange	13	14,5	16	230	26,0	7	0,11
11050CGX073M07	7 x 3 x 0,75	Orange	16	17,5	19,5	347	26,0	7	0,11
11050CGX123M07	12 x 3 x 0,75	Orange	20,8	23,3	25,8	570	26,0	6	0,11
11050CGX013M10	1 x 3 x 1	Orange	6,8	8,3	9,8	87	19,2	13	0,14
11050CGX033M10	3 x 3 x 1	Orange	12,5	14	15,5	217	19,2	9	0,14
11050CGX043M10	4 x 3 x 1	Orange	13,8	15,3	16,8	273	19,2	9	0,14
11050CGX073M10	7 x 3 x 1	Orange	17	18,5	20,5	415	19,2	9	0,14
11050CGX123M10	12 x 3 x 1	Orange	22,5	25	27,5	696	19,2	8	0,14
11050CGX013M15	1 x 3 x 1,5	Orange	8	9,5	11	114	12,8	16	0,21
11050CGX033M15	3 x 3 x 1,5	Orange	14,4	15,9	17,4	283	12,8	11	0,21
11050CGX043M15	4 x 3 x 1,5	Orange	16,2	17,7	19,2	368	12,8	11	0,21
11050CGX073M15	7 x 3 x 1,5	Orange	19,8	21,3	23,3	566	12,8	11	0,21
11050CGX123M15	12 x 3 x 1,5	Orange	26,3	28,8	31,3	950	12,8	10	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 OS FR WSR

Pairs/triples twisted cables telecommunication and instrumentation cable, overall screened, fire resistant and water spray resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 OS 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:

**Conductor:** Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295

**Insulation:** MICA glass tape + GAALThERM® 597

**Cores color:** Pair: black- light blue  
Triple: black- light blue - brown

**Stranding:** Core laid-up together in pairs/triples

**Overall screen:** Aluminium/polyester tape with tinned annealed copper stranded drain wire

**1<sup>st</sup> Wrapping:** Glass fiber tape

**2<sup>nd</sup> Wrapping:** Two plain annealed copper / polyester tapes

**3<sup>rd</sup> Wrapping:** Glass fiber tape

**Outer sheath:** Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376

**Marking:** ELETTROTEK KABEL® GAALSHIP® HF 250 OS FR WSR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

**Nominal voltage:** 150/250 V

**Temperature range:** -40°C up to +90°C

**Installation temp.:** -5°C

**Short circuit temperature:** +250°C

**Min. bending radius:** 4 x Outer diameter

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)

**BV** (Bureau Veritas)

**LR** (Lloyd's Register)

**DNV-GL** (Det Norske Veritas - Germanischer Lloyd) in progress

**ABS** (American Bureau of Shipping)

**RMRS** (Russian Maritime Register of Shipping)

Other approvals on request

### Resistance:



**Fire resistant acc. to:**

IEC 60331-21,  
IEC 60331-2 (under 20 mm Ø),  
IEC 60331-1 (over 20 mm Ø),  
EN 50200 Annex E Water Spray Test,  
BS 8491 Water Jet Test



**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 60092-350/376

Choice and installation of electric cables acc. to IEC 60092-352

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

## GAALSHIP® HF 250 OS FR WSR

Pairs/triples twisted cables telecommunication and instrumentation cable, overall screened, fire resistant and water spray resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 OS FR WSR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11200CGX052M05	5 x 2 x 0,5	Orange	16,8	18,3	19,8	348	41,6	5	0,07
11200CGX012M07	1 x 2 x 0,75	Orange	9,1	10,6	12,1	138	26,3	12	0,11
11200CGX022M07	2 x 2 x 0,75	Orange	10,7	12,2	13,7	178	26,3	10	0,11
11200CGX042M07	4 x 2 x 0,75	Orange	16,1	17,6	19,1	323	26,3	7	0,11
11200CGX052M07	5 x 2 x 0,75	Orange	17,6	19,1	20,6	388	26,3	7	0,11
11200CGX072M07	7 x 2 x 0,75	Orange	18,9	20,9	22,4	455	26,3	7	0,11
11200CGX102M07	10 x 2 x 0,75	Orange	23,5	25,5	27	673	26,3	7	0,11
11200CGX142M07	14 x 2 x 0,75	Orange	26,5	29	31,5	821	26,3	6	0,11
11200CGX242M07	24 x 2 x 0,75	Orange	34,4	36,9	39,4	1327	26,3	5	0,11
11200CGX372M07	37 x 2 x 0,75	Orange	41,4	43,9	46,4	1851	26,3	5	0,11
11200CGX012M10	1 x 2 x 1	Orange	9,5	11	12,5	152	19,3	15	0,14
11200CGX032M10	3 x 2 x 1	Orange	15,3	16,8	18,3	296	19,3	10	0,14
11200CGX042M10	4 x 2 x 1	Orange	16,8	18,3	19,8	360	19,3	8	0,14
11200CGX072M10	7 x 2 x 1	Orange	19,8	21,8	23,3	513	19,3	8	0,14
11200CGX012M15	1 x 2 x 1,5	Orange	10,6	12,1	13,6	186	12,9	19	0,21
11200CGX022M15	2 x 2 x 1,5	Orange	12,4	13,9	15,4	246	12,9	16	0,21
11200CGX042M15	4 x 2 x 1,5	Orange	18,9	20,4	21,9	452	12,9	11	0,21
11200CGX052M15	5 x 2 x 1,5	Orange	20,9	22,4	23,9	561	12,9	11	0,21
11200CGX072M15	7 x 2 x 1,5	Orange	22,3	24,3	25,8	654	12,9	11	0,21
11200CGX072M15	8 x 2 x 1,5	Orange	26,6	28,6	30,1	799	12,9	11	0,21
11200CGX102M15	10 x 2 x 1,5	Orange	27,8	29,8	31,3	970	12,9	11	0,21
11200CGX122M15	12 x 2 x 1,5	Orange	29,8	32,3	34,8	1059	12,9	11	0,21
11200CGX192M15	19 x 2 x 1,5	Orange	35,7	38,2	40,7	1554	12,9	9	0,21
11200CGX012M25	1 x 2 x 2,5	Orange	11,5	13	14,5	223	8,0	27	0,36
11200CGX013M07	1 x 3 x 0,75	Orange	9,8	11,3	12,8	153	26,3	10	0,11
11200CGX073M07	7 x 3 x 0,75	Orange	21,9	23,4	25,4	606	26,3	7	0,11
11200CGX073M10	7 x 3 x 1	Orange	22,9	24,4	26,4	688	19,3	8	0,14

Other dimensions and colors available on request.

## GAALSHIP® HF 250 A

Pairs/triples/quads twisted cables for telecommunication and instrumentation, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 A



### Applications:

Instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 A, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**ABS** (American Bureau of Shipping)  
**RMRS** (Russian Maritime Register of Shipping)  
Other approvals on request

### Resistance:



**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

### Technical data:

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

### Features:

Sheathing and insulating materials acc. to IEC 60092-360  
Design guidelines acc. to IEC 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor acc. to IEC 60228



# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 A

Pairs/triples/quads twisted cables for telecommunication and instrumentation, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 A

Part no.	No. of pairs/triples/quads x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11060CGX012M05	1 x 2 x 0,5	Orange	5,3	6,8	8,3	68	40,4	10	0,07
11060CGX022M05	2 x 2 x 0,5	Orange	6,1	7,6	9,1	85	40,4	8	0,07
11060CGX042M05	4 x 2 x 0,5	Orange	9,2	10,7	12,2	149	40,4	6	0,07
11060CGX062M05	6 x 2 x 0,5	Orange	11,2	12,7	14,2	215	40,4	6	0,07
11060CGX072M05	7 x 2 x 0,5	Orange	10,7	12,7	14,2	210	40,4	6	0,07
11060CGX082M05	8 x 2 x 0,5	Orange	13,2	15,2	16,7	288	40,4	6	0,07
11060CGX102M05	10 x 2 x 0,5	Orange	13,8	15,8	17,3	335	40,4	6	0,07
11060CGX122M05	12 x 2 x 0,5	Orange	14,7	17,2	19,7	370	40,4	6	0,07
11060CGX142M05	14 x 2 x 0,5	Orange	17,5	20	22,5	410	40,4	5	0,07
11060CGX192M05	19 x 2 x 0,5	Orange	17,5	20	22,5	509	40,4	5	0,07
11060CGX242M05	24 x 2 x 0,5	Orange	20,2	22,7	25,2	639	40,4	4	0,07
11060CGX272M05	27 x 2 x 0,5	Orange	21,3	23,8	26,3	697	40,4	4	0,07
11060CGX372M05	37 x 2 x 0,5	Orange	24,1	26,6	29,1	864	40,4	4	0,07
11060CGX012M07	1 x 2 x 0,75	Orange	5,7	7,2	8,7	77	26,0	13	0,11
11060CGX022M07	2 x 2 x 0,75	Orange	6,5	8	9,5	98	26,0	11	0,11
11060CGX042M07	4 x 2 x 0,75	Orange	10,2	11,7	13,2	181	26,0	7	0,11
11060CGX062M07	6 x 2 x 0,75	Orange	12,1	13,6	15,1	255	26,0	7	0,11
11060CGX072M07	7 x 2 x 0,75	Orange	11,6	13,6	15,1	252	26,0	7	0,11
11060CGX082M07	8 x 2 x 0,75	Orange	14,3	16,3	17,8	340	26,0	7	0,11
11060CGX102M07	10 x 2 x 0,75	Orange	15,2	17,2	18,7	407	26,0	7	0,11
11060CGX142M07	14 x 2 x 0,75	Orange	17	19,5	22	503	26,0	6	0,11
11060CGX192M07	19 x 2 x 0,75	Orange	19	21,5	24	615	26,0	6	0,11
11060CGX242M07	24 x 2 x 0,75	Orange	21,9	24,4	26,9	776	26,0	5	0,11
11060CGX272M07	27 x 2 x 0,75	Orange	23,3	25,8	28,3	864	26,0	5	0,11
11060CGX372M07	37 x 2 x 0,75	Orange	26,4	28,9	31,4	1076	26,0	5	0,11
11060CGX012M10	1 x 2 x 1	Orange	6	7,5	9	87	19,2	15	0,14
11060CGX022M10	2 x 2 x 1	Orange	7,2	8,7	10,2	116	19,2	13	0,14
11060CGX042M10	4 x 2 x 1	Orange	10,9	12,4	13,9	210	19,2	9	0,14
11060CGX062M10	6 x 2 x 1	Orange	13,6	15,1	16,6	338	19,2	9	0,14
11060CGX072M10	7 x 2 x 1	Orange	13,1	15,1	16,6	336	19,2	9	0,14
11060CGX082M10	8 x 2 x 1	Orange	15,6	17,6	19,1	405	19,2	9	0,14
11060CGX102M10	10 x 2 x 1	Orange	16,3	18,3	19,8	478	19,2	9	0,14
11060CGX122M10	12 x 2 x 1	Orange	17,3	19,8	22,3	533	19,2	9	0,14
11060CGX142M10	14 x 2 x 1	Orange	18,3	20,8	23,3	595	19,2	8	0,14
11060CGX192M10	19 x 2 x 1	Orange	20,6	23,1	25,6	748	19,2	8	0,14
11060CGX242M10	24 x 2 x 1	Orange	23,8	26,3	28,8	943	19,2	6	0,14
11060CGX272M10	27 x 2 x 1	Orange	25,3	27,8	30,3	1050	19,2	6	0,14
11060CGX372M10	37 x 2 x 1	Orange	28,6	31,1	33,6	1317	19,2	6	0,14
11060CGX042M15	4 x 2 x 1,5	Orange	13,3	14,8	16,3	314	12,8	11	0,21
11060CGX062M15	6 x 2 x 1,5	Orange	16,1	17,6	19,1	455	12,8	11	0,21
11060CGX072M15	7 x 2 x 1,5	Orange	15,6	17,6	19,1	452	12,8	11	0,21
11060CGX082M15	8 x 2 x 1,5	Orange	18,6	20,6	22,1	543	12,8	11	0,21
11060CGX102M15	10 x 2 x 1,5	Orange	19,4	21,4	22,9	648	12,8	11	0,21
11060CGX122M15	12 x 2 x 1,5	Orange	20,7	23,2	25,7	719	12,8	11	0,21
11060CGX142M15	14 x 2 x 1,5	Orange	21,9	24,4	26,9	810	12,8	10	0,21
11060CGX192M15	19 x 2 x 1,5	Orange	24,7	27,2	29,7	1024	12,8	10	0,21
11060CGX272M15	27 x 2 x 1,5	Orange	30,5	33	35,5	1460	12,8	8	0,21
11060CGX372M15	37 x 2 x 1,5	Orange	34,8	37,3	39,8	1928	12,8	8	0,21
11060CGX012M25	1 x 2 x 2,5	Orange	8,1	9,6	11,1	145	7,9	26	0,36
11060CGX022M25	2 x 2 x 2,5	Orange	9,4	10,9	12,4	200	7,9	21	0,36
11060CGX042M25	4 x 2 x 2,5	Orange	15,3	16,8	18,3	425	7,9	15	0,36
11060CGX062M25	6 x 2 x 2,5	Orange	18,5	20	21,5	624	7,9	15	0,36
11060CGX072M25	7 x 2 x 2,5	Orange	18	20	21,5	628	7,9	15	0,36
11060CGX082M25	8 x 2 x 2,5	Orange	21,4	23,4	24,9	750	7,9	15	0,36
11060CGX102M25	10 x 2 x 2,5	Orange	22,4	24,4	25,9	904	7,9	15	0,36
11060CGX122M25	12 x 2 x 2,5	Orange	24	26,5	29	1009	7,9	15	0,36
11060CGX142M25	14 x 2 x 2,5	Orange		28		1156	7,9	13	0,36

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 A

Pairs/triples/quads twisted cables for telecommunication and instrumentation, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 A

Part no.	No. of pairs/triples/quads x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11060CGX192M25	19 x 2 x 2,5	Orange	28,8	31,3	33,8	1476	7,9	13	0,36
11060CGX242M25	24 x 2 x 2,5	Orange	33,3	35,8	38,3	1887	7,9	11	0,36
11060CGX272M25	27 x 2 x 2,5	Orange	35,8	38,3	40,8	2195	7,9	11	0,36
11060CGX372M25	37 x 2 x 2,5	Orange	40,4	42,9	45,4	2778	7,9	11	0,36
11060CGX013M05	1 x 3 x 0,5	Orange	5,6	7,1	8,6	73	40,4	8	0,07
11060CGX023M05	2 x 3 x 0,5	Orange	8,8	10,3	11,8	148	40,4	7	0,07
11060CGX043M05	4 x 3 x 0,5	Orange	10,5	12	13,5	193	40,4	6	0,07
11060CGX073M05	7 x 3 x 0,5	Orange	13,2	14,7	16,7	310	40,4	6	0,07
11060CGX103M05	10 x 3 x 0,5	Orange	15,3	17,8	20,3	436	40,4	5	0,07
11060CGX143M05	14 x 3 x 0,5	Orange	17,7	20,2	22,7	541	40,4	4	0,07
11060CGX013M07	1 x 3 x 0,75	Orange	6	7,5	9	84	26,0	11	0,11
11060CGX023M07	2 x 3 x 0,75	Orange	9,7	11,2	12,7	176	26,0	8	0,11
11060CGX043M07	4 x 3 x 0,75	Orange	11,4	12,9	14,4	229	26,0	7	0,11
11060CGX073M07	7 x 3 x 0,75	Orange	14,2	15,7	17,7	371	26,0	7	0,11
11060CGX103M07	10 x 3 x 0,75	Orange	16,5	19	21,5	525	26,0	6	0,11
11060CGX143M07	14 x 3 x 0,75	Orange	19,2	21,7	24,2	659	26,0	5	0,11
11060CGX013M10	1 x 3 x 1	Orange	6,4	7,9	9,4	95	19,2	13	0,14
11060CGX023M10	2 x 3 x 1	Orange	10,4	11,9	13,4	203	19,2	10	0,14
11060CGX043M10	4 x 3 x 1	Orange	12,2	13,7	15,2	271	19,2	9	0,14
11060CGX073M10	7 x 3 x 1	Orange	15,4	16,9	18,9	448	19,2	9	0,14
11060CGX123M10	12 x 3 x 1	Orange	19,8	22,3	24,8	713	19,2	8	0,14
11060CGX143M10	14 x 3 x 1	Orange	20,9	23,4	25,9	803	19,2	6	0,14
11060CGX013M15	1 x 3 x 1,5	Orange	7,6	9,1	10,6	126	12,8	16	0,21
11060CGX023M15	2 x 3 x 1,5	Orange	12,2	13,7	15,2	267	12,8	13	0,21
11060CGX043M15	4 x 3 x 1,5	Orange	15,1	16,6	18,1	412	12,8	11	0,21
11060CGX073M15	7 x 3 x 1,5	Orange	18,3	19,8	21,8	610	12,8	11	0,21
11060CGX103M15	10 x 3 x 1,5	Orange	21,6	24,1	26,6	870	12,8	10	0,21
11060CGX143M15	14 x 3 x 1,5	Orange	25,2	27,7	30,2	1116	12,8	8	0,21
11060CGX013M25	1 x 3 x 2,5	Orange	8,6	10,1	11,6	164	7,9	21	0,36
11060CGX023M25	2 x 3 x 2,5	Orange	14,4	15,9	17,4	398	7,9	17	0,36
11060CGX043M25	4 x 3 x 2,5	Orange	17,2	18,7	20,2	559	7,9	15	0,36
11060CGX073M25	7 x 3 x 2,5	Orange	21	22,5	24,5	857	7,9	15	0,36
11060CGX103M25	10 x 3 x 2,5	Orange	25,2	27,7	30,2	1245	7,9	13	0,36
11060CGX143M25	14 x 3 x 2,5	Orange	29,1	31,6	34,1	1597	7,9	11	0,36
11060CGX014M05	1 x 4 x 0,5	Orange	6,5	8	9,5	98	40,4	8	0,07
11060CGX014M07	1 x 4 x 0,75	Orange	6,5	8	9,5	98	26,0	11	0,11
11060CGX014M10	1 x 4 x 1	Orange	7,2	8,7	10,2	116	19,2	13	0,14
11060CGX014M15	1 x 4 x 1,5	Orange	8,3	9,8	11,3	150	12,8	16	0,21
11060CGX014M25	1 x 4 x 2,5	Orange	9,4	10,9	12,4	200	7,9	15	0,36

Other dimensions and colors available on request.

## GAALSHIP® HF 250 A FR

Pairs/triples/quads twisted cables for telecommunication and instrumentation, armoured, fire resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 A FR



### Applications:

Fire resistant instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	MICA glass tape + GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 A FR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

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

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**ABS** (American Bureau of Shipping)  
**RMRS** (Russian Maritime Register of Shipping)  
Other approvals on request

### Resistance:



**Fire resistant acc. to:**  
IEC 60331-21  
IEC 60331-2 (under 20 mm Ø)  
IEC 60331-1 (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 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor acc. to IEC 60228

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 A FR

Pairs/triples/quads twisted cables for telecommunication and instrumentation, armoured, fire resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 A FR



Part no.	No. of pairs/triples/quads x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11070CGX012M05	1 x 2 x 0,5	Orange	6,2	7,7	9,2	82	40,4	10	0,07
11070CGX022M05	2 x 2 x 0,5	Orange	7,4	8,9	10,4	105	40,4	8	0,07
11070CGX042M05	4 x 2 x 0,5	Orange	11,2	12,7	14,2	187	40,4	6	0,07
11070CGX062M05	6 x 2 x 0,5	Orange	14	15,5	17	307	40,4	6	0,07
11070CGX072M05	7 x 2 x 0,5	Orange	13,5	15,5	17	297	40,4	6	0,07
11070CGX082M05	8 x 2 x 0,5	Orange	16	18,0	19,5	359	40,4	6	0,07
11070CGX102M05	10 x 2 x 0,5	Orange	16,8	18,8	20,3	421	40,4	6	0,07
11070CGX122M05	12 x 2 x 0,5	Orange	17,9	20,4	22,9	459	40,4	6	0,07
11070CGX142M05	14 x 2 x 0,5	Orange	18,9	21,4	23,9	511	40,4	5	0,07
11070CGX192M05	19 x 2 x 0,5	Orange	21,3	23,8	26,3	631	40,4	5	0,07
11070CGX242M05	24 x 2 x 0,5	Orange	24,6	27,1	29,6	796	40,4	4	0,07
11070CGX272M05	27 x 2 x 0,5	Orange	26,1	28,6	31,1	884	40,4	4	0,07
11070CGX372M05	37 x 2 x 0,5	Orange	29,6	32,1	34,6	1086	40,4	4	0,07
11070CGX012M07	1 x 2 x 0,75	Orange	6,5	8	9,5	92	26,0	13	0,07
11070CGX022M07	2 x 2 x 0,75	Orange	7,8	9,3	10,8	120	26,0	11	0,11
11070CGX042M07	4 x 2 x 0,75	Orange	11,9	13,4	14,9	215	26,0	7	0,11
11070CGX062M07	6 x 2 x 0,75	Orange	14,9	16,4	17,9	352	26,0	7	0,11
11070CGX072M07	7 x 2 x 0,75	Orange	14,4	16,4	17,9	342	26,0	7	0,11
11070CGX082M07	8 x 2 x 0,75	Orange	17,3	19,3	20,8	423	26,0	7	0,11
11070CGX102M07	10 x 2 x 0,75	Orange	18,1	20,1	21,6	498	26,0	7	0,11
11070CGX122M07	12 x 2 x 0,75	Orange	19,1	21,6	24,1	536	26,0	7	0,11
11070CGX142M07	14 x 2 x 0,75	Orange	20,4	22,9	25,4	610	26,0	6	0,11
11070CGX192M07	19 x 2 x 0,75	Orange	23	25,5	28	759	26,0	6	0,11
11070CGX242M07	24 x 2 x 0,75	Orange	26,5	29	31,5	958	26,0	5	0,11
11070CGX272M07	27 x 2 x 0,75	Orange	28,2	30,7	33,2	1064	26,0	5	0,11
11070CGX372M07	37 x 2 x 0,75	Orange	31,8	34,3	36,8	1316	26,0	5	0,11
11070CGX012M10	1 x 2 x 1	Orange	7,1	8,6	10,1	106	19,2	15	0,14
11070CGX022M10	2 x 2 x 1	Orange	8,2	9,7	11,2	135	19,2	13	0,14
11070CGX082M10	8 x 2 x 1	Orange	18,4	20,4	21,9	484	19,2	9	0,14
11070CGX102M10	10 x 2 x 1	Orange	19,2	21,2	22,7	574	19,2	9	0,14
11070CGX122M10	12 x 2 x 1	Orange	20,5	23	25,5	632	19,2	9	0,14
11070CGX142M10	14 x 2 x 1	Orange	21,7	24,2	26,7	708	19,2	8	0,14
11070CGX192M10	19 x 2 x 1	Orange	24,4	26,9	29,4	887	19,2	8	0,14
11070CGX242M10	24 x 2 x 1	Orange	28,4	30,9	33,4	1137	19,2	6	0,14
11070CGX272M10	27 x 2 x 1	Orange	30	32,5	35	1248	19,2	6	0,14
11070CGX372M10	37 x 2 x 1	Orange	34,5	37,0	39,5	1665	19,2	6	0,14
11070CGX012M15	1 x 2 x 1,5	Orange	8	9,5	11	130	12,8	20	0,21
11070CGX022M15	2 x 2 x 1,5	Orange	9,4	10,9	12,4	170	12,8	16	0,21
11070CGX042M15	4 x 2 x 1,5	Orange	15,3	16,8	18,3	367	12,8	11	0,21
11070CGX062M15	6 x 2 x 1,5	Orange	18,5	20	21,5	536	12,8	11	0,21
11070CGX072M15	7 x 2 x 1,5	Orange	18	20	21,5	526	12,8	11	0,21
11070CGX082M15	8 x 2 x 1,5	Orange	21,4	23,4	24,9	632	12,8	11	0,21
11070CGX102M15	10 x 2 x 1,5	Orange	22,4	24,4	25,9	757	12,8	11	0,21
11070CGX122M15	12 x 2 x 1,5	Orange	23,9	26,4	28,9	832	12,8	11	0,21
11070CGX142M15	14 x 2 x 1,5	Orange	25,5	28	30,5	950	12,8	10	0,21
11070CGX192M15	19 x 2 x 1,5	Orange	28,7	31,2	33,7	1196	12,8	10	0,21
11070CGX242M15	24 x 2 x 1,5	Orange	33,2	35,7	38,2	1534	12,8	8	0,21
11070CGX272M15	27 x 2 x 1,5	Orange	35,7	38,2	40,7	1799	12,8	8	0,21
11070CGX372M15	37 x 2 x 1,5	Orange	40,3	42,8	45,3	2236	12,8	8	0,21

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 A FR

Pairs/triples/quads twisted cables for telecommunication and instrumentation, armoured, fire resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 A FR



Part no.	No. of pairs/triples/quads x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11070CGX012M25	1 x 2 x 2,5	Orange	8,9	10,4	11,9	163	7,9	26	0,36
11070CGX022M25	2 x 2 x 2,5	Orange	10,7	12,2	13,7	228	7,9	21	0,36
11070CGX082M25	8 x 2 x 2,5	Orange	24,2	26,2	27,7	848	7,9	15	0,36
11070CGX102M25	10 x 2 x 2,5	Orange	25,6	27,6	29,1	1039	7,9	15	0,36
11070CGX122M25	12 x 2 x 2,5	Orange	27,2	29,7	32,2	1136	7,9	15	0,36
11070CGX142M25	14 x 2 x 2,5	Orange	28,9	31,4	33,9	1301	7,9	13	0,36
11070CGX192M25	19 x 2 x 2,5	Orange	32,6	35,1	37,6	1656	7,9	13	0,36
11070CGX242M25	24 x 2 x 2,5	Orange	38,1	40,6	43,1	2217	7,9	11	0,36
11070CGX272M25	27 x 2 x 2,5	Orange	40,5	43,0	45,5	2463	7,9	11	0,36
11070CGX372M25	37 x 2 x 2,5	Orange	45,9	48,4	50,9	3134	7,9	11	0,36
11070CGX013M05	1 x 3 x 0,5	Orange	6,5	8	9,5	87	40,4	8	0,07
11070CGX023M05	2 x 3 x 0,5	Orange	10,7	12,2	13,7	188	40,4	7	0,07
11070CGX043M05	4 x 3 x 0,5	Orange	13,1	14,6	16,1	275	40,4	6	0,07
11070CGX073M05	7 x 3 x 0,5	Orange	15,9	17,4	19,4	384	40,4	6	0,07
11070CGX103M05	10 x 3 x 0,5	Orange	18,7	21,2	23,7	547	40,4	5	0,07
11070CGX143M05	14 x 3 x 0,5	Orange	21,5	24	26,5	673	40,4	4	0,07
11070CGX013M07	1 x 3 x 0,75	Orange	7,1	8,6	10,1	102	26,0	11	0,11
11070CGX023M07	2 x 3 x 0,75	Orange	11,4	12,9	14,4	215	26,0	8	0,11
11070CGX043M07	4 x 3 x 0,75	Orange	14	15,5	17	314	26,0	7	0,11
11070CGX073M07	7 x 3 x 0,75	Orange	16,9	18,4	20,4	450	26,0	7	0,11
11070CGX103M07	10 x 3 x 0,75	Orange	20,1	22,6	25,1	652	26,0	6	0,11
11070CGX143M07	14 x 3 x 0,75	Orange	23,2	25,7	28,2	810	26,0	5	0,11
11070CGX013M10	1 x 3 x 1	Orange	7,5	9	10,5	114	19,2	13	0,14
11070CGX023M10	2 x 3 x 1	Orange	12	13,5	15	244	19,2	10	0,14
11070CGX043M10	4 x 3 x 1	Orange	14,8	16,3	17,8	360	19,2	9	0,14
11070CGX073M10	7 x 3 x 1	Orange	18,1	19,6	21,6	532	19,2	9	0,14
11070CGX103M10	10 x 3 x 1	Orange	21,4	23,9	26,4	761	19,2	8	0,14
11070CGX143M10	14 x 3 x 1	Orange	24,9	27,4	29,9	965	19,2	6	0,14
11070CGX013M15	1 x 3 x 1,5	Orange	8,5	10,0	11,5	143	12,8	16	0,21
11070CGX023M15	2 x 3 x 1,5	Orange	14,4	15,9	17,4	353	12,8	13	0,21
11070CGX043M15	4 x 3 x 1,5	Orange	17,1	18,6	20,1	471	12,8	11	0,21
11070CGX073M15	7 x 3 x 1,5	Orange	21	22,5	24,5	703	12,8	11	0,21
11070CGX103M15	10 x 3 x 1,5	Orange	25,1	27,6	30,1	1025	12,8	10	0,21
11070CGX143M15	14 x 3 x 1,5	Orange	29	31,5	34	1289	12,8	8	0,21
11070CGX013M25	1 x 3 x 2,5	Orange	9,7	11,2	12,7	188	7,9	21	0,36
11070CGX023M25	2 x 3 x 2,5	Orange	16,3	17,8	19,3	460	7,9	17	0,36
11070CGX043M25	4 x 3 x 2,5	Orange	19,4	20,9	22,4	634	7,9	15	0,36
11070CGX073M25	7 x 3 x 2,5	Orange	23,7	25,2	27,2	964	7,9	15	0,36
11070CGX103M25	10 x 3 x 2,5	Orange	28,5	31	33,5	1407	7,9	13	0,36
11070CGX143M25	14 x 3 x 2,5	Orange	33,2	35,7	38,2	1809	7,9	11	0,36
11070CGX014M05	1 x 4 x 0,5	Orange	7,4	8,9	10,4	105	40,4	8	0,07
11070CGX014M07	1 x 4 x 0,75	Orange	7,8	9,3	10,8	120	26,0	11	0,11
11070CGX014M10	1 x 4 x 1	Orange	8,2	9,7	11,2	135	19,2	13	0,14
11070CGX014M15	1 x 4 x 1,5	Orange	9,4	10,9	12,4	170	12,8	16	0,21
11070CGX014M25	1 x 4 x 2,5	Orange		12,2		228	7,9	15	0,36

Other dimensions and colors available on request.

## GAALSHIP® HF 250 A FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 A 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>	MICA glass 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>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 A FR WSR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**ABS** (American Bureau of Shipping)  
**RMRS** (Russian Maritime Register of Shipping)  
Other approvals on request

### Resistance:



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



**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 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
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

## GAALSHIP® HF 250 A FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 A FR WSR



Part no.	No. of pairs/triples/quads x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11220CGX052M05	5 x 2 x 0,5	Orange	17,9	19,4	20,9	463	41,6	5	0,07
11220CGX012M07	1 x 2 x 0,75	Orange	9,8	11,3	12,8	177	26,3	12	0,11
11220CGX022M07	2 x 2 x 0,75	Orange	11,2	12,7	14,2	217	26,3	10	0,11
11220CGX042M07	4 x 2 x 0,75	Orange	17	18,5	20	426	26,3	7	0,11
11220CGX052M07	5 x 2 x 0,75	Orange	18,7	20,2	21,7	510	26,3	7	0,11
11220CGX072M07	7 x 2 x 0,75	Orange	19,8	21,8	23,3	578	26,3	7	0,11
11220CGX102M07	10 x 2 x 0,75	Orange	24,4	26,4	27,9	825	26,3	7	0,11
11220CGX142M07	14 x 2 x 0,75	Orange	27,6	30,1	32,6	1010	26,3	6	0,11
11220CGX242M07	24 x 2 x 0,75	Orange	36	38,5	41	1658	26,3	5	0,11
11220CGX372M07	37 x 2 x 0,75	Orange	42,7	45,2	47,7	2227	26,3	5	0,11
11220CGX012M10	1 x 2 x 1	Orange	10,2	11,7	13,2	190	19,3	15	0,14
11220CGX032M10	3 x 2 x 1	Orange	16,2	17,7	19,2	390	19,3	10	0,14
11220CGX042M10	4 x 2 x 1	Orange	17,9	19,4	20,9	473	19,3	8	0,14
11220CGX072M10	7 x 2 x 1	Orange	20,9	22,9	24,4	651	19,3	8	0,14
11220CGX012M15	1 x 2 x 1,5	Orange	11,1	12,6	14,1	223	12,9	19	0,21
11220CGX022M15	2 x 2 x 1,5	Orange	13,3	14,8	16,3	321	12,9	16	0,21
11220CGX042M15	4 x 2 x 1,5	Orange	19,8	21,3	22,8	570	12,9	11	0,21
11220CGX052M15	5 x 2 x 1,5	Orange	21,8	23,3	24,8	690	12,9	11	0,21
11220CGX072M15	7 x 2 x 1,5	Orange	23,4	25,4	26,9	808	12,9	11	0,21
11220CGX082M15	8 x 2 x 1,5	Orange	27,5	29,5	31	968	12,9	11	0,21
11220CGX102M15	10 x 2 x 1,5	Orange	28,9	30,9	32,4	1162	12,9	11	0,21
11220CGX122M15	12 x 2 x 1,5	Orange	30,9	33,4	35,9	1268	12,9	11	0,21
11220CGX192M15	19 x 2 x 1,5	Orange	37	39,5	42	1875	12,9	9	0,21
11220CGX012M25	1 x 2 x 2,5	Orange	12	13,5	15	262	8,2	27	0,36
11220CGX013M07	1 x 3 x 0,75	Orange	10,3	11,8	13,3	188	26,3	10	0,11
11220CGX073M07	7 x 3 x 0,75	Orange	22,8	24,3	26,3	747	26,3	7	0,11
11220CGX073M10	7 x 3 x 1	Orange	24	25,5	27,5	844	19,3	8	0,14

Other dimensions and colors available on request.

## GAALSHIP® HF 250 OSA

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA



### Applications:

Instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 OSA, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

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

### Resistance:



**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 60092-350/376  
 Choice and installation of electric cables acc. to IEC 60092-352  
 Cold bend test at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
 Cold bend impact at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
 On request class 5 conductor acc. to IEC 60228



# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 OSA

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11080CGX012M05	1 x 2 x 0,5	Orange	5,7	7,2	8,7	78	40,4	10	0,07
11080CGX022M05	2 x 2 x 0,5	Orange	6,3	7,8	9,3	95	40,4	8	0,07
11080CGX032M05	3 x 2 x 0,5	Orange	8,8	10,3	11,8	138	40,4	7	0,07
11080CGX042M05	4 x 2 x 0,5	Orange	9,8	11,3	12,8	168	40,4	6	0,07
11080CGX052M05	5 x 2 x 0,5	Orange	10,7	12,2	13,7	197	40,4	6	0,07
11080CGX062M05	6 x 2 x 0,5	Orange	11,6	13,1	14,6	230	40,4	6	0,07
11080CGX072M05	7 x 2 x 0,5	Orange	12,6	13,1	14,3	226	40,4	6	0,07
11080CGX082M05	8 x 2 x 0,5	Orange	13,6	15,6	17,1	307	40,4	6	0,07
11080CGX102M05	10 x 2 x 0,5	Orange	14,2	16,2	17,7	354	40,4	6	0,07
11080CGX122M05	12 x 2 x 0,5	Orange	15	17,5	20	391	40,4	6	0,07
11080CGX142M05	14 x 2 x 0,5	Orange	15,8	18,3	20,8	432	40,4	5	0,07
11080CGX162M05	16 x 2 x 0,5	Orange	16,9	19,4	21,9	488	40,4	5	0,07
11080CGX192M05	19 x 2 x 0,5	Orange	17,8	20,3	22,8	531	40,4	5	0,07
11080CGX242M05	24 x 2 x 0,5	Orange	20,5	23	25,5	664	40,4	4	0,07
11080CGX272M05	27 x 2 x 0,5	Orange	21,6	24,1	26,6	725	40,4	4	0,07
11080CGX372M05	37 x 2 x 0,5	Orange	24,5	27	29,5	893	40,4	4	0,07
11080CGX012M07	1 x 2 x 0,75	Orange	6	7,5	9	89	26,0	13	0,11
11080CGX022M07	2 x 2 x 0,75	Orange	7,1	8,6	10,1	114	26,0	11	0,11
11080CGX032M07	3 x 2 x 0,75	Orange	9,4	10,9	12,4	160	26,0	8	0,11
11080CGX042M07	4 x 2 x 0,75	Orange	10,5	12	13,5	197	26,0	7	0,11
11080CGX052M07	5 x 2 x 0,75	Orange	11,5	13	14,5	232	26,0	7	0,11
11080CGX062M07	6 x 2 x 0,75	Orange	13,1	14,6	16,1	312	26,0	7	0,11
11080CGX072M07	7 x 2 x 0,75	Orange	12,6	14,6	16,1	309	26,0	7	0,11
11080CGX082M07	8 x 2 x 0,75	Orange	14,9	16,9	18,4	368	26,0	7	0,11
11080CGX102M07	10 x 2 x 0,75	Orange	15,5	17,5	19	429	26,0	7	0,11
11080CGX122M07	12 x 2 x 0,75	Orange	16,2	18,7	21,2	465	26,0	7	0,11
11080CGX142M07	14 x 2 x 0,75	Orange	17,3	19,8	22,3	527	26,0	6	0,11
11080CGX162M07	16 x 2 x 0,75	Orange	18,3	20,8	23,3	583	26,0	6	0,11
11080CGX192M07	19 x 2 x 0,75	Orange	19,5	22	24,5	652	26,0	6	0,11
11080CGX242M07	24 x 2 x 0,75	Orange	22,4	24,9	27,4	816	26,0	5	0,11
11080CGX272M07	27 x 2 x 0,75	Orange	23,7	26,2	28,7	892	26,0	5	0,11
11080CGX372M10	37 x 2 x 0,75	Orange	26,7	29,2	31,7	1110	26,0	5	0,11
11080CGX012M10	1 x 2 x 1	Orange	6,4	7,9	9,4	101	19,2	15	0,14
11080CGX022M10	2 x 2 x 1	Orange	7,5	9	10,5	131	19,2	13	0,14
11080CGX032M10	3 x 2 x 1	Orange	10,3	11,8	13,3	191	19,2	10	0,14
11080CGX042M10	4 x 2 x 1	Orange	11,2	12,7	14,2	228	19,2	9	0,14
11080CGX052M10	5 x 2 x 1	Orange	12,9	14,4	15,9	309	19,2	9	0,14
11080CGX062M10	6 x 2 x 1	Orange	14	15,5	17	360	19,2	9	0,14
11080CGX072M10	7 x 2 x 1	Orange	13,5	15,5	17	358	19,2	9	0,14
11080CGX082M10	8 x 2 x 1	Orange	15,9	17,9	19,4	430	19,2	9	0,14
11080CGX102M10	10 x 2 x 1	Orange	16,6	18,6	20,1	503	19,2	9	0,14
11080CGX122M10	12 x 2 x 1	Orange	17,7	20,2	22,7	557	19,2	9	0,14
11080CGX142M10	14 x 2 x 1	Orange	18,7	21,2	23,7	622	19,2	8	0,14
11080CGX162M10	16 x 2 x 1	Orange	19,9	22,4	24,9	702	19,2	8	0,14
11080CGX192M10	19 x 2 x 1	Orange	21	23,5	26	777	19,2	8	0,14
11080CGX242M10	24 x 2 x 1	Orange	24,2	26,7	29,2	975	19,2	6	0,14
11080CGX272M10	27 x 2 x 1	Orange	25,7	28,2	30,7	1083	19,2	6	0,14
11080CGX372M10	37 x 2 x 1	Orange	29	31,5	34	1354	19,2	6	0,14
11080CGX012M15	1 x 2 x 1,5	Orange	7,5	9	10,5	128	12,8	20	0,21
11080CGX022M15	2 x 2 x 1,5	Orange	8,7	10,2	11,7	166	12,8	16	0,21
11080CGX032M15	3 x 2 x 1,5	Orange	11,9	13,4	14,9	243	12,8	13	0,21
11080CGX032M15	4 x 2 x 1,5	Orange	13,7	15,2	16,7	336	12,8	11	0,21
11080CGX052M15	5 x 2 x 1,5	Orange	15,1	16,6	18,1	407	12,8	11	0,21
11080CGX062M15	6 x 2 x 1,5	Orange	16,5	18	19,5	479	12,8	11	0,21
11080CGX072M15	7 x 2 x 1,5	Orange	16	18	19,5	477	12,8	11	0,21
11080CGX082M15	8 x 2 x 1,5	Orange	18,9	20,9	22,4	571	12,8	11	0,21
11080CGX102M15	10 x 2 x 1,5	Orange	19,8	21,8	23,3	676	12,8	11	0,21
11080CGX122M15	12 x 2 x 1,5	Orange	21,1	23,6	26,1	749	12,8	11	0,21

## GAALSHIP® HF 250 OSA

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11080CGX142M15	14 x 2 x 1,5	Orange	22,4	24,9	27,4	852	12,8	10	0,21
11080CGX162M15	16 x 2 x 1,5	Orange	23,7	26,2	28,7	951	12,8	10	0,21
11080CGX192M15	19 x 2 x 1,5	Orange	25,2	27,7	30,2	1070	12,8	10	0,21
11080CGX242M15	24 x 2 x 1,5	Orange	29	31,5	34	1348	12,8	8	0,21
11080CGX272M15	27 x 2 x 1,5	Orange	30,8	33,3	35,8	1497	12,8	8	0,21
11080CGX372M15	37 x 2 x 1,5	Orange	35,2	37,7	40,2	1970	12,8	8	0,21
11080CGX013M05	1 x 3 x 0,5	Orange	6	7,5	9	84	40,4	8	0,07
11080CGX033M05	3 x 3 x 0,5	Orange	10	11,5	13	174	40,4	6	0,07
11080CGX043M05	4 x 3 x 0,5	Orange	10,9	12,4	13,9	208	40,4	6	0,07
11080CGX073M05	7 x 3 x 0,5	Orange	13,6	15,1	17,1	327	40,4	6	0,07
11080CGX123M05	12 x 3 x 0,5	Orange	17,1	19,6	22,1	508	40,4	5	0,07
11080CGX013M07	1 x 3 x 0,75	Orange	6,3	7,8	9,3	96	26,0	11	0,11
11080CGX033M07	3 x 3 x 0,75	Orange	10,7	12,2	13,7	205	26,0	7	0,11
11080CGX043M07	4 x 3 x 0,75	Orange	11,7	13,2	14,7	247	26,0	7	0,11
11080CGX073M07	7 x 3 x 0,75	Orange	14,6	16,1	18,1	391	26,0	7	0,11
11080CGX123M07	12 x 3 x 0,75	Orange	18,5	21	23,5	612	26,0	6	0,11
11080CGX013M10	1 x 3 x 1	Orange	6,7	8,2	9,7	109	19,2	13	0,14
11080CGX033M10	3 x 3 x 1	Orange	11,4	12,9	14,4	239	19,2	9	0,14
11080CGX043M10	4 x 3 x 1	Orange	13,1	14,6	16,1	330	19,2	9	0,14
11080CGX073M10	7 x 3 x 1	Orange	15,8	17,3	19,3	472	19,2	9	0,14
11080CGX123M10	12 x 3 x 1	Orange	20,1	22,6	25,1	742	19,2	8	0,14
11080CGX013M15	1 x 3 x 1,5	Orange	8	9,5	11	141	12,8	16	0,21
11080CGX033M15	3 x 3 x 1,5	Orange	13,9	15,4	16,9	351	12,8	11	0,21
11080CGX043M15	4 x 3 x 1,5	Orange	15,5	17	18,5	435	12,8	11	0,21
11080CGX073M15	7 x 3 x 1,5	Orange	18,6	20,1	22,1	634	12,8	11	0,21
11080CGX123M15	12 x 3 x 1,5	Orange	24	26,5	29	1007	12,8	10	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 OSA FR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA FR



### Applications:

Fire resistant instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

**Conductor:** Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295

**Insulation:** MICA glass tape + GAALTHERM® 595

**Cores color:** Pair: black- light blue  
Triple: black- light blue - brown

**Stranding:** Core laid-up together in pairs/triples

**Overall screen:** Aluminium/polyester tape with tinned annealed copper stranded drain wire

**Armour:** Plain or tinned annealed copper wires braid acc. to IEC 60092-350

**Outer sheath:** Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376

**Marking:** ELETTROTEK KABEL® GAALSHIP® HF 250 OSA FR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

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

### Type Approvals/Certificates:

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

### Resistance:



**Fire resistant acc. to:**  
IEC 60331-21  
IEC 60331-2 (under 20 mm Ø)  
IEC 60331-1 (over 20 mm Ø)



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



**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 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor acc. to IEC 60228

## GAALSHIP® HF 250 OSA FR

Pairs/triples twisted cables for telecommunication and instrumentation, overall screened, armored and fire resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11090CGX012M07	1 x 2 x 0,75	Orange	7,1	8,6	10,1	108	26,0	13	0,11
11090CGX022M07	2 x 2 x 0,75	Orange	8,2	9,7	11,2	133	26,0	11	0,11
11090CGX032M07	3 x 2 x 0,75	Orange	11,2	12,7	14,2	194	26,0	8	0,11
11090CGX042M07	4 x 2 x 0,75	Orange	12,9	14,4	15,9	271	26,0	7	0,11
11090CGX052M07	5 x 2 x 0,75	Orange	14	15,5	17	319	26,0	7	0,11
11090CGX062M07	6 x 2 x 0,75	Orange	15,5	17	18,5	381	26,0	7	0,11
11090CGX072M07	7 x 2 x 0,75	Orange	15	17	18,5	371	26,0	7	0,11
11090CGX082M07	8 x 2 x 0,75	Orange	17,7	19,7	21,2	447	26,0	7	0,11
11090CGX102M07	10 x 2 x 0,75	Orange	18,5	20,5	22	523	26,0	7	0,11
11090CGX122M07	12 x 2 x 0,75	Orange	19,6	22,1	24,6	572	26,0	7	0,11
11090CGX142M07	14 x 2 x 0,75	Orange	20,7	23,2	25,7	637	26,0	6	0,11
11090CGX162M07	16 x 2 x 0,75	Orange	21,9	24,4	26,9	708	26,0	6	0,11
11090CGX192M07	19 x 2 x 0,75	Orange	23,3	25,8	28,3	790	26,0	6	0,11
11090CGX242M07	24 x 2 x 0,75	Orange	26,8	29,3	31,8	991	26,0	5	0,11
11090CGX272M07	27 x 2 x 0,75	Orange	28,5	31,0	33,5	1098	26,0	5	0,11
11090CGX372M07	37 x 2 x 0,75	Orange	32,2	34,7	37,2	1354	26,0	5	0,11
11090CGX012M10	1 x 2 x 1	Orange	7,5	9	10,5	121	19,2	15	0,14
11090CGX022M10	2 x 2 x 1	Orange	8,6	10,1	11,6	151	19,2	13	0,14
11090CGX032M10	3 x 2 x 1	Orange	11,8	13,3	14,8	221	19,2	10	0,14
11090CGX042M10	4 x 2 x 1	Orange	13,6	15,1	16,6	305	19,2	9	0,14
11090CGX052M10	5 x 2 x 1	Orange	14,8	16,3	17,8	362	19,2	9	0,14
11090CGX062M10	6 x 2 x 1	Orange	16,3	17,8	19,3	434	19,2	9	0,14
11090CGX072M10	7 x 2 x 1	Orange	15,8	17,8	19,3	425	19,2	9	0,14
11090CGX082M10	8 x 2 x 1	Orange	18,7	20,7	22,2	511	19,2	9	0,14
11090CGX102M10	10 x 2 x 1	Orange	19,6	21,6	23,1	603	19,2	9	0,14
11090CGX122M10	12 x 2 x 1	Orange	20,9	23,4	25,9	662	19,2	9	0,14
11090CGX142M10	14 x 2 x 1	Orange	22,2	24,7	27,2	750	19,2	8	0,14
11090CGX162M10	16 x 2 x 1	Orange	23,5	26	28,5	837	19,2	8	0,14
11090CGX192M10	19 x 2 x 1	Orange	25	27,5	30	933	19,2	8	0,14
11090CGX242M10	24 x 2 x 1	Orange	28,7	31,2	33,7	1175	19,2	6	0,14
11090CGX272M10	27 x 2 x 1	Orange	30,5	33	35,5	1303	19,2	6	0,14
11090CGX372M10	37 x 2 x 1	Orange	34,9	37,4	39,9	1706	19,2	6	0,14
11090CGX012M15	1 x 2 x 1,5	Orange	8,4	9,9	11,4	146	12,8	20	0,21
11090CGX022M15	2 x 2 x 1,5	Orange	9,9	11,4	12,9	193	12,8	16	0,21
11090CGX032M15	3 x 2 x 1,5	Orange	14,1	15,6	17,1	317	12,8	13	0,21
11090CGX042M15	4 x 2 x 1,5	Orange	15,6	17,1	18,6	390	12,8	11	0,21
11090CGX052M15	5 x 2 x 1,5	Orange	17,1	18,6	20,1	466	12,8	11	0,21
11090CGX062M15	6 x 2 x 1,5	Orange	18,9	20,4	21,9	561	12,8	11	0,21
11090CGX072M15	7 x 2 x 1,5	Orange	18,4	20,4	21,9	551	12,8	11	0,21
11090CGX082M15	8 x 2 x 1,5	Orange	21,7	23,7	25,2	661	12,8	11	0,21
11090CGX102M15	10 x 2 x 1,5	Orange	22,9	24,9	26,4	799	12,8	11	0,21
11090CGX122M15	12 x 2 x 1,5	Orange	24,3	26,8	29,3	865	12,8	11	0,21
11090CGX142M15	14 x 2 x 1,5	Orange	25,8	28,3	30,8	984	12,8	10	0,21
11090CGX162M15	16 x 2 x 1,5	Orange	27,3	29,8	32,3	1101	12,8	10	0,21
11090CGX192M15	19 x 2 x 1,5	Orange	29	31,5	34	1234	12,8	10	0,21
11090CGX242M15	24 x 2 x 1,5	Orange	34	36,5	39	1661	12,8	8	0,21
11090CGX272M15	27 x 2 x 1,5	Orange	36,1	38,6	41,1	1841	12,8	8	0,21
11090CGX372M15	37 x 2 x 1,5	Orange	40,6	43,1	45,6	2286	12,8	8	0,21

## GAALSHIP® HF 250 OSA FR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11090CGX013M07	1 x 3 x 0,75	Orange	7,5	9,0	10,5	115	26,0	11	0,11
11090CGX033M07	3 x 3 x 0,75	Orange	13,1	14,6	16,1	281	26,0	7	0,11
11090CGX043M07	4 x 3 x 0,75	Orange	14,3	15,8	17,3	335	26,0	7	0,11
11090CGX073M07	7 x 3 x 0,75	Orange	17,3	18,8	20,8	473	26,0	7	0,11
11090CGX123M07	12 x 3 x 0,75	Orange	22,4	24,9	27,4	752	26,0	6	0,11
11090CGX013M10	1 x 3 x 1	Orange	7,9	9,4	10,9	130	19,2	13	0,14
11090CGX033M10	3 x 3 x 1	Orange	13,8	15,3	16,8	318	19,2	9	0,14
11090CGX043M10	4 x 3 x 1	Orange	15,3	16,8	18,3	391	19,2	9	0,14
11090CGX073M10	7 x 3 x 1	Orange	18,5	20,0	22	559	19,2	9	0,14
11090CGX123M10	12 x 3 x 1	Orange	23,8	26,3	28,8	877	19,2	8	0,14
11090CGX013M15	1 x 3 x 1,5	Orange	8,9	10,4	11,9	160	12,8	16	0,21
11090CGX033M15	3 x 3 x 1,5	Orange	15,9	17,4	18,9	406	12,8	11	0,21
11090CGX043M15	4 x 3 x 1,5	Orange	17,5	19,0	20,5	496	12,8	11	0,21
11090CGX073M15	7 x 3 x 1,5	Orange	21,3	22,8	24,8	732	12,8	11	0,21
11090CGX123M15	12 x 3 x 1,5	Orange	27,8	30,3	32,8	1176	12,8	10	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 OSA FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA 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>	MICA glass 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>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 OSA FR WSR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

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

### Resistance:



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



**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 60092-350/376
- Choice and installation of electric cables acc. to IEC 60092-352
- 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

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 OSA FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 OSA FR WSR

Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11230CGX052M05	5 x 2 x 0,5	Orange	18,3	19,8	21,3	490	41,6	5	0,07
11230CGX012M07	1 x 2 x 0,75	Orange	10,2	11,7	13,2	194	26,3	12	0,11
11230CGX022M07	2 x 2 x 0,75	Orange	11,6	13,1	14,6	236	26,3	10	0,11
11230CGX042M07	4 x 2 x 0,75	Orange	17,4	18,9	20,4	452	26,3	7	0,11
11230CGX052M07	5 x 2 x 0,75	Orange	19,1	20,6	22,1	537	26,3	7	0,11
11230CGX072M07	7 x 2 x 0,75	Orange	20,4	22,4	23,9	618	26,3	7	0,11
11230CGX102M07	10 x 2 x 0,75	Orange	24,8	26,8	28,3	860	26,3	7	0,11
11230CGX142M07	14 x 2 x 0,75	Orange	28	30,5	33	1048	26,3	6	0,11
11230CGX242M07	24 x 2 x 0,75	Orange	36,4	38,9	41,4	1706	26,3	5	0,11
11230CGX372M07	37 x 2 x 0,75	Orange	43,1	45,6	48,1	2279	26,3	5	0,11
11230CGX012M10	1 x 2 x 1	Orange	10,6	12,1	13,6	210	26,3	15	0,14
11230CGX032M10	3 x 2 x 1	Orange	16,7	18,2	19,7	418	19,3	10	0,14
11230CGX042M10	4 x 2 x 1	Orange	18,3	19,8	21,3	502	19,3	8	0,14
11230CGX072M10	7 x 2 x 1	Orange	21,3	23,3	24,8	683	19,3	8	0,14
11230CGX012M15	1 x 2 x 1,5	Orange	11,5	13	14,5	243	12,9	19	0,21
11230CGX022M15	2 x 2 x 1,5	Orange	13,7	15,2	16,7	346	12,9	16	0,21
11230CGX042M15	4 x 2 x 1,5	Orange	20,2	21,7	23,2	600	12,9	11	0,21
11230CGX052M15	5 x 2 x 1,5	Orange	22,2	23,7	25,2	723	12,9	11	0,21
11230CGX072M15	7 x 2 x 1,5	Orange	23,8	25,8	27,3	844	12,9	11	0,21
11230CGX082M15	8 x 2 x 1,5	Orange	27,9	29,9	31,4	1008	12,9	11	0,21
11230CGX102M15	10 x 2 x 1,5	Orange	29,3	31,3	32,8	1204	12,9	11	0,21
11230CGX122M15	12 x 2 x 1,5	Orange	31,3	33,8	36,3	1313	12,9	11	0,21
11230CGX192M15	19 x 2 x 1,5	Orange	37,4	39,9	42,4	1926	12,9	9	0,21
11230CGX122M25	1 x 2 x 2,5	Orange	13	14,5	16	324	8,0	27	0,36
11230CGX013M07	1 x 3 x 0,75	Orange	10,7	12,2	13,7	206	26,3	10	0,11
11230CGX073M07	7 x 3 x 0,75	Orange	23,4	24,9	26,9	788	26,3	7	0,11
11230CGX073M10	7 x 3 x 1	Orange	24,4	25,9	27,9	879	19,3	8	0,14

Other dimensions and colors available on request.

## GAALSHIP® HF 250 IS

Pairs/triples twisted cables for telecommunication and instrumentation, individually screened



ELETTROTEK KABEL® GAALSHIP® HF 250 IS



### Applications:

Instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 IS, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

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

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**ABS** (American Bureau of Shipping)  
**RMRS** (Russian Maritime Register of Shipping)  
Other approvals on request

### Resistance:



**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 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor acc. to IEC 60228



## GAALSHIP® HF 250 IS

Pairs/triples twisted cables for telecommunication and instrumentation, individually screened



ELETTROTEK KABEL® GAALSHIP® HF 250 IS



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11100CGX022M05	2 x 2 x 0,5	Orange	8,3	9,8	11,3	107	40,4	8	0,07
11100CGX042M05	4 x 2 x 0,5	Orange	10,1	11,6	13,1	146	40,4	6	0,07
11100CGX072M05	7 x 2 x 0,5	Orange	12	14	15,5	222	40,4	6	0,07
11100CGX102M05	10 x 2 x 0,5	Orange	15,2	17,2	18,7	329	40,4	6	0,07
11100CGX142M05	14 x 2 x 0,5	Orange	17,2	19,7	22,2	419	40,4	5	0,07
11100CGX192M05	19 x 2 x 0,5	Orange	19,6	22,1	24,6	542	40,4	5	0,07
11100CGX242M05	24 x 2 x 0,5	Orange	22,7	25,2	27,7	698	40,4	4	0,07
11100CGX022M07	2 x 2 x 0,75	Orange	9	10,5	12	126	26,0	11	0,11
11100CGX042M07	4 x 2 x 0,75	Orange	10,9	12,4	13,9	175	26,0	7	0,11
11100CGX072M07	7 x 2 x 0,75	Orange	12,9	14,9	16,4	270	26,0	7	0,11
11100CGX102M07	10 x 2 x 0,75	Orange	16,4	18,4	19,9	401	26,0	7	0,11
11100CGX142M07	14 x 2 x 0,75	Orange	18,6	21,1	23,6	514	26,0	6	0,11
11100CGX192M07	19 x 2 x 0,75	Orange	21,2	23,7	26,2	669	26,0	6	0,11
11100CGX242M07	24 x 2 x 0,75	Orange	24,6	27,1	29,6	861	26,0	5	0,11
11100CGX022M10	2 x 2 x 1	Orange	9,8	11,3	12,8	154	19,2	13	0,14
11100CGX042M10	4 x 2 x 1	Orange	11,7	13,2	14,7	211	19,2	9	0,14
11100CGX072M10	7 x 2 x 1	Orange	13,9	15,9	17,4	329	19,2	9	0,14
11100CGX102M10	10 x 2 x 1	Orange	17,8	19,8	21,3	498	19,2	9	0,14
11100CGX142M10	14 x 2 x 1	Orange	20,2	22,7	25,2	642	19,2	8	0,14
11100CGX192M10	19 x 2 x 1	Orange	23	25,5	28	837	19,2	8	0,14
11100CGX242M10	24 x 2 x 1	Orange	26,7	29,2	31,7	1075	19,2	6	0,14
11100CGX022M15	2 x 2 x 1,5	Orange	11,5	13	14,5	197	12,8	16	0,21
11100CGX042M15	4 x 2 x 1,5	Orange	13,9	15,4	16,9	279	12,8	11	0,21
11100CGX072M15	7 x 2 x 1,5	Orange	16,6	18,6	20,1	436	12,8	11	0,21
11100CGX102M15	10 x 2 x 1,5	Orange	21,2	23,2	24,7	660	12,8	11	0,21
11100CGX142M15	14 x 2 x 1,5	Orange	24,1	26,6	29,1	850	12,8	10	0,21
11100CGX192M15	19 x 2 x 1,5	Orange	27,3	29,8	32,3	1109	12,8	10	0,21
11100CGX242M15	24 x 2 x 1,5	Orange	31,9	34,4	36,9	1442	12,8	8	0,21
11100CGX043M10	4 x 3 x 1	Orange	13,3	14,8	16,3	274	19,2	9	0,14
11100CGX073M10	7 x 3 x 1	Orange	16,4	17,9	19,9	431	19,2	9	0,14
11100CGX103M10	10 x 3 x 1	Orange	19,7	22,2	24,7	647	19,2	8	0,14
11100CGX143M10	14 x 3 x 1	Orange	23	25,5	28	841	19,2	6	0,14
11100CGX043M15	4 x 3 x 1,5	Orange	15,8	17,3	18,8	368	12,8	11	0,21
11100CGX073M15	7 x 3 x 1,5	Orange	19,4	20,9	22,9	581	12,8	11	0,21
11100CGX103M15	10 x 3 x 1,5	Orange	23,6	26,1	28,6	871	12,8	10	0,21
11100CGX143M15	14 x 3 x 1,5	Orange	27,6	30,1	32,6	1146	12,8	8	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 IS FR WSR

Pairs/triples twisted cables telecommunication and instrumentation cable, Individually screened, fire resistant and water spray resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 IS 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>	MICA glass 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>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 IS FR WSR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**ABS** (American Bureau of Shipping)  
**RMRS** (Russian Maritime Register of Shipping)  
Other approvals on request

### Resistance:



**Fire resistant acc. to:**

IEEC 60331-21,  
IEC 60331-2 (under 20 mm Ø),  
IEC 60331-1 (over 20 mm Ø),  
EN 50200 Annex E Water Spray Test,  
BS 8491 Water Jet Test



**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

### 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

Sheathing and insulating materials acc. to IEC 60092-360  
Design guidelines acc. to IEC 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
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

## GAALSHIP® HF 250 IS FR WSR

Pairs/triples twisted cables telecommunication and instrumentation cable, Individually screened, fire resistant and water spray resistant



ELETTROTEK KABEL® GAALSHIP® HF 250 IS FR WSR

Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11240CGX052M05	5 x 2 x 0,5	Orange	18,7	20,2	21,7	416	41,6	5	0,07
11240CGX012M07	1 x 2 x 0,75	Orange	9,1	10,6	12,1	137	26,3	12	0,11
11240CGX022M07	2 x 2 x 0,75	Orange	14,9	16,4	17,9	288	26,3	10	0,11
11240CGX042M07	4 x 2 x 0,75	Orange	17,8	19,3	20,8	378	26,3	7	0,11
11240CGX052M07	5 x 2 x 0,75	Orange	19,6	21,1	22,6	459	26,3	7	0,11
11240CGX072M07	7 x 2 x 0,75	Orange	21,1	23,1	24,6	549	26,3	7	0,11
11240CGX102M07	10 x 2 x 0,75	Orange	26,4	28,4	29,9	815	26,3	7	0,11
11240CGX142M07	14 x 2 x 0,75	Orange	29,9	32,4	34,9	1011	26,3	6	0,11
11240CGX242M07	24 x 2 x 0,75	Orange	39,2	41,7	44,2	1674	26,3	5	0,11
11240CGX372M07	37 x 2 x 0,75	Orange	47,1	49,6	52,1	2366	26,3	5	0,11
11240CGX012M10	1 x 2 x 1	Orange	9,5	11	12,5	151	19,3	15	0,14
11240CGX032M10	3 x 2 x 1	Orange	16,7	18,2	19,7	335	19,3	10	0,14
11240CGX042M10	4 x 2 x 1	Orange	18,6	20,1	21,6	424	19,3	8	0,14
11240CGX072M10	7 x 2 x 1	Orange	22,1	24,1	25,6	624	19,3	8	0,14
11240CGX012M15	1 x 2 x 1,5	Orange	10,6	12,1	13,6	184	12,9	19	0,21
11240CGX022M15	2 x 2 x 1,5	Orange	17,4	18,9	20,4	390	12,9	16	0,21
11240CGX042M15	4 x 2 x 1,5	Orange	20,8	22,3	23,8	523	12,9	11	0,21
11240CGX052M15	5 x 2 x 1,5	Orange	22,9	24,4	25,9	640	12,9	11	0,21
11240CGX072M15	7 x 2 x 1,5	Orange	24,8	26,8	28,3	774	12,9	11	0,21
11240CGX082M15	8 x 2 x 1,5	Orange	29,6	31,6	33,1	943	12,9	11	0,21
11240CGX102M15	10 x 2 x 1,5	Orange	31,2	33,2	34,7	1167	12,9	11	0,21
11240CGX122M15	12 x 2 x 1,5	Orange	33,5	36	38,5	1286	12,9	11	0,21
11240CGX192M15	19 x 2 x 1,5	Orange	40	42,5	45	1884	12,9	9	0,21
11240CGX122M25	1 x 2 x 2,5	Orange	11,5	13	14,5	222	8,0	27	0,36
11240CGX013M07	1 x 3 x 0,75	Orange	9,8	11,3	12,8	153	26,3	10	0,11
11240CGX073M07	7 x 3 x 0,75	Orange	24,3	25,8	27,8	706	26,3	7	0,11
11240CGX073M10	7 x 3 x 1	Orange	25,4	26,9	28,9	805	19,3	8	0,14

Other dimensions and colors available on request.

## GAALSHIP® HF 250 ISA

Pairs/triples twisted cables for telecommunication and instrumentation, individually screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 ISA



### Applications:

Instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISA, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**ABS** (American Bureau of Shipping)  
**RMRS** (Russian Maritime Register of Shipping)  
Other approvals on request

### Resistance:



**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 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures  
acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor acc. to IEC 60228

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 ISA

Pairs/triples twisted cables for telecommunication and instrumentation, individually screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 ISA

Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11110CGX022M05	2 x 2 x 0,5	Orange	9,1	10,6	12,1	152	40,4	8	0,07
11110CGX042M05	4 x 2 x 0,5	Orange	10,9	12,4	13,9	198	40,4	6	0,07
11110CGX072M05	7 x 2 x 0,5	Orange	13,2	15,2	16,7	318	40,4	6	0,07
11110CGX102M05	10 x 2 x 0,5	Orange	16,4	18,4	19,9	449	40,4	6	0,07
11110CGX142M05	14 x 2 x 0,5	Orange	18,4	20,9	23,4	557	40,4	5	0,07
11110CGX192M05	19 x 2 x 0,5	Orange	20,8	23,3	25,8	697	40,4	5	0,07
11110CGX242M05	24 x 2 x 0,5	Orange	23,9	26,4	28,9	876	40,4	4	0,07
11110CGX022M07	2 x 2 x 0,75	Orange	10	11,5	13	178	26,0	11	0,11
11110CGX042M07	4 x 2 x 0,75	Orange	11,7	13,2	14,7	231	26,0	7	0,11
11110CGX072M07	7 x 2 x 0,75	Orange	14,1	16,1	17,6	374	26,0	7	0,11
11110CGX102M07	10 x 2 x 0,75	Orange	17,8	19,8	21,3	541	26,0	7	0,11
11110CGX142M07	14 x 2 x 0,75	Orange	20	22,5	25	674	26,0	6	0,11
11110CGX192M07	19 x 2 x 0,75	Orange	22,6	25,1	27,6	848	26,0	6	0,11
11110CGX242M07	24 x 2 x 0,75	Orange	26	28,5	31	1066	26,0	5	0,11
11110CGX022M10	2 x 2 x 1	Orange	10,6	12,1	13,6	204	19,2	13	0,14
11110CGX042M10	4 x 2 x 1	Orange	13,1	14,6	16,1	311	19,2	9	0,14
11110CGX072M10	7 x 2 x 1	Orange	15,3	17,3	18,8	449	19,2	9	0,14
11110CGX102M10	10 x 2 x 1	Orange	19	21	22,5	636	19,2	9	0,14
11110CGX142M10	14 x 2 x 1	Orange	21,4	23,9	26,4	802	19,2	8	0,14
11110CGX192M10	19 x 2 x 1	Orange	24,2	26,7	29,2	1017	19,2	8	0,14
11110CGX242M10	24 x 2 x 1	Orange	28,1	30,6	33,1	1296	19,2	6	0,14
11110CGX022M15	2 x 2 x 1,5	Orange	12,9	14,4	15,9	294	12,8	16	0,21
11110CGX042M15	4 x 2 x 1,5	Orange	15,3	16,8	18,3	394	12,8	11	0,21
11110CGX072M15	7 x 2 x 1,5	Orange	18	20	21,5	576	12,8	11	0,21
11110CGX102M15	10 x 2 x 1,5	Orange	22,4	24,4	25,9	823	12,8	11	0,21
11110CGX142M15	14 x 2 x 1,5	Orange	25,5	28	30,5	1051	12,8	10	0,21
11110CGX192M15	19 x 2 x 1,5	Orange	28,7	31,2	33,7	1336	12,8	10	0,21
11110CGX242M15	24 x 2 x 1,5	Orange	33,3	35,8	38,3	1704	12,8	8	0,21
11110CGX043M10	4 x 3 x 1	Orange	14,5	16	17,5	377	19,2	9	0,14
11110CGX073M10	7 x 3 x 1	Orange	17,6	19,1	21,1	556	19,2	9	0,14
11110CGX103M10	10 x 3 x 1	Orange	20,9	23,4	25,9	803	19,2	8	0,14
11110CGX143M10	14 x 3 x 1	Orange	24,2	26,7	29,2	1020	19,2	6	0,14
11110CGX043M15	4 x 3 x 1,5	Orange	17	18,5	20	488	12,8	11	0,21
11110CGX073M15	7 x 3 x 1,5	Orange	20,8	22,3	24,3	738	12,8	11	0,21
11110CGX103M15	10 x 3 x 1,5	Orange	25	27,5	30	1068	12,8	10	0,21
11110CGX143M15	14 x 3 x 1,5	Orange	28,8	31,3	33,8	1360	12,8	8	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 ISA FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISA 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 02955
<b>Insulation:</b>	MICA glass 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>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISA FR WSR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

**RINA / RINAMIL** (Registro Italiano Navale)  
**BV** (Bureau Veritas)  
**LR** (Lloyd's Register)  
**ABS** (American Bureau of Shipping)  
**RMRS** (Russian Maritime Register of Shipping)  
Other approvals on request

### Resistance:



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



**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  
Choice and installation of electric cables acc. to IEC 60092-352  
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

## GAALSHIP® HF 250 ISA FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISA FR WSR

Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11250CGX052M05	5 x 2 x 0,5	Orange	20	21,5	23	564	41,6	5	0,07
11250CGX012M07	1 x 2 x 0,75	Orange	10,2	11,7	13,2	194	26,3	12	0,11
11250CGX022M07	2 x 2 x 0,75	Orange	16,4	17,9	19,4	415	26,3	10	0,11
11250CGX042M07	4 x 2 x 0,75	Orange	19,2	20,7	22,2	519	26,3	7	0,11
11250CGX052M07	5 x 2 x 0,75	Orange	21,1	22,6	24,1	623	26,3	7	0,11
11250CGX072M07	7 x 2 x 0,75	Orange	22,4	24,4	25,9	719	26,3	7	0,11
11250CGX102M07	10 x 2 x 0,75	Orange	27,7	29,7	31,2	1023	26,3	7	0,11
11250CGX142M07	14 x 2 x 0,75	Orange	31,4	33,9	36,4	1266	26,3	6	0,11
11250CGX242M07	24 x 2 x 0,75	Orange	40,9	43,4	45,9	2080	26,3	5	0,11
11250CGX372M07	37 x 2 x 0,75	Orange	48,8	51,3	53,8	2851	26,3	5	0,11
11250CGX012M10	1 x 2 x 1	Orange	10,6	12,1	13,6	209	19,3	15	0,14
11250CGX032M10	3 x 2 x 1	Orange	18,3	19,8	21,3	477	19,3	10	0,14
11250CGX042M10	4 x 2 x 1	Orange	19,9	21,4	22,9	570	19,3	8	0,14
11250CGX072M10	7 x 2 x 1	Orange	23,6	25,6	27,1	812	19,3	8	0,14
11250CGX012M15	1 x 2 x 1,5	Orange	11,5	13	14,5	242	12,9	19	0,21
11250CGX022M15	2 x 2 x 1,5	Orange	18,9	20,4	21,9	538	12,9	16	0,21
11250CGX042M15	4 x 2 x 1,5	Orange	22,2	23,7	25,2	685	12,9	11	0,21
11250CGX052M15	5 x 2 x 1,5	Orange	24,4	25,9	27,4	831	12,9	11	0,21
11250CGX072M15	7 x 2 x 1,5	Orange	26,3	28,3	29,8	983	12,9	11	0,21
11250CGX082M15	8 x 2 x 1,5	Orange	31,1	33,1	34,6	1191	12,9	11	0,21
11250CGX102M15	10 x 2 x 1,5	Orange	32,5	34,5	36	1411	12,9	11	0,21
11250CGX122M15	12 x 2 x 1,5	Orange	35,2	37,7	40,2	1640	12,9	11	0,21
11250CGX192M15	19 x 2 x 1,5	Orange	41,9	44,4	46,9	2322	12,9	9	0,21
11250CGX122M25	1 x 2 x 2,5	Orange	13	14,5	16	322	8,0	27	0,36
11250CGX013M07	1 x 3 x 0,75	Orange	10,7	12,2	13,7	206	26,3	10	0,11
11250CGX073M07	7 x 3 x 0,75	Orange	25,6	27,1	29,1	895	26,3	7	0,11
11250CGX073M10	7 x 3 x 1	Orange	26,9	28,4	30,4	1016	19,3	8	0,14

Other dimensions and colors available on request.

## GAALSHIP® HF 250 ISOS

Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS



### Applications:

Instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	core laid-up together in pairs/triples
<b>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

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

### Resistance:



**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 60092-350/376  
 Choice and installation of electric cables acc. to IEC 60092-352  
 Cold bend test at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
 Cold bend impact at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
 On request class 5 conductor acc. to IEC 60228



# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 ISOS

Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11120CGX022M05	2 x 2 x 0,5	Orange	8,6	10,1	11,6	117	40,4	8	0,07
11120CGX032M05	3 x 2 x 0,5	Orange	9,2	10,7	12,2	123	40,4	7	0,07
11120CGX042M05	4 x 2 x 0,5	Orange	10,4	11,9	13,4	157	40,4	6	0,07
11120CGX052M05	5 x 2 x 0,5	Orange	11,4	12,9	14,4	191	40,4	6	0,07
11120CGX062M05	6 x 2 x 0,5	Orange	12,7	14,2	15,7	236	40,4	6	0,07
11120CGX072M05	7 x 2 x 0,5	Orange	12,2	14,2	15,7	235	40,4	6	0,07
11120CGX082M05	8 x 2 x 0,5	Orange	14,7	16,7	18,2	284	40,4	6	0,07
11120CGX102M05	10 x 2 x 0,5	Orange	15,4	17,4	18,9	344	40,4	6	0,07
11120CGX122M05	12 x 2 x 0,5	Orange	16,3	18,8	21,3	376	40,4	6	0,07
11120CGX142M05	14 x 2 x 0,5	Orange	17,4	19,9	22,4	437	40,4	5	0,07
11120CGX162M05	16 x 2 x 0,5	Orange	18,5	21	23,5	492	40,4	5	0,07
11120CGX192M05	19 x 2 x 0,5	Orange	19,8	22,3	24,8	561	40,4	5	0,07
11120CGX242M05	24 x 2 x 0,5	Orange	23	25,5	28	719	40,4	4	0,07
11120CGX272M05	27 x 2 x 0,5	Orange	24,3	26,8	29,3	795	40,4	4	0,07
11120CGX372M05	37 x 2 x 0,5	Orange	27,9	30,4	32,9	1031	40,4	4	0,07
11120CGX022M07	2 x 2 x 0,75	Orange	9,2	10,7	12,2	138	26,0	11	0,11
11120CGX042M07	4 x 2 x 0,75	Orange	11,1	12,6	14,1	188	26,0	7	0,11
11120CGX052M07	5 x 2 x 0,75	Orange	12,5	14	15,5	236	26,0	7	0,11
11120CGX082M07	8 x 2 x 0,75	Orange	13,9	15,9	17,4	343	26,0	7	0,11
11120CGX102M07	10 x 2 x 0,75	Orange	16,6	18,6	20,1	418	26,0	7	0,11
11120CGX122M07	12 x 2 x 0,75	Orange	17,8	20,3	22,8	469	26,0	7	0,11
11120CGX142M07	14 x 2 x 0,75	Orange	18,9	21,4	23,9	534	26,0	6	0,11
11120CGX162M07	16 x 2 x 0,75	Orange	20,2	22,7	25,2	614	26,0	6	0,11
11120CGX192M07	19 x 2 x 0,75	Orange	21,4	23,9	26,4	690	26,0	6	0,11
11120CGX242M07	24 x 2 x 0,75	Orange	25,1	27,6	30,1	898	26,0	5	0,11
11120CGX272M07	27 x 2 x 0,75	Orange	26,5	29	31,5	993	26,0	5	0,11
11120CGX372M07	37 x 2 x 0,75	Orange	30,3	32,8	35,3	1292	26,0	5	0,11
11120CGX022M10	2 x 2 x 1	Orange	10,1	11,6	13,1	168	19,2	13	0,14
11120CGX032M10	3 x 2 x 1	Orange	10,8	12,3	13,8	181	19,2	10	0,14
11120CGX042M10	4 x 2 x 1	Orange	11,9	13,4	14,9	226	19,2	9	0,14
11120CGX052M10	5 x 2 x 1	Orange	13,3	14,8	16,3	285	19,2	9	0,14
11120CGX062M10	6 x 2 x 1	Orange	14,6	16,1	17,6	342	19,2	9	0,14
11120CGX072M10	7 x 2 x 1	Orange	14,1	16,1	17,6	347	19,2	9	0,14
11120CGX082M10	8 x 2 x 1	Orange	17	19	20,5	415	19,2	9	0,14
11120CGX102M10	10 x 2 x 1	Orange	18,1	20,1	21,6	518	19,2	9	0,14
11120CGX122M10	12 x 2 x 1	Orange	19,1	21,6	24,1	573	19,2	9	0,14
11120CGX142M10	14 x 2 x 1	Orange	20,5	23	25,5	665	19,2	8	0,14
11120CGX162M10	16 x 2 x 1	Orange	21,7	24,2	26,7	752	19,2	8	0,14
11120CGX192M10	19 x 2 x 1	Orange	23,2	25,7	28,2	862	19,2	8	0,14
11120CGX242M10	24 x 2 x 1	Orange	26,9	29,4	31,9	1103	19,2	6	0,14
11120CGX272M10	27 x 2 x 1	Orange	28,7	31,2	33,7	1238	19,2	6	0,14
11120CGX372M10	37 x 2 x 1	Orange	32,6	35,1	37,6	1598	19,2	6	0,14
11120CGX022M15	2 x 2 x 1,5	Orange	11,7	13,2	14,7	213	12,8	16	0,21
11120CGX032M15	3 x 2 x 1,5	Orange	12,8	14,3	15,8	235	12,8	13	0,21

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 ISOS

Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS

Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11120CGX042M15	4 x 2 x 1,5	Orange	14,1	15,6	17,1	296	12,8	11	0,21
11120CGX052M15	5 x 2 x 1,5	Orange	15,8	17,3	18,8	373	12,8	11	0,21
11120CGX062M15	6 x 2 x 1,5	Orange	17,4	18,9	20,4	451	12,8	11	0,21
11120CGX072M15	7 x 2 x 1,5	Orange	16,9	18,9	20,4	455	12,8	11	0,21
11120CGX082M15	8 x 2 x 1,5	Orange	20,4	22,4	23,9	555	12,8	11	0,21
11120CGX102M15	10 x 2 x 1,5	Orange	21,4	23,4	24,9	683	12,8	11	0,21
11120CGX122M15	12 x 2 x 1,5	Orange	23	25,5	28	766	12,8	11	0,21
11120CGX142M15	14 x 2 x 1,5	Orange	24,4	26,9	29,4	875	12,8	10	0,21
11120CGX162M15	16 x 2 x 1,5	Orange	26	28,5	31	1006	12,8	10	0,21
11120CGX192M15	19 x 2 x 1,5	Orange	27,8	30,3	32,8	1151	12,8	10	0,21
11120CGX242M15	24 x 2 x 1,5	Orange	32,2	34,7	37,2	1473	12,8	8	0,21
11120CGX272M15	27 x 2 x 1,5	Orange	34,2	36,7	39,2	1652	12,8	8	0,21
11120CGX372M15	37 x 2 x 1,5	Orange	39	41,5	44	2151	12,8	8	0,21
11120CGX033M05	3 x 3 x 0,5	Orange	10,5	12	13,5	155	40,4	6	0,07
11120CGX043M05	4 x 3 x 0,5	Orange	11,6	13,1	14,6	193	40,4	6	0,07
11120CGX073M05	7 x 3 x 0,5	Orange	14,2	15,7	17,7	294	40,4	6	0,07
11120CGX123M05	12 x 3 x 0,5	Orange	19,8	22,3	24,8	562	40,4	4	0,07
11120CGX033M07	3 x 3 x 0,75	Orange	11,2	12,7	14,2	187	26,0	7	0,11
11120CGX043M07	4 x 3 x 0,75	Orange	12,6	14,1	15,6	241	26,0	7	0,11
11120CGX073M07	7 x 3 x 0,75	Orange	15,5	17	19	369	26,0	7	0,11
11120CGX123M07	12 x 3 x 0,75	Orange	20,2	22,7	25,2	608	26,0	6	0,11
11120CGX033M10	3 x 3 x 1	Orange	12	13,5	15	225	19,2	9	0,14
11120CGX043M10	4 x 3 x 1	Orange	13,5	15	16,5	291	19,2	9	0,14
11120CGX073M10	7 x 3 x 1	Orange	16,6	18,1	20,1	450	19,2	9	0,14
11120CGX123M10	12 x 3 x 1	Orange	21,8	24,3	26,8	746	19,2	8	0,14
11120CGX033M15	3 x 3 x 1,5	Orange	14,3	15,8	17,3	298	12,8	11	0,21
11120CGX043M15	4 x 3 x 1,5	Orange	16	17,5	19	387	12,8	11	0,21
11120CGX073M15	7 x 3 x 1,5	Orange	19,7	21,2	23,2	602	12,8	11	0,21
11120CGX123M15	12 x 3 x 1,5	Orange	26,1	28,6	31,1	1013	12,8	10	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 ISOS FR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS FR



### Applications:

Fire resistant instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

**Conductor:** Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295

**Insulation:** MICA glass tape + GAALTHERM® 595

**Cores color:** pair: black- light blue  
triple: black- light blue - brown

**Stranding:** core laid-up together in pairs/triples

**Individual screen:** Aluminium/polyester tape with tinned annealed copper stranded drain wire

**Overall screen:** Aluminium/polyester tape with tinned annealed copper stranded drain wire

**Outer sheath:** Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376

**Marking:** ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS FR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

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

### Type Approvals/Certificates:

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

### Resistance:



**Fire resistant acc. to:**  
IEC 60331-21  
IEC 60331-2 (under 20 mm Ø)  
IEC 60331-1 (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 60092-350/376  
Choice and installation of electric cables acc. to IEC 60092-352  
Cold bend test at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
Cold bend impact at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
On request class 5 conductor acc. to IEC 60228

## GAALSHIP® HF 250 ISOS FR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11130CGX022M07	2 x 2 x 0,75	Orange	11	12,5	14	171	26,0	11	0,11
11130CGX032M07	3 x 2 x 0,75	Orange	11,8	13,3	14,8	176	26,0	8	0,11
11130CGX042M07	4 x 2 x 0,75	Orange	13,2	14,7	16,2	227	26,0	7	0,11
11130CGX052M07	5 x 2 x 0,75	Orange	14,6	16,1	17,6	278	26,0	7	0,11
11130CGX062M07	6 x 2 x 0,75	Orange	16,2	17,7	19,2	345	26,0	7	0,11
11130CGX072M07	7 x 2 x 0,75	Orange	15,7	17,7	19,2	340	26,0	7	0,11
11130CGX082M07	8 x 2 x 0,75	Orange	18,9	20,9	22,4	411	26,0	7	0,11
11130CGX102M07	10 x 2 x 0,75	Orange	20	22,0	23,5	514	26,0	7	0,11
11130CGX122M07	12 x 2 x 0,75	Orange	21,3	23,8	26,3	559	26,0	7	0,11
11130CGX142M07	14 x 2 x 0,75	Orange	22,7	25,2	27,7	648	26,0	6	0,11
11130CGX162M07	16 x 2 x 0,75	Orange	24,1	26,6	29,1	732	26,0	6	0,11
11130CGX192M07	19 x 2 x 0,75	Orange	25,7	28,2	30,7	832	26,0	6	0,11
11130CGX242M07	24 x 2 x 0,75	Orange	29,8	32,3	34,8	1069	26,0	5	0,11
11130CGX272M07	27 x 2 x 0,75	Orange	31,7	34,2	36,7	1199	26,0	5	0,11
11130CGX372M07	37 x 2 x 0,75	Orange	36,2	38,7	41,2	1546	26,0	5	0,11
11130CGX022M10	2 x 2 x 1	Orange	11,6	13,1	14,6	197	19,2	13	0,14
11130CGX032M10	3 x 2 x 1	Orange	12,7	14,2	15,7	213	19,2	10	0,14
11130CGX042M10	4 x 2 x 1	Orange	14	15,5	17	267	19,2	9	0,14
11130CGX052M10	5 x 2 x 1	Orange	15,6	17,1	18,6	336	19,2	9	0,14
11130CGX062M10	6 x 2 x 1	Orange	17,2	18,7	20,2	407	19,2	9	0,14
11130CGX072M10	7 x 2 x 1	Orange	16,7	18,7	20,2	405	19,2	9	0,14
11130CGX082M10	8 x 2 x 1	Orange	20,2	22,2	23,7	497	19,2	9	0,14
11130CGX102M10	10 x 2 x 1	Orange	21,2	23,2	24,7	610	19,2	9	0,14
11130CGX122M10	12 x 2 x 1	Orange	22,8	25,3	27,8	679	19,2	9	0,14
11130CGX142M10	14 x 2 x 1	Orange	24,1	26,6	29,1	774	19,2	8	0,14
11130CGX162M10	16 x 2 x 1	Orange	25,8	28,3	30,8	890	19,2	8	0,14
11130CGX192M10	19 x 2 x 1	Orange	27,3	29,8	32,3	1000	19,2	8	0,14
11130CGX242M10	24 x 2 x 1	Orange	31,9	34,4	36,9	1300	19,2	6	0,14
11130CGX272M10	27 x 2 x 1	Orange	33,9	36,4	38,9	1458	19,2	6	0,14
11130CGX372M10	37 x 2 x 1	Orange	38,7	41,2	43,7	1886	19,2	6	0,14
11130CGX022M15	2 x 2 x 1,5	Orange	13,5	15	16,5	253	12,8	16	0,21
11130CGX032M15	3 x 2 x 1,5	Orange	14,5	16	17,5	264	12,8	13	0,21
11130CGX042M15	4 x 2 x 1,5	Orange	16,2	17,7	19,2	342	12,8	11	0,21
11130CGX052M15	5 x 2 x 1,5	Orange	18,1	19,6	21,1	432	12,8	11	0,21
11130CGX062M15	6 x 2 x 1,5	Orange	19,9	21,4	22,9	525	12,8	11	0,21
11130CGX072M15	7 x 2 x 1,5	Orange	19,4	21,4	22,9	522	12,8	11	0,21
11130CGX082M15	8 x 2 x 1,5	Orange	23,5	25,5	27	637	12,8	11	0,21
11130CGX102M15	10 x 2 x 1,5	Orange	24,6	26,6	28,1	787	12,8	11	0,21
11130CGX122M15	12 x 2 x 1,5	Orange	26,5	29,0	31,5	875	12,8	11	0,21
11130CGX142M15	14 x 2 x 1,5	Orange	28,2	30,7	33,2	1014	12,8	10	0,21
11130CGX162M15	16 x 2 x 1,5	Orange	29,9	32,4	34,9	1150	12,8	10	0,21
11130CGX192M15	19 x 2 x 1,5	Orange	31,9	34,4	36,9	1310	12,8	10	0,21
11130CGX242M15	24 x 2 x 1,5	Orange	37,1	39,6	42,1	1701	12,8	8	0,21
11130CGX272M15	27 x 2 x 1,5	Orange	39,5	42	44,5	1905	12,8	8	0,21
11130CGX372M15	37 x 2 x 1,5	Orange	44,9	47,4	49,9	2463	12,8	8	0,21
11130CGX023M07	3 x 3 x 0,75	Orange	13,4	14,9	16,4	225	26,0	7	0,11
11130CGX043M07	4 x 3 x 0,75	Orange	14,8	16,3	17,8	283	26,0	7	0,11
11130CGX073M07	7 x 3 x 0,75	Orange	18,4	19,9	21,9	441	26,0	7	0,11
11130CGX123M07	12 x 3 x 0,75	Orange	24,2	26,7	29,2	726	26,0	6	0,11
11130CGX033M10	3 x 3 x 1	Orange	14,2	15,7	17,2	265	19,2	9	0,14
11130CGX043M10	4 x 3 x 1	Orange	15,9	17,4	18,9	343	19,2	9	0,14
11130CGX073M10	7 x 3 x 1	Orange	19,5	21	23	527	19,2	9	0,14
11130CGX123M10	12 x 3 x 1	Orange	25,9	28,4	30,9	884	19,2	8	0,14
11130CGX033M15	3 x 3 x 1,5	Orange	16,4	17,9	19,4	344	12,8	11	0,21
11130CGX033M15	4 x 3 x 1,5	Orange	18,4	19,9	21,4	446	12,8	11	0,21
11130CGX073M15	7 x 3 x 1,5	Orange	22,5	24	26	690	12,8	11	0,21
11130CGX123M15	12 x 3 x 1,5	Orange	30,1	32,6	35,1	1158	12,8	10	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 ISOS FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS 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>	MICA glass 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>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS FR WSR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

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

### Resistance:



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



**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 60092-350/376  
 Choice and installation of electric cables acc. to IEC 60092-352  
 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

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 ISOS FR WSR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOS FR WSR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11260CGX052M05	5 x 2 x 0,5	Orange	19,1	20,6	22,1	442	41,6	5	0,07
11260CGX022M07	2 x 2 x 0,75	Orange	15,5	17	18,5	317	26,3	10	0,11
11260CGX042M07	4 x 2 x 0,75	Orange	18,3	19,8	21,3	403	26,3	7	0,11
11260CGX052M07	5 x 2 x 0,75	Orange	20	21,5	23	486	26,3	7	0,11
11260CGX072M07	7 x 2 x 0,75	Orange	21,5	23,5	25	578	26,3	7	0,11
11260CGX102M07	10 x 2 x 0,75	Orange	26,8	28,8	30,3	850	26,3	7	0,11
11260CGX142M07	14 x 2 x 0,75	Orange	30,5	33	35,5	1065	26,3	6	0,11
11260CGX242M07	24 x 2 x 0,75	Orange	39,6	42,1	44,6	1722	26,3	5	0,11
11260CGX372M07	37 x 2 x 0,75	Orange	47,5	50	52,5	2422	26,3	5	0,11
11260CGX032M10	3 x 2 x 1	Orange	17,2	18,7	20,2	361	19,3	10	0,14
11260CGX042M10	4 x 2 x 1	Orange	19	20,5	22	452	19,3	8	0,14
11260CGX072M10	7 x 2 x 1	Orange	22,5	24,5	26	656	19,3	8	0,14
11260CGX022M15	2 x 2 x 1,5	Orange	18	19,5	21	426	12,9	16	0,21
11260CGX042M15	4 x 2 x 1,5	Orange	21,3	22,8	24,3	553	12,9	11	0,21
11260CGX052M15	5 x 2 x 1,5	Orange	23,5	25	26,5	684	12,9	11	0,21
11260CGX072M15	7 x 2 x 1,5	Orange	25,2	27,2	28,7	809	12,9	11	0,21
11260CGX082M15	8 x 2 x 1,5	Orange	30	32	33,5	983	12,9	11	0,21
11260CGX102M15	10 x 2 x 1,5	Orange	31,6	33,6	35,1	1209	12,9	11	0,21
11260CGX122M15	12 x 2 x 1,5	Orange	33,9	36,4	38,9	1331	12,9	11	0,21
11260CGX192M15	19 x 2 x 1,5	Orange	40,4	42,9	45,4	1935	12,9	9	0,21
11260CGX073M07	7 x 3 x 0,75	Orange	24,7	26,2	28,2	737	26,3	7	0,11
11260CGX073M10	7 x 3 x 1	Orange	26	27,5	29,5	853	19,3	8	0,14

Other dimensions and colors available on request.

## GAALSHIP® HF 250 ISOSA

Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA



### Applications:

Instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	core laid-up together in pairs/triples
<b>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Type Approvals/Certificates:

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

### Resistance:



**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:**  
 IEC61034-1/2

### 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Features:

Sheathing and insulating materials acc. to IEC 60092-360  
 Design guidelines acc. to IEC 60092-350/376  
 Choice and installation of electric cables acc. to IEC 60092-352  
 Cold bend test at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
 Cold bend impact at low temperatures acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
 On request class 5 conductor acc. to IEC 60228

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 ISOSA

Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11140CGX022M05	2 x 2 x 0,5	Orange	9,5	11	12,5	165	40,4	8	0,07
11140CGX032M05	3 x 2 x 0,5	Orange	10,3	11,8	13,3	179	40,4	7	0,07
11140CGX042M05	4 x 2 x 0,5	Orange	11,3	12,8	14,3	214	40,4	6	0,07
11140CGX052M05	5 x 2 x 0,5	Orange	12,9	14,4	15,9	291	40,4	6	0,07
11140CGX062M05	6 x 2 x 0,5	Orange	14	15,5	17	339	40,4	6	0,07
11140CGX072M05	7 x 2 x 0,5	Orange	13,5	15,5	17	337	40,4	6	0,07
11140CGX082M05	8 x 2 x 0,5	Orange	16	18	19,5	404	40,4	6	0,07
11140CGX102M05	10 x 2 x 0,5	Orange	16,7	18,7	20,2	471	40,4	6	0,07
11140CGX122M05	12 x 2 x 0,5	Orange	17,8	20,3	22,8	523	40,4	6	0,07
11140CGX142M05	14 x 2 x 0,5	Orange	18,7	21,2	23,7	581	40,4	5	0,07
11140CGX162M05	16 x 2 x 0,5	Orange	20	22,5	25	656	40,4	5	0,07
11140CGX192M05	19 x 2 x 0,5	Orange	21,1	23,6	26,1	724	40,4	5	0,07
11140CGX242M05	24 x 2 x 0,5	Orange	24,3	26,8	29,3	906	40,4	4	0,07
11140CGX272M05	27 x 2 x 0,5	Orange	25,9	28,4	30,9	1004	40,4	4	0,07
11140CGX372M05	37 x 2 x 0,5	Orange	29,2	31,7	34,2	1253	40,4	4	0,07
11140CGX022M07	2 x 2 x 0,75	Orange	10,3	11,8	13,3	194	26,0	11	0,11
11140CGX032M07	3 x 2 x 0,75	Orange	11	12,5	14	206	26,0	8	0,11
11140CGX042M07	4 x 2 x 0,75	Orange	12	13,5	15	250	26,0	7	0,11
11140CGX052M07	5 x 2 x 0,75	Orange	13,8	15,3	16,8	336	26,0	7	0,11
11140CGX062M07	6 x 2 x 0,75	Orange	15,2	16,7	18,2	402	26,0	7	0,11
11140CGX072M07	7 x 2 x 0,75	Orange	14,7	16,7	18,2	403	26,0	7	0,11
11140CGX082M07	8 x 2 x 0,75	Orange	17,4	19,4	20,9	483	26,0	7	0,11
11140CGX102M07	10 x 2 x 0,75	Orange	18,1	20,1	21,6	563	26,0	7	0,11
11140CGX122M07	12 x 2 x 0,75	Orange	19,2	21,7	24,2	617	26,0	7	0,11
11140CGX142M07	14 x 2 x 0,75	Orange	20,4	22,9	25,4	701	26,0	6	0,11
11140CGX162M07	16 x 2 x 0,75	Orange	21,5	24	26,5	779	26,0	6	0,11
11140CGX192M07	19 x 2 x 0,75	Orange	22,9	25,4	27,9	878	26,0	6	0,11
11140CGX242M07	24 x 2 x 0,75	Orange	26,4	28,9	31,4	1099	26,0	5	0,11
11140CGX272M07	27 x 2 x 0,75	Orange	28	30,5	33	1220	26,0	5	0,11
11140CGX372M07	37 x 2 x 0,75	Orange	31,6	34,1	36,6	1533	26,0	5	0,11
11140CGX022M10	2 x 2 x 1	Orange	11	12,5	14	222	19,2	13	0,14
11140CGX032M10	3 x 2 x 1	Orange	11,7	13,2	14,7	240	19,2	10	0,14
11140CGX042M10	4 x 2 x 1	Orange	13,4	14,9	16,4	329	19,2	9	0,14
11140CGX052M10	5 x 2 x 1	Orange	14,6	16,1	17,6	392	19,2	9	0,14
11140CGX062M10	6 x 2 x 1	Orange	16,2	17,7	19,2	467	19,2	9	0,14
11140CGX072M10	7 x 2 x 1	Orange	15,7	17,7	19,2	472	19,2	9	0,14
11140CGX082M10	8 x 2 x 1	Orange	18,5	20,5	22	563	19,2	9	0,14
11140CGX102M10	10 x 2 x 1	Orange	19,4	21,4	22,9	664	19,2	9	0,14
11140CGX122M10	12 x 2 x 1	Orange	20,6	23,1	25,6	742	19,2	9	0,14
11140CGX142M10	14 x 2 x 1	Orange	21,8	24,3	26,8	832	19,2	8	0,14
11140CGX162M10	16 x 2 x 1	Orange	23,2	25,7	28,2	941	19,2	8	0,14
11140CGX192M10	19 x 2 x 1	Orange	24,5	27	29,5	1049	19,2	8	0,14
11140CGX242M10	24 x 2 x 1	Orange	28,4	30,9	33,4	1334	19,2	6	0,14
11140CGX272M10	27 x 2 x 1	Orange	30	32,5	35	1469	19,2	6	0,14
11140CGX372M10	37 x 2 x 1	Orange	34,5	37	39,5	1963	19,2	6	0,14
11140CGX022M15	2 x 2 x 1,5	Orange	13,2	14,7	16,2	316	12,8	16	0,21
11140CGX032M15	3 x 2 x 1,5	Orange	14,1	15,6	17,1	338	12,8	13	0,21
11140CGX042M15	4 x 2 x 1,5	Orange	15,6	17,1	18,6	417	12,8	11	0,21
11140CGX052M15	5 x 2 x 1,5	Orange	17,1	18,6	20,1	498	12,8	11	0,21
11140CGX062M15	6 x 2 x 1,5	Orange	18,9	20,4	21,9	598	12,8	11	0,21
11140CGX072M15	7 x 2 x 1,5	Orange	18,4	20,4	21,9	602	12,8	11	0,21
11140CGX082M15	8 x 2 x 1,5	Orange	21,7	23,7	25,2	718	12,8	11	0,21
11140CGX102M15	10 x 2 x 1,5	Orange	22,9	24,9	26,4	865	12,8	11	0,21
11140CGX122M15	12 x 2 x 1,5	Orange	24,3	26,8	29,3	953	12,8	11	0,21
11140CGX142M15	14 x 2 x 1,5	Orange	25,9	28,4	30,9	1086	12,8	10	0,21
11140CGX162M15	16 x 2 x 1,5	Orange	27,3	29,8	32,3	1215	12,8	10	0,21
11140CGX192M15	19 x 2 x 1,5	Orange	29,1	31,6	34,1	1373	12,8	10	0,21



## GAALSHIP® HF 250 ISOSA

Pairs/triples twisted cables for telecommunication and instrumentation, individually and overall screened, armoured



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11140CGX242M15	24 x 2 x 1,5	Orange	34,1	36,6	39,1	1830	12,8	8	0,21
11140CGX272M15	27 x 2 x 1,5	Orange	36,2	38,7	41,2	2032	12,8	8	0,21
11140CGX372M15	37 x 2 x 1,5	Orange	40,7	43,2	45,7	2558	12,8	8	0,21
11140CGX033M05	3 x 3 x 0,5	Orange	11,4	12,9	14,4	212	40,4	6	0,07
11140CGX043M05	4 x 3 x 0,5	Orange	13,1	14,6	16,1	296	40,4	6	0,07
11140CGX073M05	7 x 3 x 0,5	Orange	15,7	17,2	19,2	415	40,4	6	0,07
11140CGX123M05	12 x 3 x 0,5	Orange	20	22,5	25	648	40,4	5	0,07
11140CGX033M07	3 x 3 x 0,75	Orange	12,2	13,7	15,2	248	26,0	7	0,11
11140CGX043M07	4 x 3 x 0,75	Orange	13,9	15,4	16,9	342	26,0	7	0,11
11140CGX073M07	7 x 3 x 0,75	Orange	16,8	18,3	20,3	492	26,0	7	0,11
11140CGX123M07	12 x 3 x 0,75	Orange	21,6	24,1	26,6	775	26,0	6	0,11
11140CGX033M10	3 x 3 x 1	Orange	13,5	15	16,5	329	19,2	9	0,14
11140CGX043M10	4 x 3 x 1	Orange	14,8	16,3	17,8	399	19,2	9	0,14
11140CGX073M10	7 x 3 x 1	Orange	18,1	19,6	21,6	591	19,2	9	0,14
11140CGX123M10	12 x 3 x 1	Orange	23,3	25,8	28,3	938	19,2	8	0,14
11140CGX033M15	3 x 3 x 1,5	Orange	15,8	17,3	18,8	421	12,8	11	0,21
11140CGX043M15	4 x 3 x 1,5	Orange	17,3	18,8	20,3	513	12,8	11	0,21
11140CGX073M15	7 x 3 x 1,5	Orange	21,2	22,7	24,7	768	12,8	11	0,21
11140CGX123M15	12 x 3 x 1,5	Orange	27,6	30,1	32,6	1237	12,8	10	0,21

Other dimensions and colors available on request.

## GAALSHIP® HF 250 ISOSA FR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR



### Applications:

Fire resistant instrumentation cables for fixed electrical installations aboard ships, screened against electromagnetic interferences, complying with IEC 60092-352

### Construction:

<b>Conductor:</b>	Plain annealed copper or Tinned annealed copper conductor Cl. 2, acc. to IEC 60228, DIN VDE 0295
<b>Insulation:</b>	MICA glass tape + GAALTHERM® 595
<b>Cores color:</b>	Pair: black- light blue Triple: black- light blue - brown
<b>Stranding:</b>	Core laid-up together in pairs/triples
<b>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, production plant, batch n°, production date, CE RoHS, 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>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	4 x Outer diameter

### Type Approvals/Certificates:

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

### Resistance:



**Fire resistant acc. to:**  
 IEC 60331-21  
 IEC 60331-2 (under 20 mm Ø)  
 IEC 60331-1 (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 60092-350/376  
 Choice and installation of electric cables acc. to IEC 60092-352  
 Cold bend test at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-40°C)  
 Cold bend impact at low temperatures  
 acc. to IEC 60092-350 art. 8.9 and Annex E (-35°C)  
 On request class 5 conductor acc. to IEC 60228

## GAALSHIP® HF 250 ISOSA FR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11150CGX022M07	2 x 2 x 0,75	Orange	10,3	11,8	13,3	194	26,0	11	0,11
11150CGX032M07	3 x 2 x 0,75	Orange	11	12,5	14	206	26,0	8	0,11
11150CGX042M07	4 x 2 x 0,75	Orange	12	13,5	15	250	26,0	7	0,11
11150CGX052M07	5 x 2 x 0,75	Orange	13,8	15,3	16,8	336	26,0	7	0,11
11150CGX062M07	6 x 2 x 0,75	Orange	15,2	16,7	18,2	402	26,0	7	0,11
11150CGX072M07	7 x 2 x 0,75	Orange	14,7	16,7	18,2	403	26,0	7	0,11
11150CGX082M07	8 x 2 x 0,75	Orange	17,4	19,4	20,9	483	26,0	7	0,11
11150CGX102M07	10 x 2 x 0,75	Orange	18,1	20,1	21,6	563	26,0	7	0,11
11150CGX122M07	12 x 2 x 0,75	Orange	19,2	21,7	24,2	617	26,0	7	0,11
11150CGX142M07	14 x 2 x 0,75	Orange	20,4	22,9	25,4	701	26,0	6	0,11
11150CGX162M07	16 x 2 x 0,75	Orange	21,5	24	26,5	779	26,0	6	0,11
11150CGX192M07	19 x 2 x 0,75	Orange	22,9	25,4	27,9	878	26,0	6	0,11
11150CGX242M07	24 x 2 x 0,75	Orange	26,4	28,9	31,4	1099	26,0	5	0,11
11150CGX272M07	27 x 2 x 0,75	Orange	28	30,5	33	1220	26,0	5	0,11
11150CGX372M07	37 x 2 x 0,75	Orange	31,6	34,1	36,6	1533	26,0	5	0,11
11150CGX022M10	2 x 2 x 1	Orange	11	12,5	14	222	19,2	13	0,14
11150CGX032M10	3 x 2 x 1	Orange	11,7	13,2	14,7	240	19,2	10	0,14
11150CGX042M10	4 x 2 x 1	Orange	13,4	14,9	16,4	329	19,2	9	0,14
11150CGX052M10	5 x 2 x 1	Orange	14,6	16,1	17,6	392	19,2	9	0,14
11150CGX062M10	6 x 2 x 1	Orange	16,2	17,7	19,2	467	19,2	9	0,14
11150CGX072M10	7 x 2 x 1	Orange	15,7	17,7	19,2	472	19,2	9	0,14
11150CGX082M10	8 x 2 x 1	Orange	18,5	20,5	22	563	19,2	9	0,14
11150CGX102M10	10 x 2 x 1	Orange	19,4	21,4	22,9	664	19,2	9	0,14
11150CGX122M10	12 x 2 x 1	Orange	20,6	23,1	25,6	742	19,2	9	0,14
11150CGX142M10	14 x 2 x 1	Orange	21,8	24,3	26,8	832	19,2	8	0,14
11150CGX162M10	16 x 2 x 1	Orange	23,2	25,7	28,2	941	19,2	8	0,14
11150CGX192M10	19 x 2 x 1	Orange	24,5	27	29,5	1049	19,2	8	0,14
11150CGX242M10	24 x 2 x 1	Orange	28,4	30,9	33,4	1334	19,2	6	0,14
11150CGX272M10	27 x 2 x 1	Orange	30	32,5	35	1469	19,2	6	0,14
11150CGX372M10	37 x 2 x 1	Orange	34,5	37	39,5	1963	19,2	6	0,14
11150CGX022M15	2 x 2 x 1,5	Orange	13,2	14,7	16,2	316	12,8	16	0,21
11150CGX032M15	3 x 2 x 1,5	Orange	14,1	15,6	17,1	338	12,8	13	0,21
11150CGX042M15	4 x 2 x 1,5	Orange	15,6	17,1	18,6	417	12,8	11	0,21
11150CGX052M15	5 x 2 x 1,5	Orange	17,1	18,6	20,1	498	12,8	11	0,21
11150CGX062M15	6 x 2 x 1,5	Orange	18,9	20,4	21,9	598	12,8	11	0,21
11150CGX072M15	7 x 2 x 1,5	Orange	18,4	20,4	21,9	602	12,8	11	0,21
11150CGX082M15	8 x 2 x 1,5	Orange	21,7	23,7	25,2	718	12,8	11	0,21
11150CGX102M15	10 x 2 x 1,5	Orange	22,9	24,9	26,4	865	12,8	11	0,21
11150CGX122M15	12 x 2 x 1,5	Orange	24,3	26,8	29,3	953	12,8	11	0,21
11150CGX142M15	14 x 2 x 1,5	Orange	25,9	28,4	30,9	1086	12,8	10	0,21
11150CGX162M15	16 x 2 x 1,5	Orange	27,3	29,8	32,3	1215	12,8	10	0,21
11150CGX192M15	19 x 2 x 1,5	Orange	29,1	31,6	34,1	1373	12,8	10	0,21
11150CGX242M15	24 x 2 x 1,5	Orange	34,1	36,6	39,1	1830	12,8	8	0,21
11150CGX272M15	27 x 2 x 1,5	Orange	36,2	38,7	41,2	2032	12,8	8	0,21
11150CGX372M15	37 x 2 x 1,5	Orange	40,7	43,2	45,7	2558	12,8	8	0,21

# GAALSHIP® MARINE CABLES

## GAALSHIP® HF 250 ISOSA FR

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



ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11150CGX033M07	3 x 3 x 0,75	Orange	12,2	13,7	15,2	248	26,0	7	0,11
11150CGX043M07	4 x 3 x 0,75	Orange	13,9	15,4	16,9	342	26,0	7	0,11
11150CGX073M07	7 x 3 x 0,75	Orange	16,8	18,3	20,3	492	26,0	7	0,11
11150CGX123M07	12 x 3 x 0,75	Orange	21,6	24,1	26,6	775	26,0	6	0,11
11150CGX033M10	3 x 3 x 1	Orange	13,5	15,0	16,5	329	19,2	9	0,14
11150CGX043M10	4 x 3 x 1	Orange	14,8	16,3	17,8	399	19,2	9	0,14
11150CGX073M10	7 x 3 x 1	Orange	18,1	19,6	21,6	591	19,2	9	0,14
11150CGX122M10	12 x 3 x 1	Orange	23,3	25,8	28,3	938	19,2	8	0,14
11150CGX033M15	3 x 3 x 1,5	Orange	15,8	17,3	18,8	421	12,8	11	0,21
11150CGX043M15	4 x 3 x 1,5	Orange	17,3	18,8	20,3	513	12,8	11	0,21
11150CGX073M15	7 x 3 x 1,5	Orange	21,2	22,7	24,7	768	12,8	11	0,21
11150CGX123M15	12 x 3 x 1,5	Orange	27,6	30,1	32,6	1237	12,8	10	0,21

Other dimensions and colors available on request.

## 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>	MICA glass 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>Individual screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>Overall screen:</b>	Aluminium/polyester tape with tinned annealed copper stranded drain wire
<b>1<sup>st</sup> Wrapping:</b>	Glass fiber tape
<b>2<sup>nd</sup> Wrapping:</b>	Two plain annealed copper / polyester tapes
<b>3<sup>rd</sup> Wrapping:</b>	Glass fiber tape
<b>Armour:</b>	Plain or tinned annealed copper wires braid acc. to IEC 60092-350
<b>Outer sheath:</b>	Halogen free thermoplastic compound SHF1 acc. to IEC 60092-360, thickness acc. to IEC 60092-376
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® HF 250 ISOSA FR WSR, cross nominal section sqmm, 150/250 V, part n°, IEC 60092-376, IEC 60332-3-22, IEC 60331, BS 8491, production plant, batch n°, production date, CE RoHS, progressive meter marking.

### Technical data:

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

### Type Approvals/Certificates:

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

### Resistance:



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



**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 60092-350/376  
 Choice and installation of electric cables acc. to IEC 60092-352  
 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

# GAALSHIP® MARINE CABLES

## 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



Part no.	No. of pairs/triples x cross section n x mm <sup>2</sup>	Outer sheath color	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)	Short circuit rating I sec. (kA)
			Min.	Nom.	Max.				
11210CGX052M05	5 x 2 x 0,5	Orange	20,6	22,1	23,6	602	41,6	5	0,07
11210CGX022M07	2 x 2 x 0,75	Orange	16,8	18,3	19,8	440	26,3	10	0,11
11210CGX042M07	4 x 2 x 0,75	Orange	19,6	21,1	22,6	547	26,3	7	0,11
11210CGX052M07	5 x 2 x 0,75	Orange	21,5	23	24,5	653	26,3	7	0,11
11210CGX072M07	7 x 2 x 0,75	Orange	23	25	26,5	763	26,3	7	0,11
11210CGX102M07	10 x 2 x 0,75	Orange	27,8	30,3	32,8	1074	26,3	7	0,11
11210CGX142M07	14 x 2 x 0,75	Orange	31,8	34,3	36,8	1307	26,3	6	0,11
11210CGX242M07	24 x 2 x 0,75	Orange	41,5	44	46,5	2155	26,3	5	0,11
11210CGX372M07	37 x 2 x 0,75	Orange	49,4	51,9	54,4	2938	26,3	5	0,11
11210CGX032M10	3 x 2 x 1	Orange	18,7	20,2	21,7	507	19,3	10	0,14
11210CGX042M10	4 x 2 x 1	Orange	20,5	22	23,5	612	19,3	8	0,14
11210CGX072M10	7 x 2 x 1	Orange	24	26	27,5	847	19,3	8	0,14
11210CGX022M15	2 x 2 x 1,5	Orange	19,3	20,8	22,3	568	19,3	16	0,21
11210CGX042M15	4 x 2 x 1,5	Orange	22,6	24,1	25,6	719	12,9	11	0,21
11210CGX052M15	5 x 2 x 1,5	Orange	24,8	26,3	27,8	867	12,9	11	0,21
11210CGX072M15	7 x 2 x 1,5	Orange	26,7	28,7	30,2	1022	12,9	11	0,21
11210CGX082M15	8 x 2 x 1,5	Orange	31,5	33,5	35	1234	12,9	11	0,21
11210CGX102M15	10 x 2 x 1,5	Orange	32,9	34,9	36,4	1456	12,9	11	0,21
11210CGX122M15	12 x 2 x 1,5	Orange	35,8	38,3	40,8	1704	12,9	11	0,21
11210CGX192M15	19 x 2 x 1,5	Orange	42,3	44,8	47,3	2376	12,9	9	0,21
11210CGX073M07	7 x 3 x 0,75	Orange	26,2	27,7	29,7	942	26,3	7	0,11
11210CGX073M10	7 x 3 x 1	Orange	27,3	28,8	30,8	1054	19,3	8	0,14

Other dimensions and colors available on request.



## GAALSHIP® MARINE MEDIUM VOLTAGE CABLES

## GAALSHIP® MEDIUM SHF

1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, single core



### Applications:

Single-core, medium voltage power cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Type Approvals/Certificates:

Available on request

### Construction:

- Conductor:** Flexible tinned annealed copper conductor Cl. 5\*, acc to IEC 60228  
  
\*Cl. 2 for electrical resistance
- Conductor screen:** Semi-conducting tape + extruded semi-conductive compound (from 3,6 up to 12/20 kV)
- Insulation:** HEPR or XLPE halogen free compound acc. to IEC 60092-360
- Insulation screen:** Extruded semi-conductive compound (from 3,6 up to 12/20 kV)
- Screen:** Plain annealed copper tapes (from 3,6 up to 12/20 kV)
- Inner sheath:** Halogen-free type SHF1
- Armour:** Plain or tinned annealed copper wires braid acc. to IEC 60092-350
- Outer sheath:** Red (RAL 3000), Halogen-free type SHF1 acc. to IEC 60092-360
- Marking:** ELETTROTEK KABEL® GAALSHIP® MEDIUM SHF  
cross nominal section sqmm,  
1,8/3 kV up to 12/20 kV, part n°, IEC 60092-353, IEC 60332-3-22, batch n°, production date, CE RoHS, progressive meter marking.

### Resistance:



**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

### Technical data:

- Nominal voltage:** 1,8/3 kV to 12/20 kV
- Temperature range:** -25°C up to +90°C
- Installation temp.:** -5°C
- Short circuit temperature:** +250°C
- Min. bending radius:** 4 x d

### Features:

- Other standard acc. to:  
IEC 60092-350/353/354, IEC 60092-352, IEC 60092-360
- on request plain annealed copper conductor
- on request galvanized steel wires braid armouring
- on request black or gray outer sheath only for 1,8/3 kV
- CSA C.22.2 Abnormal low temperature performances (-40°C when required only)



# GAALSHIP® MARINE CABLES

## GAALSHIP® MEDIUM SHF

1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, single core



ELETTROTEK KABEL® GAALSHIP® MEDIUM SHF

### 1,8/3 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13010KRL010M62	1x16	15,5	410	6
13010KRL010M63	1x25	17,0	530	4
13010KRL010M64	1x35	18,0	640	2
13010KRL010M65	1x50	19,5	790	1
13010KRL010M66	1x70	21,3	1020	2/0
13010KRL010M67	1x95	23,5	1320	3/0
13010KRL010M68	1x120	25,3	1570	4/0
13010KRL010M69	1x150	27,0	1860	250 MCM
13010KRL010M70	1x185	29,5	2270	350 MCM
13010KRL010M71	1x240	32,0	2850	450 MCM
13010KRL010M72	1x300	34,4	3410	550 MCM

### 3,6/6 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13010MRL010M62	1x16	19,5	600	6
13010MRL010M63	1x25	21,0	750	4
13010MRL010M64	1x35	21,8	860	2
13010MRL010M65	1x50	23,5	1010	1
13010MRL010M66	1x70	25,0	1260	2/0
13010MRL010M67	1x95	27,5	1580	3/0
13010MRL010M68	1x120	30,0	1860	4/0
13010MRL010M69	1x150	30,5	2160	250 MCM
13010MRL010M70	1x185	33,4	2590	350 MCM
13010MRL010M71	1x240	36,5	3250	450 MCM
13010MRL010M72	1x300	39,7	3890	550 MCM

### 6/10 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13010QRL010M63	1x25	22,8	820	4
13010QRL010M64	1x35	24,0	950	2
13010QRL010M65	1x50	25,3	1100	1
13010QRL010M66	1x70	27,4	1360	2/0
13010QRL010M67	1x95	29,5	1680	3/0
13010QRL010M68	1x120	31,4	1980	4/0
13010QRL010M69	1x150	36,0	2280	250 MCM
13010QRL010M70	1x185	35,9	2740	350 MCM
13010QRL010M71	1x240	38,2	3360	450 MCM
13010QRL010M72	1x300	41,5	4090	550 MCM
13010MRL010M72	1x300	39,7	3890	550 MCM

## GAALSHIP® MEDIUM SHF

1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, single core



### 8,7/15 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.)*
13010SRL010M63	1x25	25,3	940	4
13010SRL010M64	1x35	26,5	1070	2
13010SRL010M65	1x50	27,7	1230	1
13010SRL010M66	1x70	30,0	1500	2/0
13010SRL010M67	1x95	31,7	1820	3/0
13010SRL010M68	1x120	34,0	2150	4/0
13010SRL010M69	1x150	35,5	2470	250 MCM
13010SRL010M70	1x185	40,0	2910	350 MCM
13010SRL010M71	1x240	41,0	3620	450 MCM
13010SRL010M72	1x300	43,8	4270	550 MCM

### 12/20 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.)*
13010URL010M64	1x35	29,5	1180	2
13010URL010M65	1x50	30,5	1370	1
13010URL010M66	1x70	32,5	1620	2/0
13010URL010M67	1x95	34,5	1970	3/0
13010URL010M68	1x120	36,5	2300	4/0
13010URL010M69	1x150	38,5	2600	250 MCM
13010URL010M70	1x185	41,5	3140	350 MCM
13010URL010M71	1x240	43,5	3800	450 MCM
13010URL010M72	1x300	46,5	4460	550 MCM

Other dimensions and colors available on request.

## GAALSHIP® MEDIUM MHF

1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, three cores



ELETTROTEK KABEL® GAALSHIP® MEDIUM MHF

### Applications:

Multi-cores, medium voltage power cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Type Approvals/Certificates:

Available on request

### Construction:

<b>Conductor:</b>	Flexible tinned annealed copper conductor Cl. 5*, acc to IEC 60228  *Cl. 2 for electrical resistance
<b>Conductor screen:</b>	Semi-conducting tape + extruded semi-conductive compound (from 3,6 up to 12/20 kV)
<b>Insulation:</b>	HEPR or XLPE halogen free compound acc. to IEC 60092-360
<b>Insulation screen:</b>	Extruded semi-conductive compound (from 3,6 up to 12/20 kV)
<b>Screen:</b>	Plain annealed copper tapes (from 3,6 up to 12/20 kV)
<b>Fillers:</b>	Halogen-free compound
<b>Inner sheath:</b>	Halogen-free type SHF1
<b>Armour:</b>	Plain or tinned annealed copper wire braid acc. to IEC 60092-350
<b>Outer sheath:</b>	red (RAL 3000), Halogen-free type SHF1 acc. to IEC 60092-360
<b>Marking:</b>	ELETTROTEK KABEL® GAALSHIP® MEDIUM MHF cross nominal section sqmm, 1,8/3 kV up to 12/20 kV, part n°, IEC 60092-353, IEC 60332-3-22, batch n°, production date, CE RoHS, progressive meter marking.

### Resistance:



**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

### Technical data:

<b>Nominal voltage:</b>	1,8/3 kV to 12/20 kV
<b>Temperature range:</b>	-25°C up to +90°C
<b>Installation temp.:</b>	-5°C
<b>Short circuit temperature:</b>	+250°C
<b>Min. bending radius:</b>	12 x d

### Features:

Other standard acc. to:  
IEC 60092-350/353/354, IEC 60092-352, IEC 60092-360  
  
on request plain annealed copper conductor  
on request galvanized steel wires braid armouring  
on request black or gray outer sheath only for 1,8/3 kV  
  
CSA C.22.2 Abnormal low temperature performances (-40°C when required only)

## GAALSHIP® MEDIUM MHF

1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, three cores



ELETTROTEK KABEL® GAALSHIP® MEDIUM MHF



### 1,8/3 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13020KR1030M62	3x16	30,2	1340	6
13020KR1030M63	3x25	32,0	1770	4
13020KR1030M64	3x35	34,0	2160	2
13020KR1030M65	3x50	37,5	2710	1
13020KR1030M66	3x70	41,5	3530	2/0
13020KR1030M67	3x95	46,8	4700	3/0
13020KR1030M68	3x120	51,1	5730	4/0
13020KR1030M69	3x150	54,2	6720	250 MCM
13020KR1030M70	3x185	60,2	8280	350 MCM
13020KR1030M71	3x240	65,8	10390	450 MCM
13020KR1030M72	3x300	71,3	12510	550 MCM

### 3,6/6 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13020MR1030M62	3x16	37,5	2140	6
13020MR1030M63	3x25	41,0	2730	4
13020MR1030M64	3x35	43,1	3180	2
13020MR1030M65	3x50	46,5	3790	1
13020MR1030M66	3x70	50,8	4740	2/0
13020MR1030M67	3x95	55,7	5950	3/0
13020MR1030M68	3x120	60,0	7060	4/0
13020MR1030M69	3x150	63,3	8170	250 MCM
13020MR1030M70	3x185	68,8	9770	350 MCM
13020MR1030M71	3x240	75,1	12140	450 MCM
13020MR1030M72	3x300	82,5	14770	550 MCM

### 6/10 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13020QR1030M62	3x16	42,5	2640	6
13020QR1030M63	3x25	45,5	3170	4
13020QR1030M64	3x35	48,0	3670	2
13020QR1030M65	3x50	51,0	4290	1
13020QR1030M66	3x70	55,5	5290	2/0
13020QR1030M67	3x95	60,8	6600	3/0
13020QR1030M68	3x120	64,5	7690	4/0
13020QR1030M69	3x150	67,5	8770	250 MCM
13020QR1030M70	3x185	73,4	10480	350 MCM
13020QR1030M71	3x240	79,5	12880	450 MCM
13020QR1030M72	3x300	85,8	15380	550 MCM

# GAALSHIP® MARINE CABLES

## GAALSHIP® MEDIUM MHF

1,8/3 kV up to 12/20 kV, armoured and screened medium voltage power cable, three cores



ELETTROTEK KABEL® GAALSHIP® MEDIUM MHF



### 8,7/15 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13020SR1030M63	3x25	51,0	3880	4
13020SR1030M64	3x35	53,4	4290	2
13020SR1030M65	3x50	56,4	4940	1
13020SR1030M66	3x70	60,9	6010	2/0
13020SR1030M67	3x95	65,8	7300	3/0
13020SR1030M68	3x120	69,7	8430	4/0
13020SR1030M69	3x150	72,5	9570	250 MCM
13020SR1030M70	3x185	79,2	11510	350 MCM
13020SR1030M71	3x240	84,4	13770	450 MCM
13020SR1030M72	3x300	91,0	16380	550 MCM

### 12/20 kV

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	AWG no.*)
13020UR1030M64	3x35	59,4	4970	2
13020UR1030M65	3x50	62,4	5670	1
13020UR1030M66	3x70	66,3	6650	2/0
13020UR1030M67	3x95	71,3	7950	3/0
13020UR1030M68	3x120	75,4	9270	4/0
13020UR1030M69	3x150	78,4	10510	250 MCM
13020UR1030M70	3x185	84,5	12260	350 MCM
13020UR1030M71	3x240	90,4	14760	450 MCM
13020UR1030M72	3x300	86,4	17330	550 MCM

Other dimensions and colors available on request.

## GAALSHIP® MEDIUM MHF VFD

1,8/3 kV, armoured and screened medium voltage VFD power cable, three cores



ELETTROTEK KABEL® GAALSHIP® MEDIUM MHF VFD

### Applications:

Multi-cores, medium voltage VFD power cables for fixed electrical installations aboard ships, not subject to mechanical risk complying with IEC 60092-352

### Type Approvals/Certificates:

Available on request

### Construction:

- Conductor:** Flexible plain annealed copper conductor cl.5 acc.to IEC 60228
- Insulation:** XLPE halogen-free compound acc. to IEC 60092-360
- Cores color:** acc. to DIN VDE 0293-308, HD 308 S2  
3 conductors + 3 earth conductors: grey, brown, black and green/yellow divided in interstices
- Inner sheath:** Halogen-free compound
- Armouring:** Plain annealed copper braid acc. to IEC 60092-350
- Screen:** Plain annealed copper tape
- Outer sheath:** black (RAL 9004), halogen-free compound type SHF1 acc. to IEC 60092-360
- Marking:** ELETTROTEK KABEL® GAALSHIP® MEDIUM MHF VFD, cross nominal section sqmm, 1,8/3 kV, part n°, IEC 60092-353, IEC 60332-3-22, batch n°, production date, CE RoHS, progressive meter marking.

### Resistance:



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



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



**Low smoke density acc. to:**  
IEC 61034-1/2

### Technical data:

- Nominal voltage:** 1,8/3 kV
- Temperature range:**  
*Fixed installation:* - 40°C up to +90°C
- Min. bending radius:** 6 x D

### Features:

- Sheathing and insulating materials acc. to IEC 60092-360
- Design guidelines acc. to: IEC 60092-353
- Choice and installation of electric cables acc. to: IEC 60092-352
- 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)

Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Cable weight approx. kg/km	Max. resistance of conductors at 20°C (Ohm/km)	Current rating in open air at 45°C (A)
13030K72037M69	3x150+3x25	50,8	6615	0,129 - 0,78	272

Other dimensions and colors available on request.



GAALSHIP® MARINE  
DATA CABLES

## PROFIBUS:

ELETTROTEK KABEL®



Shielded twisted pair cable for fieldbus systems.  
Outer Sheath LSZH.  
With Marine Approval.

## MODBUS:

ELETTROTEK KABEL®



Communication cable for automation devices.  
Outer Sheath LSZH.  
Available versions EIA/TIA-485.

## PROFINET:

ELETTROTEK KABEL®



Industrial Ethernet cable CAT 6 / CAT 7 types.  
Outer Sheath LSZH.  
With Marine Approval.

## COAXIAL:

ELETTROTEK KABEL®



“RG” types.  
50-75 Ohm.  
Armoured / Unarmoured.  
With Marine Approval.

## GAALFIBER®:

ELETTROTEK KABEL®

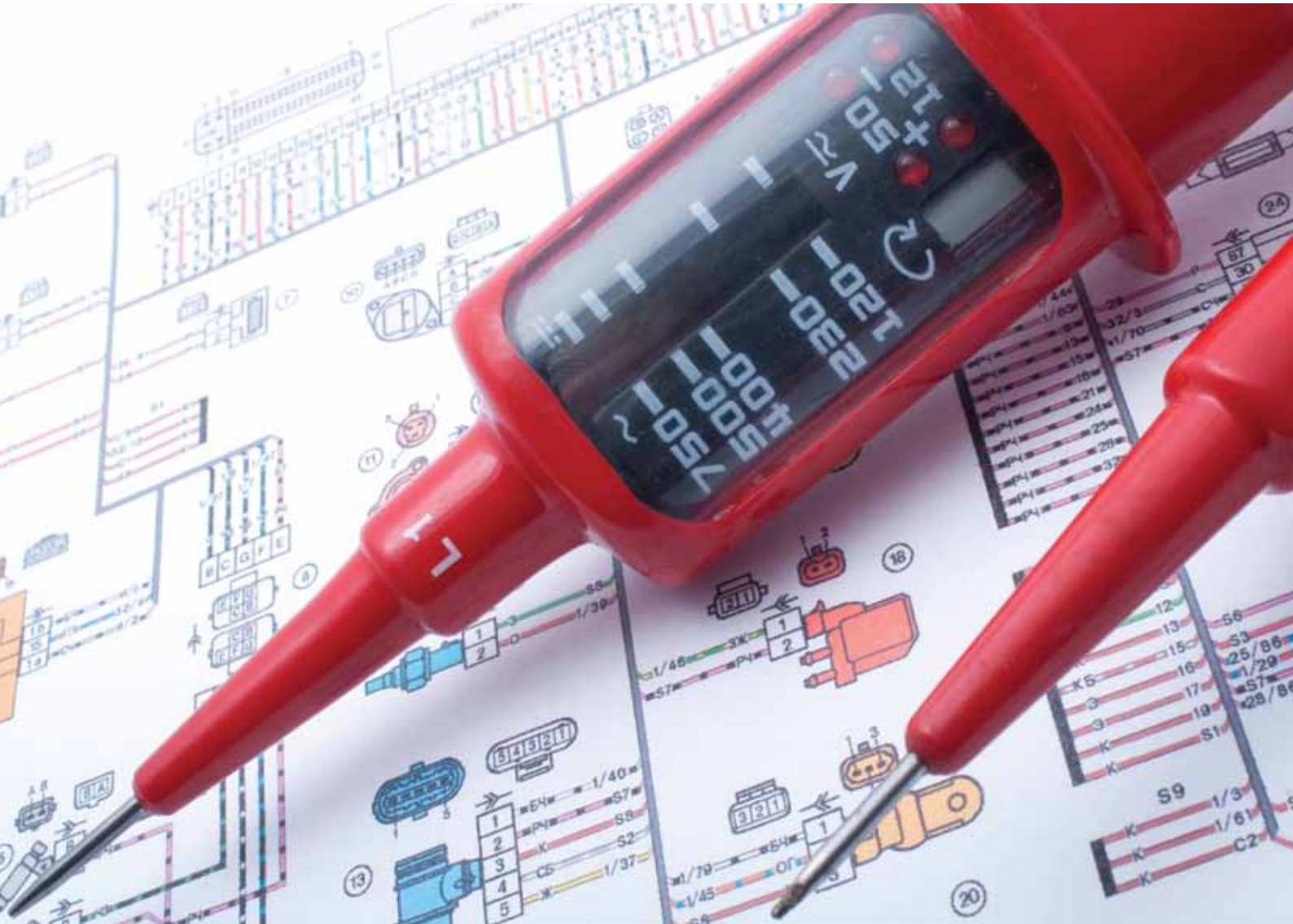


Fiber Optic Single-mode / Multi-mode.  
Armoured / Unarmoured.  
Outer Sheath LSZH.  
Fire Resistant acc. to IEC 60331  
With Marine Approval.





# TECHNICAL DATA



# TECHNICAL DATA INDEX

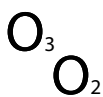
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<b>RESISTANCE SYMBOLS LEGEND</b> .....	<b>86</b>
<b>NORMATIVES</b> .....	<b>87</b>
<b>CORES IDENTIFICATION / OUTER SHEATH COLOURS</b> .....	<b>88</b>
<b>ELECTRICAL DATA</b> .....	<b>89-90</b>
<b>CONVERSION FROM AWG TO MM<sup>2</sup></b> .....	<b>91</b>
<b>ADDITIONAL CONVERSION</b> .....	<b>92</b>
<b>FLAMABILITY TEST</b> .....	<b>93/96</b>
<b>DRUMS CAPACITY</b> .....	<b>97</b>
<b>CABLE LENGHTS (M) TO DRUMS CAPACITY</b> .....	<b>98</b>

# RESISTANCE SYMBOLS LEGEND



Fire performance  
Fire resistant



Ozone-Oxygene resistance



mud resistant



Flame retardant and  
self-extinguishing

F

flourine resistance



microbe resistant



Halogen-free



weather/atmospheric  
resistance



Railway network stability



Smoke density/  
low smoke emission



impact-crushing  
resistance



Corrosiveness of  
combustion gases



Mechanical resistance



Chem. resistance



water and cold  
resistance



Abrasion  
notch resistant



high temperature/  
heat resistance



UV resistant/  
Sunlight resistant



electro magnetic  
resistance



Ozone resistance



ageing resistance



Oil resistance



water resistant

# NORMATIVES

## GAALSHIP® MARINE Cables cables according to:

IEC 60092-350:	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications.
IEC 60092-352:	Choice and installation of electric cables.
IEC 60092-353:	Power cables for rated voltages 1 kV and 3 kV
IEC 60092-354:	Single and three-core power cables with extruded solid insulation for rated voltages 6 and 30 kV.
IEC 60092-360:	Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.
IEC 60092-376:	Cables for control and instrumentation circuits 150/250 V (300 V).
IEC 60228:	Conductors of insulated cables.
IEC 60331-21:	Tests for electric cables under fire conditions - Circuit integrity - Part 21: Procedures and requirements - Cables of rated voltage up to and including 0,6/1 kV.
IEC 60331-1:	Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1kV and with an overall diameter exceeding 20 mm.
IEC 60331-2:	Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1 kV and with an overall diameter not exceeding 20 mm.
IEC 60332-1-2:	Test for vertical flame propagation for a single insulated wire or cable.
IEC 60332-3-22:	Test for vertical flame spread of vertically - mounted bunched wires or cables - Category A
IEC 60754-1:	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content.
IEC 60754-2:	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity.
IEC 60811:	Common test methods for insulating and sheathing materials of electric cables.
IEC 61034-1:	Measurement of smoke density of cables burning under defined conditions - Part 1: Test apparatus
IEC 61034-2:	Measurement of smoke density of cables burning under defined conditions - Part 2: Test procedure and requirements
BS-8491:	This test serves to verify the fire integrity of large diameter power cables. It is carried out to verify circuit integrity of cables while exposed to fire, mechanical shock, and water spray. A sample of cable is held on a flame at a temperature of roughly 830°C, for a minimum of 120 minutes. The sample is also subjected to a mechanical shock, directly on the cable, every 10 minutes. Lastly, 5 minutes before the end of the test, the cable is sprayed by a strong jet of water for a period of 5 seconds, at intervals of 60 seconds.
EN 50200 annex E:	This test serves to verify circuit integrity of cables while exposed to fire, mechanical shock, and water spray. The cable is exposed to a flame at 830°C, mechanical shocks for 15 minutes, and an additional 15 minutes to flame, mechanical shocks, and water spray.

# CORES IDENTIFICATION / OUTER SHEATH COLOURS

## Insulation colours:

0,6/1 kV Power and control cables - acc. to DIN VDE 0293-308, HD 308 S2

N. of cores	Cores colour					
1x...	-	-	-	Black	-	-
2x...	-	Blue	Brown	-	-	-
3G...	Green/Yellow	Blue	Brown	-	-	-
3x...	-	-	Brown	Black	Grey	-
4G...	Green/Yellow	-	Brown	Black	Grey	-
4x...	-	Blue	Brown	Black	Grey	-
5G..	Green/Yellow	Blue	Brown	Black	Grey	-
5x..	-	Blue	Brown	Black	Grey	Black

> 5G... or > 5x... Black with white printed numbers, with or without Green/Yellow, acc. to EN 50334

## 150 / 250V Instrumentation cables

N. of cores	Cores colour
Pairs	Black - Light blue
Triples	Black - Light blue -Brown

Pairs and triples are numbered in white on each core ( e.g. 1-1-, 2-2-...)

## 3,6 up to 12/20 kV Medium Voltage cables

1x...:	natural colour of the compound
3x...:	natural colour of the compound + numbered tape(s) or coloured tapes or thread

## Outer sheath colours:

ORANGE	RAL 2003
BLACK	RAL 9004
GREEN	RAL 6018
RED	RAL 3000

**ELECTRICAL DATA**  
- Power & Control 0,6/1 kV -

No. of cores x cross section n x mm <sup>2</sup>	Capacitance (nF/km)	Inductance (μH/km)	Reactance approx. (Ohm/km)		Max. Resistance of conductors (Ohm/km)				Impedance approx. (Ohm/Km)								Current rating in open air at 45°C (A)	Fault current at 250 °C for 1 sec. (kA)
									Plain Copper				Tinned Copper					
			50 Hz	60 Hz	Plain Copper		Tinned Copper		at 20°C		at 90°C		at 20°C		at 90°C			
					at 20°C	at 90°C	at 20°C	at 90°C	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
1 x 1,5	182	420	0,131	0,157	12,100	15,428	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	23	0,214
1 x 2,5	226	394	0,123	0,148	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,641	30	0,357
1 x 4	269	365	0,114	0,137	4,610	5,878	4,700	5,993	4,610	4,612	5,993	5,880	4,700	4,702	5,993	5,994	40	0,572
1 x 6	323	336	0,105	0,126	3,080	3,927	3,110	3,965	3,080	3,083	3,965	3,929	3,110	3,113	3,965	3,967	52	0,850
1 x 10	374	332	0,103	0,124	1,830	2,333	1,840	2,346	1,830	1,834	2,346	2,337	1,840	1,844	2,346	2,349	72	1,430
1 x 16	452	312	0,098	0,117	1,150	1,466	1,160	1,479	1,150	1,156	1,479	1,471	1,160	1,166	1,479	1,484	96	2,290
1 x 25	458	311	0,098	0,117	0,727	0,927	0,734	0,936	0,727	0,736	0,936	0,934	0,734	0,743	0,936	0,943	127	3,570
1 x 35	517	290	0,092	0,110	0,524	0,668	0,529	0,675	0,524	0,535	0,675	0,677	0,529	0,540	0,675	0,683	157	5,000
1 x 50	546	285	0,090	0,108	0,387	0,493	0,391	0,499	0,387	0,402	0,499	0,505	0,391	0,406	0,499	0,510	196	7,150
1 x 70	593	275	0,088	0,105	0,268	0,342	0,270	0,344	0,268	0,288	0,344	0,357	0,270	0,290	0,344	0,360	242	10,010
1 x 95	716	268	0,085	0,102	0,193	0,246	0,195	0,249	0,193	0,218	0,249	0,266	0,195	0,220	0,249	0,269	293	13,590
1 x 120	736	266	0,084	0,101	0,153	0,195	0,154	0,196	0,153	0,183	0,196	0,220	0,154	0,184	0,196	0,221	339	17,160
1 x 150	783	258	0,088	0,105	0,124	0,158	0,126	0,161	0,124	0,162	0,161	0,190	0,126	0,164	0,161	0,192	389	21,450
1 x 185	791	255	0,085	0,102	0,099	0,126	0,100	0,128	0,099	0,142	0,128	0,162	0,100	0,143	0,128	0,163	444	26,450
1 x 240	819	248	0,083	0,099	0,075	0,096	0,076	0,097	0,075	0,124	0,097	0,138	0,076	0,125	0,097	0,139	522	34,320
1 x 300	882	242	0,084	0,101	0,060	0,077	0,061	0,077	0,060	0,118	0,077	0,127	0,061	0,118	0,077	0,127	601	42,900
2 x 1,5	152	318	0,101	0,121	12,100	15,428	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	20	0,214
2 x 2,5	183	299	0,094	0,113	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	26	0,357
2 x 4	206	277	0,089	0,107	4,610	5,878	4,700	5,993	4,610	4,611	5,993	5,879	4,700	4,701	5,993	5,994	34	0,572
2 x 6	232	264	0,084	0,101	3,080	3,927	3,110	3,965	3,080	3,082	3,965	3,928	3,110	3,112	3,965	3,967	44	0,850
2 x 10	253	248	0,081	0,097	1,830	2,333	1,840	2,346	1,830	1,833	2,346	2,335	1,840	1,843	2,346	2,348	61	1,430
2 x 16	284	239	0,077	0,092	1,150	1,466	1,160	1,479	1,150	1,154	1,479	1,469	1,160	1,164	1,479	1,482	82	2,290
2 x 25	293	236	0,077	0,092	0,727	0,927	0,734	0,936	0,727	0,733	0,936	0,932	0,734	0,740	0,936	0,940	108	3,570
2 x 35	309	229	0,076	0,091	0,524	0,668	0,529	0,675	0,524	0,532	0,675	0,674	0,529	0,537	0,675	0,681	133	5,000
3 x 1,5	153	318	0,103	0,124	12,100	15,428	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	16	0,214
3 x 2,5	178	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	21	0,357
3 x 4	194	277	0,091	0,109	4,610	5,878	4,700	5,993	4,610	4,611	5,993	5,879	4,700	4,701	5,993	5,994	28	0,572
3 x 6	233	264	0,085	0,102	3,080	3,927	3,110	3,965	3,080	3,082	3,965	3,928	3,110	3,112	3,965	3,967	36	0,850
3 x 10	257	248	0,083	0,096	1,830	2,333	1,840	2,346	1,830	1,833	2,346	2,335	1,840	1,843	2,346	2,348	50	1,430
3 x 16	290	239	0,078	0,093	1,150	1,466	1,160	1,479	1,150	1,154	1,479	1,469	1,160	1,164	1,479	1,482	67	2,290
3 x 25	303	236	0,076	0,091	0,727	0,927	0,734	0,936	0,727	0,733	0,936	0,931	0,734	0,740	0,936	0,940	89	3,570
3 x 35	317	229	0,073	0,088	0,524	0,668	0,529	0,675	0,524	0,531	0,675	0,674	0,529	0,536	0,675	0,680	110	5,000
3 x 50	328	226	0,072	0,086	0,387	0,493	0,391	0,499	0,387	0,397	0,499	0,501	0,391	0,400	0,499	0,506	137	7,150
3 x 70	342	223	0,071	0,085	0,268	0,342	0,270	0,344	0,268	0,281	0,344	0,352	0,270	0,283	0,344	0,355	169	10,010
3 x 95	350	220	0,070	0,084	0,193	0,246	0,195	0,249	0,193	0,211	0,249	0,260	0,195	0,212	0,249	0,263	205	13,590
3 x 120	371	220	0,070	0,084	0,153	0,195	0,154	0,196	0,153	0,174	0,196	0,212	0,154	0,175	0,196	0,213	237	17,160
3 x 150	391	220	0,069	0,083	0,124	0,158	0,126	0,161	0,124	0,149	0,161	0,179	0,126	0,151	0,161	0,181	272	21,450
3 x 185	395	220	0,069	0,083	0,099	0,126	0,100	0,128	0,099	0,129	0,128	0,151	0,100	0,130	0,128	0,152	311	26,450
3 x 240	407	220	0,068	0,082	0,075	0,096	0,076	0,097	0,075	0,112	0,097	0,126	0,076	0,112	0,097	0,127	365	34,320
3 G 1,5	153	318	0,103	0,124	12,100	15,428	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	20	0,214
3 G 2,5	178	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	26	0,357
3 G 4	194	277	0,091	0,109	4,610	5,878	4,700	5,993	4,610	4,611	5,993	5,879	4,700	4,701	5,993	5,994	34	0,572
3 G 6	233	264	0,085	0,102	3,080	3,927	3,110	3,965	3,080	3,082	3,965	3,928	3,110	3,112	3,965	3,967	44	0,850
4 x 1	101	341	0,117	0,140	18,100	23,078	18,200	23,206	18,100	18,101	23,206	23,079	18,200	18,201	23,206	23,206	13	0,143
4 x 1,5	147	318	0,110	0,132	12,100	15,428	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	16	0,214
4 x 2,5	173	299	0,103	0,123	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	21	0,357
4 x 4	191	277	0,097	0,116	4,610	5,878	4,700	5,993	4,610	4,611	5,993	5,879	4,700	4,701	5,993	5,994	28	0,572
4 x 6	230	264	0,091	0,109	3,080	3,927	3,110	3,965	3,080	3,082	3,965	3,929	3,110	3,112	3,965	3,967	36	0,850
4 x 10	253	248	0,086	0,103	1,830	2,333	1,840	2,346	1,830	1,833	2,346	2,336	1,840	1,843	2,346	2,348	50	1,430
4 x 16	266	239	0,083	0,100	1,150	1,466	1,160	1,479	1,150	1,154	1,479	1,470	1,160	1,164	1,479	1,482	67	2,290
4 x 25	298	236	0,082	0,098	0,727	0,927	0,734	0,936	0,727	0,734	0,936	0,932	0,734	0,741	0,936	0,941	89	3,570
4 x 35	311	229	0,078	0,094	0,524	0,668	0,529	0,675	0,524	0,532	0,675	0,675	0,529	0,537	0,675	0,681	110	5,000

**ELECTRICAL DATA**  
- Power & Control 0,6/1 kV -

No. of cores x cross section n x mm <sup>2</sup>	Capacitance (nF/km)	Inductance (μH/km)	Reactance approx. (Ohm/km)		Max. Resistance of conductors (Ohm/km)				Impedance approx. (Ohm/Km)								Current rating in open air at 45°C (A)	Fault current at 250 °C for 1 sec. (kA)
									Plain Copper				Tinned Copper					
			50 Hz	60 Hz	Plain Copper		Tinned Copper		at 20°C		at 90°C		at 20°C		at 90°C			
					at 20°C	at 90°C	at 20°C	at 90°C	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
4 x 50	323	226	0,077	0,092	0,387	0,493	0,391	0,499	0,387	0,398	0,499	0,502	0,391	0,402	0,499	0,507	137	7,150
4 x 70	336	223	0,076	0,091	0,268	0,342	0,270	0,344	0,268	0,283	0,344	0,354	0,270	0,285	0,344	0,356	169	10,010
4 x 95	347	220	0,076	0,091	0,193	0,246	0,195	0,249	0,193	0,213	0,249	0,262	0,195	0,215	0,249	0,265	205	13,590
4 x 120	369	220	0,075	0,090	0,153	0,195	0,154	0,196	0,153	0,178	0,196	0,215	0,154	0,178	0,196	0,216	237	17,160
4 x 150	388	220	0,074	0,089	0,124	0,158	0,126	0,161	0,124	0,153	0,161	0,181	0,126	0,154	0,161	0,184	272	21,450
4 x 185	393	220	0,074	0,089	0,099	0,126	0,100	0,128	0,099	0,133	0,128	0,155	0,100	0,134	0,128	0,155	311	26,450
5 x 1	140	341	0,107	0,128	18,100	23,078	18,200	23,206	18,100	18,100	23,206	23,079	18,200	18,200	23,206	23,206	13	0,143
5 x 1,5	203	318	0,103	0,124	12,100	15,428	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	16	0,214
5 x 2,5	206	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	21	0,357
5 x 4	165	277	0,091	0,109	4,610	5,878	4,700	5,993	4,610	4,611	5,993	5,879	4,700	4,701	5,993	5,994	28	0,572
5 x 6	198	264	0,085	0,102	3,080	3,927	3,110	3,965	3,080	3,082	3,965	3,928	3,110	3,112	3,965	3,967	36	0,850
5 x 10	229	248	0,083	0,096	1,830	2,333	1,840	2,346	1,830	1,833	2,346	2,335	1,840	1,843	2,346	2,348	50	1,430
5 x 16	276	239	0,078	0,093	1,150	1,466	1,160	1,479	1,150	1,154	1,479	1,469	1,160	1,164	1,479	1,482	67	2,290
5 x 25	295	236	0,076	0,091	0,727	0,927	0,734	0,936	0,727	0,733	0,936	0,931	0,734	0,740	0,936	0,940	89	3,570
5 x 35	317	229	0,073	0,088	0,524	0,668	0,529	0,675	0,524	0,531	0,675	0,674	0,529	0,536	0,675	0,680	110	5,000
5 x 50	321	226	0,072	0,086	0,387	0,493	0,391	0,499	0,387	0,398	0,499	0,502	0,391	0,402	0,499	0,507	137	7,150
5 x 70	335	223	0,071	0,085	0,268	0,342	0,270	0,344	0,268	0,283	0,344	0,354	0,270	0,285	0,344	0,356	169	10,010
7 x 1	153	341	0,107	0,128	18,100	23,078	18,200	23,206	18,100	18,100	23,206	23,079	18,200	18,200	23,206	23,206	8	0,143
10 x 1	162	341	0,107	0,128	18,100	23,078	18,200	23,206	18,100	18,100	23,206	23,079	18,200	18,200	23,206	23,206	7	0,143
14 x 1	100	341	0,107	0,128	18,100	23,078	18,200	23,206	18,100	18,100	23,206	23,079	18,200	18,200	23,206	23,206	6	0,143
19 x 1	90	341	0,107	0,128	18,100	23,078	18,200	23,206	18,100	18,100	23,206	23,079	18,200	18,200	23,206	23,206	6	0,143
24 x 1	84	341	0,107	0,128	18,100	23,078	18,200	23,206	18,100	18,100	23,206	23,079	18,200	18,200	23,206	23,206	5	0,143
30 x 1	79	341	0,107	0,128	18,100	23,078	18,200	23,206	18,100	18,100	23,206	23,079	18,200	18,200	23,206	23,206	5	0,143
7 x 1,5	156	318	0,100	0,120	12,100	15,429	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	10	0,214
10 x 1,5	166	318	0,100	0,120	12,100	15,429	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	9	0,214
14 x 1,5	96	318	0,100	0,120	12,100	15,429	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	8	0,214
19 x 1,5	85	318	0,100	0,120	12,100	15,429	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	7	0,214
24 x 1,5	78	318	0,100	0,120	12,100	15,429	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	7	0,214
30 x 1,5	73	318	0,100	0,120	12,100	15,429	12,200	15,556	12,100	12,101	15,556	15,429	12,200	12,201	15,556	15,556	6	0,214
7 x 2,5	172	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	14	0,357
10 x 2,5	124	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	12	0,357
14 x 2,5	100	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	11	0,357
19 x 2,5	90	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	10	0,357
24 x 2,5	82	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	9	0,357
30 x 2,5	75	299	0,096	0,115	7,410	9,448	7,560	9,639	7,410	7,411	9,639	9,449	7,560	7,561	9,639	9,640	8	0,357

**ELECTRICAL DATA**  
- Instrumentation I50/250V -

No. of pairs x cross section n x mm <sup>2</sup>	Capacitance (nF/km)	Inductance (μH/km)	Reactance approx. (Ohm/km)		Max. Resistance of conductors (Ohm/km)				Impedance approx. (Ohm/Km)								Fault current at 250 °C for 1 sec. (kA)
									Plain Copper				Tinned Copper				
			50 Hz	60 Hz	Plain Copper		Tinned Copper		at 20°C		at 90°C		at 20°C		at 90°C		
					at 20°C	at 90°C	at 20°C	at 90°C	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	
2 x 0,75	76	0,66	0,188	0,217	24,50	31,239	24,80	31,621	24,500	24,501	31,621	31,239	24,800	24,801	31,621	31,622	0,110
2 x 1,00	88	0,60	0,760	0,204	18,10	23,08	18,20	23,206	18,100	18,101	23,206	23,079	18,200	18,201	23,206	23,207	0,140
2 x 1,50	94	0,58	0,163	0,198	12,10	15,43	12,20	15,556	12,100	12,102	15,556	15,429	12,200	12,202	15,556	15,557	0,210



# CONVERSION FROM AWG TO MM<sup>2</sup>

AMERICAN/EUROPEAN CONVERSION TABLE FROM AWG TO mm<sup>2</sup>

AWG Number	Cross section mm <sup>2</sup> (AMERICAN COMPARISON)	Cross section mm <sup>2</sup> (EUROPEAN COMPARISON)	Ø mm	Conductor resistance Ω/km
1000 MCM	507	500	29,3	0,036
900	456	-	27,8	0,04
750	380	400	25,4	0,048
600	304	300	22,7	0,061
550	279	-	21,7	0,066
500	253	240	20,7	0,07
450	228	-	19,6	0,08
400	203	-	18,5	0,09
350	177	185	17,3	0,1
300	152	150	16	0,12
250	127	-	14,6	0,14
4/0	107,2	120	11,68	0,18
3/0	85	95	10,4	0,23
2/0	67,4	70	9,27	0,29
0	53,4	-	8,25	0,37
1	42,4	50	7,35	0,47
2	33,6	35	6,54	0,57
3	26,7	-	5,83	0,71
4	21,2	25	5,19	0,91
5	16,8	-	4,62	1,12
6	13,3	16	4,11	1,44
7	10,6	-	3,67	1,78
8	8,34	10	3,26	2,36
9	6,62	-	2,91	2,77
10	5,26	6	2,59	3,64
11	4,15	-	2,3	4,44
12	3,31	4	2,05	5,41
13	2,63	-	1,83	7,02
14	2,08	2,5	1,63	8,79
15	1,65	-	1,45	11,2
16	1,31	1,5	1,29	14,7
17	1,04	-	1,15	17,8
18	0,823	1	1,024	23
19	0,653	0,75	0,912	28,3
20	0,519	0,5	0,812	34,5
21	0,412	0,38	0,723	44
22	0,324	0,34	0,644	54,8
23	0,259	-	0,573	70,1
24	0,205	0,25	0,511	89,2
25	0,163	-	0,455	111
26	0,128	0,14	0,405	146
27	0,102	-	0,361	176
28	0,0804	0,08	0,321	232
29	0,0646	-	0,286	282
30	0,0503	0,05	0,255	350
31	0,04	-	0,227	446
32	0,032	-	0,202	578
33	0,0252	-	0,18	710
34	0,0200	-	0,16	899
35	0,0161	-	0,143	1125
36	0,0123	-	0,127	1426
37	0,01	-	0,113	1800
38	0,00795	-	0,101	2255
39	0,00632	-	0,0897	2860

4/0 is also known as 0000; 1 mil = inch = 0.0254 mm  
\*Shown in MCM (circular mills) for bigger cross sections

1 CM = 1 Circ. mil = 0.0005067 mm<sup>2</sup>  
1 MCM = 1000 Circ. mils = 0.5067 mm<sup>2</sup>

1 CM = 1 Circ. mil = 0.0005067 mm<sup>2</sup>  
1 MCM = 1000 Circ. mils = 0.5067 mm<sup>2</sup>

# ADDITIONAL CONVERSION

## ADDITIONAL CONVERSION TABLE

LENGHT		
From	to	Formula
Inch (In)	millimeter (mm)	$In \times 25,4 = mm$
millimeter (mm)	Inch (In)	$mm \times 0,03937 = In$
foot (ft)	meter (m)	$ft \times 0,3048 = m$
meter (m)	foot (ft)	$mt \times 3,218 = ft$
mile (mi)	kilometer (km)	$mi \times 1,609 = km$
kilometer (km)	mile (mi)	$km \times 0,662 = mi$

WEIGHTS		
From	to	Formula
pound (lb)	kilogram (kg)	$lb \times 2,205 = kg$
kilogram (kg)	pound (lb)	$kg : 2,205 = lb$

TEMPERATURE		
From	to	Formula
Fahrenheit (F)	Celsius (C)	$(F-32) \times 0,56 = C$
Celsius (C)	Fahrenheit (F)	$C \times 1,8 + 32 = F$

# FLAMABILITY TEST

## Examination of the vertical flame length, test method I kV - flame with gas/air mixture

Description	VDE 0482 part. 265-2-1, EN 50265-2-1 and IEC 60332-1	VDE 0482 part. 265-2-2, EN 50265-2-2 and IEC 60332-2
Length of sample	600 mm	600 mm
Burner	Acc. to EN 60695-2-4-1	Acc. to VDE 0482 part. 265-1 and EN 50265-1
Test temperature	1 kW flame	Defined by the stipulated setting of the Flame length
Position of sample	Vertical	Vertical
Position of flame	45° to vertical sample	45° to vertical sample
Duration of flame	See table 1	20 seconds
Conditions	Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp.	Cable must be self-extinguishing. The damage or carbonization may only reach max. 10 mm under the upper fixing clamp.

Table 1

outer diameter * of sample in mm	
Nominal value	Duration of flame test in seconds
$D \leq 25$	60
$25 < D \leq 50$	120
$50 < D \leq$	240
$D > 75$	480

\* If the insulated cables are not round (i.e. flat cables), dimensions must be measured to determine an equivalent diameter.



# FLAMABILITY TEST

## Assessment of the vertical flame length for vertical extended bundle of insulated cables

Description	IEC 60332-3, EN 50266, DIN VDE 0482 part. 266
Length of sample	3500 mm
Burner	Flat burner (Ribbon gas burner)
Test temperature	500 W flame
Position of sample	Vertical
Position of flame	Horizontal
Duration of flame	Category A, B: 40 minutes Category C, D: 20 minutes
Conditions	The burned portion of the sample must be shorter than 2,5 m measured from the bottom edge of the burner, unless specified otherwise.

	EN 60332-	IEC 60332-
Category A-7 l/m	3/22	3/22
Category B-3,5 l/m	3/23	3/23
Category C-1,5 l/m > 12 mm cable-ø	3/24	3/24
Category D-0,5 l/m ≤ 12 mm cable-ø	3/25	3/25
Volume % of non metallic material x meter		



# FLAMABILITY TEST

## Tests for electric cables under fire conditions - Circuits integrity

<b>Description:</b>	IEC 60331, CEI 20-36
	This test serves to verify the circuit can remain integral even during a fire. A sample of cable is held on an open flame at 750°C for a minimum period of 90 min, under the rated voltage. No break or short circuit should occur during the test in order to receive the rating. The test can also be performed with temperatures up to 1100 °C. Likewise, fibre optic cables can be tested in the same conditions while monitoring the attenuation of the signal of one or more fibres.
<b>Classification:</b>	<b>IEC 60331-21 - CEI 20-36/2-1</b> - Electrical cables up to 0,6/1 kV <b>IEC 60331-23 - CEI 20-36/2-3</b> - Data cables <b>IEC 60331-25 - CEI 20-36/2-5</b> - Fibre optic cables

## Tests for electric cables under fire conditions - Circuits integrity - part.2

<b>Description:</b>	IEC 60331-2
	Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to 0,6/1 kV and with an overall diameter not exceeding 20 mm
<b>Test temperature:</b>	830°C (+40/-0°C)
<b>Duration:</b>	30*, 60, 90, 120 min (*with water spray BS EN 50200 annex E)
<b>Mechanical shocks:</b>	every 5 min.
<b>Water spray:</b>	0,8 lt/min. (last 15 min.) (with water spray BS EN 50200 annex E)

## Tests for electric cables under fire conditions - Circuits integrity - part.1

<b>Description:</b>	IEC 60331-1
	Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to 0,6/1 kV and with an overall diameter exceeding 20 mm
<b>Test temperature:</b>	830°C (+40/-0°C)
<b>Duration:</b>	60, 90, 120 min
<b>Mechanical shocks:</b>	every 5 min.



# FLAMABILITY TEST

## Fire Resistance

<b>Description:</b>	<b>BS EN 50200</b>
	This test serves to verify the circuit integrity of cables while exposed to fire at 830°C as well as mechanical shocks.
<b>Classification:</b>	<b>PH 15</b> - flame exposure for 15 min. <b>PH 30</b> - flame exposure for 30 min. <b>PH 60</b> - flame exposure for 60 min. <b>PH 90</b> - flame exposure for 90 min. <b>PH 120</b> - flame exposure for 120 min.
<b>Description:</b>	<b>BS EN 50200 annex E (STANDARD CABLE - BS 5839-1 - CLAUSE 26.2D)</b>
	This test serves to verify circuit integrity of cables while exposed to fire, mechanical shock, and water spray. The cable is exposed to a flame at 830°C, mechanical shocks for 15 minutes, and an additional 15 minutes to flame, mechanical shocks, and water spray.
<b>Test temperature:</b>	830°C (+40/-0°C)
<b>Duration:</b>	30 min
<b>Mechanical shocks:</b>	every 5 min.
<b>Water spray</b>	0,8 lt/min. (last 15 min.)
<b>Description:</b>	<b>BS 8491:2008</b>
	This test serves to verify the fire integrity of large diameter power cables. It is carried out to verify circuit integrity of cables while exposed to fire, mechanical shock, and water spray. A sample of cable is held on a flame at a temperature of roughly 830°C, for a minimum of 120 minutes. The sample is also subjected to a mechanical shock, directly on the cable, every 10 minutes. Lastly, 5 minutes before the end of the test, the cable is sprayed by a strong jet of water for a period of 5 seconds, at intervals of 60 seconds.
<b>Test temperature:</b>	830°C (+40/-0°C)
<b>Duration:</b>	120 min
<b>Mechanical shocks:</b>	every 10 min.
<b>Water jet:</b>	2,5 lt/min.



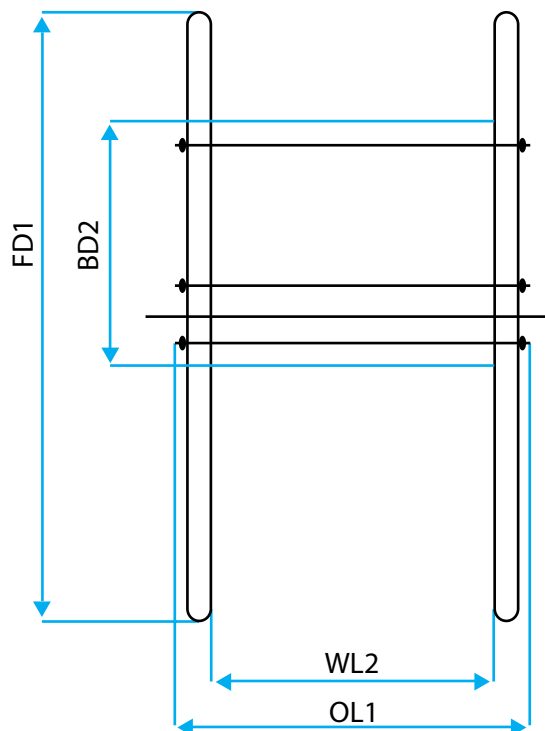
# DRUMS CAPACITY

## WOODEN DRUMS

Drum Type	Flange Ø FDI (mm)	Barrel Ø BD2 (mm)	Overall width OLI (mm)	Winding width WL2 (mm)	Max. carrying capacity (kg)	Drum weight (kg)
051	500	150	470	410	100	8
061	630	315	415	315	250	17
071	710	355	520	400	250	25
081	800	400	520	400	400	31
091	900	450	690	560	750	47
101	1000	500	710	560	900	71
121	1250	630	890	670	1700	144
141	1400	710	890	670	2000	175
161	1600	800	1100	850	3000	280
181	1800	1000	1100	840	4000	380
201	2000	1250	1350	1045	5000	550
221	2240	1400	1450	1140	6000	710
250	2500	1400	1450	1140	7500	875
251	2500	1600	1450	1130	7500	900
281	2800	1800	1635	1280	10000	1175

## PLASTIC DRUMS

Drum Type	Flange Ø FDI (mm)	Barrel Ø BD2 (mm)	Overall width OLI (mm)	Winding width WL2 (mm)	Max. carrying capacity (kg)	Drum weight (kg)
050	500	150	456	404	100	4
070	710	355	510	400	250	15
080	800	400	510	400	350	16
090	900	450	680	560	400	23
100	1000	500	704	560	500	32



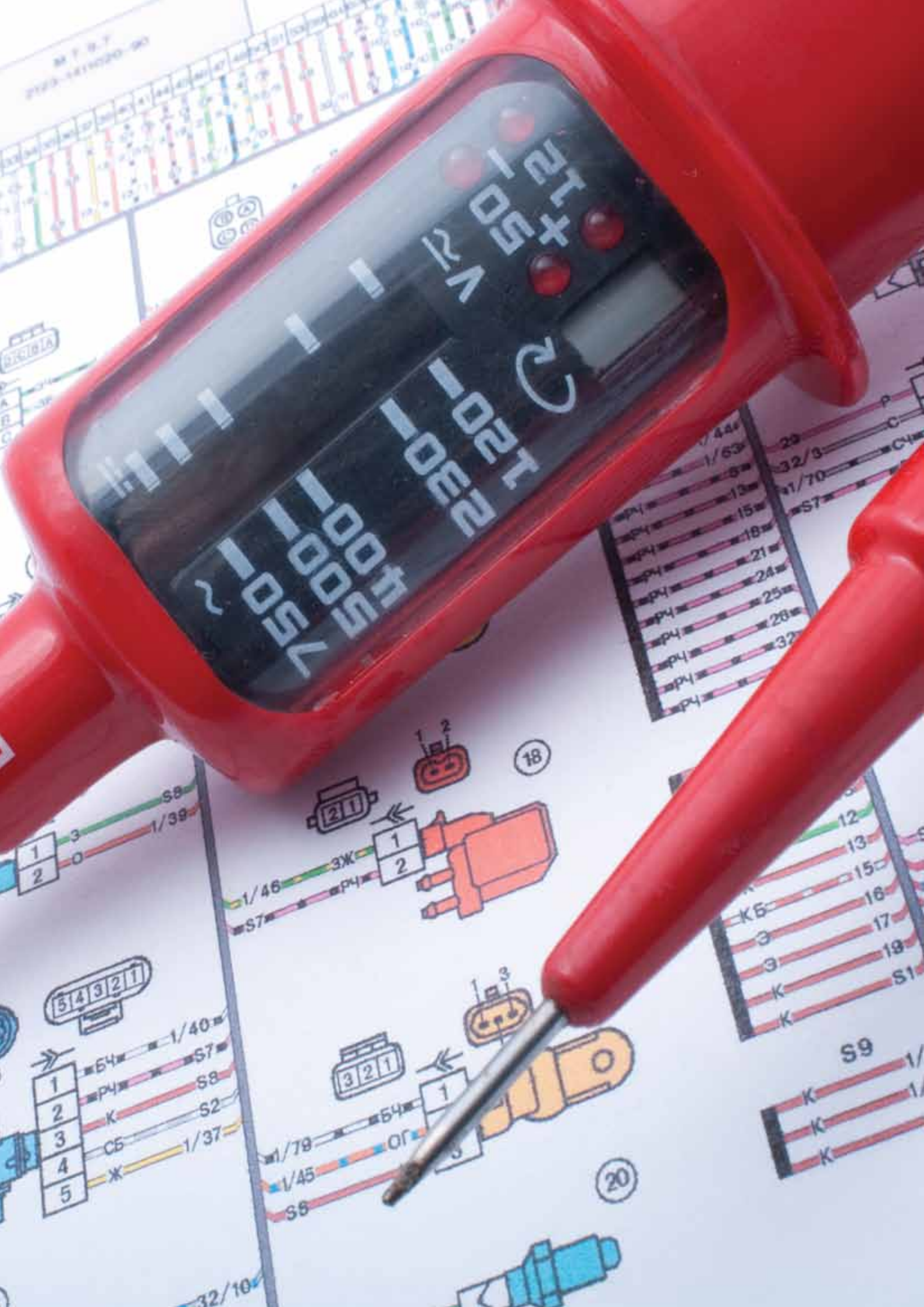
# CABLE LENGHT(S) TO DRUMS CAPACITY

Drum size	051	061	071	081	091	101	121	141	161	181	201	221	250	251	281
1130	815	630	460	390	320	260	220	190	170	150	130	110	105	100	80
1110	840	640	470	388	315	254	238	190	180	140	134	102	96	92	65
2024	1480	1064	890	680	564	470	385	360	300	239	228	218	172	165	159
2755	2340	1463	1152	980	760	643	542	454	430	358	294	280	228	220	210
2730	2202	1768	1404	1206	1032	880	749	632	603	505	485	402	387	315	304
2866	2349	1910	1540	1339	1159	1000	860	736	705	599	576	485	468	389	377
2727	2265	1990	1756	1545	1355	1184	1139	990	856	827	709	688	668	567	550
2967	2480	2205	1960	1737	1535	1352	1304	1145	999	967	839	814	700	680	663
2722	2435	2172	1930	1870	1657	1608	1420	1244	1210	1180	1028	1003	866	846	828
2830	2527	2248	2172	1927	1867	1650	1450	1410	1370	1200	1166	1009	985	962	824
2954	2608	2522	2218	2150	1880	1826	1563	1540	1500	1289	1257	1227	1040	1017	994
2860	2777	2450	2383	2089	2035	1984	1726	1685	1646	1418	1386	1356	1328	1130	1107
2978	2908	2605	2547	2270	2223	1969	1930	1892	1664	1633	1603	1574	1373	1349	1326
2976	2893	2558	2490	2428	2134	2083	2035	1774	1735	1697	1486	1435	1406	1199	1175
2890	2820	2760	2432	2380	2330	2036	1995	1956	1962	1660	1630	1600	1366	1362	1362

Drum size	051	061	071	081	091	101	121	141	161	181	201	221	250	251	281
125	123	120													
178	175	172	170	126	124	122	121	119	117						
319	314	310	305	235	232	230	228	225	222	220	216	160	158	156	152
373	367	360	356	280	276	270	267	263	260	256	252	190	187	184	182
558	442	435	428	420	414	408	400	304	300	295	290	287	282	280	275
878	666	655	644	634	624	614	488	480	473	466	460	453	448	440	435
1107	1089	1072	912	898	885	872	860	720	710	700	690	680	670	662	640
898	883	869	715	700	690	680	668	658	649	640	610	500	494	487	480
1320	1298	1276	1072	1056	1040	1022	1006	990	815	803	790	780	770	760	748

min. drum barrel Ø ≤ 40 x cable Ø      min. drum barrel Ø ≤ 25 x cable Ø      min. drum barrel Ø ≤ 20 x cable Ø      min. drum barrel Ø ≤ 15 x cable Ø

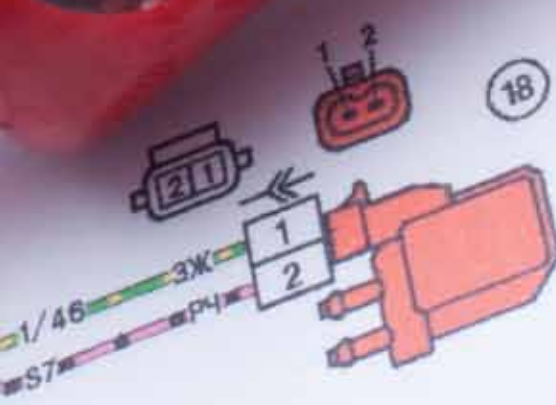




М.Т.Б.7  
2120-141020-90

СИСТЕМА

750.1  
V~  
120.1  
100.1  
150.1  
21.2



32/10

***Subject to errors, modifications and amendments***

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