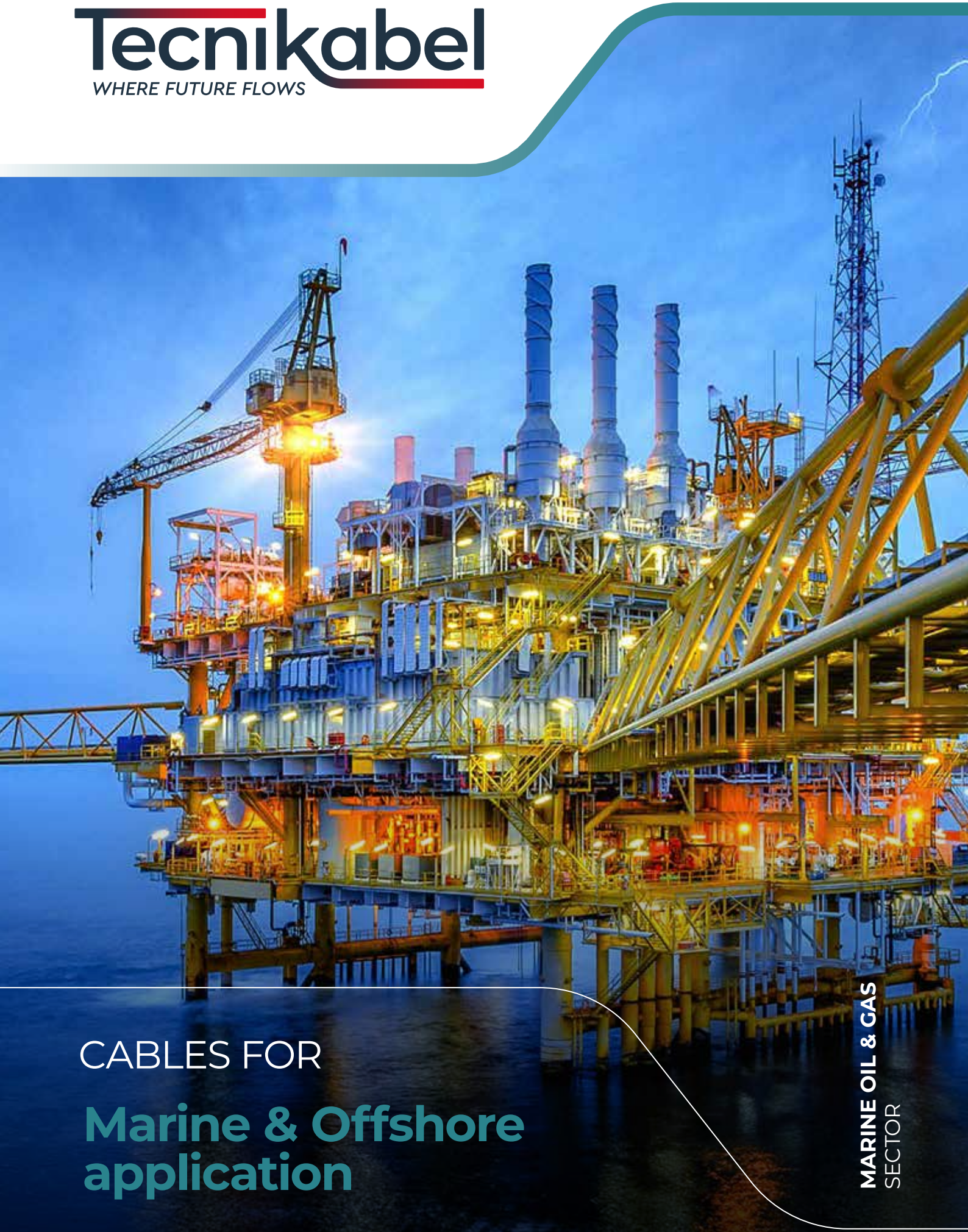
Tecnikabel

WHERE FUTURE FLOWS



CABLES FOR

Marine & Offshore application

MARINE OIL & GAS SECTOR

Introduction

Tecnikabel is a European manufacturer of special cables engineered for offshore and marine oil & gas applications. As energy demands grow and offshore operations increase in complexity, reliable electrical infrastructure becomes a critical factor for project continuity and safety.
Electrification across platforms, FPSOs, and drilling vessels is expanding steadily. Power, control and instrumentation systems must perform without interruption, in conditions that standard cable solutions are not built to withstand.

A marine oil & gas electrical network operates as a fully autonomous system. Every element — from generation to distribution — must function reliably on board. Tecnikabel's copper and fibre-optic cables for control, signalling, data transmission, fire detection and telecommunications comply with IEC, DNV and API requirements, ensuring continuous performance where high pressure, extreme temperatures, drilling mud, aggressive solvents and toxic gases are not exceptions — they are the operating baseline.
When project specifications exceed off-the-shelf solutions, custom engineering becomes essential. Tecnikabel works alongside technical teams from the earliest design stage, developing and manufacturing cables built for critical functions in the world's most demanding operating environments.

OUR SECTORS


TRANSPORTATION


AUTOMATION


TELECOMMUNICATION


DEFENSE


MARINE OIL & GAS


SUBSEA

BUILDING TECHNOLOGY

In today's technological landscape. many applications demand performance and engineering characteristics that exceed standard cable solutions. When off-the-shelf products cannot meet extreme or unconventional requirements. our custom design capability becomes essential. Tecnikabel acts as a technical partner. developing and manufacturing highly specialised cables engineered for critical functions and challenging operating environments.

Tecnikabel is focused on constant product innovation to get competitive advantages with endless commitment to research and development.

PRODUCTION
Updated production systems. rigorous process controls and skilled operators ensure an efficient. flexible and reliable manufacturing flow. Over nearly half a century of activity. we have engineered and produced more than 26.000 different cable configurations.

FINAL INSPECTIONS
At the end of every production cycle. each cable undergoes full electrical. optical and physical verification to ensure complete compliance with the customer's technical specifications.

LABORATORY TESTS
Our cables are subjected to demanding laboratory tests that replicate critical application conditions. Beyond the standard evaluations required by current regulations. we have developed dedicated equipment for mechanical. environmental. electrical and optical testing to validate performance in extreme scenarios.

MATERIALS RESEARCH AND DEVELOPMENT
With nearly fifty years of experience. we continue to research and develop advanced materials aimed at improving performance. optimising costs and meeting the evolving technical requirements of our customers.

QUALITY SYSTEM
Since 1978. our commitment to Quality has earned Tecnikabel recognition from major American and European authorities. ensuring compliance with the most rigorous international manufacturing and quality standards.

Guaranteed excellence

Tecnikabel's constant commitment to quality has earned recognition from leading American and European authorities. ensuring full compliance with the most demanding international manufacturing and quality standards.

COMPANY MANAGEMENT SYSTEM CERTIFICATION

PRODUCT CERTIFICATION

All cables in this sector are certified:

Reliability you can trust

Safety-driven cable innovation

ADDRESSING NEW HOMOLOGATION REQUIREMENTS: EXTENDED FIRE DURATION

Engineers are continuously designing powerful systems with extensive cabling infrastructures. where high-speed transmission protocols must handle massive volumes of data—including signals and images. These critical communication systems demand maximum stability and peak performance. utilizing both optical fiber and copper cables. Tecnikabel proactively meets the latest offshore and shipbuilding requirements set by homologation bodies. We ensure full-circuit integrity during fire scenarios. complying with IEC 60331 standards for an extended duration of up to 180 minutes. We transform these stringent technical challenges into reliable. future-ready solutions.

GAS-TIGHT RESISTANCE FOR SAFER OPERATIONS IN EXPLOSIVE ENVIRONMENTS

The demand for high-quality data connections between explosive areas and safe zones is growing. Gas-permeable cavities in cables can allow explosive mixtures to migrate to densely populated areas. making strict adherence to technical specifications essential. This need is increasingly important with the expanded use of LNG (Liquefied Natural Gas) for vessel propulsion. storage. and transportation. Tecnikabel. as a co-designer and problem solver. has developed a complete range of copper data cables specifically for such environments. These solutions comply with IEC 60079-14. meeting not only the mechanical. chemical. and thermal requirements for explosive areas but also the critical standards for gas migration. Our cables can therefore be installed in offshore applications without restrictions. providing the optimal solution for safety and reliability.

ENHANCED CABLE PERFORMANCE FOR ARCTIC ENVIRONMENTS

Our cable range is engineered for superior performance in extremely cold conditions. They are suitable for installation at temperatures down to –30 °C. with permanent operating capability as low as –62 °C. The performance of our TKSEA cables in Arctic conditions is validated through cold bend and cold impact tests. in accordance with the North American (Canadian) standard CSA 22/2. Through continuous innovation and proven reliability. Tecnikabel contributes significantly to enhancing safety and operational longevity on board ships and offshore structures worldwide.

Passion flows through our cables.

MUD RESISTANCE TEST

- Mud resistance according to NEK 606 oil based (EDC 95-11) and drilling fluid water based (CalciumBromide)
- Mud resistance according to IEC 60092-360 (Oil IRM 902; IRM 903; drilling fluid water based CalciumBromide. 45% w/w CaBr2 in water).

Requirements of the test procedures (NEK 606 - IEC 60092-360) for drilling fluids:
- Temperature: 70 °C
- Test period: 56 days (1344 hours
- Alteration of the tensile strength and elongation of break max ±25 %
- Volume change: max. ±20 %
- Mass change: max. ±15 %

The use of mineral oil types (IRM 902 and IRM903) can also be performed at a temperature of 100 °C for 7 days (168 hours). with a max alteration of IEC 60092-360:
- **IRM 902** tensile strength and elongation of break ±30 %. linear swell: +/- 15%
- **IRM 903** tensile strength and elongation of break. linear swell: ±30 %

OIL RESISTANCE TEST

Performance of the oil resistance tests for cable jackets (insulations) according to IEC 60811-404.

Requirements of the test procedures:
- IEC 60092-360 (for SHF2 types) Test duration: 1 day / 100 °C
- IEC 60092-350 Test duration: 7 days / 100 °C

ARCTIC GRADE TESTS

Performance of the cold bend and cold impact resistance tests for cable jackets (insulations) according to CSA 22.2 (temperature depending on the construction required).

Requirements of the test procedures:
- CSA 22.2 Test duration: 4 hours

VAPOR/GAS TIGHT REQUIREMENT TESTS

Performance according to IEC 60079-14: Annex E.

Requirements of the test procedures:
- CSA 22.2 Testing length: 0.5
- CSA 22.2 Sealed enclosure of 5 l (± 0.2 l). under constant temperature conditions.
- The cable is considered acceptable if the time interval required for an internal overpressure of at least 0.3 kPa (30 mm water gauge) to drop by 0.15 kPa (15 mm water gauge) is not less than 5 s.

Our Marine Oil & Gas cables perform reliably across the most challenging sectors

- SUBSEA
- OFFSHORE TOPSIDE
- ONSHORE PETROLCHEMICAL
- MARINE SHIPBUILDING
- DRILLING
- PIPELINE

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FLAME RETARDANT BUNCHED WIRES (IEC 60332-3)


FIRE RESISTANCE (IEC 60331. EN50200. BS6387 CWZ)


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WEATHERING TEST RESISTANCE (OUTDOOR)


INDOOR


WATER RESISTANCE


RODENT RESISTANCE


HAZARDOUS AREA


FLEXIBLE INSTALLATION


FULLY DIELECTRIC


DIRECT BURIAL


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WORKING AT LOW TEMPERATURE

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ARCTIC CABLE

MECHANICAL PROPERTIES


MECHANICAL RESISTANCE


REDUCED BENDING RADIUS

These images are for illustrative purposes.

FIRE PERFORMANCE

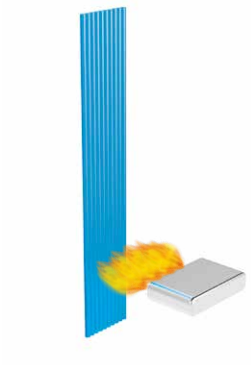
Built and tested for fire safety

International testing norms for fire-resistant cable performance

IEC 60332-1-2 / EN 50265 / BS 4066

FIRE PROPAGATION ON A VERTICAL SINGLE CABLE

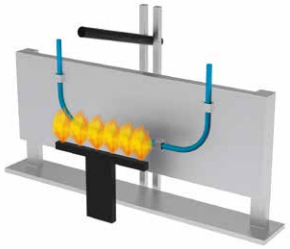
The single cable is mounted vertically and flamed with a Bunsen burner. The flame must extinguish itself. at least 50 mm below the upper fixing clamp. Power of burner. duration and angle of flame application. are described in the reference standards.



IEC 60332-3 / EN 50266

FIRE PROPAGATION ON A VERTICAL CABLES BUNDLE

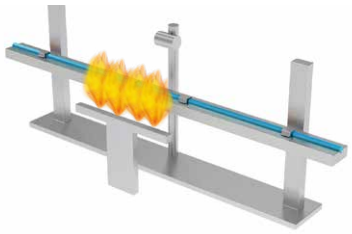
A certain number of cable samples are fixed on a 3.5 m long ladder. and flamed with an appropriate burner. The sample number. the duration of flame application. and the power/temperature of burner are described in the reference standards. After flame application. the visible area of fire damage must not exceed 2.5 m in height from the bottom of the burner.
The volume of tested material define a differentiation in categories:
A F/R Part 3-21 7 l/m
A Part 3-22 7 l/m
B Part 3-23 3.5 l/m
C Part 3-24 1.5 l/m
D Part 3-25 0.5 l/m



IEC 60331 / EN 50200

FIRE RESISTANCE TEST

A sample of cable is horizontally applied supported by metal rings. or in U shape fixed on a fireproof wall. Through using a gas burner the cable is maintained in flame contact for a certain time.
The test and the temperature of burner are described in the reference standards. In U shape test. the fireproof wall is hit every five minutes by a mechanical shock. to simulate a potential collapse during the fire.
The time of fire application. and the temperature of flame are described in the reference standards (typically 750 °C or 830 °C). The optical transmission of the fibers is checked and the change in attenuation is recorded during the test. and 15 minutes after flame extinction.



BS 6387 Category CWZ

FIRE RESISTANCE PROTOCOLS

The full test consists of subjecting the cable to 3 different protocols:
C: a flame with a temperature attack of 950 °C is applied to the cable
W: a flame with a temperature attack of 650 °C is applied to the cable together with water simulating a sprinkler system
Z: a flame with a temperature attack of 950 °C is applied to the cable together with mechanical shock.

IEC 61034-1/2 - EN 50268-1/2

MEASUREMENT OF SMOKE DENSITY UNDER DEFINED CONDITIONS

The amount of smoke of a cable burnt in a cubic (3x3x3 m) chamber using a flammable liquid. The light transmittance of the resulting smoke is measured using an optical light meter. The test duration is 40 minutes. Depending on the quantity and composition of the liquid fuel. During the test the light transmittance of the smoke must be 60% minimum.

BS 8434-2 2003 + A2 2009

FIRE RESISTANCE TEST

Test for unprotected small cables for use in emergency circuits. The fire resistance test is carried out according to BS 6387 and BS 8434-2. The test is based on the requirements of BS EN 50200 and includes mechanical shock and water spray. The cable is mounted on a vertical ladder and exposed to a flame of 830 °C. The test duration is 120 minutes.
The cable must continue to operate normally during the test.
The test is considered successful if the cable can supply power to emergency equipment safely for a 120 min duration.

IEC 60754-1 - EN 50267-2-1

TEST ON GASES EVOLVED DURING COMBUSTION OF MATERIALS FROM CABLES – MEASUREMENT OF AMOUNT OF HALOGEN ACID GAS

The cable is burned in a tube with a constant stream of air. The combustion gases are collected in water. The amount of halogen acid gas is measured. The concentration of halogen acid gas must be less than 5 mg/g.

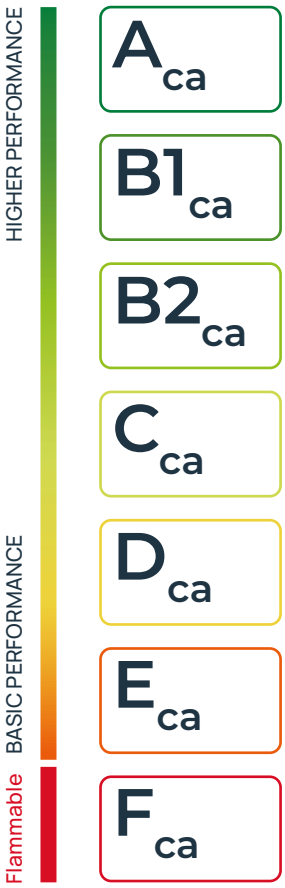
IEC 60754-2 - EN 50267-2-2

TEST ON GASES EVOLVED DURING COMBUSTION OF MATERIALS FROM CABLES – DETERMINATION OF ACIDITY (BY PH MEASUREMENT) AND CONDUCTIVITY

A small quantity of cable is burned. In a furnace. the pH and conductivity combustion gases dissolved in water are measured.
The minimum pH value of the washing water must 4.3. and the maximum conductivity must be 10 µS/mm.

Construction Product Regulation

Our commitment to CPR compliance — Embracing Euroclasses for superior fire safety



Regulation No. 305/2011 (**Construction Products Regulation**. or CPR) of the European Parliament and of the European Council is a regulation of 9 March 2011 that lays down harmonised conditions for the marketing of construction products and replaces Construction Products Directive (89/106/EEC).

The EU regulation is designed to simplify and clarify the existing framework for the placing on the EU market of construction products.

The main objective of the CPR is the removal of technical barriers to trade in order to guarantee the free movement of construction products within the common internal market due to differing product and test standards. approval processes and conformity documents in the various member states.

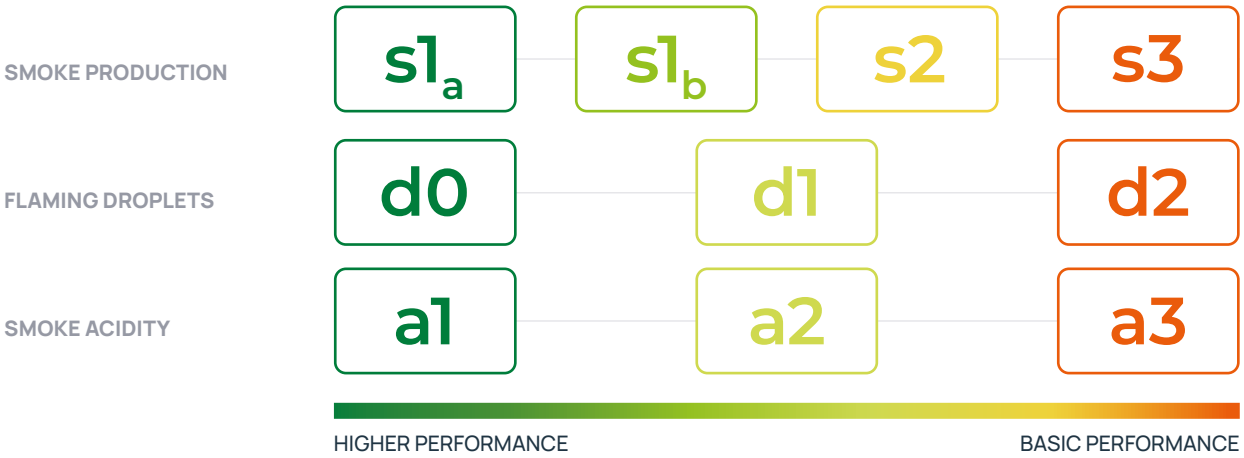
After the transition period. which ended on 1 July 2017. the Construction Products Regulation governs cables intended to be incorporated in construction works (permanent installations) in both buildings and civil engineering.

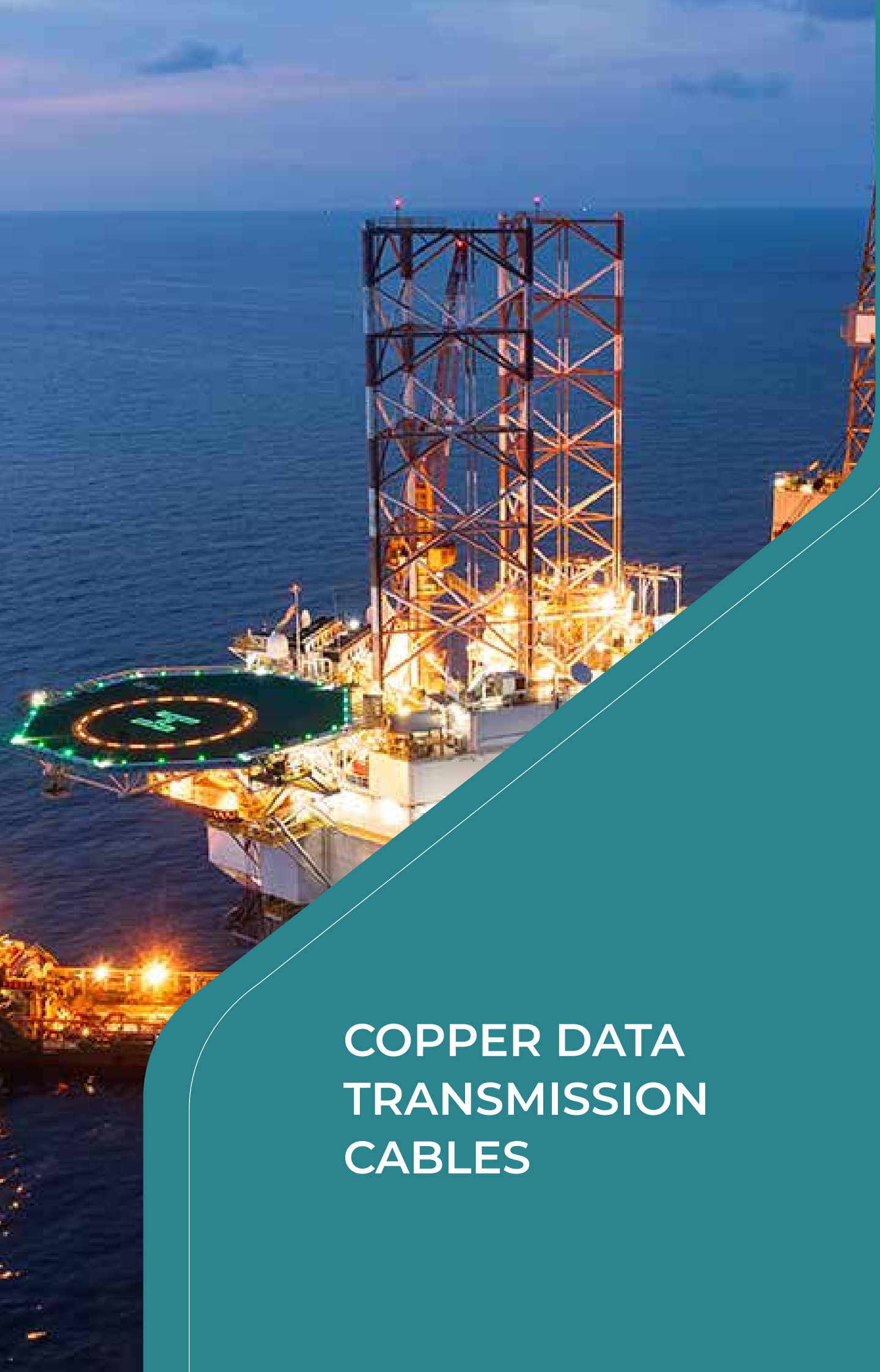
CPR Euroclasses are: A_{ca}. $B1_{ca}$. $B2_{ca}$. C_{ca}. D_{ca}. E_{ca}. F_{ca}.

Currently. European national regulations have defined CPR requirements within the range of Eca to B2ca. tailored to specific building types and fire performance criteria.

Furthermore. there are additional criteria establishing requirements on the amount of smoke produced. the fall of droplets and flamed particles during combustion. and acid content or toxicity of smoke produced.

The DoP (Declaration of Performance) is a document issued by the manufacturer in which all relevant information is recorded: the manufacturer. cable identification. evaluation system used. applicable standard. CPR certification body and performance of the product.
We are committed to adopting Euroclasses. and their relevant DoP. to express the fire performance of our products for the different construction applications. even if incumbent operators' specifications eventually conflict with the CPR Regulations.





These images are for illustrative purposes.

COPPER DATA TRANSMISSION CABLES

TK-SEA LAN S/FTP CAT 6A ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Solid or stranded Bare Copper 23 AWG	
Insulation	Cellular Polyolefin	
Core identification	1. White – Blue 2. White – Orange 3. White – Green 4. White – Brown	
Individual pairs shield	Alluminium/polyester tape	
Overall shield	Tinned Copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8.6 mm 10 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 69.5 Ω/km
Nominal capacitance	55 pF/m
Characteristic Impedance	@ 100 MHz: 100 ± 5 Ω

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	12 mm

TRANSMISSION CHARACTERISTICS CATEGORY 6A (IEC 61156-6)													
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Maximum Attenuation	**dB/100**	3.12	5.70	8.89	11.23	12.57	15.75	22.48	28.70	36.13	41.36	46.60	67.89
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum Return Loss	**dB**		23.01	25.00	25.00	25.00	23.33	20.74	18.99	17.35	16.40	15.60	15.60
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum NEXT	**dB**	75.30	66.27	60.30	57.24	55.78	52.88	48.36	45.30	42.45	40.78	39.33	34.82
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum PS-NEXT	**dB**	72.30	63.27	57.30	54.24	52.78	49.88	45.36	42.30	39.45	37.78	36.33	31.82

TRASMISSION CHARACTERISTICS CATEGORY 6A (IEC 61156-5 SOLID CONDUCTOR AWG23/1)													
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Maximum Attenuation	**dB/100**	3.12	5.70	8.89	11.23	12.57	15.75	22.48	28.70	36.13	41.36	46.60	67.89
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum Return Loss	**dB**		23.01	25.00	25.00	25.00	23.33	20.74	18.99	17.35	16.40	15.60	15.60
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum NEXT	**dB**	75.30	66.27	60.30	57.24	55.78	52.88	48.36	45.30	42.45	40.78	39.33	34.82
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum PS-NEXT	**dB**	72.30	63.27	57.30	54.24	52.78	49.88	45.36	42.30	39.45	37.78	36.33	31.82

TK-SEA LAN S/FTP CAT 7 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Solid or stranded Bare Copper 23 AWG	
Insulation	Cellular Polyolefin	
Core identification	1. White – Blue 2. White – Orange 3. White – Green 4. White – Brown	
Individual pairs shield	Alluminium/polyester tape	
Overall shield	Tinned Copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8.6 mm 10 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 69.5 Ω/km
Nominal capacitance	55 pF/m
Characteristic Impedance	@ 100 MHz: 100 ± 5 Ω

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	12 mm

TRANSMISSION CHARACTERISTICS CATEGORY 7 (IEC 61156-6)													
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Maximum Attenuation	**dB/100**	3.02	5.61	8.78	11.12	12.44	15.62	22.32	28.53	35.96	41.20	51.28	75.15
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Minimum Return Loss	**dB**		23.01	25.00	25.00	25.00	23.33	20.74	18.99	17.35	16.40	15.60	15.60
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Minimum NEXT	**dB**	78.00	78.00	78.00	78.00	78.00	78.00	75.46	72.40	69.55	67.88	65.24	60.73
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Minimum PS-NEXT	**dB**	75.00	75.00	75.00	75.00	75.00	75.00	72.46	69.40	66.55	64.88	62.24	57.73

TRASMISSION CHARACTERISTICS CATEGORY 7 (IEC 61156-5 SOLID CONDUCTOR AWG23/1)													
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Maximum Attenuation	**dB/100**	2,01	3,74	5,86	7,41	8,29	10,41	14,88	19,02	23,98	27,47	34,19	50,1
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Minimum Return Loss	**dB**		23,01	25	25	25	23,64	21,54	20,11	18,77	18	17,3	17.3
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Minimum NEXT	**dB**	78	78	78	78	78	78	75,46	72,4	69,55	67,88	65,24	60,73
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Minimum PS-NEXT	**dB**	75	75	75	75	75	75	72,46	69,4	66,55	64,88	62,24	57,73

TK-SEA LAN S/FTP CAT 7A ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Solid or stranded Bare Copper 23 AWG	
Insulation	Cellular Polyolefin	
Core identification	1. White – Blue 2. White – Orange 3. White – Green 4. White – Brown	
Individual pairs shield	Alluminium/polyester tape	
Overall shield	Tinned Copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8.6 mm 10 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 69.5 Ω/km
Nominal capacitance	55 pF/m
Characteristic Impedance	@ 100 MHz: 100 ± 5 Ω

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	12 mm

TRANSMISSION CHARACTERISTICS CATEGORY 7A (IEC 61156-6)														
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600	1000
Maximum Attenuation	**dB/100**	3.01	5.58	8.71	11.00	12.29	15.38	21.58	27.78	34.80	39.70	49.03	70.65	92.89
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600	1000
Minimum Return Loss	**dB**		23.01	25.00	25.00	25.00	23.33	20.74	18.99	17.35	16.40	15.60	15.60	13.69
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600	1000
Minimum NEXT	**dB**	78.00	78.00	78.00	78.00	78.00	78.00	78.00	78.00	75.55	73.88	71.24	66.73	63.40
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600	1000
Minimum PS-NEXT	**dB**	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	72.55	70.88	68.24	63.73	60.40

TRASMISSION CHARACTERISTICS CATEGORY 7A (IEC 61156-5 SOLID CONDUCTOR AWG23/1)														
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600	1000
Maximum Attenuation	**dB/100**	2,06	3,75	5,82	7,34	8,21	10,26	14,57	18,53	23,2	26,47	32,69	47,1	61,93
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	500	1000
Minimum Return Loss	**dB**		23,01	25	25	25	23,64	21,54	20,11	18,77	18	17,3	17,3	15,08
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	500	1000
Minimum NEXT	**dB**	78	78	78	78	78	78	78	75,4	72,55	71.28.00	68,24	63,73	60,4
Frequency	**MHz**	.	4	10	16	20	31.25.00	62.5	100	155	200	300	500	1000
Minimum PS-NEXT	**dB**	75	75	75	75	75	75	75	72,4	69,55	67,88	65,24	60,73	57,4

TK-SEA LAN S/FTP CAT 7A + UP TO 1200 MHZ ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Solid or stranded Bare Copper 23 AWG	
Insulation	Cellular Polyolefin	
Core identification	1. White – Blue 2. White – Orange 3. White – Green 4. White – Brown	
Individual pairs shield	Alluminium/polyester tape	
Overall shield	Tinned Copper braid	
Outer sheath	Halogen free SHF1 UVR / Halogen free cross-linked SHF2 UVR / Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8,6 mm (SHF1- SHF2) 10 mm (SHF2 MUD)	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 69.5 Ω/km
Nominal capacitance	55 pF/m
Characteristic Impedance	@ 100 MHz: 100 ± 5 Ω

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	12 mm

TRANSMISSION CHARACTERISTICS CATEGORY 7A + UP TO 1200 MHZ (IEC 61156-8)													
Frequenzy	**MHz**	4	10	16	20	31.25	62.5	100	200	250	600	1000	1200
Maximum Attenuation	**dB/100**	5.6	8.8	11.1	12.4	15.6	22.3	28.5	41.2	46.5	75.2	100.4	111.5
Frequenzy	**MHz**	4	10	16	20	31.25	62.5	100	200	250	600	1000	1200
Minimum Return Loss	**dB**	23	25	25	25	20.7	19	16.4	15.6	15.6	15.6	13.4	12.6
Frequenzy	**MHz**	4	10	16	20	31.25	62.5	100	200	250	600	1000	1200
Minimum NEXT	**dB**	78	78	78	78	78	78	76	71.48	70.03	64.33	61	59.81
Frequenzy	**MHz**	4	10	16	20	31.25	62.5	100	200	250	600	1000	1200
Minimum PS-NEXT	**dB**	75	75	75	75	75	75	73	68.48	67.03	61.33	58	56.81

TK-SEA LAN S/FTP CAT 6A FIRE RESISTANT ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Solid or stranded Bare Copper 23 AWG
Insulation	Fire resistant material
Core identification	1. White – Blue 2. White – Orange 3. White – Green 4. White – Brown
Individual pairs shield	Alluminium/polyester tape
Overall shield	Tinned Copper braid
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR
Outer diameter	9.8 mm

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 69.5 Ω/km
Nominal capacitance	55 pF/m
Characteristic Impedance	@ 100 MHz: 100 ± 5 Ω

REFERENCE STANDARDS

Flame resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	14 mm

TRANSMISSION CHARACTERISTICS CATEGORY 6A (IEC 61156-6)													
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Maximum Attenuation	**dB/100**	3.12	5.70	8.89	11.23	12.57	15.75	22.48	28.70	36.13	41.36	46.60	67.89
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum Return Loss	**dB**		23.01	25.00	25.00	25.00	23.33	20.74	18.99	17.35	16.40	15.60	15.60
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum NEXT	**dB**	75.30	66.27	60.30	57.24	55.78	52.88	48.36	45.30	42.45	40.78	39.33	34.82
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum PS-NEXT	**dB**	72.30	63.27	57.30	54.24	52.78	49.88	45.36	42.30	39.45	37.78	36.33	31.82

TRASMISSION CHARACTERISTICS CATEGORY 6A (IEC 61156-5 SOLID CONDUCTOR AWG23/1)													
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Maximum Attenuation	**dB/100**	3.12	5.70	8.89	11.23	12.57	15.75	22.48	28.70	36.13	41.36	46.60	67.89
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum Return Loss	**dB**		23.01	25.00	25.00	25.00	23.33	20.74	18.99	17.35	16.40	15.60	15.60
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum NEXT	**dB**	75.30	66.27	60.30	57.24	55.78	52.88	48.36	45.30	42.45	40.78	39.33	34.82
Frequency	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	250	500
Minimum PS-NEXT	**dB**	72.30	63.27	57.30	54.24	52.78	49.88	45.36	42.30	39.45	37.78	36.33	31.82

TK-SEA LAN S/FTP CAT 7 FIRE RESISTANT ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	SSolid or stranded Bare Copper 23 AWG
Insulation	Fire resistant material
Core identification	1. White – Blue 2. White – Orange 3. White – Green 4. White – Brown
Individual pairs shield	Alluminium/polyester tape
Overall shield	Tinned Copper braid
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR
Outer diameter	9.8 mm

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 69.5 Ω/km
Nominal capacitance	55 pF/m
Characteristic Impedance	@ 100 MHz: 100 ± 5 Ω

REFERENCE STANDARDS

Fire resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	14 mm

TRANSMISSION CHARACTERISTICS CATEGORY 7 (IEC 61156-6)													
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Maximum Attenuation	**dB/100**	3.02	5.61	8.78	11.12	12.44	15.62	22.32	28.53	35.96	41.20	51.28	75.15
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Minimum Return Loss	**dB**		23.01	25.00	25.00	25.00	23.33	20.74	18.99	17.35	16.40	15.60	15.60
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Minimum NEXT	**dB**	78.00	78.00	78.00	78.00	78.00	78.00	75.46	72.40	69.55	67.88	65.24	60.73
Frequenzy	**MHz**	1	4	10	16	20	31.25	62.5	100	155	200	300	600
Minimum PS-NEXT	**dB**	75.00	75.00	75.00	75.00	75.00	75.00	72.46	69.40	66.55	64.88	62.24	57.73

TRASMISSION CHARACTERISTICS CATEGORY 7 (IEC 61156-5 SOLID CONDUCTOR AWG23/1)													
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Maximum Attenuation	**dB/100**	2,01	3,74	5,86	7,41	8,29	10,41	14,88	19,02	23,98	27,47	34,19	50,1
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Minimum Return Loss	**dB**		23,01	25	25	25	23,64	21,54	20,11	18,77	18	17,3	17.3
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Minimum NEXT	**dB**	78	78	78	78	78	78	75,46	72,4	69,55	67,88	65,24	60,73
Frequency	**MHz**	1	4	10	16	20	31.25.00	62.5	100	155	200	300	600
Minimum PS-NEXT	**dB**	75	75	75	75	75	75	72,46	69,4	66,55	64,88	62,24	57,73

TK-SEA PROFIBUS ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Bare Copper 0.35 mm²	
Insulation	Foam-Skin Polyolefin	
Core identification	Green-Red (1 pair); Green- Blue; Red -Brown (2 pairs 4 cores laid in quad formation)	
Shield	Alluminium/polyester tape + tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8.6 mm 10 mm 9.5 mm 11 mm	SHF1 - SHF2 (1 pair) SHF2 MUD (1 pair) SHF1 - SHF2 (2 pairs) SHF2 MUD (2 pairs)

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 55 Ω/km
Nominal capacitance	30 pF/m
Characteristic Impedance	@ 3 ÷ 20 MHz: 150 ± 15 Ω @ 38.4 KHz: 185 ± 18.5 Ω @ 9.6 KHz: 250 ± 25 Ω
Nominal attenuation	@ 16 MHz: 45 dB/km @ 4 MHz: 22 dB/km @ 38.4KHz: 5 dB/km @ 9.6 KHz: 3 dB/km

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	12 mm (1 pair); 12.5 mm (2 pairs)

TK-SEA PROFIBUS FIRE RESISTANT ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Bare Copper 0.35 mm²	
Insulation	Foam-Skin Polyolefin	
Core identification	Green-Red (1 pair); Green- Blue; Red -Brown (2 pairs 4 cores laid in quad formation)	
Flame barrier	Mica tape	
Shield	Alluminium/polyester tape + tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	9.6 mm 11 mm 10.5 mm 12 mm	SHF1 - SHF2 (1 pair) SHF2 MUD (1 pair) SHF1 - SHF2 (2 pairs) SHF2 MUD (2 pairs)

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 55 Ω/km
Nominal capacitance	30 pF/m
Characteristic Impedance	@ 3 ÷ 20 MHz: 150 ± 15 Ω @ 38.4 KHz: 185 ± 18.5 Ω @ 9.6 KHz: 250 ± 25 Ω
Nominal attenuation	@ 16 MHz: 45 dB/km @ 4 MHz: 22 dB/km @ 38.4 KHz: 5 dB/km @ 9.6 KHz: 3 dB/km

REFERENCE STANDARDS

Flame resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	12.8 mm (1 pair); 13.5 mm (2 pairs)

TK-SEA CANBUS LSZH CABLE 1 PAIR ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded bare copper 0.75 mm²	
Insulation	Foam-Skin Polyolefin	
Core identification	White - Blue	
Individual pairs shield	Alluminium/polyester tape	
Earth conductor	Stranded tinned copper - Yellow/Green	
Overall shield	Tinned Copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	11.5 mm 14 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 26 Ω/km (Bare copper) @ 20°C: ≤ 26,7 Ω/km (Tinned copper)
Nominal capacitance	40 pF/m
Characteristic Impedance	@ 1 MHz: 120 Ω ± 10%
Nominal attenuation	@ 1 MHz: 13,2 dB/km

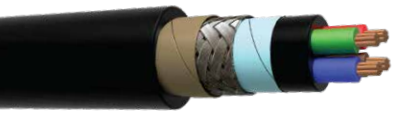
REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	15 mm

TK-SEA CANBUS LSZH CABLE 2 PAIRS ARMOURED AND UNARMOURED



characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded bare copper 0.75 mm²	
Insulation	Foam-Skin Polyolefin	
Core identification	Green - Blue; Red - Brown	
Inner sheath	Halogen free SHF1	
Shield	Alluminium/polyester tape + Tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	10.5 mm 13 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 Mud)
Conductor resistance	≤ 26 Ω/km (Bare copper) ≤ 26.7 Ω/km (Tinned copper)
Nominal capacitance	40 pF/m
Characteristic Impedance	@ 1 MHz: 120 Ω ± 10%
Nominal attenuation	@ 1 MHz: 13.2 dB/km

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (fSHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	14 mm

TK-SEA CANBUS FIRE RESISTANT LSZH CABLE 1 PAIR ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded bare copper 0.75 mm²	
Insulation	Foam-Skin Polyolefin	
Core identification	White - Blue	
Flame barrier	Mica tape	
Individual pairs shield	Alluminium/polyester tape	
Earth conductor	Stranded tinned copper Yellow/Green	
Overall shield	Tinned Copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	12.5 mm 15 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 Mud)
Conductor resistance	≤ 26 Ω/km (Bare copper) @ 20°C: ≤ 26,7 Ω/km (Tinned copper)
Nominal capacitance	40 pF/m
Characteristic Impedance	@ 1 MHz: 120 Ω ± 10%
Nominal attenuation	@ 1 MHz: 13.2 dB/km

REFERENCE STANDARDS

Fire resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	16 mm

TK-SEA CANBUS FIRE RESISTANT LSZH CABLE 2 PAIRS ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded bare copper 0.75 mm²	
Insulation	Foam-Skin Polyolefin	
Core identification	Green - Blue; Red - Brown	
Flame barrier	Mica tape	
Inner sheath	Halogen free SHF1	
Shield	Alluminium/polyester tape + Tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	11 mm 13.5 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 Mud)
Conductor resistance	≤ 26 Ω/km (Bare copper) ≤ 26,7 Ω/km (Tinned copper)
Nominal capacitance	40 pF/m
Characteristic Impedance	@ 1 MHz: 120 Ω ± 10%
Nominal attenuation	@ 1 MHz: 13.2 dB/km

REFERENCE STANDARDS

Fire resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	14.5 mm

TK-SEA RS 485 LSZH CABLE
ARMOURED AND UNARMOURED - 20 AWG

characteristics

on request

* Only for PE version ** Only for LSZH version

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 20 AWG	
Insulation	Cellular Polyolefin	
Core identification	White - Blue (Colour code for 1 pair cable + filler) White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation) White – Blue; White - Orange. White - Orange; White - Brown (Colour code for 4 pairs cable)	
Shield	Alluminium/polyester tape + Tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8.8 mm 10.8 mm 9.4 mm 11.4 mm 13.8 mm 15.8 mm	1 pair SHF1 1 pair SHF2 - SHF2 MUD 2 pairs (1 star quad) SHF1 2 pairs (1 star quad) SHF2 - SHF2 MUD 4 pairs SHF1 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 33 Ω/km
Nominal capacitance	42 pF/m
Characteristic Impedance	@ 1 MHz: 100 ÷ 130 Ω
Nominal attenuation	@ 1 MHz: 12 dB/km

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 11.8 mm 2 pairs: 12.5 mm 4 pairs: 16.8 mm

TK-SEA FIRE RESISTANT RS 485 LSZH CABLE ARMOURED AND UNARMOURED - 20 AWG

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 20 AWG
Insulation	Cellular Polyolefin
Core identification	White - Blue (Colour code for 1 pair cable + filler) White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation) White – Blue; White -Orange. White -Orange; White - Brown (Colour code for 4 pairs cable)
Flame barrier	Mica tape
Shield	Alluminium/polyester tape + Tinned copper braid
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR
Outer diameter	9.6 mm — 1 pair SHF1 11.6 mm — 1 pair SHF2 - SHF2 MUD 10.5 mm — 2 pairs (1 star quad) SHF1 12.5 mm — 2 pairs (1 star quad) SHF2 - SHF2 MUD 14.7 mm — 4 pairs SHF1 16.7 mm — 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 33 Ω/km
Nominal capacitance	42 pF/m
Characteristic Impedance	@ 1 MHz: 100 ÷ 130 Ω
Nominal attenuation	@ 1 MHz: 12 dB/km

REFERENCE STANDARDS

Fire resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 12.6 mm 2 pairs: 13.5 mm 4 pairs: 17.7 mm

TK-SEA RS 485 LSZH CABLE
ARMOURED AND UNARMOURED - 24 AW

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 24 AWG	
Insulation	Cellular Polyolefin	
Core identification	White - Blue (Colour code for 1 pair cable + filler) White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation) White – Blue; White - Orange. White - Orange; White - Brown (Colour code for 4 pairs cable)	
Shield	Alluminium/polyester tape + Tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	6.7 mm 7 mm 6.5 mm 8 mm 9 mm 10.5 mm	1 pair SHF1 1 pair SHF2 - SHF2 MUD 2 pairs (1 star quad) SHF1 2 pairs (1 star quad) SHF2 - SHF2 MUD 4 pairs SHF1 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 90 Ω/km
Nominal capacitance	42 pF/m
Characteristic Impedance	@ 1 MHz: 120 ÷ 50 Ω
Nominal attenuation	@ 1 MHz: 22 dB/km

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 9.5 mm 2 pairs: 10 mm 4 pairs: 12 mm

TK-SEA FIRE RESISTANT RS 485 LSZH CABLE ARMOURED AND UNARMOURED - 24 AWG

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 24 AWG
Insulation	Cellular Polyolefin
Core identification	White - Blue (Colour code for 1 pair cable + filler) White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation) White – Blue; White -Orange. White -Orange; White - Brown (Colour code for 4 pairs cable)
Flame barrier	Mica tape
Shield	Alluminium/polyester tape + Tinned copper braid
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR
Outer diameter	7 mm — 1 pair SHF1 8 mm — 1 pair SHF2 - SHF2 MUD 7.8 mm — 2 pairs (1 star quad) SHF1 9.2 mm — 2 pairs (1 star quad) SHF2 - SHF2 MUD 10.2 mm — 4 pairs SHF1 11.5 mm — 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 90 Ω/km
Nominal capacitance	42 pF/m
Characteristic Impedance	@ 1 MHz: 120 ÷ 15 Ω
Nominal attenuation	@ 1 MHz: 22 dB/km

REFERENCE STANDARDS

Fire resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 10.5 mm 2 pairs: 11 mm 4 pairs: 13.5 mm

TK-SEA RS 422 LSZH CABLE
ARMOURED AND UNARMOURED - 20 AWG

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 20 AWG	
Insulation	Cellular Polyolefin	
Core identification	White - Blue (Colour code for 1 pair cable + filler); White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation); White – Blue; White - Orange. White - Orange; White - Brown (Colour code for 4 pairs cable)	
Shield	Alluminium/polyester tape + Tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	7.5 mm 8.5 mm 8 mm 9.5 mm 11 mm 13 mm	1 pair SHF1 1 pair SHF2 - SHF2 MUD 2 pairs (1 star quad) SHF1 2 pairs (1 star quad) SHF2 - SHF2 MUD 4 pairs SHF1 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 33 Ω/km
Nominal capacitance	52 pF/m
Characteristic Impedance	@ 1 MHz: 100 ÷ 15 Ω
Nominal attenuation	@ 1 MHz: 18 dB/km

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 10.5 mm 2 pairs: 11.5 mm 4 pairs: 14 mm

TK-SEA FIRE RESISTANT RS 422 LSZH CABLE ARMOURED AND UNARMOURED - 20 AWG

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 20 AWG	
Insulation	Cellular Polyolefin	
Core identification	White - Blue (Colour code for 1 pair cable + filler);White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation) White – Blue; White -Orange. White -Orange; White - Brown (Colour code for 4 pairs cable)	
Flame barrier	Mica tape	
Shield	Alluminium/polyester tape + Tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8.5 mm 9.5 mm 9 mm 10.6 mm 102.2 mm 14.2 mm	1 pair SHF1 1 pair SHF2 - SHF2 MUD 2 pairs (1 star quad) SHF1 2 pairs (1 star quad) SHF2 - SHF2 MUD 4 pairs SHF1 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 33 Ω/km
Nominal capacitance	52 pF/m
Characteristic Impedance	@ 1 MHz: 120 ÷ 15 Ω
Nominal attenuation	@ 1 MHz: 18 dB/km

REFERENCE STANDARDS

Fire resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2, IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 11.5 mm 2 pairs: 12.5 mm 4 pairs: 15.5 mm

TK-SEA RS 422 LSZH CABLE
ARMOURED AND UNARMOURED - 24 AWG

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 24 AWG	
Insulation	Cellular Polyolefin	
Core identification	White - Blue (Colour code for 1 pair cable + filler) White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation) White – Blue; White - Orange. White - Orange; White - Brown (Colour code for 4 pairs cable)	
Shield	Alluminium/polyester tape + Tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	5.5 mm 6.8 mm 6 mm 7 mm 8 mm 9.5 mm	1 pair SHF1 1 pair SHF2 - SHF2 MUD 2 pairs (1 star quad) SHF1 2 pairs (1 star quad) SHF2 - SHF2 MUD 4 pairs SHF1 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 33 Ω/km
Nominal capacitance	52 pF/m
Characteristic Impedance	@ 1 MHz: 100 ÷ 15 Ω
Nominal attenuation	@ 1 MHz: 18 dB/km

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 8.5 mm 2 pairs: 9 mm 4 pairs: 11 mm

TK-SEA FIRE RESISTANT RS 422 LSZH CABLE ARMOURED AND UNARMOURED - 24 AWG

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded Tinned Copper 24 AWG
Insulation	Cellular Polyolefin
Core identification	White - Blue (Colour code for 1 pair cable + filler) White – Blue; White - Orange (Colour code for 2 pairs 4 cores laid in quad formation) White – Blue; White -Orange. White -Orange; White - Brown (Colour code for 4 pairs cable)
Flame barrier	Mica tape
Shield	Alluminium/polyester tape + Tinned copper braid
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR
Outer diameter	6.5 mm 1 pair SHF1 7.5 mm 1 pair SHF2 - SHF2 MUD 7.5 mm 2 pairs (1 star quad) SHF1 8.5 mm 2 pairs (1 star quad) SHF2 - SHF2 MUD 19.5 mm 4 pairs SHF1 10.5 mm 4 pairs SHF2 - SHF2 MUD

TECHNICAL DATA

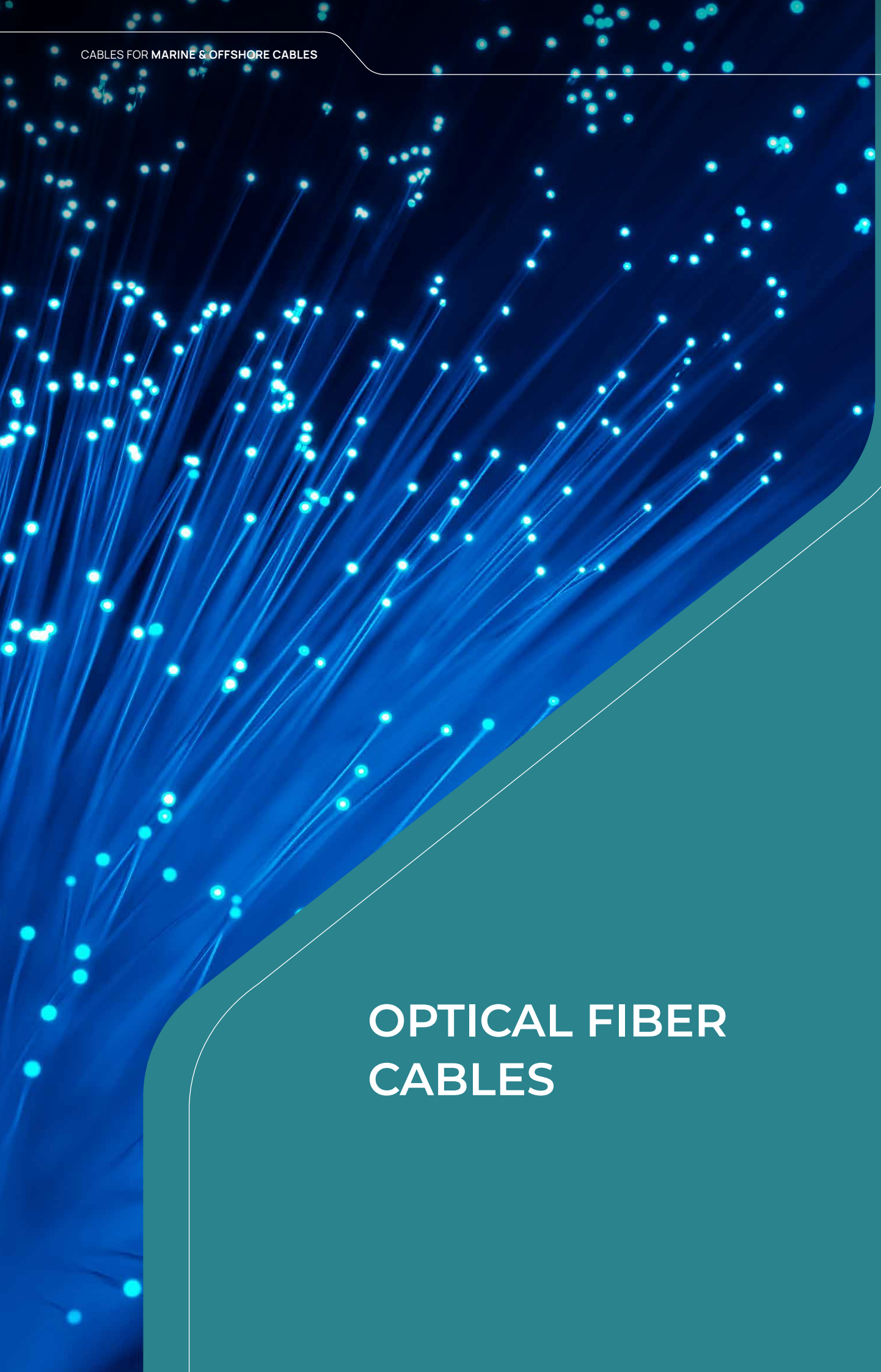
Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 33 Ω/km
Nominal capacitance	52 pF/m
Characteristic Impedance	@ 1 MHz: 120 ÷ 15 Ω
Nominal attenuation	@ 1 MHz: 18 dB/km

REFERENCE STANDARDS

Fire resistance	IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	1 pair: 10 mm 2 pairs: 10.5 mm 4 pairs: 12.8 mm



These images are for illustrative purposes.

OPTICAL FIBER CABLES

OPTICAL FIBER CABLES GENERAL INFORMATION

FIBER types

- Single-mode ITU-T G.652D - IEC 60793-2-50 Type B.1.3
- Single-mode ITU-T G.657A1 - IEC 60793-2-50 Type B.1.3 and B.6.A
- Single-mode ITU-T G.657A2 / B2 - IEC 60793-2-50 Type B.1.3 and B.6.A&B
- Single-mode ITU-T G.657A1 Type 200micron
- Single-mode NZD ITU-T G.655E/656 - IEC 60793-2-50 Type B4/B5

- Multimode 62.5/125 OM1 IEC 60793-2-10 Type A1 - OM1
- Multimode 62.5/125 OM1 IEC 60793-2-10 Type A1 - OM1+
- Multimode 50/125 OM2 ITU-T G.651.1 IEC 60793-2-10 Type A1 - OM2
- Multimode 50/125 OM3 ITU-T G.651.1 IEC 60793-2-10 Type A1 - OM3
- Multimode 50/125 OM4 ITU-T G.651.1 IEC 60793-2-10 Type A1 - OM4
- Multimode 50/125 OM5 ITU-T G.651.1 IEC 60793-2-10 Type A1 - OM5

STANDARD fiber COLOUR CODE (table A. EIA - TIA 598)

1 – Blue	7 – Red	13 – Blue (with black ring)	19 – Red (with black ring)
2 – Orange	8 – Black	14 – Orange (with black ring)	20 – Natural (with black ring)
3 – Green	9 – Yellow	15 – Green (with black ring)	21 – Yellow (with black ring)
4 – Brown	10 - Violet	16 – Brown (with black ring)	22 – Violet (with black ring)
5 – Grey	11 – Pink	17 – Grey (with black ring)	23 – Pink (with black ring)
6 – White	12 - Turquoise	18 – White (with black ring)	24 - Turquoise (with black ring)

*Other colours on request

N° OF FIBRE	STANDARD COLOURS OF LOOSE TUBE (EIA - TIA 598)	
2	1 – Blue (With 2 OF) 2 – Filler 3 – Filler	4 – Filler 5 – Filler 6 – Filler
4	1 – Blue(With 2 OF) 2 – Orange (With 2 OF) 3 – Filler	4 – Filler 5 – Filler 6 – Filler
8	1 – Blue (With 4 OF) 2 – Orange (With 4 OF) 3 – Filler	4 – Filler 5 – Filler 6 – Filler
12	1 – Blue (With 4 OF) 2 – Orange (With 4 OF) 3 – Green (With 4 OF)	4 – Filler 5 – Filler 6 – Filler
24	1 – Blue(With 6 OF) 2 – Orange (With 6 OF) 3 – Green(With 6 OF)	4 – Brown (With 6 OF) 5 – Filler 6 – Filler
48	1 – Blue(With 12 OF) 2 – Orange (With 12 OF) 3 – Green(With 12 OF)	4 – Brown (with 12 OF) 5 – Filler 6 – Filler
60	1 – Blue(With 12 OF) 2 – Orange (With 12 OF) 3 – Green(With 12 OF)	4 – Brown (with 12 OF) 5 – Grey (with 12 OF) 6 – Filler
72	1 – Blue(With 12 OF) 2 – Orange (With 12 OF) 3 – Green(With 12 OF)	4 – Brown (with 12 OF) 5 – Grey (with 12 OF) 6 – White (with 12 OF)

STANDARD fiber COLOUR CODE (table A. EIA - TIA 598)

1 – Blue	7 – Red	13 – Blue with black ring	19 – Red (with black ring)
2 – Orange	8 – Black	14 – Orange with black ring	20 – Natural (with black ring)
3 – Green	9 – Yellow	15 – Green with black ring	21 – Yellow (with black ring)
4 – Brown	10 - Violet	16 – Brown with black ring	22 – Violet (with black ring)
5 – Grey	11 – Pink	17 – Grey with black ring	23 – Pink (with black ring)
6 – White	12 - Turquoise (Acqua)	18 – White (with black ring)	24 - Turquoise (with black ring)

*Other colours on request

SINGLE-MODE FIBER PROPERTIES

	SM-LWP ITU-T G.652.D	SM ITU-T G.657.A1	SM ITU-T G.657.A2	SM 200 µm ITU-T G.657.A1	SM NZD ITU-T G.655.D
Mode Field Diameter @ 1310 nm	9.1 ± 0.4 µm	9.1 ± 0.4 µm	8.6 ± 0.4 µm	8.8 ± 0.4 µm	
Mode Field Diameter @ 1550 nm	10.2 ± 0.5 µm	10.2 ± 0.5 µm		9.8 ± 0.5 µm	9.6 ± 0.4 µm
Cladding diameter	125.0 ± 0.7 µm	125.0 ± 0.7 µm	125.0 ± 0.7 µm	125.0 ± 0.7 µm	125.0 ± 0.7 µm
Coating diameter	242 ± 7 µm	242 ± 7 µm	242 ± 7 µm	200 ± 10 µm	242 ± 7 µm
Cladding non-circularity	≤ 0.7 %	≤ 0.7 %	≤ 0.7 %	≤ 0.7 %	≤ 1.0 %
Core/cladding concentricity error	≤ 0.5 µm	≤ 0.5 µm	≤ 0.5 µm	≤ 0.5 µm	≤ 0.5 µm
Coating/cladding concentricity error	≤ 12 µm	≤ 12 µm	≤ 12 µm	≤ 12 µm	≤ 12 µm
Cable cut-off wavelength	≤ 1260 nm	≤ 1260 nm	≤ 1260 nm	≤ 1260 nm	≤ 1450 nm
Zero dispersion wavelength (λo)	1300-1324 nm	1300-1324 nm	1300-1324 nm	1300-1324 nm	
Dispersion slope (So) @ (λo)	≤ 0.090 ps/(nm2*km)	≤ 0.090 ps/(nm2*km)	≤ 0.092 ps/(nm2*km)	≤ 0.092 ps/(nm2*km)	
Chromatic dispersion @ 1285 – 1330 nm	≤ 3.5 ps/(nm*km)	≤ 3.5 ps/(nm*km)			
Chromatic dispersion @ 1550 nm	≤ 18 ps /(nm*km)	≤ 18 ps/(nm*km)			
Chromatic dispersion @ 1625 nm	≤ 22 ps/(nm*km)	≤ 22 ps/(nm*km)			
Chromatic dispersion @ 1530 – 1565 nm					2.0 -6.0 ps/(nm*km)
Chromatic dispersion @ 1565 – 1625 nm					4.5 to 11.2 ps/(nm*km)
PMD Individual Fiber @ 1550 nm	≤ 0.1 ps/√km	≤ 0.1 ps/√km	≤ 0.1 ps/√km	≤ 0.1 ps/√km	≤ 0.15ps/√km
Attenuation @ 1310 nm	≤ 0.36 dB/km	≤ 0.36 dB/km	≤ 0.36 dB/km	≤ 0.36 dB/km	
Attenuation @ 1383nm	≤ 0.36 dB/km	≤ 0.36 dB/km	≤ 0.36 dB/km	≤ 0.36 dB/km	
Attenuation @ 1550 nm	≤ 0.25 dB/km	≤ 0.25 dB/km	≤ 0.25 dB/km	≤ 0.25 dB/km	≤ 0.27 dB/km
Attenuation @ 1625 nm	≤ 0.28 dB/km	≤ 0.28 dB/km	≤ 0.28 dB/km	≤ 0.28 dB/km	≤ 0.30 dB/km
Attenuation with bending					
Mandrel Radius 15mm@1550 10 turns		≤ 0.25 dB	≤ 0.03 dB	≤ 0.25 dB	
Mandrel Radius 15mm@1625 10 turns		≤ 1.0 dB	≤ 0.1 dB	≤ 1.0 dB	
Mandrel Radius 10mm@1550 1 turns		≤ 0.75 dB	≤ 0.1 dB	≤ 0.75 dB	
Mandrel Radius 10mm@1625 1 turns		≤ 1.5 dB	≤ 0.2 dB	≤ 1.5 dB	
Mandrel Radius 7.5mm@1550 1 turns			≤ 0.5 dB		
Mandrel Radius 7.5mm@1625 1 turns			≤ 1.0 dB		
Proof test	≥ 0.7 GPa	≥ 0.7 GPa	≥ 0.7 GPa	≥ 0.7 GPa	≥ 0.7 GPa

MULTIMODE FIBER PROPERTIES

	MM62.5 OM1	MM62.5 OM1+	MM50 0M2	MM50 OM3	MM50 OM4	MM50 OM5
Core diameter	62.5 ± 2.5 µm	62.5 ± 2.5 µm	50 ± 2.5 µm	50 ± 2.5 µm	50 ± 2.5 µm	50 ± 2.5 µm
Core non-circularity	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Cladding diameter	125.0 ± 1.0 µm	125.0 ± 1.0 µm	125.0 ± 1.0 µm	125.0 ± 1.0 µm	125.0 ± 1.0 µm	125.0 ± 1.0 µm
Coating diameter	242 ± 5 µm	242 ± 5 µm	242 ± 5 µm	242 ± 5 µm	242 ± 5 µm	242 ± 5 µm
Cladding non-circularity	≤ 0.7 %	≤ 0.7 %	≤ 0.7 %	≤ 0.7 %	≤ 0.7 %	≤ 0.7 %
Core/cladding concentricity error	≤ 1 µm	≤ 1 µm	≤ 1 µm	≤ 1 µm	≤ 1 µm	≤ 1 µm
Coating/cladding concentricity error	≤ 10 µm	≤ 10 µm	≤ 6 µm	≤ 6 µm	≤ 6 µm	≤ 6 µm
Numerical Aperture	0.275 ± 0.015	0.275 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015
Attenuation @ 850 nm	≤ 3.50 dB/km	≤ 3.50 dB/km	≤ 2.80 dB/km	≤ 2.80 dB/km	≤ 2.80 dB/km	≤ 2.80 dB/km
Attenuation @ 953 nm						≤ 1.50 dB/km
Attenuation @ 1300 nm	≤ 1.00 dB/km	≤ 1.00 dB/km	≤ 0.80 dB/km	≤ 0.80 dB/km	≤ 0.80 dB/km	≤ 0.80 dB/km
Overfilled Modal Bandwidth @ 850 nm	≥ 200 MHz*km	≥ 220 MHz*km	≥ 500 MHz*km	≥ 1500 MHz*km	≥ 3500 MHz*km	≥ 3500 MHz*km
Overfilled Modal Bandwidth @ 953 nm						≥ 1850 MHz*km
Overfilled Modal Bandwidth @ 1300 nm	≥ 500 MHz*km	≥ 800 MHz*km	≥ 500 MHz*km	≥ 500 MHz*km	≥ 500 MHz*km	≥ 500 MHz*km
Effective Modal Bandwidth (EMB) @850 nm				≥ 2000 MHz*km	≥ 4700 MHz*km	≥ 4700 MHz*km
Effective Modal Bandwidth (EMB) @953 nm						≥ 2470 MHz*km
Fibre capacity 10GBASE-SR	33 m	33 m	83 m	300 m	550 m	550 m
Fibre capacity 1000BASE-SX	274 m	500 m	600 m	1000 m	1100 m	1100 m
Fibre capacity 40GBASE-SR4/100GBASE-SR10				140 m	170 m	170 m
Proof test	≥ 0.7 GPa	≥ 0.7 GPa	≥ 0.7 GPa	≥ 0.7 GPa	≥ 0.7 GPa	≥ 0.7 GPa

TK-SEA FIRE RESISTANT METALLIC ARMOURED MULTI-LOOSE

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE TYPE

QFCI	GSWB+SHF1	13.5 mm
QFCU	GSWB+SHF2	13.5 mm
QFCU M	GSWB+SHF2 -MUD	13.5 mm
QFOI	TCWB+SHF1	13.5 mm
QFOU	TCWB +SHF2	13.5 mm
QFOU M	TCWB+SHF2 -MUD	13.5 mm

All cables are available with all type of fibers.

OPTICAL CORE

Optical core	Jelly filled loose tube (PBTP)
Fiber colour code	See table A
Loose tube colour	See table B
Flame barrier	Mica tape
Central element	Galvanized steel tape or thermoplastic resin coated glassline
Inner sheath	Halogen free SHF1
Protection	Galvanized steel wire braid (GSWB) or Tinned copper wire braid (TCWB)
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR

TECHNICAL DATA

Minimun Bending Radius	15 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Tensile performance (IEC 60794-1-21-E1)	2000 N (Δα reversible)
Crush (IEC 60794-1-21-E3)	3000 N/100 mm (Δα reversible)
Impact (IEC 60794-1-21-E4)	30 J (Δα reversible)

REFERENCE STANDARDS

Fire resistance	IEC 60331-25
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

TK-SEA FIRE RESISTANT DIELECTRIC ARMOURED MULTI-LOOSE

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE TYPE

QFAI	Glass or aramidic yarns + SHF1	13.5 mm
QFAU	Glass or aramidic yarns + SHF2	13.5 mm
QFAU M	Glass or aramidic yarns + SHF2 MUD	13.5 mm

OPTICAL CORE

Optical core	Jelly filled loose tube (PBTP)
Fiber colour code	See table A
Loose tube colour	See table B
Flame barrier	Mica tape
Central element	Thermoplastic resin coated glassline
Inner sheath	Halogen free SHF1
Protection	Glass or aramidic yarns
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR

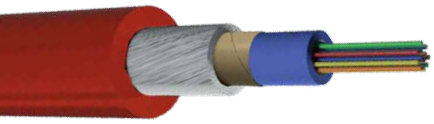
TECHNICAL DATA

Minimun Bending Radius	15 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Tensile performance (IEC 60794-1-21-E1)	2000 N (Δα reversible)
Crush (IEC 60794-1-21-E3)	3000 N/100 mm (Δα reversible)
Impact (IEC 60794-1-21-E4)	30 J (Δα reversible)

REFERENCE STANDARDS

Fire resistance	IEC 60331-25
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

TK-SEA FIRE RESISTANT DIELECTRIC ARMOURED SINGLE LOOSE



characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE TYPE

QFAI	1 ÷12 fibers Glass yarns +SHF1	7.5 mm
QFAI	13 ÷24 fibers Glass yarns +SHF1	8.5 mm
QFAU	1 ÷12 fibers Glass yarns +SHF2	10 mm
QFAU	13 ÷24 fibers Glass yarns +SHF2	11 mm
QFAU M	1 ÷12 fibers Glass yarns +SHF2 MUD	10 mm
QFAU M	13 ÷24 fibers Glass yarns + SHF2 MUD	11 mm

OPTICAL CORE

Optical core	Jelly filled loose tube (PBTP)
Fiber colour code	See table A
Loose tube colour	Blue
Flame barrier	Mica tape
Protection	Longitudinal glass yarns
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Tensile performance (IEC 60794-1-21-E1)	2000 N (Δα reversible)
Crush (IEC 60794-1-21-E3)	3000 N/100 mm (Δα reversible)
Impact (IEC 60794-1-21-E4)	10 J (Δα reversible)

REFERENCE STANDARDS

Fire resistance	IEC 60331-25
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

SEA METALLIC ARMOURED MULTITIGHT

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE TYPE

AICI	GSWB+SHF1	4 fibers	8.5 mm
AICU	GSWB+SHF2	8 fibers	9.4 mm
AICU M	GSWB+SHF2 MUD	12 fibers	10.3 mm
AIOI	TCWB+SHF1	24 fibers	12.1 mm
AIOU	TCWB+SHF2		
AICU M	TCWB+SHF2 MUD		

All cables are available with all type of fibers.

OPTICAL CORE

Optical core	Tight buffered Nominal diameter 0.9 mm
Tight colour	See table C
Protection	Waterblocking glass yarns
Inner sheath	Halogen free SHF1
Armouring	Galvanized steel wire braid (GSWB) or Tinned copper wire braid (TCWB)
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 Mud)
Tensile performance (IEC 60794-1-21-E1)	1000 N (Δα reversible) for 4 and 8 fibre 1500 N (Δα reversible) for 12 fibre 2000 N (Δα reversible) for 24 fibre
Crush (IEC 60794-1-21-E3)	2000 N/100 mm (Δα reversible)
Impact (IEC 60794-1-21-E4)	20 J (Δα reversible)
Water penetration (IEC 60794-1-22-F5)	No water leakage (limited to inner sheath)

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

TK-SEA DIELECTRIC ARMOURED MULTITIGHT

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE TYPE

AIAI	Glass or aramidic yarns + SHF1	4 fibers	8.5 mm
AIAU	Glass or aramidic yarns + SHF2	8 fibers	9.4 mm
		12 fibers	10.3 mm
AIAU M	Glass or aramidic yarns + SHF2 MUD	24 fibers	12.1 mm

OPTICAL CORE

Optical core	Tight buffered Nominal diameter 0.9 mm
Tight colour	See table C
Assembling	N° of tight assembled
Protection	Waterblocking glass or aramidic yarns
Inner sheath	Halogen free SHF1
Protection	Glass or aramidic yarns
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 Mud)
Tensile performance (IEC 60794-1-21-E1)	1000 N (Δα reversible) for 4 and 8 fibre 1500 N (Δα reversible) for 12 fibre 2000 N (Δα reversible) for 24 fibre
Crush (IEC 60794-1-21-E3)	2000 N/100 mm (Δα reversible)
Impact (IEC 60794-1-21-E4)	20 J (Δα reversible)
Water penetration (IEC 60794-1-22-F5)	No water leakage (limited to inner sheath)

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

TK SEA BREAKOUT ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

OPTICAL CORE

Fiber Structure	White Tight Buffer Ø 0.9 mm
Strain relief	Aramid yarns
Sub unit Sheath	Numbered Halogen-free SHF1 Ø 2 mm

ASSEMBLING

Outer Sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	2 fibers 4 fibers 8 fibers 12 fibers 16 fibers 24 fibers	6.5 mm 7.5 mm 10 mm 13 mm 12.5 mm 15.5 mm

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 Mud)
Tensile performance (IEC 60794-1-21-E1)	500 N (Δα reversible) unarmoured cables 1500 N (Δα reversible) for armoured cables
Crush (IEC 60794-1-21-E3)	2000 N/100 mm (Δα reversible)
Impact (IEC 60794-1-21-E4)	20 J (Δα reversible)
Water penetration (IEC 60794-1-22-F5)	No water leakage (limited to inner sheath)

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)	
Outer diameter	2 fibers 4 fibers 8 fibers 12 fibers 16 fibers 24 fibers	9.5 mm 11 mm 13.5 mm 16.5 mm 16 mm 19 mm

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2, IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

TK SEA FIRE RESISTANT BREAKOUT ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

OPTICAL CORE

Fiber Structure	White Tight Buffer Ø 0.9 mm
Strain relief	Aramid yarns
Sub unit Sheath	Numbered Halogen-free SHF1 Ø 2 mm

ASSEMBLING

Flame barrier	Mica tape
Outer Sheath	Halogen free SHF1 Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR
Outer diameter	2 fibers 7 mm 4 fibers 8 mm 8 fibers 10.5 mm 12 fibers 13.5 mm 16 fibers 13 mm 24 fibers 16 mm

TECHNICAL DATA

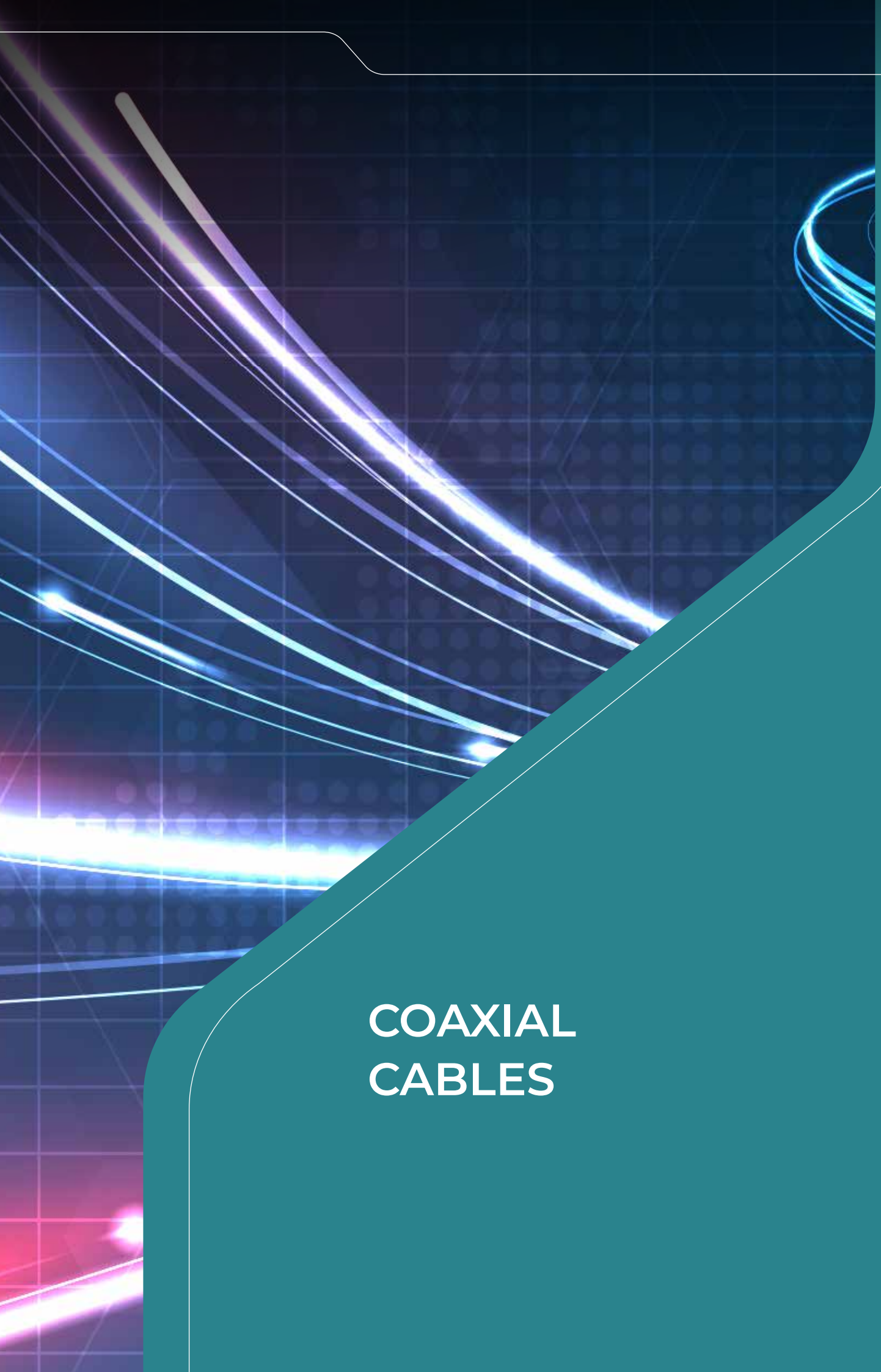
Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 Mud)
Tensile performance (IEC 60794-1-21-E1)	500 N (Δα reversible) unarmoured cables 1500 N (Δα reversible) for armoured cables
Crush (IEC 60794-1-21-E3)	2000 N/100 mm (Δα reversible)
Impact (IEC 60794-1-21-E4)	20 J (Δα reversible)
Water penetration (IEC 60794-1-22-F5)	No water leakage (limited to inner sheath)

REFERENCE STANDARDS

Fire resistance	IEC 60331-25
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	2 fibers 10 mm 4 fibers 11.5 mm 8 fibers 14 mm 12 fibers 17 mm 16 fibers 16.5 mm 24 fibers 19.5 mm



These images are for illustrative purposes.

COAXIAL CABLES

TK-SEA COAXIAL RG213 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded bare copper 7x0.75 mm	
Insulation	Polyetylene Ø 7.25mm	
Shield	Aluminium/Polyester/Aluminium tape + copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	10.3 mm 11.2 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
Conductor resistance	≤ 6 Ω/km
Characteristic impedance	50 ± 3 Ω
Nominal capacitance	100 pF/m
Attenuation	@ 10 MHz ≤ 1.9 dB/100 m
	@ 200 MHz ≤ 8.3 dB/100 m
	@ 500 MHz ≤ 13.7 dB/100 m
	@ 3000 MHz ≤ 37.8 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	13.8 mm

TK-SEA COAXIAL RG214 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded bare copper 7x0.75 mm	
Insulation	Polyetylene Ø 7.25 mm	
First shield	Aluminium/Polyester/Aluminium tape + silver braid	
Second shield	Silver copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	10.8 mm 12.5 mm	SHF1 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 90°C
Conductor resistance	≤ 6 Ω/km
Characteristic impedance	50 ± 3 Ω
Nominal capacitance	100 pF/m
Attenuation	@ 10 MHz ≤ 1.9 dB/100 m
	@ 200 MHz ≤ 8.3 dB/100 m
	@ 500 MHz ≤ 13.7 dB/100 m
	@ 3000 MHz ≤ 37.8 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	14.8 mm

TK-SEA COAXIAL RG58 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded tinned copper 19x0.18 mm	
Insulation	Polyetylene Ø 2.95 mm	
Shield	Aluminium/Polyester/Aluminium tape + tinned copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	5 mm 6 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
Conductor resistance	≤ 36.5 Ω/km
Characteristic impedance	50 ± 3 Ω
Nominal capacitance	100 pF/m
Attenuation	@ 100 MHz ≤ 4.1 dB/100 m
	@ 200 MHz ≤ 19 dB/100 m
	@ 500 MHz ≤ 31.9 dB/100 m
	@ 3000 MHz ≤ 91.3 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 and SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	8 mm

TK-SEA COAXIAL RG 11 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded tinned copper 7x0.40 mm	
Insulation	Polyetylene Ø 7.25 mm	
Shield	Aluminium/Polyester/Aluminium tape + copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	10.3 mm 12 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
Conductor resistance	≤ 20.5 Ω/km
Characteristic impedance	75 ± 3 Ω
Nominal capacitance	67 pF/m
Attenuation	@ 10 MHz ≤ 2.0 dB/100 m
	@ 200 MHz ≤ 10.5 dB/100 m
	@ 500 MHz ≤ 17.1 dB/100 m
	@ 3000 MHz ≤ 50.1 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 MUD)
Mud resistance	NEK 606 (SHF2 and SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	13.8 mm

TK-SEA COAXIAL RG59 FLEX ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Stranded bare copper 7 x 0.20 mm	
Insulation	Polyetylene Ø 3.7 mm	
Shield	Aluminium/Polyester/Aluminium tape + copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	6.2 mm 7.5 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
Conductor resistance	≤ 158 Ω/km
Characteristic impedance	75 ± 3 Ω
Nominal capacitance	67 pF/m
Attenuation	@ 10 MHz ≤ 3.3 dB/100 m
	@ 200 MHz ≤ 15.3 dB/100 m
	@ 500 MHz ≤ 25.1 dB/100 m
	@ 3000 MHz ≤ 70.7 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	9.5 mm

TK-SEA COAXIAL RG59 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Solid copperweld 0.58 mm	
Insulation	Polyetylene Ø 3.7 mm	
Shield	Aluminium/Polyester/Aluminium tape + copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	6.2 mm 7.5 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

Operating voltage	500 V
Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
Conductor resistance	≤ 33.2 Ω/km
Characteristic impedance	75 ± 3 Ω
Nominal capacitance	67 pF/m
Attenuation	@ 10 MHz ≤ 3.0 dB/100 m
	@ 200 MHz ≤ 14.2 dB/100 m
	@ 500 MHz ≤ 23.5 dB/100 m
	@ 3000 MHz ≤ 65.9 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	9.5 mm

TK-SEA COAXIAL RG6 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Conductors	Solid copper weld 0.72 mm	
Insulation	Polyetylene Ø 4.7 mm	
First shield	Aluminium/Polyester/Aluminium tape + copper braid	
Second shield	Copper braid	
Outer sheath	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
Outer diameter	8.5 mm 10 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

Operating voltage	2500 V
Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
Conductor resistance	≤ 97 Ω/km
Characteristic impedance	75 ± 3 Ω
Nominal capacitance	67 pF/m
Attenuation	@ 10 MHz ≤ 2.4 dB/100 m
	@ 200 MHz ≤ 11.2 dB/100 m
	@ 500 MHz ≤ 18.3 dB/100 m
	@ 3000 MHz ≤ 52.9 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	11.5 mm

TK-SEA COAXIAL RF400

characteristics

on request

CABLE SPECIFICATION

Conductors	Copper clad aluminium (CCA) 2.74 mm	
Insulation	Foam PE 7.24 mm	
Shield	Aluminium foil + tinned copper braid	
Outer sheath	Halogen free SHF1 UVR	
Outer diameter	10.3 mm	SHF1

TECHNICAL DATA

Minimun Bending Radius	5 x Ø
Temperature	- 40°C ÷ + 70°C
Conductor resistance	≤ 4.69 Ω/km
Characteristic impedance	50 ± 3 Ω
Nominal capacitance	78 pF/m
Attenuation	@ 50 MHz ≤ 3.51 dB/100 m
	@ 450 MHz ≤ 6.89 dB/100 m
	@ 1500 MHz ≤ 18.37 dB/100 m
	@ 3000 MHz ≤ 27.56 dB/100 m
	@ 5800 MHz ≤ 39.37 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
U.V. radiation resistance	ASTM-D-2565-16

TK-SEA COAXIAL RF600

characteristics

on request

CABLE SPECIFICATION

Conductors	Copper clad aluminium (CCA) 4.47 mm
Insulation	Foam PE 11.6 mm
Shield	Aluminium foil + tinned copper braid
Outer sheath	Halogen free SHF1 UVR
Outer diameter	15.0 mm

TECHNICAL DATA

Minimun Bending Radius	5 x Ø
Temperature	- 40°C ÷ + 70°C
Conductor resistance	≤ 17.4 Ω/km
Characteristic impedance	50 ± 3 Ω
Nominal capacitance	78 pF/m
Attenuation	@ 50 MHz ≤ 2.17 dB/100 m
	@ 450 MHz ≤ 6.17 dB/100 m
	@ 1500 MHz ≤ 11.9 dB/100 m
	@ 3000 MHz ≤ 18.05 dB/100 m
	@ 5800 MHz ≤ 26.9 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
U.V. radiation resistance	ASTM-D-2565-16

TK-SEA COAXIAL RF900

characteristics

on request

CABLE SPECIFICATION

Conductors	BC tube 6.65 mm
Insulation	Foam PE 17.3 mm
Shield	Aluminium foil + tinned copper
Outer sheath	Halogen free SHF1 UVR
Outer diameter	22.1 mm

TECHNICAL DATA

Minimun Bending Radius	5 x Ø
Temperature	- 40°C ÷ + 70°C
Conductor resistance	≤ 1.77 Ω/km
Characteristic impedance	50 ± 3 Ω
Nominal capacitance	77 pF/m
Attenuation	@ 50 MHz ≤ 1.74 dB/100 m
	@ 450 MHz ≤ 4.33 dB/100 m
	@ 1500 MHz ≤ 8.36 dB/100 m
	@ 3000 MHz ≤ 12.47 dB/100 m
	@ 5800 MHz ≤ 17.72 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
U.V. radiation resistance	ASTM-D-2565-16

TK-SEA COAXIAL RF600-75

characteristics

on request

CABLE SPECIFICATION

Conductors	Solid BCCA 2.74 mm
Insulation	Foam PE 11.6 mm
Shield	Aluminum foil + tinned copper braid
Outer sheath	Halogen free SHF1 UVR
Outer diameter	15 mm

TECHNICAL DATA

Minimun Bending Radius	50 x Ø
Temperature	- 40°C ÷ + 70°C
Conductor resistance	≤ 4.69 Ω/km
Characteristic impedance	75 ± 3 Ω
Nominal capacitance	51 pF/m
Attenuation	@ 50 MHz ≤ 2.20 dB/100 m
	@ 450 MHz ≤ 5.91 dB/100 m
	@ 900 MHz ≤ 8.54 dB/100 m
	@ 1500 MHz ≤ 11.4 dB/100 m
	@ 2500 MHz ≤ 15.10 dB/100 m

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
U.V. radiation resistance	ASTM-D-2565-16

COMPOSITE CABLES

TK-SEA HYBRID ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Fiber optic up to 12 fibers	**Optical core**	Jelly filled loose tube (PBTP)	
	Fiber colour code	See table A	
	Protection	Longitudinal glass or aramidic yarns	
	Outer sheath	Halogen free SHF1 Ø 3.5 mm	
Power conductor 3 units	**Conductor**	Stranded tinned copper 2.5 mm²	
	Insulation	Cross-linked polyethylene (XLPE) Ø 3.5 mm	
Assembling	**Outer sheath**	Halogen free SHF1 Halogen free Cross-linked SHF2 UVR Halogen free Cross-linked SHF2 MUD UVR	
	Outer diameter	11.5 mm 13 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 8.21 Ω/km
Operating voltage	0.6/1 kV

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	16 mm

TK-SEA FIRE RESISTANT HYBRID ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

Fiber optic up to 12 fibers	**Optical core**	Jelly filled loose tube (PBTP)	
	Fiber colour code	See table A	
	Flame barrier	Mica tape	
	Protection	Longitudinal glass or aramidic yarns	
	Outer sheath	Halogen free SHF1 Ø 4 mm	
Power conductor 3 units	**Conductor**	Stranded tinned copper 2.5 mm^2	
	Flame barrier	Mlca tape	
	Insulation	Cross-linked polyethylene (XLPE) Ø 4 mm	
Assembling	**Outer sheath**	Halogen free SHF1 Halogen free Cross-linked SHF2 UVR Halogen free Cross-linked SHF2 MUD UVR	
	Outer diameter	13 mm 14.5 mm	SHF1 - SHF2 SHF2 MUD

TECHNICAL DATA

Minimun Bending Radius	10 x Ø
Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 and SHF2 MUD)
Conductor resistance	≤ 8.21 Ω/km
Operating voltage	0.6/1 kV

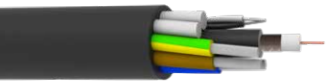
REFERENCE STANDARDS

Fire resistance	IEC 60331-21 IEC 60331-25
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	16 mm

TK-SEA COMPOSITE RG59 ARMOURED AND UNARMOURED



characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

COAXIAL RG 59 1 unit	**Conductor**	Solid copperweld Ø 0.58 mm	
	Insulation	Polyethylene Ø 3.7 mm	
	Shield	Aluminium/Polyester/Aluminium tape + copper braid	
	Outer sheath	Halogen free SHF1 Ø 6.2 mm	
SHIELDED TWISTED PAIR 2 units	**Conductor**	Stranded tinned copper 24 AWG	
	Insulation	Polyethylene	
	Individual pairs shield	Aluminium/Polyester tape	
	Individual pairs sheath	Halogen free SHF1 Ø 3.5 mm	
POWER CONDUCTOR 3 units	**Conductor**	Stranded tinned copper 2.5 mm2	
	Insulation	Cross-linked polyethylene (XLPE) Ø 3.5 mm	
Assembling with eventual filler	**Outer sheath**	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
	Outer diameter	16.5 mm 18 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

	Minimun Bending Radius	15 x Ø
	Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
COAXIAL	**Conductor resistance**	≤ 158 Ω/km
	Characteristic impedance	75 ± 3 Ω
	Nominal capacitance	67 pF/m
	Attenuation	@ 10 MHz ≤ 3.0 dB/100 m
		@ 500 MHz ≤ 23.5 dB/100 m
SHIELDED TWISTED PAIR	**Conductor resistance**	≤ 90 Ω/km
POWER CONDUCTOR	**Conductor resistance**	≤ 8.21 Ω/km
	Operating voltage	0.6/1 kV

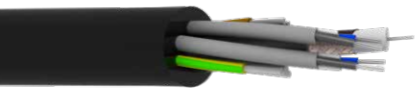
REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	20.0 mm

TK-SEA COMPOSITE RG11 ARMOURED AND UNARMOURED



characteristics

on request

* Only for PE version ** Only for LSZH version

CABLE SPECIFICATION

COAXIAL rg 11 1 unit	**Conductor**	Stranded tinned copper 7x0.40 mm	
	Insulation	Polyethylene Ø 7.25 mm	
	Shield	Bare copper braid	
	Outer sheath	Halogen free SHF1 Ø 10.3 mm	
SHIELDED TWISTED PAIR 2 units	**Conductor**	Stranded tinned copper 22 AWG	
	Insulation	Polyethylene	
	Individual pairs shield	Aluminium/Polyester tape	
	Individual pairs sheath	Halogen free SHF1 Ø 4.5 mm	
POWER CONDUCTOR 3 units	**Conductor**	Stranded tinned copper 2.5 mm2	
	Insulation	Cross-linked polyethylene (XLPE) Ø 3.5 mm	
Assembling	**Outer sheath**	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
	Outer diameter	19.5 mm 20.1 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

	Minimun Bending Radius	15 x Ø
	Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
COAXIAL	**Conductor resistance**	≤ 20.5 Ω/km
	Characteristic impedance	75 ± 3 Ω
	Nominal capacitance	67 pF/m
	Attenuation	@ 10 MHz ≤ 2.0 dB/100 m
		@ 500 MHz ≤ 17.1 dB/100 m
SHIELDED TWISTED PAIR	**Conductor resistance**	≤ 56 Ω/km
POWER CONDUCTOR	**Conductor resistance**	≤ 8.21 Ω/km
	Operating voltage	0.6/1 kV

REFERENCE STANDARDS

Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	23.5 mm

TK-SEA FIRE RESISTANT COMPOSITE RG59 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

COAXIAL RG 59 1 unit	**Conductor**	Solid copperweld Ø 0.58 mm	
	Insulation	Polyethylene with silicone rubber Ø 3.7 mm	
	Flame barrier	Mica tape	
	Shield	Aluminium/Polyester/Aluminium tape + copper braid	
	Outer sheath	Halogen free SHF1 Ø 7.2 mm	
SHIELDED TWISTED PAIR 2 units	**Conductor**	Stranded tinned copper 24 AWG	
	Insulation	Polyethylene	
	Flame barrier	Mica tape	
	Individual pairs shield	Aluminium/Polyester tape	
	Individual pairs sheath	Halogen free SHF1 Ø 4.5 mm	
POWER CONDUCTOR 3 units	**Conductor**	Stranded tinned copper 2.5 mm2	
	Flame barrier	Mica tape	
	Insulation	Cross-linked polyethylene (XLPE) Ø 4 mm	
Assembling	**Outer sheath**	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR	
	Outer diameter	19 mm 20.5 mm	SHF1 SHF2 - SHF2 MUD

TECHNICAL DATA

	Minimun Bending Radius	15 x Ø
	Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + 90°C (SHF2 - SHF2 MUD)
COAXIAL	**Conductor resistance**	≤ 158 Ω/km
	Characteristic impedance	75 ± 5 Ω
	Nominal capacitance	67 pF/m
	Attenuation	@ 10 MHz ≤ 3.0 dB/100 m
		@ 500 MHz ≤ 23.5 dB/100 m
SHIELDED TWISTED PAIR	**Conductor resistance**	≤ 90 Ω/km
POWER CONDUCTOR	**Conductor resistance**	≤ 8.21 Ω/km
	Operating voltage	0.6/1 kV

REFERENCE STANDARDS

Fire resistance	IEC 60331-21 IEC 60331-23 IEC 60331-25
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	23 mm

TK-SEA FIRE RESISTANT COMPOSITE RG11 ARMOURED AND UNARMOURED

characteristics

on request

* for SHF2 MUD ** for SHF2 and SHF2 MUD

CABLE SPECIFICATION

COAXIAL RG 59 1 unit	**Conductor**	Stranded tinned copper 7x0.40 mm
	Insulation	Polyethylene with silicone rubber Ø 7.25 mm
	Flame barrier	Mica tape
	Shield	Bare copper braid
	Outer sheath	Halogen free SHF1 Ø 12 mm
SHIELDED TWISTED PAIR 2 units	**Conductor**	Stranded tinned copper 22 AWG
	Insulation	Polyethylene
	Flame barrier	Mica tape
	Individual pairs shield	Aluminium/Polyester tape
	Individual pairs sheath	Halogen free SHF1 Ø 5.5 mm
POWER CONDUCTOR 3 units	**Conductor**	Stranded tinned copper 2.5 mm2
	Flame barrier	Mica tape
	Insulation	Cross-linked polyethylene (XLPE) Ø 4 mm
Assembling	**Outer sheath**	Halogen free SHF1 UVR Halogen free cross-linked SHF2 UVR Halogen free cross-linked SHF2 MUD UVR
	Outer diameter	23 mm SHF1 24.5 mm SHF2 - SHF2 MUD

TECHNICAL DATA

	Minimun Bending Radius	15 x Ø
	Temperature	- 40°C ÷ + 70°C (SHF1) - 40°C ÷ + ` 90°C (SHF2 - SHF2 MUD)
COAXIAL	Conductor resistance	≤ 20.5 Ω/km
	Characteristic impedance	75 ± 5 Ω
	Nominal capacitance	67 pF/m
	Attenuation	@ 10 MHz ≤ 2.0 dB/100 m
		@ 500 MHz ≤ 17.1 dB/100 m
SHIELDED TWISTED PAIR	Conductor resistance	≤ 56 Ω/km
POWER CONDUCTOR	Conductor resistance	≤ 8.21 Ω/km
	Operating voltage	0.6/1 kV

REFERENCE STANDARDS

Fire resistance	IEC 60331-21 IEC 60331-23
Flame retardancy	IEC 60332-1-2 IEC 60332-3-22
Halogen-free	IEC 60754-1/2
Low smoke density	IEC 61034-1/2
Toxicity of evolved gas	EN 50305 9.2
Ozone resistance	IEC 60811-403 (SHF2 and SHF2 MUD)
Oil and fuel, hydrocarbon resistance	IEC 60811 (SHF2 and SHF2 MUD)
Mud resistance	NEK 606 (SHF2 MUD)
U.V. radiation resistance	ASTM-D-2565-16
Cold bend	- 40°C

ARMOURED VERSION

Material	Galvanized steel wire braid (GSWB) Tinned copper wire braid (TCWB) Bronze wire braid (BWB)
Outer diameter	27 mm

Tecnikabel

Passion flows through our cables

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