TKF

Catalogue

Marine and offshore cables

Contents

About TKF

TKF (BV Twentsche Kabelfabriek) was founded in 1930 and has grown from a local Dutch cable manufacturer to an international leader in cable technology, servicing customers all around the globe.

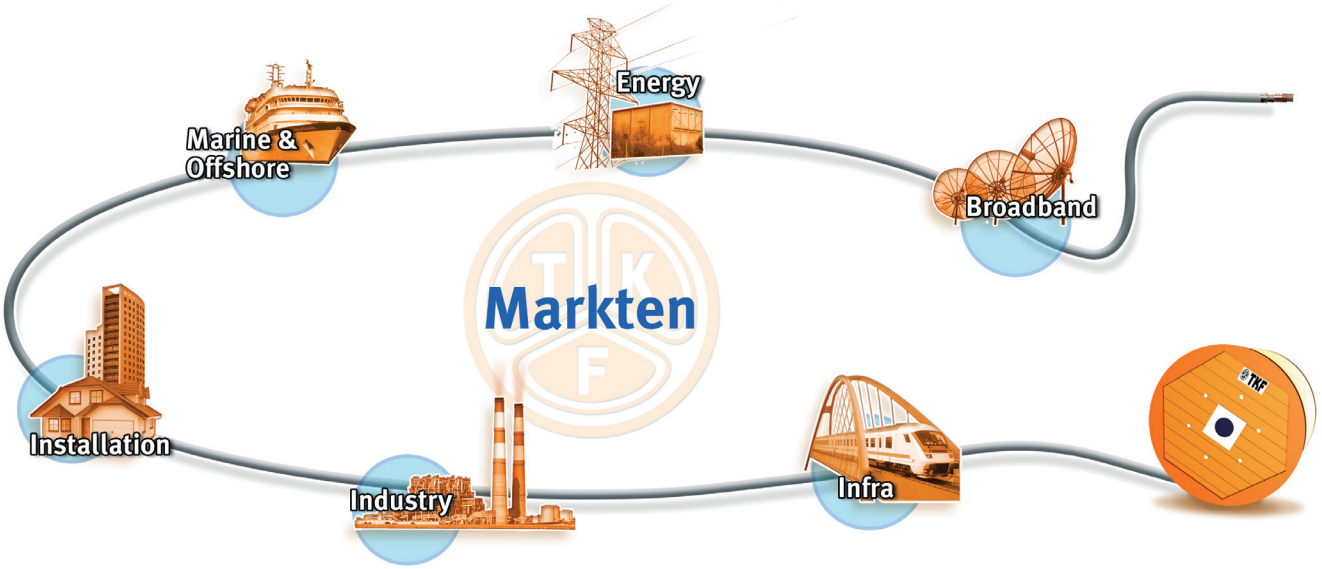
TKF started optical fibre cable production in 1986 and has acquired a leading position in the international broadband market,

internationally operating group of companies, focusing on development and delivery of innovative Telecom, Building and Industrial Solutions. The building blocks forming these innovative solutions are technologies,

TKF has dedicated itself to efficient and reliable cable solutions, matching specific customer requirements - looking for longterm relationships – building bridges between a growing number of professional partners.

providing single mode and multimode fibre cables to various European operators, installers and end-customers. TKF is a full member of TKH Group, an

know-how, products, and value added services such as consulting development, assembly and logistic support. TKH strategy is aimed at offering solutions, and strives for a high return on investment for her clients.



TKF consciously opts for an active role in a number of market segments. As a result, TKF can respond better to clients demands. Visit our website www.tkf.nl for more information.

Symbols

Rodent protected
The cable is designed to give some protection against rodents.

Rodent resistant
The cable is rodent proof by means of a metal barrier.

Radial water blocking
The outer sheath of the cable is designed to prevent water entering into the cable. The cable is provided with a moisture barrier that prevents radial ingress of water.

Longitudinal water blocking
Due to the cable construction and the materials used, water inside the core cannot spread through the cable longitudinally.

Fire resistant
The cable has an improved operational reliability in fire situations.

Low smoke-halogen free
Reduced emissions of fume and toxic gas in case of fire.

Flame retardent
The outer sheath of the cable is made of a flame-retardent and self-extinguishing material.

Copper braid
Cables with (tinned) copper braid for improved shielding against electromagnetic influences and mechanical protection.

Compact design
Smaller cable diameter due to the application of sector-shaped conductors.

EMC/EMI
Excellent EMC/EMI properties.

Flexible cables
Cables with reduced bending stiffness.

Temperature range
Suitable for wide temperature range.

Chemical resistance
Cables with improved resistance against aggressive chemicals.

Marine and Offshore cables
Halogen free and flame retardant cables for application on board ships and offshore platforms.

Medium and High Voltage cables
Cables designed for the tranportation of tensions of 6/10 kV up to 38/66 kV.

Signal cables
Cables with numbered cores designed for the transport of signals between processes and control.

Data cables
Suitable for the transmission of optical or electric high frequency signal.

Engine cables
Three core cables for the electric supply of engines.

Copper telecommunication cables
Cables with symmetrically stranded elements for the transmission of telecommunication signals. Unshielded, shielded or multiple shielded.

Instrumentation cables
Cables for instrumentation and control systems for various analogue and/or digital signal transmission.

Marine Cables

High-end solutions for all marine cable applications

Marine Line+
Non braided power cables
YZp 0.6/1 kV

Marine Line+
Copper wire braided power
cables YOZp 0.6/1 kV

Marine Signal+
Non braided signal and
control cables YZs 250 V

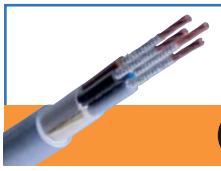
Marine Signal+
Copper wire braided signal
and control cables YOZs 250 V

Marine Line - EMC
Shielded and braider motor
cables 0.6/1 kV

Marine Com
Copper wirer braided
communication cables YOZc 250 V

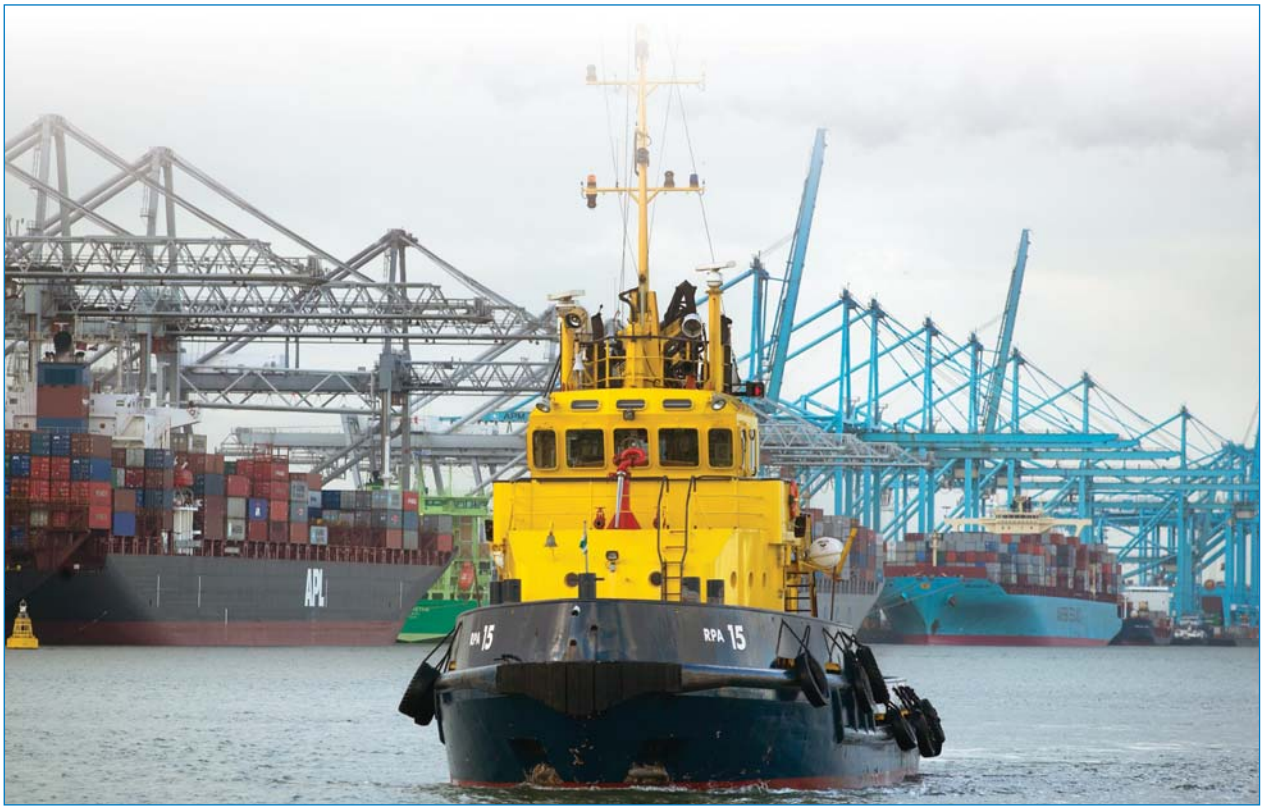
Marine Power
Copper wire braided medium voltage
power cables 6/10 - 8.7/15 kV

Marine Flex
Non braided power cables with flexible
class 5 conductors YZp 0.6/1kV



Marine Line+
Non-braided power cables
YZpfr 0.6/1 kV

Marine 2 Com
Copper wire braided communication
cables YOZ2c 250 V



Marine cables

International standards and approvals

All marine cables are designed and produced according to international standards. TKF marine cables fully comply with the requirements specified in the IEC 60092 series of standards.

Contents

Marine and Offshore

Marine and Offshore

MarineLine YZp 0,6/1 kV

Marine Cable 0,6/1kV, type CS85 MBZH MarineLine halogen free cable .
These low voltage cables are designed for power and light applications on board of vessels to international standards. Type approvals from various international maritime certification authorities are available.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine YZp 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Article dependant, see detail sheet	
Core insulation	XLPE	
Core identification	HD 308 S2	
Binder/filler	Polyester tape	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Black	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C
Specification	See appendix	

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16000	1 x 1,5 mm²	4,9	35	23	20	-
16001	2 x 1,5 mm²	7,9	68	45	32	55
16002	3 x 1,5 mm²	8,5	92	68	34	37
16003	4 x 1,5 mm²	9,3	112	90	37	37
16004	5 x 1,5 mm²	10,1	137	113	40	37
16005	6 x 1,5 mm²	11,2	168	135	45	-
16006	7 x 1,5 mm²	11,2	178	158	45	-
16007	8 x 1,5 mm²	13	222	180	52	-
16008	10 x 1,5 mm²	15,6	301	225	62	-
16009	12 x 1,5 mm²	14,8	291	270	59	-
16010	16 x 1,5 mm²	16,9	383	360	68	-
16011	19 x 1,5 mm²	18,1	441	428	72	-
16012	24 x 1,5 mm²	20,2	581	540	81	-
16013	1 x 2,5 mm²	5,3	46	38	21	-
16014	2 x 2,5 mm²	9	94	75	36	63
16015	3 x 2,5 mm²	9,5	123	113	38	42
16016	4 x 2,5 mm²	10,4	154	150	42	44

Marine and Offshore

MarineLine YZp 0,6/1 kV

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16017	5 x 2,5 mm²	11,5	195	188	46	44
16018	7 x 2,5 mm²	12,6	249	263	50	-
16019	1 x 4 mm²	5,9	63	60	24	-
16020	2 x 4 mm²	10,1	127	120	40	68
16021	3 x 4 mm²	10,7	170	180	43	45
15977	3 x 4 mm²	10,7	177	180	43	45
15978	4 x 4 mm²	11,9	231	240	48	47
16022	4 x 4 mm²	11,9	223	240	48	47
16023	1 x 6 mm²	6,4	87	90	26	-
16024	2 x 6 mm²	11,4	182	180	46	72
16025	3 x 6 mm²	12,1	247	270	48	48
15979	3 x 6 mm²	12,1	247	270	48	48
15980	4 x 6 mm²	13,2	317	360	53	50
16026	4 x 6 mm²	13,2	318	360	53	50
16027	1 x 10 mm²	7,2	128	150	29	-
16028	2 x 10 mm²	12,9	265	300	52	82
16029	3 x 10 mm²	13,8	376	450	55	55
15981	3 x 10 mm²	13,8	376	450	55	55
15982	4 x 10 mm²	15,2	488	600	61	59
16030	4 x 10 mm²	15,2	488	600	61	59
16031	1 x 16 mm²	8,2	187	240	33	-
16032	2 x 16 mm²	15,1	394	480	60	92
16033	3 x 16 mm²	16	555	720	64	61
16034	4 x 16 mm²	17,8	732	960	71	68
16035	1 x 25 mm²	10,1	287	375	40	-
16036	2 x 25 mm²	18,7	602	750	75	95
16037	3 x 25 mm²	20	853	1125	80	65
16038	4 x 25 mm²	22,3	1130	1500	89	73
16039	1 x 35 mm²	11,8	389	525	47	-
16040	2 x 35 mm²	22,1	823	1050	88	98
16048	3 x 35 mm²	20,8	1249	1575	83	59
16041	1 x 50 mm²	13,2	509	750	53	-
16049	3 x 50 mm²	23,4	1620	2250	94	61
16042	1 x 70 mm²	15,4	722	1050	62	-
16050	3 x 70 mm²	27,1	2217	3150	108	73
16043	1 x 95 mm²	17,5	986	1425	70	-
16051	3 x 95 mm²	31,3	3073	4275	125	83
16044	1 x 120 mm²	19,5	1248	1800	78	-
16052	3 x 120 mm²	34,7	3874	5400	139	87

Marine and Offshore

MarineLine YZp 0,6/1 kV

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16045	1 x 150 mm²	21,5	1503	2250	86	-
16053	3 x 150 mm²	37,9	4756	6750	152	90
16046	1 x 185 mm²	24	1881	2775	96	-
16054	3 x 185 mm²	41	5851	8325	164	90
16047	1 x 240 mm²	27	2471	3600	108	-
16055	3 x 240 mm²	47,6	7636	10800	190	90

Marine and Offshore

MarineLine YOZp 0,6/1 kV

Marine Cable 0,6/1kV, type CS85 MBZH halogen free cable . These low voltage cables are designed for power and light applications on board of vessels to international standards. Type approvals from various international maritime certification authorities are available.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine YOZp 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Article dependant, see detail sheet	
Core insulation	XLPE	
Core identification	HD 308 S2	
Binder/filler	Polyester tape	
Construction outer shield	Tinned copper braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Black	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16110	1 x 1,5 mm²	5,8	59	23	23	-
16111	2 x 1,5 mm²	9	110	45	36	55
16112	3 x 1,5 mm²	9,4	130	68	38	37
16113	4 x 1,5 mm²	10,2	157	90	41	37
16114	5 x 1,5 mm²	11,2	191	113	45	37
16115	6 x 1,5 mm²	12,1	220	135	48	-
16116	7 x 1,5 mm²	12,1	231	158	48	-
16117	8 x 1,5 mm²	13,9	313	180	56	-
16118	10 x 1,5 mm²	15,6	397	225	62	-
16119	12 x 1,5 mm²	16,1	397	270	64	-
16120	16 x 1,5 mm²	18,1	504	360	72	-
16121	19 x 1,5 mm²	19	571	428	76	-
16122	24 x 1,5 mm²	21,5	739	540	86	-
16159	27 x 1,5 mm²	22,6	782	608	90	-
16123	1 x 2,5 mm²	6,2	70	38	25	-
16124	2 x 2,5 mm²	9,9	137	75	40	63
16125	3 x 2,5 mm²	10,4	168	113	42	42

Marine and Offshore

MarineLine YOZp 0,6/1 kV

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16126	4 x 2,5 mm²	11,4	208	150	46	44
16127	5 x 2,5 mm²	12,4	292	188	50	44
16128	7 x 2,5 mm²	14	351	263	56	-
16129	1 x 4 mm²	6,8	92	60	27	-
16130	2 x 4 mm²	11,1	185	120	44	68
16131	3 x 4 mm²	11,7	231	180	47	45
16132	4 x 4 mm²	12,7	288	240	51	47
16133	1 x 6 mm²	7,3	117	90	29	-
16134	2 x 6 mm²	12,5	234	180	50	72
16135	3 x 6 mm²	13,2	303	270	53	48
16136	4 x 6 mm²	14,7	421	360	59	50
16137	1 x 10 mm²	8,1	172	150	32	-
16138	2 x 10 mm²	14,3	368	300	57	82
16139	3 x 10 mm²	15,1	473	450	60	55
16140	4 x 10 mm²	16,7	611	600	67	59
16141	1 x 16 mm²	9,3	229	240	37	-
16142	2 x 16 mm²	16,6	509	480	66	92
16143	3 x 16 mm²	17,5	680	720	70	61
16144	4 x 16 mm²	19,3	874	960	77	68
16145	1 x 25 mm²	11,2	342	375	45	-
16146	2 x 25 mm²	20,1	747	750	80	95
16147	3 x 25 mm²	21,3	1143	1125	85	65
16148	4 x 25 mm²	23,6	1304	1500	94	73
16158	1 x 35 mm²	13,1	478	525	52	-
16157	2 x 35 mm²	23,3	989	1050	93	98
16149	3 x 35 mm²	21,4	1391	1575	86	59
16401	1 x 50 mm²	14,8	615	750	59	-
16150	3 x 50 mm²	23,7	1779	2250	95	61
16402	1 x 70 mm²	16,9	852	1050	68	-
16151	3 x 70 mm²	27,8	2421	3150	111	73
16403	1 x 95 mm²	18,9	1122	1425	76	-
16152	3 x 95 mm²	31,9	3303	4275	128	83
16404	1 x 120 mm²	20,9	1400	1800	84	-
16153	3 x 120 mm²	34,7	4209	5400	139	87
16405	1 x 150 mm²	23	1682	2250	92	-
16154	3 x 150 mm²	39,5	5140	6750	158	90
16406	1 x 185 mm²	25,5	2079	2775	102	-
16155	3 x 185 mm²	42,4	6272	8325	170	90

Marine and Offshore

MarineLine YOZp 0,6/1 kV

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16407	1 x 240 mm²	28,5	2691	3600	114	-
16156	3 x 240 mm²	49,2	8160	10800	197	90

Marine and Offshore

MarineLine+ YZp 0,6/1 kV

Marine Cable 0,6/1kV, type CS85 MBZH halogen free cable . These low voltage cables are designed for power and light applications on board of vessels to international standards. Type approvals from various international maritime certification authorities are available.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine+ YZp 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	HD 308 S2	
Binder/filler	FRNC filler	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Black	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C
Specification	See appendix	

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16060	2 x 1,5 mm²	9	120	45	36	55
16061	3 x 1,5 mm²	9	125	68	36	37
16062	4 x 1,5 mm²	9,7	143	90	39	37
16063	5 x 1,5 mm²	10,7	176	113	43	37
16064	2 x 2,5 mm²	9,4	139	75	38	63
16065	3 x 2,5 mm²	10,2	170	113	41	42
16066	4 x 2,5 mm²	11,2	204	150	45	44
16067	5 x 2,5 mm²	12,5	253	188	50	44
16068	2 x 4 mm²	10,8	195	120	43	68
16069	3 x 4 mm²	11,8	241	180	47	45
16070	4 x 4 mm²	12,8	291	240	51	47
16071	2 x 6 mm²	12,2	270	180	49	72
16072	3 x 6 mm²	12,8	321	270	51	48
16073	4 x 6 mm²	14	392	360	56	50

Marine and Offshore

MarineLine+ YZp 0,6/1 kV

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16074	2 x 10 mm²	13,9	385	300	56	82
16075	3 x 10 mm²	14,8	478	450	59	55
16076	4 x 10 mm²	16,1	592	600	64	59
16077	2 x 16 mm²	16,2	561	480	65	92
16078	3 x 16 mm²	17,1	698	720	68	61
16079	4 x 16 mm²	18,4	854	960	74	68
16080	2 x 25 mm²	20,1	867	750	80	95
16081	3 x 25 mm²	21	1055	1125	84	65
16082	4 x 25 mm²	23,2	1336	1500	93	73

Marine and Offshore

MarineLine+ YOZp 0,6/1 kV

Marine Cable 0,6/1kV, type CS85 MBZH halogen free cable . These low voltage cables are designed for power and light applications on board of vessels to international standards. Type approvals from various international maritime certification authorities are available.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine+ YOZp 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	HD 308 S2	
Binder/filler	FRNC filler	
Construction outer shield	Tinned copper braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Black	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16160	2 x 1,5 mm²	10,7	192	45	43	55
16161	3 x 1,5 mm²	11,4	216	68	46	37
16162	4 x 1,5 mm²	12,1	242	90	48	37
16163	5 x 1,5 mm²	12,9	275	113	52	37
16164	2 x 2,5 mm²	11,8	238	75	47	63
16165	3 x 2,5 mm²	12,3	264	113	49	42
16166	4 x 2,5 mm²	13,9	347	150	56	44
16167	5 x 2,5 mm²	14,9	391	188	60	44
16168	2 x 4 mm²	12,8	289	120	51	68
16169	3 x 4 mm²	14,1	372	180	56	45
16170	4 x 4 mm²	15,1	433	240	60	47
16171	2 x 6 mm²	14,7	408	180	59	72
16172	3 x 6 mm²	15,4	475	270	62	48
16173	4 x 6 mm²	16,7	564	360	67	50

Marine and Offshore

MarineLine+ YOZp 0,6/1 kV

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16174	2 x 10 mm²	16,2	541	300	65	82
16175	3 x 10 mm²	17,2	641	450	69	55
16176	4 x 10 mm²	18,5	774	600	74	59
16177	2 x 16 mm²	18,4	736	480	74	92
16178	3 x 16 mm²	19,5	886	720	78	61
16179	4 x 16 mm²	21,2	1084	960	85	68
16180	2 x 25 mm²	22,1	1059	750	88	95
16181	3 x 25 mm²	23,3	1285	1125	93	65
16182	4 x 25 mm²	25,5	1581	1500	102	73

Marine and Offshore

MarineFlex YZp 0,6/1 kV

Marine Cable 0,6/1kV, type CS85 MBZH halogen free cable . These low voltage cables are designed for power and light applications on board of vessels to international standards. Type approvals from various international maritime certification authorities are available.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineFlex YZp 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 5 = Flexible	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	HD 308 S2	
Binder/filler	FRNC filler	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Black	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C
Specification	See appendix	

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16090	1 x 35 mm²	11,9	368	525	48	-
16091	2 x 35 mm²	23,3	1124	1050	93	98
16092	3 x 35 mm²	25,8	1389	1575	103	59
16093	1 x 50 mm²	13,4	490	750	54	-
16094	3 x 50 mm²	29,4	1855	2250	118	61
16095	1 x 70 mm²	15,6	687	1050	62	-
16096	3 x 70 mm²	34,3	2596	3150	137	73
16097	1 x 95 mm²	17,4	892	1425	70	-
16098	3 x 95 mm²	38,2	3333	4275	153	83
16099	1 x 120 mm²	19,4	1134	1800	78	-
16100	3 x 120 mm²	42,6	4227	5400	170	87
16101	1 x 150 mm²	21,4	1407	2250	86	-
16102	3 x 150 mm²	47,4	5265	6750	190	90
16103	1 x 185 mm²	26,6	1708	2775	106	-
16104	3 x 185 mm²	58,4	6379	8325	234	90
16105	1 x 240 mm²	30,2	2286	3600	121	-
16106	3 x 240 mm²	65,9	8458	10800	264	90

Marine and Offshore

MarineFlex YOZp 0,6/1 kV

Marine Cable 0,6/1kV, type CS85 MBZH halogen free cable . These low voltage cables are designed for power and light applications on board of vessels to international standards. Type approvals from various international maritime certification authorities are available.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineFlex YOZp 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 5 = Flexible	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	HD 308 S2	
Binder/filler	Article dependant, see detail sheet	
Construction outer shield	Tinned copper braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Black	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16190	1 x 35 mm²	13,2	457	525	53	-
16191	3 x 35 mm²	26,9	1645	1575	108	59
16192	4 x 35 mm²	29,6	2025	2100	118	68
16193	1 x 50 mm²	14,9	604	750	60	-
16194	3 x 50 mm²	30,7	2265	2250	123	61
16195	4 x 50 mm²	34,2	2742	3000	137	70
16196	1 x 70 mm²	17,1	817	1050	68	-
16197	3 x 70 mm²	36	3123	3150	144	73
16198	4 x 70 mm²	39,6	3824	4200	158	79
16199	1 x 95 mm²	18,7	1029	1425	75	-
16200	3 x 95 mm²	39,7	3898	4275	159	83
16201	4 x 95 mm²	43,8	6424	5700	175	86
16202	1 x 120 mm²	20,7	1274	1800	83	-
16203	3 x 120 mm²	43,9	4881	5400	176	87
16204	1 x 150 mm²	23	1586	2250	92	-
16205	3 x 150 mm²	49,1	6123	6750	196	90
16206	1 x 185 mm²	28,1	1893	2775	112	-
16207	3 x 185 mm²	60,1	7131	8325	240	90

Marine and Offshore

MarineFlex YOZp 0,6/1 kV

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Capacity (nF/km)
16208	1 x 240 mm²	31,5	2507	3600	126	-
16209	3 x 240 mm²	67,4	9410	10800	270	90

Marine and Offshore

MarineLine YZp FR 0,6/1 kV

Marine Cables designed for power and light applications (0,6/1kV). The fire-resistant cables are produced in accordance with IEC 60331 as well as the flame test requirement for bunched cables acc. to IEC 60332-3 cat. A. All cables materials are halogens free, and fully wrapped with mica tape.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine YZp FR 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	Mica + XLPE	
Core identification	HD 308 S2	
Binder/filler	Polyester tape	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Article dependant, see detail sheet	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Partnumber manufacturer	Construction	Outer diameter approx. (mm)	Net weight	Tensile load (N)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16350	2 x 1,5 mm²	8,5	76	45	34	12,1	0,307	55
16351	3 x 1,5 mm²	8,9	97	68	36	12,1	0,307	37
16352	4 x 1,5 mm²	9,7	122	90	39	12,1	0,307	37
16353	5 x 1,5 mm²	10,6	147	113	42	12,1	0,307	37
16354	7 x 1,5 mm²	11,8	190	158	47	12,1	0,307	-
16355	12 x 1,5 mm²	15,7	312	270	63	12,1	0,307	-
16450	27 x 1,5 mm²	22,6	665	608	90	12,1	0,307	-
16356	2 x 2,5 mm²	9,7	102	75	39	7,41	0,279	63
16358	2 x 2,5 mm²	9,7	127	75	39	7,41	0,279	63
16357	3 x 2,5 mm²	10,2	132	113	41	7,41	0,279	42
16359	3 x 4 mm²	11,3	183	180	45	4,61	0,278	45
16360	4 x 4 mm²	12,4	232	240	50	4,61	0,278	47
16361	2 x 6 mm²	12,8	188	180	51	3,08	0,259	72
16362	3 x 6 mm²	13,5	254	270	54	3,08	0,259	48
16363	4 x 6 mm²	15,1	332	360	60	3,08	0,259	50
16364	2 x 16 mm²	15,8	384	480	63	1,15	0,227	92
16365	2 x 25 mm²	19,7	502	750	79	0,727	0,223	95
16366	3 x 25 mm²	20,9	753	1125	84	0,727	0,223	65

Marine and Offshore

MarineLine YOZp FR 0,6/1 kV

Marine Cables are designed for power and light applications (0,6/1kV). The fire-resistant cables are produced in accordance with IEC 60331 as well as the flame test requirement for bunched cables acc. to IEC 60332-3. All cables materials are halogens free, and fully wrapped with mica tape

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine YOZp FR 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	Mica + XLPE	
Core identification	HD 308 S2	
Binder/filler	Polyester tape	
Construction outer shield	Tinned copper braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Article dependant, see detail sheet	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Partnumber manufacturer	Construction	Outer diameter approx. (mm)	Net weight	Tensile load (N)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16382	2 x 1,5 mm²	9,4	124	45	38	12,1	0,307	55
16383	3 x 1,5 mm²	9,8	145	68	39	12,1	0,307	37
16384	4 x 1,5 mm²	10,6	165	90	42	12,1	0,307	37
16385	5 x 1,5 mm²	11,7	201	113	47	12,1	0,307	37
16386	7 x 1,5 mm²	12,6	246	158	50	12,1	0,307	-
16451	27 x 1,5 mm²	23,8	827	608	95	12,1	0,307	-
16387	2 x 2,5 mm²	10,5	81	75	42	7,41	0,279	63
16388	3 x 2,5 mm²	11,2	43	113	45	7,41	0,279	42
16389	2 x 4 mm²	11,5	185	120	46	4,61	0,278	68
16390	3 x 4 mm²	12,6	262	180	50	4,61	0,278	45
16391	4 x 4 mm²	13,8	326	240	55	4,61	0,278	47
16408	3 x 16 mm²	18,2	666	720	73	1,15	0,227	61

Marine and Offshore

MarineLine+ YZp FR 0,6/1 kV

Marine Cables designed for power and light applications (0,6/1kV). The fire-resistant cables are produced in accordance with IEC 60331 as well as the flame test requirement for bunched cables acc. to IEC 60332-3 cat. A. All cables materials are halogens free, and fully wrapped with mica tape.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine+ YZp FR 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	Mica + XLPE	
Core identification	HD 308 S2	
Binder/filler	FRNC filler	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Article dependant, see detail sheet	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Partnumber manufacturer	Construction	Outer diameter approx. (mm)	Net weight	Tensile load (N)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16367	2 x 1,5 mm²	9,4	129	45	38	12,1	0,307	55
16368	3 x 1,5 mm²	9,4	135	68	38	12,1	0,307	37
16369	4 x 1,5 mm²	10,2	154	90	41	12,1	0,307	37
16370	5 x 1,5 mm²	11,5	195	113	46	12,1	0,307	37
16371	2 x 2,5 mm²	10,1	154	75	40	7,41	0,279	63
16372	3 x 2,5 mm²	11,1	192	113	44	7,41	0,279	42
16373	2 x 4 mm²	11,4	209	120	46	4,61	0,278	68
16374	3 x 4 mm²	12,2	254	180	49	4,61	0,278	45
16375	4 x 4 mm²	13,3	305	240	53	4,61	0,278	47
16376	2 x 6 mm²	13,6	299	180	54	3,08	0,259	72
16377	3 x 6 mm²	14,5	352	270	58	3,08	0,259	48
16378	4 x 6 mm²	15,6	417	360	62	3,08	0,259	50
16379	2 x 16 mm²	17,1	574	480	68	1,15	0,227	92
16380	2 x 25 mm²	20,9	772	750	84	0,727	0,223	95
16381	3 x 25 mm²	22,3	1138	1125	89	0,727	0,223	65

Marine and Offshore

MarineLine+ YOZp FR 0,6/1 kV

Marine Cables are designed for power and light applications (0,6/1kV). The fire-resistant cables are produced in accordance with IEC 60331 as well as the flame test requirement for bunched cables acc. to IEC 60332-3. All cables materials are halogens free, and fully wrapped with mica tape.

Characteristics	Properties	Unit
Product group	Low voltage marine cables	
Series	Twenkashipkabel	
Type	MarineLine+ YOZp FR 0,6/1 kV	
Standardization	IEC 60092-350/-351/-353	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	Mica + XLPE	
Core identification	HD 308 S2	
Binder/filler	FRNC filler	
Construction outer shield	Tinned copper braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Green	
Nominal voltage U0	0.6	kV
Nominal voltage U	1	kV
Test voltage	3500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Partnumber manufacturer	Construction	Outer diameter approx. (mm)	Net weight	Tensile load (N)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16392	2 x 1,5 mm²	11,3	208	45	45	12,1	0,307	55
16393	3 x 1,5 mm²	11,8	228	68	47	12,1	0,307	37
16394	4 x 1,5 mm²	12,6	256	90	50	12,1	0,307	37
16395	5 x 1,5 mm²	13,5	291	113	54	12,1	0,307	37
16396	2 x 2,5 mm²	12,5	257	75	50	7,41	0,279	63
16397	3 x 2,5 mm²	13,1	284	113	52	7,41	0,279	42
16398	2 x 4 mm²	13,2	300	120	53	4,61	0,278	68
16399	3 x 4 mm²	14,5	387	180	58	4,61	0,278	45
16400	4 x 4 mm²	15,5	449	240	62	4,61	0,278	47

Marine and Offshore

MarineCom YOZc 250 V

Cables designed for control, instrumentation, tele- and data-communication up to 250V. The most striking cable features: low Electric Magnetic Interference (EMI), good cross talk attenuation, minimal signal loss. The halogen-free outer sheath is flame-retardent and has good chemical

Characteristics	Properties	Unit
Product group	Communication marine cables	
Series	Twenkashipkabel	
Type	MarineCom YOZc 250 V	
Standardization	IEC 60092-350/-351/-376	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor category	Class 2 = Stranded	
Stranding element	Pair	
Core insulation	XLPE	
Core identification	Numbers	
Binder/filler	Polyester tape	
Collective screen	Braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Grey	
Diameter conductor	1.11	mm
Nominal cross section conductor	0.75	mm²
Number of cores	Article dependant, see detail sheet	
Outer diameter approx.	Article dependant, see detail sheet	mm
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (µF/Km)
16271	1 x 2 x 0,75 mm²	7,1	74	23	28	24,5	0,331	55
16272	1 x 3 x 0,75 mm²	7,5	84	34	30	24,5	0,331	55
16273	1 x 4 x 0,75 mm²	8	103	45	32	24,5	0,331	55
16270	2 x 2 x 0,75 mm²	10,3	125	45	41	24,5	0,331	55
16274	4 x 2 x 0,75 mm²	12	185	90	48	24,5	0,331	55
16275	6 x 2 x 0,75 mm²	14,3	269	135	57	24,5	0,331	55
16276	7 x 2 x 0,75 mm²	14,3	271	158	57	24,5	0,331	55
16277	10 x 2 x 0,75 mm²	17,2	365	225	69	24,5	0,331	55
16278	14 x 2 x 0,75 mm²	19,3	471	315	77	24,5	0,331	55
16279	19 x 2 x 0,75 mm²	22,2	624	428	89	24,5	0,331	55
16280	24 x 2 x 0,75 mm²	24,6	762	540	98	24,5	0,331	55
16283	27 x 2 x 0,75 mm²	25,8	823	608	103	24,5	0,331	55
16281	30 x 2 x 0,75 mm²	27	912	675	108	24,5	0,331	55
16282	37 x 2 x 0,75 mm²	30,1	1153	833	120	24,5	0,331	55

Marine and Offshore

Marine2Com YOZ2c 250 V

Designed for control, instrumentation, tele- and data-communication up to 250V. Cable features as MarineCom plus each pair and overall electrically shielded.

Characteristics	Properties	Unit
Product group	Communication marine cables	
Series	Twenkashipkabel	
Type	Marine2Com YOZ2c 250 V	
Standardization	IEC 60092-350/-351/-376	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor category	Class 2 = Stranded	
Stranding element	Pair	
Core insulation	XLPE	
Core identification	Numbers	
Binder/filler	Polyester tape	
Screen over stranding element	Alpet tape	
Collective screen	Foil + braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Grey	
Diameter conductor	1.11	mm
Nominal cross section conductor	0.75	mm²
Number of cores	Article dependant, see detail sheet	
Outer diameter approx.	Article dependant, see detail sheet	mm
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (N)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (µF/Km)
16290	2 x 2 x 0,75 mm²	11,2	161	45	45	24,5	0,331	80
16291	4 x 2 x 0,75 mm²	12,8	230	90	51	24,5	0,331	80
16292	6 x 2 x 0,75 mm²	15,3	329	135	61	24,5	0,331	80
16293	7 x 2 x 0,75 mm²	15,3	335	158	61	24,5	0,331	80
16294	10 x 2 x 0,75 mm²	18,5	460	225	74	24,5	0,331	80
16295	14 x 2 x 0,75 mm²	20,7	590	315	83	24,5	0,331	80
16296	19 x 2 x 0,75 mm²	23,9	782	428	96	24,5	0,331	80
16297	24 x 2 x 0,75 mm²	26,5	956	540	106	24,5	0,331	80
16298	30 x 2 x 0,75 mm²	29,3	1151	675	117	24,5	0,331	80
16299	37 x 2 x 0,75 mm²	32,5	1437	833	130	24,5	0,331	80

Marine and Offshore

MarineSignal YZs 250 V

Halogen-free Cables designed for signal, control and alarm applications up to 250 V. The halogen-free outer sheath is flame-retardant and has good chemical resistance.

Characteristics	Properties	Unit
Product group	Signal marine cables	
Series	Twenkashipkabel	
Type	MarineSignal YZs 250 V	
Standardization	IEC 60092-350/-351/-376	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	Numbers	
Binder/filler	Polyester tape	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Grey	
Nominal voltage U	0.25	kV
Test voltage	1500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (kN)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16210	2 x 0,75 mm²	6,3	44	23	25	24,5	0,331	80
16211	3 x 0,75 mm²	6,6	54	34	26	24,5	0,331	130
16212	4 x 0,75 mm²	7,1	65	45	28	24,5	0,331	135
16213	5 x 0,75 mm²	7,7	80	56	31	24,5	0,331	140
16214	7 x 0,75 mm²	8,6	102	79	34	24,5	0,331	150
16215	12 x 0,75 mm²	11,2	165	135	45	24,5	0,331	150
16216	19 x 0,75 mm²	13,5	240	214	54	24,5	0,331	150
16217	27 x 0,75 mm²	15,8	332	304	63	24,5	0,331	150
16218	37 x 0,75 mm²	18,2	443	416	73	24,5	0,331	150
16220	2 x 1 mm²	6,7	50	30	27	18,1	0,332	95
16221	3 x 1 mm²	7	62	45	28	18,1	0,332	140
16222	4 x 1 mm²	7,6	76	60	30	18,1	0,332	145
16223	5 x 1 mm²	8,5	97	75	34	18,1	0,332	150
16224	7 x 1 mm²	9,2	120	105	37	18,1	0,332	160
16225	12 x 1 mm²	12,1	195	180	48	18,1	0,332	160
16226	19 x 1 mm²	14,8	294	285	59	18,1	0,332	160
16227	27 x 1 mm²	17,3	406	405	69	18,1	0,332	160
16228	37 x 1 mm²	20	542	555	80	18,1	0,332	160

Marine and Offshore

MarineSignal YOZs 250 V

Cables designed for signal, control and alarm applications up to 250 V. The halogenfree outer sheath is flame-retardent and has good chemical resistance. The copper wire braiding reduces EMI and extra mechanical protection.

Characteristics	Properties	Unit
Product group	Signal marine cables	
Series	Twenkashipkabel	
Type	MarineSignal YOZs 250 V	
Standardization	IEC 60092-350/-351/-376	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	Numbers	
Binder/filler	Polyester tape	
Construction outer shield	Tinned copper braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Grey	
Nominal voltage U	0.25	kV
Test voltage	1500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (kN)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16241	2 x 0,75 mm²	7,2	74	23	29	24,5	0,331	80
16242	3 x 0,75 mm²	7,5	84	34	30	24,5	0,331	130
16243	4 x 0,75 mm²	8	103	45	32	24,5	0,331	135
16244	5 x 0,75 mm²	8,8	120	56	35	24,5	0,331	140
16245	7 x 0,75 mm²	9,5	140	79	38	24,5	0,331	150
16246	12 x 0,75 mm²	12,1	217	135	48	24,5	0,331	150
16247	19 x 0,75 mm²	14,8	338	214	59	24,5	0,331	150
16248	27 x 0,75 mm²	17,1	432	304	68	24,5	0,331	150
16249	37 x 0,75 mm²	19,5	565	416	78	24,5	0,331	150
16250	2 x 1 mm²	7,6	81	30	30	18,1	0,332	95
16251	3 x 1 mm²	7,9	100	45	32	18,1	0,332	140
16252	4 x 1 mm²	8,7	118	60	35	18,1	0,332	145
16253	5 x 1 mm²	9,4	135	75	38	18,1	0,332	150
16254	7 x 1 mm²	10,1	165	105	40	18,1	0,332	160
16255	12 x 1 mm²	13	255	180	52	18,1	0,332	160
16256	19 x 1 mm²	15,9	386	285	64	18,1	0,332	160
16257	27 x 1 mm²	18,4	517	405	74	18,1	0,332	160
16258	37 x 1 mm²	21,1	675	555	84	18,1	0,332	160

Marine and Offshore

MarineSignal+ YZs 250 V

Halogen-free Cables designed for signal, control and alarm applications up to 250 V. The halogen-free outer sheath is flame-retardant and has good chemical resistance.

Characteristics	Properties	Unit
Product group	Signal marine cables	
Series	Twenkashipkabel	
Type	MarineSignal+ YZs 250 V	
Standardization	IEC 60092-350/-351/-376	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	Numbers	
Binder/filler	FRNC filler	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Grey	
Nominal voltage U	0.25	kV
Test voltage	1500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (kN)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16231	2 x 0,75 mm²	6,7	64	23	27	24,5	0,331	80
16232	3 x 0,75 mm²	7	72	34	28	24,5	0,331	130
16233	4 x 0,75 mm²	7,5	84	45	30	24,5	0,331	135
16234	5 x 0,75 mm²	8,2	100	56	33	24,5	0,331	140
16235	2 x 1 mm²	7,3	78	30	29	18,1	0,332	95
16236	3 x 1 mm²	7,5	86	45	30	18,1	0,332	140
16237	4 x 1 mm²	8,2	100	60	33	18,1	0,332	145
16238	5 x 1 mm²	8,9	120	75	36	18,1	0,332	150

Marine and Offshore

MarineSignal+ YOZs 250 V

Cables designed for signal, control and alarm applications up to 250 V. The halogenfree outer sheath is flame-retardent and has good chemical resistance. The copper wire braiding reduces EMI and extra mechanical protection.

Characteristics	Properties	Unit
Product group	Signal marine cables	
Series	Twenkashipkabel	
Type	MarineSignal+ YOZs 250 V	
Standardization	IEC 60092-350/-351/-376	
Flame retardant	IEC 60332-1 / IEC 60332-3-22 Cat. A	
Conductor material	Cu	
Standardization conductor material	IEC 60228	
Conductor category	Class 2 = Stranded	
Shape of conductor	Round	
Core insulation	XLPE	
Core identification	Numbers	
Binder/filler	FRNC filler	
Construction outer shield	Tinned copper braiding	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Colour outer sheath	Grey	
Nominal voltage U	0.25	kV
Test voltage	1500	V
Maximum conductor temperature	90	°C
Installation temperature	-20 / 70	°C
Operating temperature	-40 / 70	°C

Art. Number TKF	Construction	Outer diameter (mm)	Net weight (kg/km)	Tensile load (kN)	Bending radius after installation (mm)	Conductor DC resistance @ 20	Induction (mH/km)	Capacity (nF/km)
16261	2 x 0,75 mm²	8	111	23	32	24,5	0,331	80
16262	3 x 0,75 mm²	8,5	122	34	34	24,5	0,331	130
16263	4 x 0,75 mm²	9,1	137	45	36	24,5	0,331	135
16264	5 x 0,75 mm²	9,7	159	56	39	24,5	0,331	140
16265	2 x 1 mm²	8,6	125	30	34	18,1	0,332	95
16266	3 x 1 mm²	9	168	45	36	18,1	0,332	140
16267	4 x 1 mm²	9,6	158	60	38	18,1	0,332	145
16268	5 x 1 mm²	10,2	175	75	41	18,1	0,332	150

Marine and Offshore

MarinePower YOZmv 6/10 kV

Medium voltage cables designed for electric power transport between engine room generator end electrical machines.

Characteristics	Properties	Unit
Product group		
Series	Twenkashipkabel	
Type	MarinePower YOZmv 6/10 kV	
Standardization	IEC 60092-354	
Number of cores	Article dependant, see detail sheet	
Nominal cross section conductor	Article dependant, see detail sheet	mm²
Conductor material	Cu	
Conductor category	Class 2 ss = stranded flexible	
Conductor shield	Semiconductive XLPE	
Core insulation	XLPE	
Material outer sheath	Flame Retardant Halogen Free Polyolefin Compound	
Halogen free	IEC 60754-1	
Outer diameter approx.	Article dependant, see detail sheet	mm
Nominal voltage U0	6	kV
Nominal voltage U	10	kV

Art. Number TKF	Construction	Bending radius after installation (m)	Bending radius during installation (m)	Net weight	Tensile load (N)	Outer diameter approx. (mm)
33100	1 x 35 mm²	0,288	0,3446	755	1750	21,2
33101	1 x 50 mm²	0,312	0,3734	955	2500	22,5
33102	1 x 70 mm²	0,344	0,4118	1159	3500	24,1
33103	1 x 95 mm²	0,38	0,455	1442	4750	26
33104	1 x 120 mm²	0,414	0,4958	1674	6000	27,8
33105	1 x 150 mm²	0,444	0,5318	2086	7500	29,3
33106	1 x 185 mm²	0,478	0,5726	2413	9250	31,1
33107	1 x 240 mm²	0,528	0,6326	2996	12000	33,7
33108	3 x 35 mm²	0,544	0,6518	3143	5250	46,8
33109	3 x 50 mm²	0,59	0,707	3821	7500	50,3
33110	3 x 70 mm²	0,634	0,7598	4698	10500	53,1
33111	3 x 95 mm²	0,695	0,833	5677	14250	57,5
33112	3 x 120 mm²	0,758	0,9086	6651	18000	62,2
33117	3 x 25 mm²	0,512	0,6134	2755	3750	44,7

Current ratings

Current ratings[1)] in continious service for single- and multi-core cables (according to IEC 60092-352/Ambient temperature 45 °C)

Nominal Cross-sectional area (mm2)	Current rating (A) Number of cores loaded		
	1	2	3 and 4
1	16	14	11
1.5	20	17	14
2.5	28	24	20
4	38	32	27
6	48	41	34
10	67	57	47
16	90	77	63
25	120	102	84
35	145	123	102
50	180	153	126
70	225	191	158
95	275	234	193
120	320	272	224
150	365	310	256
185	415	353	291
240	490	417	343

[1)] Current ratings are dictated by installation circumstances, so the reduction factors of IEC 60092-352 should be taken into account.

Correction factors for various ambient air temperatures

Maximum conductor temperature	Correction factors for ambient air temperature of								
	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C
85°C	1.12	1.06	1.00	1.94	0.87	0.79	0.71	0.61	0.50

BV Twentsche Kabelfabriek
Spinnerstraat 15 - P.O. Box 6 - 7480 AA – Haaksbergen – The Netherlands
Tel: +31 53 - 573 22 55 - Fax: +31 53 - 573 21 85 - info@TKF.nl - www.tkf.nl

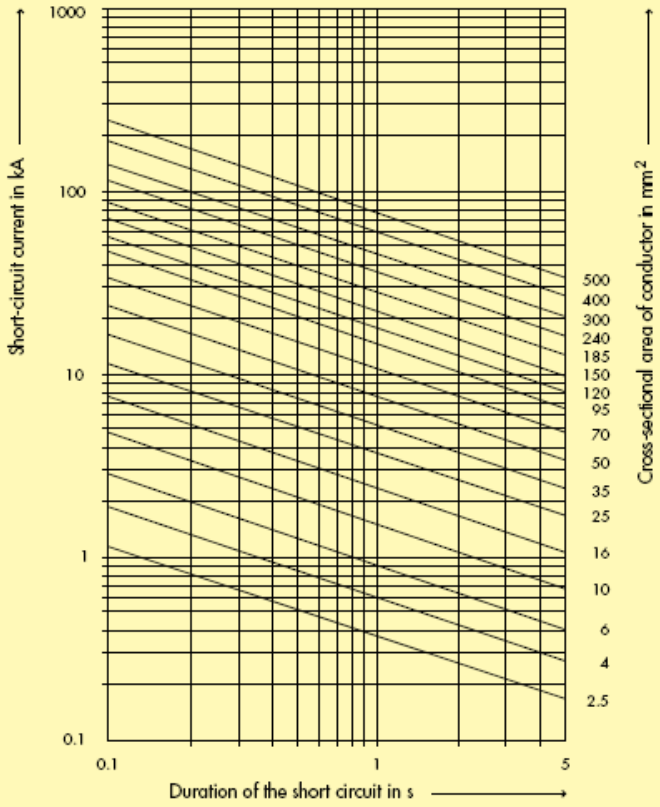
Maximum permissible short-circuit current calculations

The maximum permissible short circuit current for the different cables is based on the formula:

$$I_k = 146 \cdot \frac{S}{\sqrt{t}}$$

I_k = the maximum permissible short-circuit current in Amps
S = the cross-selection area of the conductor in mm²
t = the duration of the short circuit in seconds

The formula is acceptable for an increase in temperature from 85 °C at the start to 250 °C at the end (according to IEC 60093-3). In the figure below the permissible short-circuit current is given in kA as a function of time (from 0.1 to 5 seconds) and as a function of the cross-sectional area of the conductor.



Reactance calculations

The reactance of cables can be calculated with the following formule:

f = frequency in Hz
L = inductance in H

$$2 \cdot \pi \cdot f \cdot L$$

The technical data may be changed without prior notice.

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Product Information

Core Colours - Aderkleuren HD308 S2-2001

Omschrijving Beschreibung Description Definition	Q Aders Adem Cores Cond.	PE*	N	L1/L2	L/L2	L3	L3
Installatiedraad - Aderleiding Building wire - Fil d'installation	1						
Laagspanningskabel zonder gr-ge Niederspannungskabel ohne gn-ge Low voltage cables without gr-ye Cables basse tension sans ve-ja	1						
	2						
	3						
	3a						
	4						
	5						
	>5				Nr. *		
Laagspanningskabel met gr-ge Niederspannungskabel mit gn-ge Low voltage cables with gr-ye Cables basse tension avec ve-ja	3						
	4						
	4a						
	5						
	>5				Nr. *		
Geharmoniseerde buigzame leidingen Harmonisierte Schlauchleitungen Harmonised flexible cables Cables souples harmonisés	1						
	2						
	3						
	4						
	5						
	>5				Nr. *		
	>5			Nr. *			

Notes: * PE = beschermingsleiding - Schutzleiter - protective conductor - conducteur de protection,
N = nulleiding - Neutralleiter - neutral conductor - conducteur neutre,
L, L1, L2, L3 = faseleidingen - Phasenleiter - phase conductors - conducteurs de phase,
Nr. = zwart genummerd - schwarz nummeriert - black numbered - noir numéroté

More information

This catalogue also contains information about product families. Information at item level can be requested via our website and from our sales staff. This catalogue has been customised. Information about products that have not been included in this catalogue is available from our sales departments and can also be found on our website www.tkf.nl.

Please contact us for additional technical or commercial information. Contact information for our sales teams can be found on the next page and on our website.

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Global customer service

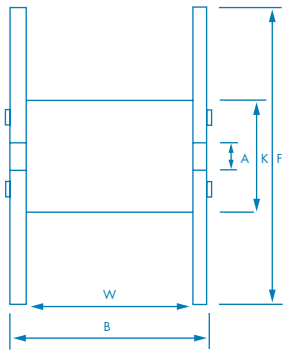
Please consult the table below for the contact information for our sales teams. The latest information about our representatives worldwide is available from our sales staff and on our website (www.tkf.nl).

General / Sales support		
Tel. +31 (0)53 573 22 55	Fax +31 (0)53 573 23 61	info@tkf.nl
Installation companies		
Tel. +31 (0)53 573 23 88	Fax +31 (0)53 573 21 84	installation@tkf.nl
Trading companies		
Tel. +31 (0)53 573 23 69	Fax +31 (0)53 573 21 84	installation@tkf.nl
Electricity distribution companies		
Tel. +31 (0)53 573 23 86	Fax +31 (0)53 573 21 84	energy@tkf.nl
Export Industrial		
Tel. +31 (0)53 573 23 90	Fax +31 (0)53 573 29 38	export@tkf.nl
Export Broadband		
Tel. +31 (0)53 573 23 91	Fax +31 (0)53 573 29 38	export@tkf.nl
Telecom solutions		
Tel. +31 (0)53 573 23 89	Fax +31 (0)53 573 23 06	telecomsolutions@tkf.nl

Cable reel sizes and weights

A wide range of reels with various sizes and weights is used to store and transport our cables. The most common types of rees and their sizes and weights are shown in this table.

Flange diameter (F) mm	Core diameter (K) mm	Central hole diameter (A) mm	Largest width (B) mm	Winding width (W) mm	Empty weight kg	Volume m^3
560	170	80	470	390	15	0.12
750	350	100	420	350	20	0.19
800	400	100	500	400	40	0.25
1000	500	100	620	500	65	0.49
1200	600	100	740	600	100	0.84
1500	800	100	940	750	160	1.66
1600	800	100	1030	840	225	2.07
1750	1030	100	980	750	250	2.36
1800	900	100	1030	840	285	2.62
2000	1200	100	1080	850	325	3.39
2250	1410	100	1120	830	510	4.45
2500	1500	100	1250	950	640	6.13
2500	1500	100	1520	1220	670	7.46
2650	1500	100	1520	1220	730	8.38
2800	1700	100	1500	1150	950	9.23
3000	1600	100	1600	1250	1050	11.30



F = Diameter flange
K = Diameter core
A = Diameter axle-hole
B = Largest width
W = Winding width

Empty reel return

To get your empty reels in the Netherlands collected quickly, please send your request to our shipping department via the website (www.tkf.nl) or by e-mail to haspels@tkf.nl. If reels have to be collected outside the Netherlands, please contact our sales staff.

Notes

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Choose TKF - Choose quality!

BV Twentsche Kabelfabriek
Spinnerstraat 15
P.O. Box 6
7480 AA Haaksbergen
The Netherlands
Tel.: +31 (0)53 573 22 55
Fax: +31 (0)53 573 21 85
E-mail: info@tkf.nl
Website: www.tkf.nl