

# Type LS Drilmar® Signal & Instrumentation

HF XLPE Insulated, SHF1 Jacketed, Drilling Rig and Marine Cable, 150/250 V

**CME**<sup>®</sup>  
wire and cable

A Viakable Company

## Features

Engineered for easiest installation.

Maximum conductor operating temperature: 90 °C as per IEC.

DRILMAR® HF XLPE Insulation:

- Low Smoke and Halogen Free XLPE meeting IEC 60092-360

- Rated at 90 °C.

SHF1 Jacket:

- Low Smoke and Halogen Free Polyolefin meeting IEC 60092-360

Completed cable offers superior flame resistance meeting:

- 7IEC 60332-1 and IEC 60332-3-22 Category A.
- Low smoke as per IEC 61034-2
- Halogen free as per IEC 60754-1.

## Application

DRILMAR® Type LS cables are for use in signal transmission application where twisted groups of conductors are desired, also with overall or individual shielding to prevent electrostatic and/or electromagnetic interference.

Typical applications include: tank level indicators, fire and gas protection systems, communication systems, CO<sub>2</sub> systems, and smoke detectors.

## Standards

IEC 60092-350

General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications.

IEC 60092-351

Insulating materials for shipboard and offshore units, power, control, instrumentation, telecommunication and data cables.

IEC 60092-376

Cables for control and instrumentation circuits 150/250 V (300 V).

IEC 60092-359

Sheathing materials for shipboard power and telecommunication cables.

IEC 60092-352

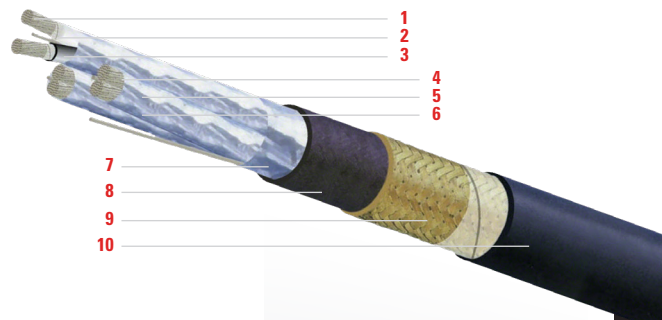
Electrical installations in ships - Part 352: Choice and installation of electrical cables.

IEEE 45 - 2002

Recommended Practice for Electrical Installations on Shipboard Cable, as noted in Clause 23.3 for products manufactured per IEC 60092-350 series.

## Approvals

- Intertek, as Type HF XLPE/SHF1
- ABS, American Bureau of Shipping.
- DNV, Det Norske Veritas
- LRS, Lloyd's Register of Shipping.



## Engineering Information

**1. Conductor:** Annealed flexible Tin Coated Copper, Class 5 as per IEC 60228.

**Sizes:** 0.5 mm<sup>2</sup> up to 2.5 mm<sup>2</sup>.

**2. Separator Tape:** Suitable tape as required.

**3. Insulation:** Low Smoke Halogen Free flame retardant crosslinked polyethylene (HF XLPE).

**4. Assembly:** Insulated conductors twisted in pairs or triads.

**5. Identification:** Color coded with sequential printed numbers.

**Pairs:** Black and White.

**Triads:** Black, White and Red.

**6. Cabling:** Pairs/Triads cabled round with moisture and flame resistant fillers as required, and binder tape.

**7. Optional Shielding:** Individual and/or Overall Aluminum/Polyester tape, with drain wire, 100% coverage.

**8. Jacket:** Black Low Smoke Halogen Free flame retardant thermoplastic Polyolefin (SHF1).

**9. Armor (optional):** Standard - Tinned Copper Braid.

**10. Jacket (overall):** Black Low Smoke Halogen Free flame retardant thermoplastic Polyolefin (SHF1).

*On request: Grey Jacket is available.*

Technical Data

## Type LS-Pairs Signal & Instrumentation, 0.5 mm<sup>2</sup>, Individual Shield

Conductor	Unarmored					Armored					Armored and Sheathed					
	Number of Pairs	Part Number	Nominal OD		Net Weight		Tinned Copper					Tinned Copper				
			in	mm	lb/kft	kg/km	Part Number	Nominal OD		Net Weight		Part Number	Nominal OD		Net Weight	
							in	mm	lb/kft	kg/km		in	mm	lb/kft	kg/km	
2	DTPI0.5LSSH-F-2	0.40	10.0	77	115	DTPI0.5LSSH-F-T2	0.45	11.3	149	221	DTPI0.5LSSH-F-TS2	0.53	13.4	191	284	
3	DTPI0.5LSSH-F-3	0.43	11.0	95	141	DTPI0.5LSSH-F-T3	0.48	12.3	173	258	DTPI0.5LSSH-F-TS3	0.57	14.4	219	326	
4	DTPI0.5LSSH-F-4	0.47	12.0	110	163	DTPI0.5LSSH-F-T4	0.52	13.3	195	290	DTPI0.5LSSH-F-TS4	0.61	15.4	244	363	
5	DTPI0.5LSSH-F-5	0.50	12.6	133	198	DTPI0.5LSSH-F-T5	0.55	13.9	222	331	DTPI0.5LSSH-F-TS5	0.64	16.2	278	414	
6	DTPI0.5LSSH-F-6	0.54	13.8	160	238	DTPI0.5LSSH-F-T6	0.59	15.0	257	382	DTPI0.5LSSH-F-TS6	0.68	17.4	317	472	
7	DTPI0.5LSSH-F-7	0.60	15.2	176	261	DTPI0.5LSSH-F-T7	0.65	16.5	282	420	DTPI0.5LSSH-F-TS7	0.74	18.8	348	519	
8	DTPI0.5LSSH-F-8	0.65	16.4	226	337	DTPI0.5LSSH-F-T8	0.70	17.7	341	507	DTPI0.5LSSH-F-TS8	0.79	20.0	411	612	
10	DTPI0.5LSSH-F-10	0.67	17.0	236	351	DTPI0.5LSSH-F-T10	0.72	18.3	354	527	DTPI0.5LSSH-F-TS10	0.82	20.8	434	646	
12	DTPI0.5LSSH-F-12	0.71	17.9	272	405	DTPI0.5LSSH-F-T12	0.76	19.2	397	591	DTPI0.5LSSH-F-TS12	0.86	21.7	480	715	
14	DTPI0.5LSSH-F-14	0.77	19.6	317	472	DTPI0.5LSSH-F-T14	0.82	20.9	454	675	DTPI0.5LSSH-F-TS14	0.92	23.4	544	810	
16	DTPI0.5LSSH-F-16	0.80	20.3	358	533	DTPI0.5LSSH-F-T16	0.85	21.6	499	743	DTPI0.5LSSH-F-TS16	0.95	24.2	592	882	
17	DTPI0.5LSSH-F-17	0.86	21.9	388	577	DTPI0.5LSSH-F-T17	0.91	23.2	540	803	DTPI0.5LSSH-F-TS17	1.02	25.9	648	965	
19	DTPI0.5LSSH-F-19	0.86	21.9	408	607	DTPI0.5LSSH-F-T19	0.91	23.2	560	833	DTPI0.5LSSH-F-TS19	1.02	25.9	668	994	
20	DTPI0.5LSSH-F-20	0.92	23.2	454	676	DTPI0.5LSSH-F-T20	0.97	24.5	615	915	DTPI0.5LSSH-F-TS20	1.07	27.3	729	1085	
24	DTPI0.5LSSH-F-24	1.02	25.9	563	838	DTPI0.5LSSH-F-T24	1.07	27.2	742	1104	DTPI0.5LSSH-F-TS24	1.19	30.2	881	1311	

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product.

**Ampacities:** Refer to beginning of section.

## Type LS-Pairs Signal & Instrumentation, 0.75 mm<sup>2</sup>, Individual Shield

Conductor	Unarmored					Armored					Armored and Sheathed					
	Number of Pairs	Part Number	Nominal OD		Net Weight		Tinned Copper					Tinned Copper				
			in	mm	lb/kft	kg/km	Part Number	Nominal OD		Net Weight		Part Number	Nominal OD		Net Weight	
							in	mm	lb/kft	kg/km		in	mm	lb/kft	kg/km	
2	DTPI0.75LSSH-F-2	0.46	11.8	104	155	DTPI0.75LSSH-F-T2	0.51	13.0	188	280	DTPI0.75LSSH-F-TS2	0.60	15.2	236	351	
3	DTPI0.75LSSH-F-3	0.51	13.0	127	189	DTPI0.75LSSH-F-T3	0.56	14.2	219	326	DTPI0.75LSSH-F-TS3	0.65	16.6	277	412	
4	DTPI0.75LSSH-F-4	0.56	14.2	162	241	DTPI0.75LSSH-F-T4	0.61	15.5	262	390	DTPI0.75LSSH-F-TS4	0.70	17.8	324	482	
5	DTPI0.75LSSH-F-5	0.59	14.9	180	267	DTPI0.75LSSH-F-T5	0.64	16.2	284	423	DTPI0.75LSSH-F-TS5	0.73	18.5	349	519	
6	DTPI0.75LSSH-F-6	0.64	16.3	216	321	DTPI0.75LSSH-F-T6	0.69	17.6	330	491	DTPI0.75LSSH-F-TS6	0.78	19.9	400	595	
7	DTPI0.75LSSH-F-7	0.71	17.9	234	348	DTPI0.75LSSH-F-T7	0.76	19.2	359	534	DTPI0.75LSSH-F-TS7	0.86	21.7	442	658	
8	DTPI0.75LSSH-F-8	0.77	19.6	312	465	DTPI0.75LSSH-F-T8	0.82	20.8	448	667	DTPI0.75LSSH-F-TS8	0.92	23.4	538	801	
10	DTPI0.75LSSH-F-10	0.79	20.0	314	467	DTPI0.75LSSH-F-T10	0.84	21.3	453	674	DTPI0.75LSSH-F-TS10	0.94	23.9	545	812	
12	DTPI0.75LSSH-F-12	0.83	21.2	363	540	DTPI0.75LSSH-F-T12	0.88	22.4	509	758	DTPI0.75LSSH-F-TS12	0.99	25.2	615	915	
14	DTPI0.75LSSH-F-14	0.91	23.1	421	627	DTPI0.75LSSH-F-T14	0.96	24.4	581	865	DTPI0.75LSSH-F-TS14	1.07	27.1	695	1034	
16	DTPI0.75LSSH-F-16	0.94	24.0	477	710	DTPI0.75LSSH-F-T16	0.99	25.2	643	956	DTPI0.75LSSH-F-TS16	1.10	28.0	760	1131	
17	DTPI0.75LSSH-F-17	1.03	26.1	526	783	DTPI0.75LSSH-F-T17	1.08	27.4	706	1050	DTPI0.75LSSH-F-TS17	1.20	30.4	845	1258	
19	DTPI0.75LSSH-F-19	1.03	26.1	552	822	DTPI0.75LSSH-F-T19	1.08	27.4	732	1090	DTPI0.75LSSH-F-TS19	1.20	30.4	872	1297	
20	DTPI0.75LSSH-F-20	1.09	27.8	622	926	DTPI0.75LSSH-F-T20	1.14	29.0	813	1210	DTPI0.75LSSH-F-TS20	1.26	32.0	961	1430	
24	DTPI0.75LSSH-F-24	1.22	31.0	771	1147	DTPI0.75LSSH-F-T24	1.28	32.6	1038	1545	DTPI0.75LSSH-F-TS24	1.41	35.8	1215	1808	

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product.

**Ampacities:** Refer to beginning of section.

Technical Data *continued*

## Type LS-Pairs Signal & Instrumentation, 1.0 mm<sup>2</sup>, Individual Shield

Conductor	Unarmored					Armored					Armored and Sheathed				
	Number of Pairs	Part Number	Nominal OD		Net Weight		Tinned Copper				Tinned Copper				
			in	mm	lb/kft	kg/km	Part Number	in	mm	lb/kft	kg/km	Part Number	in	mm	lb/kft
2	DTPI1.0LSSH-F-2	0.49	12.4	122	182	DTPI1.0LSSH-F-T2	0.54	13.7	210	313	DTPI1.0LSSH-F-TS2	0.62	15.8	261	388
3	DTPI1.0LSSH-F-3	0.54	13.7	152	226	DTPI1.0LSSH-F-T3	0.59	15.0	248	370	DTPI1.0LSSH-F-TS3	0.68	17.3	309	460
4	DTPI1.0LSSH-F-4	0.59	15.0	192	286	DTPI1.0LSSH-F-T4	0.64	16.3	298	443	DTPI1.0LSSH-F-TS4	0.73	18.6	363	541
5	DTPI1.0LSSH-F-5	0.62	15.8	216	321	DTPI1.0LSSH-F-T5	0.67	17.0	326	485	DTPI1.0LSSH-F-TS5	0.76	19.4	394	587
6	DTPI1.0LSSH-F-6	0.69	17.5	266	395	DTPI1.0LSSH-F-T6	0.74	18.8	388	577	DTPI1.0LSSH-F-TS6	0.84	21.3	470	699
7	DTPI1.0LSSH-F-7	0.75	19.0	282	419	DTPI1.0LSSH-F-T7	0.80	20.3	414	616	DTPI1.0LSSH-F-TS7	0.90	22.8	502	747
8	DTPI1.0LSSH-F-8	0.82	20.8	374	556	DTPI1.0LSSH-F-T8	0.87	22.0	517	770	DTPI1.0LSSH-F-TS8	0.98	24.8	621	924
10	DTPI1.0LSSH-F-10	0.84	21.3	381	568	DTPI1.0LSSH-F-T10	0.89	22.6	529	787	DTPI1.0LSSH-F-TS10	1.00	25.3	635	944
12	DTPI1.0LSSH-F-12	0.89	22.7	449	668	DTPI1.0LSSH-F-T12	0.94	23.9	605	901	DTPI1.0LSSH-F-TS12	1.05	26.7	717	1067
14	DTPI1.0LSSH-F-14	0.97	24.6	514	766	DTPI1.0LSSH-F-T14	1.02	25.9	684	1018	DTPI1.0LSSH-F-TS14	1.14	28.9	816	1215
16	DTPI1.0LSSH-F-16	1.01	25.7	593	882	DTPI1.0LSSH-F-T16	1.06	27.0	770	1146	DTPI1.0LSSH-F-TS16	1.18	30.0	908	1351
17	DTPI1.0LSSH-F-17	1.10	28.0	654	973	DTPI1.0LSSH-F-T17	1.15	29.3	847	1260	DTPI1.0LSSH-F-TS17	1.27	32.3	996	1482
19	DTPI1.0LSSH-F-19	1.10	28.0	689	1026	DTPI1.0LSSH-F-T19	1.15	29.3	882	1313	DTPI1.0LSSH-F-TS19	1.27	32.3	1031	1534
20	DTPI1.0LSSH-F-20	1.16	29.5	759	1129	DTPI1.0LSSH-F-T20	1.21	30.8	962	1431	DTPI1.0LSSH-F-TS20	1.34	34.0	1129	1681
24	DTPI1.0LSSH-F-24	1.31	33.2	950	1414	DTPI1.0LSSH-F-T24	1.37	34.8	1236	1840	DTPI1.0LSSH-F-TS24	1.50	38.2	1437	2139

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product.

**Ampacities:** Refer to beginning of section.

## Type LS-Pairs Signal & Instrumentation, 1.5 mm<sup>2</sup>, Individual Shield

Conductor	Unarmored					Armored					Armored and Sheathed				
	Number of Pairs	Part Number	Nominal OD		Net Weight		Tinned Copper				Tinned Copper				
			in	mm	lb/kft	kg/km	Part Number	in	mm	lb/kft	kg/km	Part Number	in	mm	lb/kft
2	DTPI1.5LSSH-F-2	0.57	14.5	166	248	DTPI1.5LSSH-F-T2	0.62	15.8	268	400	DTPI1.5LSSH-F-TS2	0.71	18.1	332	494
3	DTPI1.5LSSH-F-3	0.63	16.1	206	306	DTPI1.5LSSH-F-T3	0.68	17.3	318	474	DTPI1.5LSSH-F-TS3	0.78	19.7	388	577
4	DTPI1.5LSSH-F-4	0.69	17.5	261	388	DTPI1.5LSSH-F-T4	0.74	18.8	383	570	DTPI1.5LSSH-F-TS4	0.84	21.3	465	692
5	DTPI1.5LSSH-F-5	0.72	18.4	293	436	DTPI1.5LSSH-F-T5	0.77	19.7	421	626	DTPI1.5LSSH-F-TS5	0.87	22.2	506	753
6	DTPI1.5LSSH-F-6	0.80	20.4	362	539	DTPI1.5LSSH-F-T6	0.85	21.7	503	749	DTPI1.5LSSH-F-TS6	0.95	24.2	597	888
7	DTPI1.5LSSH-F-7	0.88	22.4	388	577	DTPI1.5LSSH-F-T7	0.93	23.6	543	808	DTPI1.5LSSH-F-TS7	1.04	26.4	653	972
8	DTPI1.5LSSH-F-8	0.95	24.2	510	759	DTPI1.5LSSH-F-T8	1.00	25.5	677	1008	DTPI1.5LSSH-F-TS8	1.11	28.2	796	1184
10	DTPI1.5LSSH-F-10	0.99	25.0	526	782	DTPI1.5LSSH-F-T10	1.04	26.3	698	1039	DTPI1.5LSSH-F-TS10	1.15	29.3	833	1239
12	DTPI1.5LSSH-F-12	1.04	26.5	611	910	DTPI1.5LSSH-F-T12	1.09	27.7	794	1181	DTPI1.5LSSH-F-TS12	1.21	30.7	835	1391
14	DTPI1.5LSSH-F-14	1.14	29.0	714	1063	DTPI1.5LSSH-F-T14	1.19	30.3	914	1360	DTPI1.5LSSH-F-TS14	1.32	33.5	1079	1606
16	DTPI1.5LSSH-F-16	1.19	30.3	822	1224	DTPI1.5LSSH-F-T16	1.26	32.0	1084	1614	DTPI1.5LSSH-F-TS16	1.38	35.2	1258	1872
17	DTPI1.5LSSH-F-17	1.29	32.7	892	1327	DTPI1.5LSSH-F-T17	1.35	34.4	1174	1747	DTPI1.5LSSH-F-TS17	1.49	37.8	1373	2043
19	DTPI1.5LSSH-F-19	1.29	32.7	940	1399	DTPI1.5LSSH-F-T19	1.35	34.4	1223	1820	DTPI1.5LSSH-F-TS19	1.49	37.8	1421	2115
20	DTPI1.5LSSH-F-20	1.37	34.8	1050	1562	DTPI1.5LSSH-F-T20	1.43	36.4	1349	2007	DTPI1.5LSSH-F-TS20	1.57	39.8	1559	2320
24	DTPI1.5LSSH-F-24	1.54	39.0	1314	1955	DTPI1.5LSSH-F-T24	1.60	40.6	1649	2454	DTPI1.5LSSH-F-TS24	1.74	44.2	1893	2818

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product.

**Ampacities:** Refer to beginning of section.

Technical Data *continued*

## Type LS-Pairs Signal & Instrumentation, 2.5 mm<sup>2</sup>, Individual Shield

Conductor	Unarmored					Armored					Armored and Sheathed					
	Number of Pairs	Part Number	Nominal OD		Net Weight		Tinned Copper					Tinned Copper				
			in	mm	lb/kft	kg/km	Part Number	Nominal OD		Net Weight		Part Number	Nominal OD		Net Weight	
							in	mm	lb/kft	kg/km		in	mm	lb/kft	kg/km	
2	DTPI2.5LSSHF-2	0.64	16.3	220	328	DTPI2.5LSSHF-T2	0.69	17.6	334	497	DTPI2.5LSSHF-TS2	0.78	19.9	404	602	
3	DTPI2.5LSSHF-3	0.72	18.3	287	427	DTPI2.5LSSHF-T3	0.77	19.5	414	616	DTPI2.5LSSHF-TS3	0.87	22.1	499	742	
4	DTPI2.5LSSHF-4	0.78	19.9	364	541	DTPI2.5LSSHF-T4	0.83	21.2	502	747	DTPI2.5LSSHF-TS4	0.93	23.7	593	883	
5	DTPI2.5LSSHF-5	0.82	20.9	412	613	DTPI2.5LSSHF-T5	0.87	22.1	557	828	DTPI2.5LSSHF-TS5	0.98	24.9	660	983	
6	DTPI2.5LSSHF-6	0.91	23.1	506	753	DTPI2.5LSSHF-T6	0.96	24.4	666	991	DTPI2.5LSSHF-TS6	1.07	27.1	779	1160	
7	DTPI2.5LSSHF-7	1.00	25.4	547	813	DTPI2.5LSSHF-T7	1.05	26.7	722	1074	DTPI2.5LSSHF-TS7	1.17	29.7	858	1277	
8	DTPI2.5LSSHF-8	1.09	27.8	725	1079	DTPI2.5LSSHF-T8	1.14	29.0	916	1363	DTPI2.5LSSHF-TS8	1.26	32.0	1064	1583	
10	DTPI2.5LSSHF-10	1.12	28.5	748	1114	DTPI2.5LSSHF-T10	1.17	29.7	944	1405	DTPI2.5LSSHF-TS10	1.29	32.7	1095	1630	
12	DTPI2.5LSSHF-12	1.20	30.4	884	1316	DTPI2.5LSSHF-T12	1.26	32.0	1147	1706	DTPI2.5LSSHF-TS12	1.39	35.2	1320	1965	
14	DTPI2.5LSSHF-14	1.31	33.2	1029	1531	DTPI2.5LSSHF-T14	1.37	34.8	1315	1957	DTPI2.5LSSHF-TS14	1.51	38.2	1516	2256	
16	DTPI2.5LSSHF-16	1.36	34.5	1171	1743	DTPI2.5LSSHF-T16	1.42	36.1	1468	2185	DTPI2.5LSSHF-TS16	1.56	39.5	1676	2495	
17	DTPI2.5LSSHF-17	1.48	37.5	1281	1906	DTPI2.5LSSHF-T17	1.54	39.1	1603	2385	DTPI2.5LSSHF-TS17	1.68	42.6	1838	2736	
19	DTPI2.5LSSHF-19	1.48	37.5	1358	2022	DTPI2.5LSSHF-T19	1.54	39.1	1680	2501	DTPI2.5LSSHF-TS19	1.68	42.6	1916	2851	
20	DTPI2.5LSSHF-20	1.57	39.8	1509	2245	DTPI2.5LSSHF-T20	1.63	41.4	1850	2753	DTPI2.5LSSHF-TS20	1.77	44.9	2099	3123	
24	DTPI2.5LSSHF-24	1.76	44.6	1882	2801	DTPI2.5LSSHF-T24	1.82	46.2	2265	3370	DTPI2.5LSSHF-TS24	1.98	50.2	2579	3838	

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product.

**Ampacities:** Refer to beginning of section.