

# Marine Unarmoured Power Cables - Flame Retardant



## Application

These cables are designed for use where mechanical protection is not required for fixed wiring in ships, and in mobile and fixed offshore units such as drilling rigs and oil platforms.

## Specifications

- In accordance with IEC60092-353
- **Conductor:** Class 2 or flexible plain copper conductor to BS EN 60228
- **Insulation:** XLPE complying with IEC60092-351
- **Core Identification:**
  - 2 cores are brown and blue
  - 3 cores are brown, black and grey
  - 4 cores are brown, black, grey and blue
- **Outer Sheath:** Zero halogen type SHF1 to IEC60092-359
- **Identification:** The legend will include the manufacturers name, voltage, number of cores and cross sectional area, and IEC60332-3A reference where applicable. The standard sheath colour is black
- **Sheath Characteristics:**
  - Oxygen index: > 37%
  - Temperature index: 250°C
  - HCL emission: < 0.5% of weight of compound @ 800°C (typically < 0.1%)
- **Fire Performance:** Flame retardant to IEC60332-3-22 Category A (reduced propagation)
- **Temperature Rating:** 90°C maximum conductor operating temperature
- **Voltage Rating:** 600/1000 V

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Anixter Number		Nominal Cond Area mm <sup>2</sup>	Approximate Overall Diameter mm	Approximate Weight kg/km	Flame Proof Stuffing Gland	
Stranded	Flexible				PRYSMIAN ETIAT-A2EX	CMP ETIAT-A2F
<b>Single-Core</b>						
MU-1C-0025-60		2.5	5.5	55	-20SS	-16/20C
MU-1C-0040-60		4	6.5	70	-20SS	-16/20C
MU-1C-0060-60		6	7.0	95	-20SS	-16/20C
MU-1C-0100-60		10	8.0	140	-20S	-20SC
MU-1C-0160-60		16	9.0	200	-20S	-20SC
MU-1C-0250-60		25	11.0	310	-20S	-20SC
MU-1C-0350-60		35	12.5	410	-20	-20C
MU-1C-0500-60		50	14.0	540	-20	-25C
MU-1C-0700-60		70	16.5	765	-25	-25C
<b>2 Core</b>						
MU-2C-0015	MU-2C-0015F	1.5	8.5	80	-20S	-20SC
MU-2C-0025	MU-2C-0025F	2.5	9.5	115	-20S	-20SC
<b>3 Core</b>						
MU-3C-0015	MU-3C-0015F	1.5	9.0	100	-20S	-20SC
MU-3C-0025	MU-3C-0025F	2.5	10.0	145	-20S	-20SC
MU-3C-0040	MU-3C-0040F	4	11.5	200	-20	-20C
MU-3C-0060	MU-3C-0060F	6	13.0	310	-20	-20C
MU-3C-0100	MU-3C-0100F	10	15.0	465	-20	-25C
	MU-3C-0160F	16	17.5	675	-25	-25C
	MU-3C-0250F	25	22.0	1025	-32	-32C
	MU-3C-0350F	35	24.5	1390	-32	-32C
	MU-3C-0500F	50	28.5	1860	-40	-40C

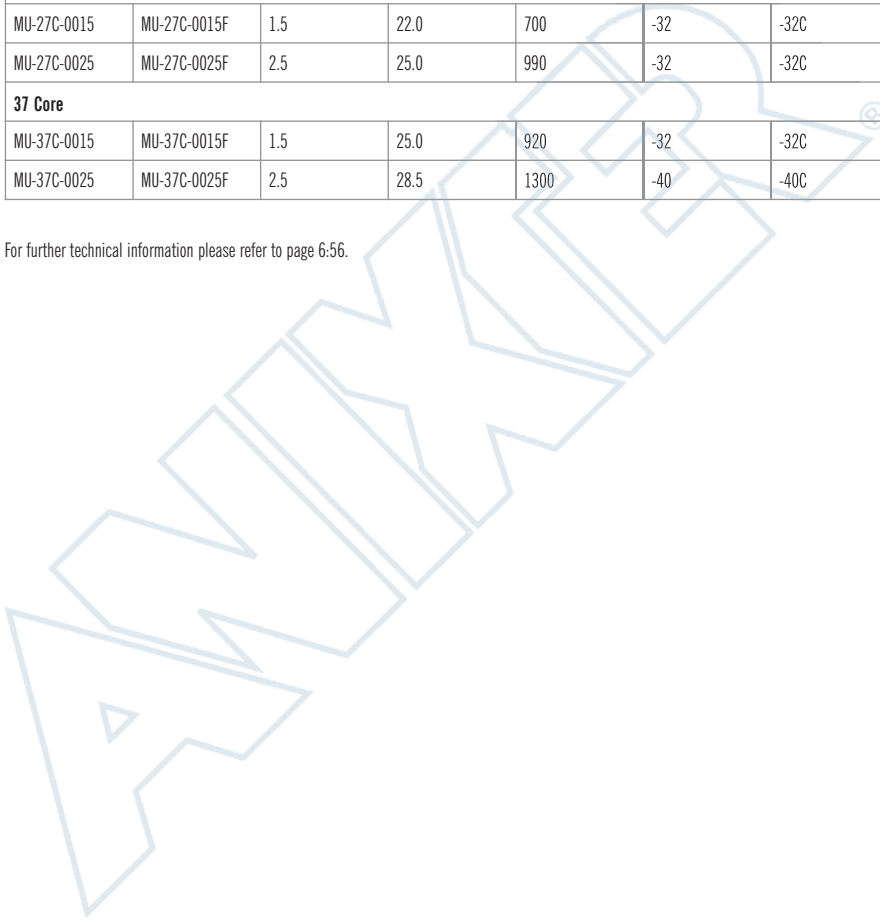
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Anixter Number		Nominal Cond Area mm <sup>2</sup>	Approximate Overall Diameter mm	Approximate Weight kg/km	Flame Proof Stuffing Gland	
Stranded	Flexible				PRVSMIAN E1AT-A2EX	CMP E1AT-A2F
<b>4 Core</b>						
MU-4C-0015	MU-4C-0015F	1.5	10.0	135	-20S	-20SC
MU-4C-0025	MU-4C-0025F	2.5	11.0	180	-20S	-20SC
MU-4C-0040	MU-4C-0040F	4	12.5	260	-20	-20C
MU-4C-0060	MU-4C-0060F	6	14.0	385	-20	-25C
MU-4C-0100	MU-4C-0100F	10	16.5	585	-32	-25C
	MU-4C-0160F	16	19.5	865	-32	-32C
	MU-4C-0250F	25	24.5	1325	-32	-32C
	MU-4C-0350F	35	27.5	1785	-40	-40C
	MU-4C-0500F	50	31.5	2400	-40	-50SC
	MU-4C-0700F	70	37.0	3390	-50	-50SC
<b>5 Core</b>						
MU-5C-0015	MU-5C-0015F	1.5	11.0	160	-20S	-20SC
MU-5C-0025	MU-5C-0025F	2.5	12.0	220	-20	-20C
<b>7 Core</b>						
MU-7C-0015	MU-7C-0015F	1.5	11.5	200	-20	-20C
MU-7C-0025	MU-7C-0025F	2.5	13.5	285	-20	-25C
<b>10 Core</b>						
MU-10C-0015	MU-10C-0015F	1.5	15.0	290	-20	-25C
MU-10C-0025	MU-10C-0025F	2.5	17.0	410	-25	-25C
<b>12 Core</b>						
MU-12C-0015	MU-12C-0015F	1.5	15.5	335	-25	-25C
MU-12C-0025	MU-12C-0025F	2.5	17.5	465	-25	-25C

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Anixter Number		Nominal Cond Area mm <sup>2</sup>	Approximate Overall Diameter mm	Approximate Weight kg/km	Flame Proof Stuffing Gland	
Stranded	Flexible				PRYSMIAN ETAT-A2EX	CMP ETAT-A2F
<b>19 Core</b>						
MU-19C-0015	MU-19C-0015F	1.5	18.5	495	-25	-25C
MU-19C-0025	MU-19C-0025F	2.5	20.5	690	-32	-32C
<b>27 Core</b>						
MU-27C-0015	MU-27C-0015F	1.5	22.0	700	-32	-32C
MU-27C-0025	MU-27C-0025F	2.5	25.0	990	-32	-32C
<b>37 Core</b>						
MU-37C-0015	MU-37C-0015F	1.5	25.0	920	-32	-32C
MU-37C-0025	MU-37C-0025F	2.5	28.5	1300	-40	-40C

For further technical information please refer to page 6.56.



# Technical Information – IEC60092 Marine Cables

Single Core Cables

Continuous current ratings for groups of circuits (up to 6 cables bunched) for single core XLPE or EPR insulated cables, run open or enclosed, and are also applicable to mica tape fire resistant types.

## CURRENT RATINGS

Nominal Conductor Area mm <sup>2</sup>	Current Rating Single Phase a.c. or d.c., or Three Phase a.c. A		Voltage Drop Per Ampere Per Metre		
			d.c. mV	Single Phase a.c. mV	Three Phase a.c. mV
1.0	17		53	53	46
1.5	21		34	34	29
2.5	30		18	18	16
4.0	40		12	12	10
6.0	51		7.6	7.6	6.6
10	71		4.5	4.5	3.9
16	95		2.7	2.7	2.3
25	125		1.7	1.7	1.5
35	155		1.2	1.2	1.1
50	190		0.96	0.98	0.87
70	240		0.67	0.69	0.63
95	290		0.48	0.52	0.49
120	340		0.38	0.42	0.43
150	385		0.31	0.36	0.38
185	440		0.25	0.32	0.34
240	520		0.19	0.27	0.31
300	590		0.15	0.24	0.29
	<b>d.c.</b>	<b>a.c.</b>			
400	690	670	0.12	0.23	0.28
500	780	720	0.093	0.22	0.27
630	890	780	0.071	0.21	0.26

Where more than six cables are bunched, a rating factor of 0.85 should be applied to the current rating.

For ambient temperatures other than 45°C, the following rating factors should be applied:

Ambient air temp °C	35	40	45	50	55	60	65	70	75	80
Rating factor	1.11	1.05	1.0	0.94	0.88	0.82	0.75	0.67	0.58	0.47

# Technical Information – IEC60092 Marine Cables (continued)

## MultiCore Cables

Continuous current ratings for groups of circuits (up to 6 cables bunched) for twin and multicore XLPE or EPR insulated cables, run open or enclosed, and are also applicable to mica taped fire resistant types.

### CURRENT RATINGS

Nominal Conductor Area	Twin Cables			Three & Four Core Cables	
	Current Rating Single Phase a.c. or d.c.	Voltage Drop Per Ampere Per Metre		Current Rating Three Phase a.c.	Voltage Drop Per Ampere Per Metre
		d.c.	Single Phase a.c.		
mm <sup>2</sup>	A	mV	mV	A	mV
1.0	14	54	54	12	47
1.5	18	35	35	15	30
2.5	25	18	18	21	16
4.0	34	12	12	29	10
6.0	43	7.8	7.8	36	6.7
10	60	4.6	4.6	50	4.0
16	81	2.7	2.7	67	2.3
25	105	1.7	1.7	89	1.5
35	135	1.2	1.2	105	1.1
50	165	0.98	1.0	135	0.89
70	200	0.68	0.70	170	0.64
95	250	0.49	0.53	205	0.50
120	290	0.39	0.43	240	0.44
150	330	0.31	0.36	270	0.38
185	370	0.25	0.32	305	0.34
240	445	0.19	0.27	365	0.31
300	505	0.15	0.24	415	0.29

Where more than six cables are bunched, a rating factor of 0.85 should be applied to the current rating.

For ambient temperatures other than 45°C, the following rating factors should be applied:

Ambient air temp °C	35	40	45	50	55	60	65	70	75	80
Rating factor	1.11	1.05	1.0	0.94	0.88	0.82	0.75	0.67	0.58	0.47