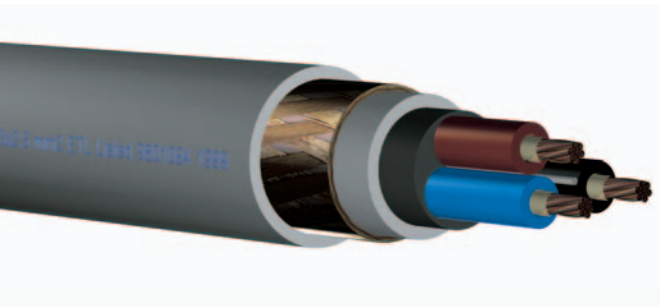


Power and control cables

HXXMB-FR EEP 0.6/1 kV IEC 60092-3

Class 2 conductors



Application:

Armored fire resistant power and control cables 0.6/1 kV with special properties for electrical installations in ships and offshore units. Temperature Class 85 °C, Flame Retardant (IEC 60332-3 category "A", "A/F"), Low Smoke, Halogen Free, Low Toxicity and Fire Resistant (IEC 60331 950 °C). Suitable for application in cold climate areas required to pass cold bend and cold impact testing at -40 °C and -35 °C, respectively.

Construction:

Generally according to IEC 60092-3 0.6/1 kV

Conductors:	stranded bare annealed copper, IEC 60228, (Class 2) sizes 1 - 300 mm ²
Insulation:	mica tape, and cross linked polyethylene (XLPE/HF XLPE) according to IEC 60092-3, IEC 60092-351 and IEEE Std 45
Assembly:	cores cabled together
Filler:	halogen free filling compound
Innersheath:	halogen free, flame retardant, (SHF1, IEC 60092-359)
Braiding:	bronze wires according to IEEE Std 45, CDA 220, weight coverage 90% on nominal diameter, according to IEC 60092-3, wire diameter 0.32 - 0.40 mm
6 Sheathing:	halogen free, flame retardant (SHF1, IEC 60092-359); all sheath and jacketing materials shall pass tear resistance testing to 35 lbs/in (6.4 N/mm)
Sheathing color:	gray (other colors are available on request)

Identification of the cores:

1 core	black
2 cores	black, blue
3 cores	black, blue, brown
4 cores	black, blue, brown, green/yellow
5 cores and up:	black, numbered

Special cable properties:

Fire propagation:	IEC 60332-3 category "A", "A/F"
Fire resistance:	IEC 60331 950 °C
Smoke:	IEC 61034-1/2, MIL-C-24643A (par. 4.7.27) and NES 711
Acidity:	IEC 60754-1/2 and MIL-C-24643A (par. 4.7.25)
Halogen content:	IEC 60754-1/2 and MIL-C-24643A (par. 4.7.26)
Toxicity index:	NES 713
Cold properties:	cold bend (-40 °C) and cold impact (-35 °C) according to CAN/CSA-C22.2 No. 0.3-Dec. '92

**General data for HXXMB-FR EEP 0.6/1 kV IEC 60092-3
Class 2 conductors**

number of cores and nominal cross sectional area (n x mm ²)	number of wires in conductor class 2 (n)	nominal conductor diameter (mm)	nominal core diameter (mm)	nominal diameter over inner-sheath (inches)	nominal diameter over inner-sheath (mm)	nominal diameter of braiding wire (mm)	nominal outer diameter (inches)	nominal outer diameter (mm)	minimum bending radius (mm)	approximate weight (lbs/M')	approximate weight (kg/km)	conductor resistance at 20 °C DC (Ω/M')	conductor resistance at 20 °C DC (Ω/km)
1 x 1.5	7	1.6	4.3	0.252	6.4	0.32	0.394	10.0	50	111	165	3.7	12.1
1 x 2.5	7	2.0	4.7	0.272	6.9	0.32	0.413	10.5	53	121	180	2.26	7.41
1 x 4	7	2.5	5.5	0.299	7.6	0.32	0.441	11.2	56	144	215	1.41	4.61
1 x 6	7	3.1	6.0	0.319	8.1	0.32	0.461	11.7	59	161	240	0.94	3.08
1 x 10	7	4.0	7.1	0.370	9.4	0.32	0.516	13.1	79	212	315	0.56	1.83
1 x 16	7	5.0	8.3	0.421	10.7	0.32	0.575	14.6	88	276	410	0.35	1.15
1 x 25	7	6.3	9.8	0.492	12.5	0.32	0.646	16.4	98	363	540	0.222	0.727
1 x 35	19	7.0	10.6	0.520	13.2	0.32	0.681	17.3	104	437	650	0.160	0.524
1 x 50	19	8.1	11.9	0.677	17.2	0.32	0.839	21.3	128	645	960	0.118	0.387
1 x 70	19	9.7	13.9	0.764	19.4	0.32	0.933	23.7	142	840	1,250	0.082	0.268
1 x 95	19	11.4	15.8	0.846	21.5	0.32	1.016	25.8	155	1,055	1,570	0.059	0.193
1 x 120	37	13.9	18.6	0.961	24.4	0.32	1.146	29.1	175	1,290	1,920	0.047	0.153
1 x 150	37	15.5	20.3	1.059	26.9	0.32	1.252	31.8	191	1,546	2,300	0.038	0.124
1 x 185	37	17.3	22.3	1.150	29.2	0.32	1.343	34.1	205	1,848	2,750	0.0302	0.0991
1 x 240	61	19.9	25.4	1.283	32.6	0.40	1.496	38.0	228	2,385	3,550	0.0230	0.0754
1 x 300	61	22.2	28.1	1.398	35.5	0.40	1.618	41.1	247	2,856	4,250	0.0183	0.0601
2 x 1.5	7	1.6	4.3	0.461	11.7	0.32	0.614	15.6	94	255	380	3.7	12.1
2 x 2.5	7	2.0	4.7	0.508	12.9	0.32	0.661	16.8	101	302	450	2.26	7.41
2 x 4	7	2.5	5.5	0.579	14.7	0.32	0.740	18.8	113	383	570	1.41	4.61
2 x 6	7	3.1	6.0	0.630	16.0	0.32	0.791	20.1	121	450	670	0.94	3.08
2 x 10	7	4.0	7.1	0.728	18.5	0.32	0.890	22.6	136	591	880	0.56	1.83
2 x 16	7	5.0	8.3	0.850	21.6	0.32	1.020	25.9	155	806	1,200	0.35	1.15
2 x 25	7	6.3	9.8	0.976	24.8	0.32	1.161	29.5	177	1,075	1,600	0.222	0.727
2 x 35	19	7.0	10.6	1.035	26.3	0.32	1.228	31.2	187	1,243	1,850	0.160	0.524
2 x 50	19	8.1	11.9	1.157	29.4	0.40	1.370	34.8	209	1,646	2,450	0.118	0.387
2 x 70	19	9.7	13.9	1.346	34.2	0.40	1.567	39.8	239	2,184	3,250	0.082	0.268
2 x 95	19	11.4	15.8	1.512	38.4	0.40	1.740	44.2	265	2,755	4,100	0.059	0.193
3 x 1.5	7	1.6	4.3	0.492	12.5	0.32	0.646	16.4	98	282	420	3.7	12.1
3 x 2.5	7	2.0	4.7	0.535	13.6	0.32	0.689	17.5	105	329	490	2.26	7.41
3 x 4	7	2.5	5.5	0.614	15.6	0.32	0.776	19.7	118	417	620	1.41	4.61
3 x 6	7	3.1	6.0	0.669	17.0	0.32	0.831	21.1	127	497	740	0.94	3.08
3 x 10	7	4.0	7.1	0.772	19.6	0.32	0.941	23.9	143	672	1,000	0.56	1.83
3 x 16	7	5.0	8.3	0.886	22.5	0.32	1.063	27.0	162	874	1,300	0.35	1.15
3 x 25	7	6.3	9.8	1.039	26.4	0.32	1.224	31.1	187	1,210	1,800	0.222	0.727
3 x 35	19	7.0	10.6	1.110	28.2	0.32	1.303	33.1	199	1,478	2,200	0.160	0.524
3 x 50	19	8.1	11.9	1.240	31.5	0.40	1.453	36.9	221	1,949	2,900	0.118	0.387
3 x 70	19	9.7	13.9	1.425	36.2	0.40	1.654	42.0	252	2,587	3,850	0.082	0.268
3 x 95	19	11.4	15.8	1.618	41.1	0.40	1.854	47.1	283	3,360	5,000	0.059	0.193
3 x 120	37	13.9	18.6	1.862	47.3	0.40	2.106	53.5	321	4,133	6,150	0.047	0.153
3 x 150	37	15.5	20.3	2.047	52.0	0.40	2.299	58.4	350	5,006	7,450	0.038	0.124
3 x 185	37	17.3	22.3	2.236	56.8	0.40	2.496	63.4	380	6,048	9,000	0.0302	0.0991
3 x 240	61	19.9	25.4	2.524	64.1	0.40	2.799	71.1	427	7,728	11,500	0.0230	0.0754
4 x 1.5	7	1.6	4.3	0.543	13.8	0.32	0.697	17.7	106	323	480	3.7	12.1
4 x 2.5	7	2.0	4.7	0.583	14.8	0.32	0.744	18.9	113	376	560	2.26	7.41
4 x 4	7	2.5	5.5	0.661	16.8	0.32	0.823	20.9	125	470	700	1.41	4.61
4 x 6	7	3.1	6.0	0.713	18.1	0.32	0.874	22.2	133	558	830	0.94	3.08
4 x 10	7	4.0	7.1	0.854	21.7	0.32	1.024	26.0	156	806	1,200	0.56	1.83
4 x 16	7	5.0	8.3	0.980	24.9	0.32	1.165	29.6	178	1,075	1,600	0.35	1.15
4 x 25	7	6.3	9.8	1.142	29.0	0.32	1.335	33.9	203	1,478	2,200	0.222	0.727
4 x 35	19	7.0	10.6	1.236	31.4	0.40	1.449	36.8	221	1,881	2,800	0.160	0.524
4 x 50	19	8.1	11.9	1.366	34.7	0.40	1.587	40.3	242	2,385	3,550	0.118	0.387
4 x 70	19	9.7	13.9	1.583	40.2	0.40	1.819	46.2	277	3,192	4,750	0.082	0.268
4 x 95	19	11.4	15.8	1.799	45.7	0.40	2.043	51.9	311	4,166	6,200	0.059	0.193
4 x 120	37	13.9	18.6	2.071	52.6	0.40	2.323	59.0	354	5,107	7,600	0.047	0.153
4 x 150	37	15.5	20.3	2.272	57.7	0.40	2.531	64.3	386	6,182	9,200	0.038	0.124
5 x 1.5	7	1.6	4.3	0.602	15.3	0.32	0.764	19.4	116	376	560	3.7	12.1
5 x 2.5	7	2.0	4.7	0.650	16.5	0.32	0.811	20.6	124	437	650	2.26	7.41
5 x 4	7	2.5	5.5	0.736	18.7	0.32	0.906	23.0	138	571	850	1.41	4.61
24 x 1	7	1.3	3.8	1.047	26.6	0.32	1.228	31.2	187	806	1,200	5.5	18.1
6 x 1.5	7	1.6	4.3	0.622	15.8	0.32	0.783	19.9	119	349	520	3.7	12.1
7 x 1.5	7	1.6	4.3	0.626	15.9	0.32	0.787	20.0	120	373	555	3.7	12.1
8 x 1.5	7	1.6	4.3	0.681	17.3	0.32	0.843	21.4	128	400	595	3.7	12.1
12 x 1.5	7	1.6	4.3	0.827	21.0	0.32	0.996	25.3	152	548	815	3.7	12.1
20 x 1.5	7	1.6	4.3	1.043	26.5	0.32	1.228	31.2	187	796	1,185	3.7	12.1
24 x 1.5	7	1.6	4.3	1.169	29.7	0.32	1.362	34.6	208	1,008	1,500	3.7	12.1
30 x 1.5	7	1.6	4.3	1.248	31.7	0.40	1.461	37.1	223	1,162	1,730	3.7	12.1
37 x 1.5	7	1.6	4.3	1.358	34.5	0.40	1.571	39.9	239	1,378	2,050	3.7	12.1
6 x 2.5	7	2.0	4.7	0.673	17.1	0.32	0.835	21.2	127	403	600	2.26	7.41
7 x 2.5	7	2.0	4.7	0.677	17.2	0.32	0.839	21.3	128	430	640	2.26	7.41
8 x 2.5	7	2.0	4.7	0.744	18.9	0.32	0.913	23.2	139	497	740	2.26	7.41
10 x 2.5	7	2.0	4.7	0.874	22.2	0.32	1.043	26.5	159	598	890	2.26	7.41
12 x 2.5	7	2.0	4.7	0.906	23.0	0.32	1.083	27.5	165	672	1,000	2.26	7.41
19 x 2.5	7	2.0	4.7	1.079	27.4	0.32	1.272	32.3	194	941	1,400	2.26	7.41
20 x 2.5	7	2.0	4.7	1.150	29.2	0.32	1.343	34.1	205	1,008	1,500	2.26	7.41
24 x 2.5	7	2.0	4.7	1.280	32.5	0.40	1.492	37.9	227	1,277	1,900	2.26	7.41
30 x 2.5	7	2.0	4.7	1.366	34.7	0.40	1.587	40.3	242	1,478	2,200	2.26	7.41
36 x 2.5	7	2.0	4.7	1.488	37.8	0.40	1.709	43.4	260	1,680	2,500	2.26	7.41
13 x 6	7	3.1	6.0	1.209	30.7	0.32	1.409	35.8	215	1,210	1,800	0.94	3.08