

MC-HL 3/C VFD AND 4/C CABLE, 600 VOLTS

UL TYPE MC-HL, XLP 90°C,

APPLICATION:

Type MC-HL armored power cable for use in circuits not exceeding 600 volts cables are intended for use as services, feeders and branch circuits for power lighting, control, and signal circuits in wet or dry locations. Three conductor armored cables with three (3) symmetrical grounding wires can be used as a VFD cable for use with AC motors controlled by pulse-width modulated inverters.

STANDARDS:

1. UL Type MC-HL
2. Also listed for use as Type MC per Standard 1569.
3. Overall jacket UL listed as Sunlight Resistant.
4. Cables pass UL and IEEE-383 ribbon burner flame tests and are UL listed For CT Use.
5. Cables pass IEEE- 1202/CSA FT4(70,000 BTU/hr) cable tray flame test.
6. Cables pass ICEA T-29-520 - 210,000 BTU/hr Ribbon Burner Flame Test.
7. Cables UL listed for Direct Burial.
8. Conforms to ICEA S-95-658, NEMA WC70 Standard for Non-Shielded Power Cable, 2kV or Less
9. Conforms to UL 44 Rubber Insulated Wires and Cables
10. Conforms to UL 2225 Cables and Cable Fittings for Use in Hazardous Locations.
11. Per NEC can be used in Class I, II and III, Divisions 1 and 2; and Class I, Zones 1 and 2 hazardous locations.
12. Meets ASTM D746 brittleness temperature at or below -40°C
13. UL Marine Shipboard Cable
14. ABS Listed for CWCMC

CONSTRUCTION: Three or four conductors of stranded copper, XLP (cross-linked polyethylene) insulation, three conductors twisted together with one or three uncoated copper grounding conductor, binder tape, continuously welded and corrugated aluminum alloy sheath, black PVC jacket overall.



USAWC Part #	Size AWG or kcmil	No. of Conduct.	No. of Strands	Insul. Thick. Mils	Nom. Diam. Over Armor Inches	PVC Jkt Thick Mils	Nom. Diam. Over PVC Jkt. Inches	COPPER PHASE CONDUCTORS			
								Copper Grounding Conductor AWG	Weight lbs/1000 ft		90°C AMPACITY @ 30°C AMBIENT
									Net	Copper	
14-03GMCHL	14	3	7	30	0.53	50	0.64	3 X #18	163	57	15
14-04GMCHL	14	4	7	30	0.58	50	0.69	3 X #18	226	70	15
12-03GMCHL	12	3	7	30	0.58	50	0.69	3 X #16	243	87	20
12-04GMCHL	12	4	7	30	0.67	50	0.78	3 X #16	291	107	20
10-03GMCHL	10	3	7	30	0.62	50	0.73	3 X #14	305	135	30
10-04GMCHL	10	4	7	30	0.67	50	0.78	3 X #14	354	167	30
8-03GMCHL	8	3	7	45	0.71	50	0.81	3 X #14	392	192	55
8-04GMCHL	8	4	7	45	0.80	50	0.90	1 X #10	473	236	44
6-03GMCHL	6	3	7	45	0.80	50	0.90	3 X #12	534	303	75
6-04GMCHL	6	4	7	45	0.89	50	0.99	1 X #8	641	375	60
4-03GMCHL	4	3	7	45	0.89	50	0.99	3 X #12	716	447	95
4-04GMCHL	4	4	7	45	0.97	50	1.08	1 X #8	860	567	76
2-03GMCHL	2	3	7	45	1.02	50	1.13	3 X #10	1013	711	130
2-04GMCHL	2	4	7	45	1.15	50	1.26	1 X #6	1267	901	104
1-03GMCHL	1	3	19	55	1.15	50	1.26	3 X #10	1119	870	150
1-04GMCHL	1	4	19	55	1.29	50	1.40	1 X #6	1526	1113	120
1/0-03GMCHL	1/0	3	19	55	1.24	50	1.34	3 X #10	1496	1074	170
1/0-04GMCHL	1/0	4	19	55	1.37	50	1.48	1 X #6	1862	1385	136
2/0-03GMCHL	2/0	3	19	55	1.34	50	1.44	3 X #10	1801	1329	195
2/0-04GMCHL	2/0	4	19	55	1.51	60	1.64	1 X #6	2351	1725	156
3/0-03GMCHL	3/0	3	19	55	1.47	60	1.58	3 X #8	2262	1707	225
3/0-04GMCHL	3/0	4	19	55	1.65	60	1.78	1 X #4	2921	2201	180
4/0-03GMCHL	4/0	3	19	55	1.60	60	1.73	3 X #8	2722	2112	260
4/0-04GMCHL	4/0	4	19	55	1.78	60	1.91	1 X #4	3491	2741	208
250-03GMCHL	250	3	37	65	1.74	60	1.87	3 X #8	3195	2469	290
250-04GMCHL	250	4	37	65	1.96	60	2.09	1 X #4	4142	3217	232
350-03GMCHL	350	3	37	65	1.96	60	2.09	3 X #7	4284	3438	350
350-04GMCHL	350	4	37	65	2.19	75	2.35	1 X #3	5536	4487	280
500-03GMCHL	500	3	37	65	2.28	75	2.44	3 X #6	6035	4875	430
500-04GMCHL	500	4	37	65	2.49	75	2.65	1 X #2	7704	6381	344
750-03GMCHL	750	3	61	80	2.75	75	2.92	3 X #5	8854	7248	535
750-04GMCHL	750	4	61	80	3.03	85	3.21	1 X #1	11449	9522	428
1000-03GMCHL	1000	3	61	80	3.11	85	3.30	1 X #1/0	11611	9590	615
1000-04GMCHL	1000	4	61	80	3.63	85	3.81	1 X #1/0	15377	12678	492

MC-HL ARMORED POWER,3/C VFD and 4/C

XLP/PVC, CT Use, 600V, 90°C

1. SCOPE

- 1.1 This specification describes three and four conductor XLP cross-linked polyethylene insulated, Type MC-HL armored power cable for use in circuits not exceeding 600 volts at conductor temperatures of 90°C in wet or dry locations. Cables are intended for use as services, feeders and branch circuits for power lighting, control, and signal circuits in wet or dry locations including cable tray, raceways, direct burial, embedded in concrete and as aerial cable on a messenger. Three conductor armored cables with three (3) symmetrical grounding wires can be used as a VFD cable for use with AC motors controlled by pulse-width modulated inverters.
- 1.2 For use in Class I, II and III, Divisions 1 and 2; and Class I, Zones 1 and 2 hazardous locations per NEC articles 501, 502, 503 and 505

2 STANDARDS

- 2.1 The following standards shall form a part of this specification to the extent specified herein:
- 2.1.1 ICEA Pub. No. S-95-658, Nema Pub. No. WC70 Standard for Non-Shielded Power Cables, 2 kV or Less
 - 2.1.2 UL 44 Rubber Insulated Wires and Cables
 - 2.1.3 UL 1569 Metal Clad Cables
 - 2.1.4 UL2225 Cables and Cable Fittings for Use in Hazardous Locations

3 CONDUCTORS

- 3.1 Class B stranded bare annealed uncoated copper per ASTM B3. 10AWG and smaller are compressed Class B stranding per ASTM B8. 8AWG and larger are compact stranding per ASTM B496. Grounding conductor are class B stranded bare annealed copper per ASTM B3 and B8. Where specified single or three split ground wires are used and sized in accordance with NEC Table 250.122.

4 INSULATION

- 4.1 Each conductor shall be insulated with (XLP) cross-linked polyethylene meeting the requirements of ICEA S-95-658, UL 44 and Listed XHHW-2 .

5 CIRCUIT IDENTIFICATION

- 5.1 6AWG and smaller are color-coded per ICEA Method 1, Table E2. 4AWG and larger are black with printed numbers per ICEA Method 4.

6 ASSEMBLY

- 6.1 The insulated conductors and ground wire(s) shall be cabled together with non-hygroscopic fillers, when necessary to make round.

7 CABLE TAPE

- 7.1 A suitable cable tape shall be applied over the assembly to hold the core together and provide bedding for the armor.

8 ARMOR

- 8.1 Continuously welded and corrugated aluminum alloy sheath per UL 1569 and UL 2225.

9 JACKET

- 9.1 A flame-retardant, moisture and sunlight resistant Polyvinyl Chloride (black) shall be applied overall.

10 IDENTIFICATION

- 10.1 All cable shall be identified by means of surface ink printing indicating manufacturer, size, insulation type, insulation thickness, voltage rating, insulation level, year of manufacture and UL designations.

11 TESTS

- 11.1 Individual conductors and completed cables shall be tested in accordance with UL requirements of MC-HL cables having XHHW-2 insulated conductors