

## (3C) MC-HL VFD CABLE, 2000 VOLTS

UL TYPE MC-HL, XLP 90°C,

**APPLICATION:**

Type MC-HL armored power cable for use in circuits not exceeding 2000 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 conductors of stranded copper, XLP (cross-linked polyethylene 2000V) insulation, Three conductors twisted together with three uncoated copper grounding conductor, binder tape, continuously welded and corrugated aluminum alloy sheath, black PVC jacket overall.

**OPTIONAL Compliances:** CSA, ABS



USAWC Part #	Size AWG or kcmil	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 Con- ductor AWG	Weight lbs/1000 ft		90°C AMPACITY @ 30°C AMBIENT
								Net	Copper	
14-032KVMCHL	14	7	45	0.64	50	0.74	3 X #18	240	57	15
12-032KVMCHL	12	7	45	0.68	50	0.78	3 X #16	270	87	20
10-032KVMCHL	10	7	45	0.72	50	0.82	3 X #14	325	135	30
8-032KVMCHL	8	7	55	0.75	50	0.85	3 X #14	420	213	55
6-032KVMCHL	6	7	60	0.92	50	1.02	3 X #12	600	303	75
4-032KVMCHL	4	7	60	1.03	50	1.13	3 X #12	800	447	95
2-032KVMCHL	2	7	60	1.18	50	1.28	3 X #10	1100	711	130
1-032KVMCHL	1	19	80	1.35	50	1.45	3 X #10	1300	870	150
1/0-032KVMCHL	1/0	19	80	1.50	50	1.60	3 X #10	1800	1074	170
2/0-032KVMCHL	2/0	19	80	1.60	50	1.70	3 X #6	2200	1476	195
4/0-032KVMCHL	4/0	19	80	1.90	60	2.02	3 X #4	3100	2346	260
250-032KVMCHL	250	37	90	2.10	60	2.22	3 X #4	3600	2703	290
350-032KVMCHL	350	37	90	2.40	60	2.52	3 X #2	4800	3858	350
500-032KVMCHL	500	37	90	2.70	75	2.86	3 X #1	6800	5406	430

Specification

**3/C MC-HL ARMORED POWER,VFD 2000V**

**XLP, CT Use, 90°C**

1. SCOPE

- 1.1 This specification describes three conductor XLP cross-linked polyethylene insulated, Type MC-HL armored power cable for use in circuits not exceeding 2000 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.

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 UL 2225 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 three (3) split class stranded bare annealed copper per ASTM B3 and B8 per specification 9615 exceed the minimum required in NEC Table 250.122

4. INSULATION

- 4.1 Each conductor shall be insulated with (XLP) crosslinked polyethylene meeting the requirements of ICEA S-95-658 (2000V).

5. CIRCUIT IDENTIFICATION

- 5.1 Color coded black with printed numbers per ICEA Method 4

6. ASSEMBLY

- 6.1 The insulated conductors and ground wire 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