(3C) MC-HL POWER CABLE, 2400 VOLTS, NON-SHIELDED

UL TYPE MC-HL, VFD, EPR 90°C,

APPLICATION:
As armored Type MV-90 cable for installation rack, tray, trough, cable trays, direct buried or imbedded in concrete; for power circuits not exceeding 2400 volts in manufacturing and processing plants, substations and generating stations. 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. May be used in Class I, II and III, Div. 1 and 2; and Class I, Zones 1 and 2 per NEC.

STANDARDS:
1. Listed by UL as Type MV-90 per Standard 1072.
2. Also listed for use as Type MC-HL.
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-1 202/CSA FT4(70,000 BTU/hr) cable tray flame test.
6. Cables pass ICEA 210,000 BTU/hr Ribbon Burner Flame Test.
7. Cables UL listed for Direct Burial.
8. Conforms to ICEA S-96-659, NEMA WC71 Standard for Nonshielded Cables Rated 2001 - 5000 Volts
9. Meets ASTM D746 brittleness temperature at or below -40°C
10. UL Marine Shipboard Cable
11. ABS Listed for CWCMC

CONSTRUCTION: Three conductors of stranded copper, extruded conductor shield, EPR (ethylene propylene rubber) insulation. Three conductors twisted together with three uncoated copper grounding conductors, binder tape, continuously welded and corrugated aluminum alloy armor, yellow PVC jacket overall.

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		AMPACITY	
								Net	Copper	IN AIR	DIRECT BURIAL
2400 VOLTS - NON-SHIELDED											
8-032.4KVMCHL	8	7	90	0.97	50	1.08	3 X #12	570	213	59	85
6-032.4KVMCHL	6	7	90	1.06	50	1.17	3 X #10	745	336	79	105
4-032.4KVMCHL	4	7	90	1.19	50	1.30	3 X #10	965	480	105	135
2-032.4KVMCHL	2	7	90	1.34	50	1.45	3 X #10	1275	708	140	180
1-032.4KVMCHL	1	19	90	1.42	50	1.53	3 X #8	1525	927	160	200
1/0-032.4KVMCHL	1/0	19	90	1.51	60	1.65	3 X #8	1840	1131	185	230
2/0-032.4KVMCHL	2/0	19	90	1.60	60	1.73	3 X #8	2165	1386	215	260
4/0-032.4KVMCHL	4/0	19	90	1.83	60	1.96	3 X #7	3080	2154	285	335
250-032.4KVMCHL	250	37	90	1.96	60	2.09	3 X #7	3475	2511	320	365
350-032.4KVMCHL	350	37	90	2.19	60	2.32	3 X #6	4710	3486	395	440
500-032.4KVMCHL	500	37	90	2.45	75	2.61	3 X #5	6410	4947	485	530
750-032.4KVMCHL	750	61	90	2.93	75	3.10	3 X #4	9225	7335	615	650
1000-032.4KVMCHL	1000	61	90	3.41	80	3.59	3 X #4	12080	9651	705	730

Specification

MC-HL 3/C EPR POWER CABLE, 2400 VOLTS
Three Conductor, Non-Shielded, 2400 Volts
MV-90, Sunlight Resistant, CT Use, VFD

1. SCOPE
   1.1 This specification describes three conductor, EPR (Ethylene-propylene-rubber) insulated, shielded power cables for use in circuits not exceeding 2400V at conductor temperatures of 90°C for continuous normal operation, 140°C for emergency overload conditions and 250°C for short-circuit conditions. Cables are intended for use on feeders and branch circuits in industrial power distributions systems in wet or dry locations including cable tray, raceways, direct burial and embedded in concrete. 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-96-659, Nema Pub. No. WC71 for 2001-5000 Volts Non-Shielded Power Cable.
      2.1.2 UL Standard 1072 for Type MV-90
      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. Grounding conductor is three (3) split class B stranded annealed uncoated copper sized in accordance with UL 1072 and NEC Table 250.122
4 CONDUCTOR SHIELDING
   4.1 Conductors shall be covered with a layer of extruded semi-conductor thermosetting compound with thickness in accordance with ICEA S-96-659 and UL 1072
5 INSULATION
   5.1 Directly over the conductor shielding shall be applied a homogeneous wall of EPR insulation. The insulation thickness shall be 90 mils and the thickness at any point shall be not less than 90% of the specified thickness. Physical and electrical properties of the insulation shall be in accordance per ICEA S-96-659 and UL 1072
6 CIRCUIT IDENTIFICATION
   6.1 Insulation is printed 1-black, 2-red and 3-blue for phase identification.
7 ASSEMBLY
   7.1 The insulated conductors and ground wire(s) shall be cabled together with non-hygroscopic fillers, when necessary to make round.
8 CABLE TAPE
   8.1 A suitable cable tape shall be applied over the assembly to hold the core together and provide bedding for the armor.
9 ARMOR
   9.1 Continuously welded and corrugated aluminum alloy sheath per UL 1569 and UL 1072.
10 JACKET
   10.1 A flame-retardant, moisture and sunlight resistant Polyvinyl Chloride (yellow) shall be applied overall. The jacket shall meet the requirements of UL 1702
11 IDENTIFICATION
   11.1 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.
12 TESTS
   12.1 Cable shall be tested in accordance with ICEA S-96-659 and UL 1072

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