



# Type MV-105 or MC-HL Medium Voltage

## 15kV 133% Insulation Level

UL 1072, UL 1569, UL 2225, IEEE 1202, ASTM B496, AEIC CS8, ICEA S-93-639/NEMA WC74, ICEA S-97-682

Three conductor cable with continuous corrugated aluminum welded armor

### CABLE DESIGN:

Three stranded copper conductors, extruded semiconducting shield, EPR insulation, extruded semiconducting insulation shield, phase identification strips, copper tape shield with overlap applied over individual conductors, stranded copper grounding conductors, fillers, binder tape over the core, imprevious, continuous corrugated aluminum sheath, PVC jacket.

### APPLICATIONS:

- For use in Class I, II and III, Division 1 and 2 and Class I, Zones 1 and 2 hazardous locations per NEC Articles 501, 502, 503 and 505
- For installation in wet and dry locations in both exposed and concealed work, direct burial, or embedment in concrete
- For installation in cable trays, raceways, troughs or on metal racks
- For installation in industrial, utility and other distribution systems

### CONSTRUCTION

Conductor	Class B compacted stranded bare copper per ASTM B496
Conductor screen	Extruded layer of semi-conducting compound over the conductor per UL 1072
Insulation	Extruded layer of ethylene-propylene rubber (EPR) per UL 1072
Insulation screen	Extruded layer of semi-conducting compound applied by triple extrusion process over the insulation. Meets electrical and physical requirements of UL 1072
Shield	Uncoated 5 mil copper tape helically applied with 20% overlap Phase identification: type id ribbon longitudinally applied under shield
Grounding conductor	Three uncoated copper grounding conductors per NEC/UL tables
Assembly	Three circuit conductors cabled with grounding conductors and fillers in the interstices, binder tape applied overall
Metallic sheath	Continuously corrugated welded aluminum armor
Jacket	Protective sunlight and ozone resistant PVC jacket per UL 1072 Red color
Special Factory Options	Construction with one grounding conductor



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### Features

Continuous, corrugated welded aluminum armor (CCW) provides barrier to moisture, gas, liquids and excellent mechanical protection, 105°C continuous normal operating temperature, 140°C emergency overload, 250°C short circuit conditions, -40°C cold bend

Conductor size	No. of Wires	Grounding Conductor		Insulation Thickness	Diameter over Insulation	Overall Diameter Core	Overall Diameter Armor	Jacket Thickness	Approx Overall Diameter Cable	Approx Net. Weight
AWG kcmil		No. x	AWG	mils	inches	inches	inches	mils	inches	lbs/1000ft
2	7	3	10	220	0.75	0.84	2.22	60	2.35	2490
1/0	19	3	8		0.82	0.91	2.42	80	2.57	3170
2/0	19	3	8		0.86	0.94	2.52		2.68	3550
4/0	19	3	7		0.96	1.04	2.83		2.99	4630
250	37	3	6		1.00	1.09	2.87		3.03	5160
350	37	3	6		1.12	1.22	3.28	90	3.46	6630
500	37	3	5		1.24	1.34	3.53		3.71	8420

Conductor size	Max. Pull Tension	Min. Bending Radius	Ampacities*			Resistance DC @ 25°C	Resistance AC @ 90°C	Reactance XC @ 60Hz	Resistance XL @ 60Hz	Positive Sequence Impedance
			Isolated in Air	Direct Buried	Underground Duct					
AWG kcmil	lbs	Inches	A			Ohm/MFT	Ohm/MFT	Ohm/MFT	Ohm/MFT	Ohm/MFT
2	1590	16.5	185	200	160	0.165	0.207	0.0043	0.0470	0.207 + j0.047
1/0	2540	18.1	240	255	210	0.104	0.130	0.0038	0.0438	0.13 + j0.044
2/0	3190	18.9	275	290	235	0.082	0.103	0.0035	0.0422	0.103 + j0.042
4/0	5080	20.9	360	375	305	0.052	0.065	0.0030	0.0392	0.065 + j0.039
250	6000	21.2	400	410	335	0.044	0.055	0.0028	0.0381	0.055 + j0.038
350	8400	24.4	490	495	400	0.031	0.040	0.0024	0.0368	0.04 + j0.037
500	10000	26.0	600	590	485	0.022	0.028	0.0021	0.0350	0.028 + j0.035

\* Ampacities „Underground Duct“ per NEC 2023 Table 310.60 (C) (13). Ampacities „Isolated in Air“ per NEC 2023 Table 310.60 (C) (5).  
Ampacities „Direct Buried“ per NEC 2023 Table 310.60 (C) (17).

### Approvals:

UL E231073

### Sample Print Legend:

TF CABLE E231073 (UL) MC-HL OR MV-105 [#AWG or Kcmil] CMPT CU 15kV SHLD EPR 133% INS LEVEL WITH 3x[#AWG] CU GRD UL  
1072 SUN RES DIR BUR FT-4 (-40°C) FOR CT USE IEEE 1202 [YEAR] [SEQUENTIAL FOOTAGE MARKINGS]

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