HLX09ET

ARMOR-X®-HL

5 kVU or 8 kV Shielded Type MV-105 or MC-HL

EPR Insulated, 105°C

Bare Copper Grounding Conductor

Continuous Corrugated Aluminum Armor with -40°C PVC Jacket

APPLICATIONS

Southwire HLX09ET ARMOR-X® Type MV-105 or MC-HL provides an impervious sheath recommended as an economical alternative to traditional conduit systems. For use in aerial installations, direct burial, concrete-encased installations, cable trays, troughs or continuous rigid cable supports. For use in Classes I, II, and III, Division 1 and 2 hazardous locations covered under NEC® Articles 501, 502, and 503. These cables are capable of operating continuously in wet or dry locations at a maximum conductor temperature of 105°C for normal operation, 140°C for emergency overload conditions, and 250°C for short circuit conditions, and are rated 5,000 V, 133% and 8,000 V, 100% insulation levels.

SPECIFICATIONS

Southwire HLX09ET Type MV-105 or MC-HL Cable is manufactured and tested in accordance with the latest revisions of the following standards and specification:

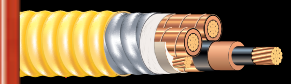
- UL 1072 - Medium Voltage Power Cables
- UL 2225 - Safety Metal-Clad Cables and Cable-Sealing Fittings for Use in Hazardous (Classified) Locations
- UL 1309 - Listed as Marine Shipboard Cable
- ICEA S-93-639 (NEMA WC 74) - 5-46 kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy
- IEEE 1202 - Flame Testing of Cable for Use in Cable Tray in Industrial and Commercial Occupancies (70,000 BTU/hr)
- ICEA T-29-520 Vertical Tray Flame Test (210,000 BTU/hr)

Certified qualification tests were performed in accordance with the requirements of AEIC CS-8. Cable has fully met the qualification testing requirements of AEIC CS-8.

CONSTRUCTION

Southwire HLX09ET ARMOR-X® Type MV-105 or MC-HL continuous, corrugated aluminum armor provides a sheath impervious to moisture, liquids, and gases. Cable is flame retardant UL-listed for cable tray use, direct burial, sunlight resistant and minus 40°C installation temperature. Continuous aluminum sheath meets the grounding requirements of NEC® 250-122 in non-HL locations. Cable provides proven, flexible EPR insulation. SOLONON® low smoke, non-halogen polyolefin jackets are available upon request.

- **Scope**
  This specification covers three-conductor EPR (ethylene propylene rubber) insulated, shielded, continuous corrugated aluminum armored, thermoplastic jacketed power cables with grounding conductor for use in aerial installations, direct burial, concrete-encased installations, cable trays, troughs, or continuous rigid cable supports. The cable shall be listed Type MV-105 or MC-HL for use in Classes I, II, and III, Division 1 and 2, hazardous locations. These cables are capable of operating continuously at a temperature of 105°C for normal operations, 140°C for emergency overload conditions, and 250°C for short circuit conditions, and are rated 8,000 V, 100% and 5,000 V, 133% insulation levels.
- **Standards**
  The following standards shall form part of this specification: UL Standard 1072 for Medium Voltage Power Cable and ICEA S-93-639 (NEMA WC74) 5-46 kV Shielded power Cable in Use in the Transmission and Distribution of Electric Energy.
- **Conductor**
  The conductor shall be Class B compressed concentric stranded bare copper in accordance with ASTM B3 and B8 and ICEA.



WEIGHTS, MEASUREMENTS AND PACKAGING

PRODUCT CODE	SIZE	DIAMETER		0.115" (2.29mm) INSULATION DIAMETER		EXTRUDED INSULATION SHIELD DIAMETER		GRD. COND. SIZE	APPROXIMATE ARMOR-X® DIAMETER		JACKET THICKNESS		APPROX. OVERALL DIAMETER		APPROXIMATE NET WEIGHT		ALLOWABLE AMPACITIES*	
	AWG OR kcmil	inch	mm	inch	mm	inch	mm	AWG	inch	mm	inch	mm	inch	mm	lbs/ 1000 ft	kg/ km	DIRECT BURIAL	IN AIR
HLX09ET-002	2	0.283	7.19	0.568	14.41	0.623	15.81	6	1.760	44.70	0.060	1.52	1.880	47.8	1797	2673	190	154
HLX09ET-001	1	0.322	8.18	0.608	15.43	0.663	16.83	4	1.845	46.86	0.060	1.52	1.965	49.9	2066	3074	215	180
HLX09ET-010	1/0	0.362	9.19	0.648	16.45	0.703	17.84	4	1.870	47.50	0.060	1.52	1.990	50.5	2368	3523	245	205
HLX09ET-020	2/0	0.405	10.29	0.688	17.46	0.743	18.86	4	2.040	51.82	0.060	1.52	2.160	54.9	2716	4042	280	240
HLX09ET-040	4/0	0.512	13.00	0.793	20.13	0.848	21.53	3	2.290	58.17	0.075	1.91	2.440	62.0	3804	5666	360	320
HLX09ET-250	250	0.558	14.17	0.850	21.59	0.905	22.99	3	2.430	61.72	0.075	1.91	2.580	65.5	4269	6353	395	355
HLX09ET-350	350	0.661	16.79	0.953	24.19	1.008	25.59	2	2.670	67.82	0.075	1.91	2.820	71.6	5483	8158	475	440
HLX09ET-500	500	0.790	20.07	1.078	27.37	1.133	28.77	1	2.980	75.69	0.075	1.91	3.130	79.5	7363	10955	570	545
HLX09ET-750	750	0.968	24.59	1.265	32.13	1.320	33.53	1/0	3.540	89.92	0.085	2.16	3.710	94.2	10741	15982	700	685

*Ampacities are based on the NEC® 2008 Edition. Direct burial ampacities are based on Table 310.83 three-conductors within an overall covering directly buried, 105°C conductor, 20°C earth ambient temperature. In air ampacities are based on Table 310.71 three-conductors within an overall covering in free air, 105°C conductor, 40°C ambient temperature.

CONSTRUCTION (continued)

- **Conductor Shield**
  The conductor shall be shielded with an extruded semiconducting thermosetting polymeric layer, which shall be firmly bonded to the insulation. The thickness shall be in accordance with the referenced standards.
- **Insulation**
  The insulation shall be EPR (ethylene propylene rubber) meeting the requirements of the referenced standards. The average thickness shall be 0.115".
- **Insulation Shield**
  The insulation shall be shielded with an extruded semiconducting thermosetting polymeric layer which will be identified as semiconducting. Over this layer shall be applied a helically-wrapped 5-mil copper tape with 25% overlap. The method of phase identification shall be similar to ICEA Method 3, using printed circuit numbers and colors (1-BLACK, 2-RED, 3-BLUE).
- **Ground Conductor**
  The ground conductor shall be Class B compressed concentric stranded bare copper in accordance with ASTM B3 and B8.
- **Assembly**
  The insulated and shielded power conductors shall be cabled round with fillers and with a grounding conductor in one outer interstice and covered with a binder tape.
- **Armor**
  Continuous, impervious, welded, corrugated copper-free aluminum armor shall be applied over the assembly.
- **Jacket**
  The cable shall be covered with a yellow PVC jacket conforming to the requirements specified for polyvinyl chloride in ICEA. The average thickness shall be in accordance with the referenced standards. The jacket shall be sunlight resistant and shall meet the requirements of the IEEE 1202 (70,000 BTU/hr) and ICEA T-29-520 (210,000 BTU/hr) vertical cable tray flame tests. The jacket shall be suitable for use at a minimum ambient temperature of minus 40°C. Optional SOLONON® low smoke, non-halogen polyolefin jackets and CPE jackets are available upon request.
- **Identification**
  Manufacturer's identification shall be printed on the jacket.
- **Tests**
  Qualification tests shall be conducted in accordance with the requirements of AEIC.