


## MC-HL INSTRUMENTATION CABLE (STOS) PVC/NYLON 600V, INDIVIDUAL AND OVERALL SHIELD, TRIADS

<p><b>APPLICATION:</b> Indoor or outdoor use in instrumentation and process control applications where shielding against external EMI is required. Listed for use in cable trays, raceways and direct burial. Permitted for use in Class I, II and III, Divisions 1 and 2; or Class I, Zones 1 and 2 hazardous locations per NEC.</p> <p><b>RATINGS:</b>          UL 83 Thermoplastic Insulated Wire and Cables          UL 1569 Metal Clad cables          UL 2225 Cables and Cable Fittings for Use in Hazardous Locations          UL Listed as Type CWCMC to IEEE-45/IEEE 1580 (46 CFR Part 111.60-23) Marine Shipboard Cable          ICEA T-29-520 (210,000 BTU/hr) flame test.          IEEE 1202 AND CSA FT-4 Flame test          IEEE 383 (70,000 BTU/hr) Flame test.          Meets ASTM D746 brittleness temperature at or below -40°C          ABS Recognized</p> <p><b>CONSTRUCTION:</b> 16 AWG stranded bare copper, PVC/Nylon insulation, color coded, individual aluminum / polyester foil tape plus tinned copper drain, polyester binder, overall aluminum / polyester foil tape plus tinned copper drain, inner pvc jacket, continuously welded and corrugated aluminum alloy sheath, black PVC jacket, surface printed.</p>							
USAWC Part #	No. of TRIADS	Size Strands	Insulation Thickness Mils (PVC/Nylon)	Jacket Thickness Mils	Nominal Cable OD Inches	Copper Weight lbs/1000 ft	Approx. Net Wt. lbs/1000 ft
<b>16AWG - OVERALL SHIELD ONLY</b>							
16-01TOSMCHL	1	16 7/Str	15/4	50	.640	27	195
<b>16AWG</b>							
16-04STOSMCHL	4	16 7/Str	15/4	50	.950	108	403
16-08STOSMCHL	8	16 7/Str	15/4	50	1.170	218	650
16-12STOSMCHL	12	16 7/Str	15/4	50	1.350	325	853
16-16STOSMCHL	16	16 7/Str	15/4	50	1.480	433	1079
16-24STOSMCHL	24	16 7/Str	15/4	50	1.780	649	1515
16-36STOSMCHL	36	16 7/Str	15/4	50	2.090	972	2184

Notes: 1. Standard color coding is Method E-1 for NEC applications per ICEA; Triads - black, white and red.  
One conductor in each triad is printed alphanumerically.

## Specification

### MC-HL ARMORED INSTRUMENTATION, STOS

### PVC/NYLON 600V, INDIVIDUAL AND OVERALL SHIELD, TRIADS

1. SCOPE
  - 1.1 This specification describes PVC flame retardant polyvinyl chloride and nylon insulated, Type MC-HL armored instrumentation 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 in instrumentation and process control applications in wet or dry locations including cable tray, raceways, direct burial, embedded in concrete and as aerial cable on a messenger. Recognized for use in Class I, II and III, Division 1 and 2: or Class 1, 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 UL 83 Thermoplastic Insulated Wire and Cables
    - 2.1.2 UL 1569 Metal Clad Cables
    - 2.1.3 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 and ASTM B8.
4. INSULATION
  - 4.1 Each conductor shall be insulated with (PVC) flame-retardant polyvinyl chloride and nylon meeting the requirements of UL Standards 83.
5. SHIELDING
  - 5.1 On each triad an aluminum foil/polyester shield is helically wrapped to provide 100% coverage with a tinned copper drain wire. An overall aluminum foil/polyester shield is helically wrapped to provide 100% coverage with a tinned copper drain wire.
6. CIRCUIT IDENTIFICATION
  - 6.1 Color-coded per ICEA Method 1, triads – black white and red. One conductor in each triad is printed alpha-numerically for identification.
7. ASSEMBLY
  - 7.1 The individual triads and communication wire shall be cabled together with a left-hand lay.
8. INNER JACKET
  - 8.1 Flame-retardant polyvinyl chloride (FR-PVC) per UL 1569, black.
9. ARMOR
  - 9.1 Continuously welded and corrugated aluminum alloy sheath per UL 1569 and 2225.
10. JACKET
  - 10.1 A flame-retardant, moisture and sunlight resistant Polyvinyl Chloride (FR-PVC)(black) shall be applied overall per UL Standards 1569.
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 Individual conductors and completed cables shall be tested in accordance with UL requirements of MC-HL cables with PVC/Nylon conductors.