

HMWPE Cable

Scope: This specification describes a special single conductor high molecular weight polyethylene insulated cable designed for direct earth burial DC service in cathodic protection installations.

Applications: The following specifications form a part of this specification to the extent specified herein:

- American Society for Testing and Materials (ASTM) Specification B-8, latest edition, for Concentric-Lay Stranded Copper Conductors, Hard, Medium-Hard or Soft.
- ASTM Specifications D 1248, latest edition, for Polyethylene Plastics Molding and Extrusion Materials.
- ICEA Standard S-61-402/NEMA Standard WC5 for Thermoplastics insulated Wire and Cable.

Conductor: The copper conductors shall be Class B stranded, compressed, annealed, uncoated copper in accordance with ASTM Specifications B-8, latest edition.

Insulation:

- The conductor shall be insulated with high molecular weight polyethylene insulation complying with physical and electrical requirements of ASTM Specifications D-1248, latest edition.
- The average thickness of the insulation shall be 0.110 inch for conductor sizes #14 AWG to #2 AWG, and 0.125 inch for sizes #1 AWG to #4/0 AWG. The minimum thickness at any point shall be not less than 90% of the specified average thickness. The insulation shall be applied tightly to the conductor and shall be free-stripping.

Identification: The insulated cable shall be surface ink printed with: Conductor Size, Manufacturer, HMWPE CATHODIC PROTECTION CABLE.

Tests: The completed cable shall be tested in accordance with the requirements of ACEA, Pub. No. S-61-402, Part 6.

Sizes and Specifications:

Size	AWG Diameter	Insulation Thickness	Nominal Diameter	Weight per 1000 ft	DC Resistance Ohms per MFT at 20° C
#14 HMWPE	0.0726 in	0.110 in	0.293 in	38 lb	2.57
#12 HMWPE	0.0915 in	0.110 in	0.311 in	48 lb	1.62
#10 HMWPE	0.116 in	0.110 in	0.340 in	62 lb	1.02
#8 HMWPE	0.142 in	0.110 in	0.370 in	87 lb	0.652
#6 HMWPE	0.179 in	0.110 in	0.40 in	122 lb	0.411
#4 HMWPE	0.225 in	0.110 in	0.45 in	175 lb	0.258
#2 HMWPE	0.283 in	0.110 in	0.510 in	260 lb	0.162
#1 HMWPE	0.322 in	0.125 in	0.580 in	330 lb	0.129
#1/0 HMWPE	0.362 in	0.125 in	0.620 in	401 lb	0.102
#2/0 HMWPE	0.406 in	0.125 in	0.660 in	492 lb	0.081
#4/0 HMWPE	0.512 in	0.125 in	0.770 in	750 lb	0.051

Shipping: Shipping lengths shall be as specified for the individual order. Packaging shall be in accordance with standard commercial practices.