HMWPE Cable

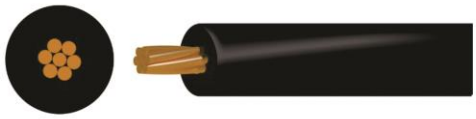
CATHODIC PROTECTION SYSTEM

TECHNICAL DATASHEET

PRODUCT DESCRIPTION

One of the main elements of a cathodic protection system is the cable, and the installed system life depends on its duration too. Because of this, the industry uses for burial a copper cable with a high molecular weight insulation (HMWPE). The thickness of the insulation will provide the electrical insulation and the mechanic protection that the conducting wire requires for a long duration.

MAIN FEATURES



- **Nominal voltage**
  600 V
- **Manufacturing standards**
  ASTM B3 y B8
  ASTM D 1248
  ICEA S-61-402
- **Operating temperature**
  75 °C
- **Conductor**
  Copper conductors shall be Class B stranded, compressed, annealed, and uncoated in accordance with ASTM Specification B-8 (latest edition).
- **Insulation**
  The insulation is high molecular weight polyethylene in accordance with ASTM D-1248, Type 1, Class A, Category 5, Grades E4 and E5. Tensile strength J1, J3.
  The average thickness of the insulation will be 0.110” for AWG sizes # 14 through # 2, and 0.125” for AWG sizes # 1 to # 4/0.
  The minimum thickness at any point may not be less than 90% of the average of the specified thickness.
  Available in high-density polyethylene (type II, III, IV), Class B and C.
- **Testing**
  The finished cable will be tested in accordance with ICEA Pub. No. S-61-402.
- **Identification**
  The insulated cable will be identified on the surface with ink, highlighting: The size of the conductor, the cable manufacturer, the type of insulation (HMWPE) and the statement "Cathodic Protection Cable".

DATA FOR THE ORDER

HMWPE cable, gauge or conductor section.

SHIPPING

Shipping lengths will be as specified in the order form. Packaging will be in accordance with standard business practices.

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CONDUCTOR GAUGE	CROSS SECTION	NUMBER OF WIRES	CONDUCTOR DIAMETER	INSULATION THICKNESS	NOMINAL EXTERNAL DIAMETER	NOMINAL TABLE	RESISTANCE MAX c.c. at 20°C
AWG	**cmil**	**N°**	**in**	**in**	**in**	**lb/1000ft**	**Ω/Mft**
14	4 110	7	0,0726	0,110	0,293	39,7	2,570
12	6 530	7	0,0915	0,110	0,311	50,0	1,620
10	10 380	7	0,116	0,110	0,340	65,6	1,020
8	16 510	7	0,146	0,110	0,370	89,1	0,652
6	26 240	7	0,184	0,110	0,400	125	0,411
4	41 740	7	0,232	0,110	0,450	181	0,258
2	66 360	7	0,292	0,110	0,510	267	0,162
1	83 690	19	0,332	0,125	0,580	337	0,129
1/0	105 600	19	0,373	0,125	0,620	412	0,102
2/0	133 100	19	0,419	0,125	0,660	506	0,081
3/0	167 800	19	0,470	0,125	0,720	623	0,064
4/0	211 600	19	0,528	0,125	0,770	769	0,051

The data in the table is subject to normal manufacturing tolerances.

APPLICATIONS

The high purity copper conductor with high molecular weight polyethylene insulation, which is designed for direct burial in cathodic protection systems without additional protection.

APPLICABLE SPECIFICATIONS

- American Society for Testing and Materials (ASTM) Specification B-8, last edition, “Concentric – Lay Stranded Copper Conductors, Hard, Medium – Hardor Soft”.
- American Society for Testing and Materials (ASTM) Specification D-1248, last edition, “Polyethylene Plastic Molding and Extrusion Materials”.
- Insulated Cable Engineers Association (ICEA), Pub. No. S-61-402 (NEMA Pub. No. WC-5), “Thermoplastic – Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy”.