



**MATERIAL SPECIFICATION FOR
EXTRA LOW-VOLTAGE CABLE**

TABLE OF CONTENTS

2410.01	SCOPE
2410.02	REFERENCES
2410.03	DEFINITIONS - Not Used
2410.04	DESIGN AND SUBMISSION REQUIREMENTS - Not Used
2410.05	MATERIALS
2410.06	EQUIPMENT - Not Used
2410.07	PRODUCTION
2410.08	QUALITY ASSURANCE - Not Used
2410.09	OWNER PURCHASE OF MATERIAL
APPENDICES	
2410-A	Commentary

2410.01 SCOPE

This specification covers the requirements for extra low-voltage cables suitable for underground or aerial installation.

2410.01.01 Specification Significance and Use

This specification is written as a municipal-oriented specification. Municipal-oriented specifications are developed to reflect the administration, testing, and payment policies, procedures, and practices of many municipalities in Ontario.

Use of this specification or any other specification shall be according to the Contract Documents.

2410.01.02 Appendices Significance and Use

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner's use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

2410.02 REFERENCES

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

International Municipal Signal Association

- 19-5 1997 Polyethylene Insulated, Polyethylene Belted, Copper Shielded, Polyvinyl Chloride Jacketed Signal Cable
- 50-2 1997 Polyethylene Insulated, Polyethylene Jacketed, Loop Detector Lead-in Cable

2410.05 MATERIALS

2410.05.01 Conductors

Conductors of all cables shall be according to IMSA 19-5 and shall be #14 AWG stranded tinned copper. The number of conductors shall be as specified in the Contract Documents.

2410.05.02 Communication Cables

2410.05.02.01 General

Communication cable shall be polyethylene insulated, polyethylene belted, and polyvinyl chloride jacketed.

2410.05.02.02 Insulation

Insulation and inner belt insulation shall be according to IMSA 19-5.

2410.05.02.03 Shielding

Shielding shall be according to IMSA 19-5.

2410.05.02.04 Jacket

Overall jacket shall be according IMSA 19-5.

2410.05.02.05 Fillers

Fillers shall be according to IMSA 19-5.

2410.05.03 Lead-In Cables

2410.05.03.01 General

Lead-in cables shall be polyethylene insulated and polyethylene jacketed.

2410.05.03.02 Insulation

Insulation shall be according to IMSA 50-2.

2410.05.03.03 Shielding

Shielding shall be according IMSA 50-2.

2410.05.03.04 Jacket

Overall jacket shall be according to IMSA 50-2.

2410.05.03.05 Drain Wire

Drain wire shall be according to IMSA 50-2.

2410.07 PRODUCTION

2410.07.01 Communication Cables

Communication cables shall be according to IMSA 19-5.

2410.07.01.01 Marking

Cable shall be permanently marked according to IMSA 19-5, at intervals not exceeding one metre, showing the following:

- a) Size of conductor.
- b) Voltage rating.
- c) Year of manufacture.
- d) IMSA specification number.

2410.07.02 Lead-In Cables

Lead-in cables shall be according to IMSA 50-2.

2410.07.02.01 Marking

Cable shall be permanently marked according to IMSA 50-2, at intervals not exceeding one metre, showing the following:

- a) Size of conductor.
- b) Voltage rating.
- c) Year of manufacture.
- d) IMSA specification number.

2410.09 OWNER PURCHASE OF MATERIAL

2410.09.01 Packaging and Shipment

Extra low-voltage cable shall be shipped on returnable reels, in continuous lengths specified in the purchasing order. Each reel of cable shall be tagged to indicate the length of the cable and information shown under the Production, Marking clause.

The supplier shall advise the Owner of the shipping date 3 Business Days prior to delivery.

2410.09.02 Measurement and Payment

Measurement of extra low-voltage cable shall be by metres along the cable length.

Payment at the price specified in the purchasing order shall be for the supply of the extra low-voltage cable delivered to the destination on the date and time specified.

The cost of all testing, except that performed in the Owner's laboratory, shall be included in the price.

**Appendix 2410-A, November 2017
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS**

Note: This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract. This appendix does not form part of the standard specification. Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

Designer Action/Considerations

For Owner purchase of material, the following information should be given to the supplier in the purchasing order:

- a) Number of conductors.
- b) Colour of conductors.
- c) Length of cable.
- d) Length per reel.

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

Related Ontario Provincial Standard Drawings

None.