

**MANITOBA INFRASTRUCTURE AND TRANSPORTATION  
TRAFFIC ENGINEERING  
SPECIFICATION FOR SHIELDED DETECTOR (LEAD IN CABLE)**

**1. SCOPE**

This specification covers paired polyethylene insulated, polyethylene jacketed, twisted pair, shielded, loop detector lead in cable, rated at 600 volts for use in traffic signal systems. This cable shall be approved for installation in underground conduits and as aerial cable supported by a messenger.

**2. GENERAL CONSTRUCTION**

Cable under this specification shall be composed of two tinned copper conductors, stranded and individually insulated with heat stabilized polyethylene. The two insulated conductors shall be twisted and laid up along side a single, bare 16 A.W.G. stranded, tinned copper drain wire. All three conductors shall be totally enclosed in an electrically continuous metallic shield, which must provide continuous contact with the drain wire, and then in a polyethylene jacket.

**3. CONDUCTORS**

The insulated conductors shall be 14 A.W.G. fully annealed, tinned copper, nineteen strands of 27 gauge copper. The bare conductor (drain wire) shall be 16 A.W.G. soft, drawn, stranded, tinned copper also.

**4. SHIELDING**

The shield shall consist of a copper tape or an aluminum foil material and shall be wound helically with a 25% overlap to provide 100% coverage.

**5. QUALITY CONTROL**

The supplier shall ensure that the detector lead in cable supplied is in accordance with the requirements of this specification and that cable insulation, outer jacket, twisting, colour coding, identification, packaging and acceptance shall conform to the International Municipal Signal Association (I.M.S.A.) Specification 50-2 dated 1991. The attached compliance summary form (E-081) shall be completed by the supplier and returned with the supplier's quotation.

**6. MANUFACTURER'S SPECIFICATIONS**

Manufacturer's specification shall be submitted with quotations for further evaluation.

**7. REEL SIZE**

Cable shall be supplied in reels of 300 metres, unless specified on the Purchase Order.

For further information, please contact Lucien Gagnon, Traffic Signals Manager, at 945-0610.