



City of Estevan

Construction Specifications

SECTION 1500
CORROSION PROTECTION

1.0 GENERAL

This section governs the requirements of the provision in the field of the protection of buried metallic elements or to elements where two dissimilar metals are in contact from electrolytic corrosion.

2.0 MATERIALS

2.1 Coatings

Tape coating system for the protection of pipe and appurtenance fittings shall consist of a petrolatum primer and a cold applied petrolatum tape conforming to AWWA C217 latest edition.

Approved coating systems are:

1. Denso Paste primer and Denso Tape
2. Polyken 927 or Roskote A - 51 Polyken 932 Tape
3. Trenton paste primer and Trenton Tee-Tape or approved equal

2.2 Cathodic protection

- .1 Sacrificial anode system for the protection of valve casings, hydrant assemblies and main fittings, shall consist of bagged zinc sacrificial anodes cad welded to the protected element and left buried.

Zinc anodes shall be made from high grade electrolytic zinc 99.99% pure conforming to ASTM B 418-73 Type II Standard alloy complete with core wire, contained in a moisture abhorrent container, within a prepared gypsum, bentonite and sodium sulfate (200 ohm/cm resistivity when wet) base material backfill surround complete with 3 meters of #12 TWH lead wire.

Anode sizes shall be as follows:

- each valve, pipe fitting, repair clamp, pipe coupling valve box/ casing, hydrant = 2.3 kg (5lb)
- each group or assembly (hydrant assembly) = 5.4 kg (12lb)
- copper water service (typically 19mm or ¾") = 10.9 kg (24 lb)

- .2 # 6 Continuity connection wire complete with medium density polyethylene cable and 4/64 " insulation.
- .3 Cad weld kit complete with crucible, weld metal by Erico Products or approved equal.

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- .4 Molded plastic path “Handiwrap” as supplied by Erico Products or approved equal.

3.0 INSTALLATION

3.1 Protective Coating System

Apply protective coating system to smaller elements such as thrust restraint devices, clamps, couplings, spool pieces, valve boxes, curb boxes, operating rods which are difficult to protect with other systems. Install in strict conformance with manufacturer’s recommendations especially with regard to moisture, ambient temperature, primer thickness and tape coverage. Ensure that no portion of metal remains uncoated and uncovered by tape.

3.2 Sacrificial anode system

Protect hydrant assemblies, hydrants, valve boxes, valve box casings, and other such large metallic elements with sacrificial anode systems. Place sacrificial anode at a distance of 1.0 metre from protected element. Compact backfill around anode and moisten with 10 litres of water to initiate electrolytic action.

Connect all wire to metallic elements, ensuring continuity, by cad welding on a clean 75 mm square bare metal surface, in accordance with manufacturer’s instructions. Remove slag and file down sharp edges. Apply new cad weld at least 150mm from adjacent welds. Apply handicap or polyken wrap on wire connections and tape down wires to pipe prior to backfilling.

3.3 Sacrificial Anode Protection for Copper Water Services

Place the 10.9 kg (or 24 lb.) packaged Zinc Type II Standard Alloy Anode 1.0 meter away from the watermain and the water service that will be protected. Connect the #12 solid TW lead wire with an approved ground clamp onto the water service ensuring conductivity and not causing potential weakening or failure of the copper water service. Compact backfill around anode and moisten with 10 litres of water to initiate electrolytic action.

4.0 MEASUREMENT AND PAYMENT

The work of this section shall be deemed incidental to Water Distribution Mains, Sewer Mains and other sections where not specifically noted in the Schedule of Unit Prices.