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1.0 Scope

This specification covers galvanized octagonal steel poles for base mounting.

2.0 References

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

AASHTO Specifications:

Standard specifications for “Structural Supports for Highway Signs, Luminaires and Traffic Signals”.

CSA Standards:

G40.20-04/G40.21-04 – General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel

G40.20-04/G40.21-04 - Hot Dip Galvanizing of Irregularly Shaped Articles

CSA W59-03 - Welded Steel Construction (Metal Arc Welding).

CSA W47.1-03 - Certification of companies for fusion welding of steel structures

3.0 Definitions

- Not used.

4.0 Submission and Design Requirements

- Not used.

5.0 Materials

5.1 General

All steel used in the production of poles shall conform to G40.20-04/G40.21-04, Grade 44 W for pole shafts and Grade 38T for base plates.

All galvanized steel shall conform to G40.20-04/G40.21-04.

All welding shall conform to CSA W59-03.

5.2 Marking

Each pole shall have identification marking located approximately 610mm above the bottom of the handhole showing the manufacturer’s name or trade mark, length of the pole and year of manufacture.

This marking shall be securely attached to the surface of the pole.

6.0 Equipment

- Not used.

7.0 Production

7.1 Steel Octagonal Poles

The shaft shall be octagonal in cross section and shall taper uniformly from bottom to top.

Shafts shall have one longitudinal automatically electrically welded joint from top to bottom.

All welds shall be ground smooth.

The maximum permitted number of circumferential (transverse) welded joints shall be as follows:

Pole Length (m)	Max. No. of Welds
3.7	1
4.6	1
6.0	1
7.5	1
9.0	1
10.5	2

The sections shall be joined by an electrical weld before galvanizing, the method of joining to be subject to the specific approval of Toronto Transportation.

7.2 Base Plate

The pole shall be supplied with a one- piece fabricated rolled steel base.

In all cases the base shall telescope the butt end of the shaft and be secured with one continuous weld on the inside of the base at the end of the shaft and another continuous weld on the outside at the top of the base. All welding at the base shall be made in such a manner as to ensure that the welded connection shall develop the full strength of the adjacent shaft section to resist any bending action.

The underside of the plate base shall be true, free from distortion, and perpendicular to the centre line of the pole shaft after fabrication.

7.3 Top Cap

A waterproof, removable aluminum, galvanized steel or plastic top cap shall be furnished with the pole. The cap shall blend with the general pole design to present a neat overall appearance. The cap shall be rigidly secured to the shaft by one or more hexagonal head stainless steel set screws (6 x 20 mm).

7.4 Handhole Frame

The shaft shall be reinforced with a steel handhole frame of such strength and cross section that the strength of the shaft is not reduced. The ground lug plate with 6 mm x 20 mm ground screw shall be provided 13 mm above the centre of the handhole.

8.0 Quality Assurance

8.1 Warranty

All equipment covered by this specification is to be guaranteed by the Supplier to be free of material or workmanship defects for a period of one (1) year from the date of delivery to Toronto Transportation. Any equipment which is proven to be defective in material or workmanship will be replaced or repaired by the Supplier at no cost to Toronto Transportation. Warranty is for the equipment only and specifically excludes labour or sub-contracting charges.

9.0 Toronto Transportation Purchase of Material by Purchase Order

9.1 Submissions

Where Toronto Transportation is purchasing material by purchase order, the Supplier shall submit four copies of shop drawings, detailed bill of materials and details of equipment nameplates to Toronto Transportation for review. Shop drawings will include all detailed dimensions and a complete list of components and accessories. Shop drawings submitted for review will be stamped “approved” by Toronto Transportation if found to be acceptable, or will be marked with corrections if not found to be acceptable. The Supplier shall resubmit corrected shop drawings within 14 calendar days. One copy of the final approved drawings will be returned to the supplier along with written notification to commence fabrication. Within 14 calendar days of receipt of the notification to commence fabrication, the supplier shall submit six (6) copies of all final approved shop drawings to Toronto Transportation.

Production of material shall not commence until the shop drawings are marked “approved”.

If the Supplier has previously submitted shop drawings and received “approval” from Toronto Transportation, only reference to the original submission is required.

9.2 Technical Information to be Supplied to the Bidder

The following technical information shall be supplied to the bidder in the Purchase Order:

1. Length of pole;
2. Maximum length of single member arm installed.

9.3 Technical Information to be Provided in Quotation

Each bidder shall submit with its quotation four copies of the outline specification and preliminary layout drawing.

If the bidder has previously submitted this information and it has been previously approved by the Toronto Transportation Purchasing Office, only reference to the original submission is required.

9.4 Inspection

All material and workmanship is subject to an inspection by Toronto Transportation’s representative prior to shipment and upon deliver to Toronto Transportation. The Supplier shall notify Toronto Transportation of the date that the fabrication of the equipment will commence.

The Toronto Transportation's representative or agent shall have access to the place of manufacture, while work is being performed, for the purpose of inspecting and examining plant records and certificates, materials used, process of manufacturing and to make any tests considered necessary to ensure compliance with this specification.

9.5 Packaging and Shipment

All materials shall be shipped complete with hardware, suitably packaged to avoid damage and to ensure that all parts are delivered as an entity.

The Supplier shall advise Toronto Transportation three days prior to shipping date of its intent to deliver. Delivery shall take place during normal business hours.

9.6 Proof Testing

Where a manufacturer has not previously supplied acceptable material to Toronto Transportation in accordance with the requirements of this specification, Toronto Transportation may require proof testing. Such testing shall be done by Toronto Transportation personnel, in the presence of the Supplier, and using such methods, including testing to destruction, as may be required to determine conformance with the design requirements of this specification. The Supplier shall supply two items of each type of equipment for these tests at no cost to Toronto Transportation.

9.7 Measurement of Payment

Measurement will be made for each pole complete with all components and accessories.

9.8 Basis of Payment

Payment shall be made at the quotation price for each complete acceptable steel pole and shall be full compensation for all labour, equipment and materials required for the manufacture, testing, supply and delivery at the time and at the place specified.

10.0 Designated Sources Requirements List of Approved Manufacturers

- Not used.