



**MATERIAL SPECIFICATION FOR
ALUMINUM TAPERED ELLIPTICAL BRACKETS**

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2428.01 SCOPE

This specification covers the requirements for aluminum tapered elliptical brackets and associated hardware.

2428.01.01 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.

2428.01.02 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.

2428.02 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:

CSA Standards

W59.2-M1991 (R2013) Welded Aluminum Construction

ASTM International

B 221-14 Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes

2428.05 MATERIALS

2428.05.01 Aluminum Alloy

Aluminum alloy shall be according to ASTM B 221, Type 6063-T6.

2428.07 PRODUCTION

2428.07.01 General

All welding shall be continuous and according to CSA W59.2.

Brackets shall be fabricated according to the Contract Documents.

2428.07.02 Marking

A permanent label shall be attached to the tapered elliptical bracket in a visible location indicating the following:

- a) Manufacturer's name or trademark.
- b) Bracket length.
- c) Date of manufacture.
- d) Designation OPSS 2428.

2428.07.03 Packaging and Shipment

Each tapered elliptical bracket shall be shipped complete with mounting hardware, suitably packaged to ensure that all parts are delivered as a complete unit. A complete parts list shall be included in the shipment.

2428.08 QUALITY ASSURANCE

2428.08.01 Inspection

All tapered elliptical brackets may be subject to an inspection by the Contract Administrator prior to shipment.

2428.09 OWNER PURCHASE OF MATERIAL

2428.09.01 Packaging and Shipment

When required by the Owner, the supplier shall provide 4 copies of the following information:

- a) Detailed dimensions.
- b) Plans, elevations, sections, and details to show tapered elliptical bracket structural details.
- c) Exact weight.
- d) Detail bill of materials.
- e) Details of equipment nameplates.

If the supplier has previously submitted this information and the Owner has previously approved it, only the reference to the original submission is required.

Each aluminum tapered elliptical bracket shall be shipped complete with hardware.

The supplier is responsible for loading, delivery, and off-loading of tapered elliptical brackets to designated areas. Tapered elliptical brackets shall be subject to inspection during and on completion of off-loading. If any damage to the tapered elliptical brackets is discovered during the inspection, the supplier shall be responsible for the necessary corrective measures subject to the approval of the Owner.

The supplier shall advise the Owner 3 Business Days prior to the shipping date of the intent to deliver and to confirm that arrangements for off-loading have been made.

2428.09.02 Measurement and Payment

For measurement purposes, a count shall be made of the number of aluminum tapered elliptical brackets complete with mounting hardware delivered and accepted.

Payment at the price specified in the purchasing order shall be for the supply of aluminum tapered elliptical brackets delivered to the destination at 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 2428-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 length of bracket should be given to the supplier in the purchasing order.

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

OPSD 2225.010	Concrete Lighting Pole, Direct Buried
OPSD 2228.010	Metal Lighting Pole, Base Mounted
OPSD 2232.010	Sectional Steel Pole with Brackets, Luminaire, and Traffic Signal Head
OPSD 2240.010	Wooden Pole with Elliptical Bracket, Overhead and Underground Circuits
OPSD 2250.010	Aluminum Tapered Elliptical Brackets on Metal and Concrete Poles, Mounting Details
OPSD 2420.010	1.8 m and 2.4 m Aluminum Tapered Elliptical Bracket