

## CANADIAN ELECTRICAL CODE

**SUBJECT: Section 6 – Services and Service Equipment**

### **Rule 6-102 Number of Supply Services Permitted**

#### Row Housing Type Residential Dwelling Units

Discussion with various provincial and municipal inspection authorities has resulted in the interpretation of Rule 6-102 as permitting a multi-unit residential building of the row housing type to have more than one supply service, one to each self-contained occupancy, provided:

- a fire-separation, meeting the requirements of the Alberta Building Code, separates each occupancy, and
- each occupancy has a separate entrance with direct access to ground level.

### **Rule 6-112 Attachment of Overhead Service Conductors**

#### Use of Rigid Steel Conduit as a Service Mast

Rule 6-112(4) states that service masts shall be assembled from components suitable for such use. (See the Appendix B note for this rule). To be acceptable, a service mast must be able to withstand the stresses it may be subjected to.

In complying with 6-112(4), Alberta has historically accepted rigid steel conduit in trade sizes 1¼ and larger to be used as a service mast provided:

1. the point of attachment for the supply service drop does not extend above the roof more than the following distances:

Conduit Trade Size	Distance Above Roof
35	450 mm
41	600 mm
53	900 mm

**Note:** 1) If the distances above must be exceeded, an acceptable alternate type of service mast must be installed. To ensure an acceptable installation, consult with the inspection authority having jurisdiction.

2) Electrical metallic tubing and aluminum conduit are not suitable for use as a service mast.



Issue of this STANDATA is authorized by  
the Chief Electrical Administrator

*[Original Signed]*

Clarence C. Cormier, P.Eng.



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2. Where 35 and 41 trade size conduits are used, the stress imposed by aluminum neutral supported (NS) cable is minimized by ensuring that the NS cable is No. 4 AWG or smaller and the span does not exceed 30 m in length with a sag of 450 mm at 15°C.
3. The conduit is secured to the building with at least two “anchor” or “U” bolts spaced at least 450 mm apart with one placed near the roof line and the other near the meter socket. Standard conduit straps are not acceptable for this purpose.
4. A suitable roof jack is installed where the mast extends through the upper section of the roof.
5. The service drop is attached to the mast with an insulator located at least 300 mm above the roof surface and not more than 300 mm below the service head.

Where a supporting mast is installed at a distance greater than 600 mm from the outer edge of the roof, or the service drop extends away from the building at an angle less than 45° from the roof edge, the vertical clearances in 12-310 will apply.

#### **Rule 6-200 Service Equipment**

##### Service Equipment

Equipment approved as switchgear, industrial control equipment, or distribution panelboards may not incorporate the features necessary to comply with the definition of “service box” contained in the Canadian Electrical Code. To be acceptable for this purpose, equipment should be constructed in conformance with the applicable requirements of the CSA Standards.

Following is a general guide for determining the suitability of a switch or circuit breaker forming part of an assembly for use as a service entrance:

1. The main switch or circuit breaker is separated from the feeder or branch circuit distribution compartment by sheet metal barriers or equivalent with bushed holes for the necessary wiring between compartments;
2. The main switch or circuit breaker compartment has a separate access cover with means for locking or sealing the cover in the closed position;
3. The service disconnecting means is manually operable with the cover closed and no bare live parts are exposed;
4. The operating handle of the switch or circuit breaker is capable of being locked in the “OFF” position;
5. The service enclosure has a neutral assembly with an adequate number of wire connectors for individual conductors; and
6. A solderless connector, clamp or other suitable means for bonding the enclosure to the neutral assembly in the main compartment.

In some jurisdictions in Alberta, single family farms with services up to 200 A have been permitted to use the utility-owned equipment as the consumer service disconnect. This has led to inconsistent application of Code requirements in the province. It is now recognized that the previously permitted installation is not compliant with the Canadian Electrical Code requirement for consumers’ services. Utility-owned equipment such as the commonly-used “economizer/totalizer” for farm services typically does not comply with the definition of “service box” and, therefore, cannot be considered to be acceptable as a consumer service disconnect.