# CSA C22.3 No. 1:20
National Standard of Canada

# Overhead systems



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## CSA C22.3 No. 1:20, Overhead systems

| **Update No. 1 — January 2022** | **Revision symbol (in margin)** |
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| Technical Committee<br>Preface<br>Clauses 1.3, 2, 3.1, 3.2, 4.1.2, 4.1.7.1, 4.1.7.2, 4.1.8, 4.8, 5.2.6.2, 5.2.10, 5.2.11, 5.3.1.1, 5.3.3, 5.3.3.2, 5.3.3.3, 5.3.4, 5.3.4.1, 5.3.4.2, 5.3.4.3, 5.3.5, 5.3.6, 5.6.2, 6.3.2.1, 6.3.3, 7.1, 7.2.1, 7.2.2, 7.2.3, 7.3.1, 7.3.5, 7.5.1, 7.6.2.1, 10, A.4.1.2, A.4.1.7, A.5.2.10, A.5.2.11, A.5.3.1, A.5.3.3, A.5.3.4, A.5.3.5, A.5.3.6, D.1, D.2, D.3, and D.4<br>Annexes F, G, H, and I<br>Tables 1, 2, 3, 27, 28, 30, 35, 36, 37, A.1, and A.2 | ① |

| **Administrative update — May 2021** |
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# ***Overhead systems***



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# ① Preface

This is the eleventh edition of CSA C22.3 No. 1, *Overhead systems*, one of a series of Standards issued under the *Canadian Electrical Code, Part III*. It supersedes the previous editions, published in 2015, 2010, 2006, 2001, 1987, 1985, 1979, 1976, and 1970, and the original edition, which was published as a series of five Standards in 1959, 1953, 1947, and 1940.

Major changes to this edition include the following:

- a revised scope of the Standard extends to the inside of buildings or sections of buildings that are employed by a utility;
- new and revised definitions with an updated use of terminology:
  - the following new definitions: “buckling”, “covered conductor bundled system”, “geometric non-linearity”, “minor waterways”, “stability”, and “wireless communication antenna”; and
  - the following revised definitions: “linear analysis”, “non-linear analysis”, and “service conductor”;
- revision to Clause 4.1.3 on accessibility;
- revision to Clause 4.2.7.2 on the use of guy insulators;
- new clauses added to address
  - wireless communication antenna; and
  - natural gas and propane equipment clearances and separations;
- revision to Clauses 5.2.5 and 5.2.6 on conductor temperature for thermal loading conditions;
- revision to weather loading methods in Clause 7.2.3 to include historical weather loads;
- climate change adaptation requirements to neutral supported secondary service wires;
- the requirements on structural analysis (geometric non-linear design);
- conductor tension considerations under structure deflection to improve clarity;
- effective grounding requirements of non-current-carrying items under Clauses 9.1.8 and 9.2.7;
- minimum vertical design clearances and separations above ground or rails in Tables 2 and 4 and Figure A.14;
- Table 9 for minimum clearances to above-ground pipelines;
- Table 10 for minimum design clearances to bridges;
- minimum design vertical clearances between wires crossing each other and supported by different supporting structures: Table 13 to expand on the clearances between ac (upper level) and dc (lower level)
- Table 35 for flashover distance for ac conductors and Table 36 for dc conductors;
- Annex A:
  - guidance on the use of prior versions of this Standard;
  - guidance on the point of attachment for supply conductors to buildings; and
  - guidance on information criteria to replace or reinforce wood pole structures;
- Annex D: Table D.2, mean annual maximum snow depth for selected Canadian locations; and
- Annex E for guidance on the covered conductor bundled systems;

Update 1 include the following changes:

- The following additions to address climate change adaptation:
  - climatic data for selected locations;
  - flooding and flood hazard zones;
  - weather loadings;
  - vegetation management;
  - discontinuous permafrost; and
  - ice removal management system;
- Clauses related to aviation requirements;

  