S367-12

Air-, cable-, and frame-supported membrane structures

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Preface

This is the third edition of CSA S367, Air-, cable-, and frame-supported membrane structures. It supersedes the previous edition, published in 2009.

Major changes in this edition include

(a) testing requirements and quality control procedures;
(b) updated provisions for accelerated weathering testing for polyethylene membrane materials; and
(c) the addition of standard notations and symbols.

CSA acknowledges that the development of this Standard was made possible by the generous financial support of the Membrane Structures Manufacturers Association.

This Standard was prepared by the Technical Committee on Air-, Cable-, and Frame-Supported Membrane Structures, under the jurisdiction of the Strategic Steering Committee on Structures (Design), and has been formally approved by the Technical Committee.

March 2012

Notes:

(1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*

(2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*

(3) *This publication was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*

(4) *To submit a request for interpretation of CSA Standards, please send the following information to* ***inquiries@csa.ca*** *and include "Request for interpretation" in the subject line:*
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(b) relevant clause, table, and/or figure number;
(c) wording of the proposed change; and
(d) rationale for the change.

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1 Scope

1.1
This Standard provides requirements for the design, fabrication, installation, and maintenance of single-membrane structures that are either reinforced or unreinforced and that are air-supported, frame-supported, or cable-supported.

1.2
The general requirements, structural design methods, loadings, and limit states specified in this Standard are intended to be consistent with the *National Building Code of Canada* (*NBCC*), except where more detailed or stringent requirements are necessary for the structural adequacy and the long-term serviceability of structures.

The requirements of this Standard are intended to apply to independent membrane-covered structures and structures that are contiguous with other structures and are attached through a common element.

1.3
This Standard does not apply to
(a) multi-walled structures that are not supported by continuous air pressure;
(b) air-beam-supported membrane structures using pressurized air as part of the support system; and
(c) greenhouses that are not covered by Part 3 of the *NBCC*.

1.4
Other standards may be used for the design of air-, cable-, and frame-membrane supported structures where specified by this Standard. The formulas in this Standard may be supplemented by a rational design based on theory, analysis, and engineering practice acceptable to the authority having jurisdiction, provided that the nominal margins (or factors) of safety are at least equal to those specified in this Standard.

1.5
In CSA standards, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.