

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Amendment No. 5
to
AS/NZS 1170.0:2002
Structural design actions
Part 0: General principles

REVISED TEXT

The 2002 edition of AS/NZS 1170.0 is amended as follows; the amendments should be inserted in the appropriate places.

SUMMARY: This Amendment applies to the Preface, Clause 1.3 and Appendix F.

Published on 22 September 2011.

Approved for publication in New Zealand on behalf of the Standards Council of New Zealand on 25 August 2011.

Preface

- 1 In the list of 1170 series Standards (*as amended by Amendment No. 4, 2005*) delete 'AS 1170.4 Earthquake loads' and *replace* with 'AS 1170.4 Earthquake actions in Australia'.
- 2 *Add* the following sentence to the beginning of the last paragraph:
Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

Clause 1.3

Under the NZS list of referenced documents (*as amended by Amendment No. 4, 2005*) delete '1770' and *replace* with '1170'.

Appendix F

Delete Appendix F (*as amended by Amendment No. 2, 2003*) and *replace* with the following:

APPENDIX F

ANNUAL PROBABILITY OF EXCEEDANCE
(FOR AUSTRALIAN USE ONLY—STRUCTURES FOR WHICH
DESIGN EVENTS ARE NOT GIVEN ELSEWHERE)

(Normative)

F1 GENERAL

This Appendix specifies minimum design events for safety (ultimate limit states design), in terms of annual probability of exceedance for wind, snow and earthquake, for the design of structures in Australia that are not covered either by the Building Code of Australia or by other Standards (such as that for transmission line structures). This Appendix does not apply to structures in New Zealand; for those structures, Section 3 of this Standard applies.

NOTE: Structures covered by this Appendix may include industrial structures, mining and oil and gas structures, and communication structures.

F2 IMPORTANCE LEVELS

The importance level of a structure shall be determined in accordance with Table F1.

Structures that have multiple uses shall be assigned the highest importance level applicable for any of those uses. Where an adjacent structure provides access to another structure with a higher importance level, then the structure providing access shall be designated the same importance level as the structure to which it provides access.

NOTE: Structures that have very low frequency fundamental modes of vibration should be considered for special study of their earthquake design event and structural response (e.g. very long conveyors).

TABLE F1
STRUCTURE TYPES FOR IMPORTANCE LEVELS

Consequences of failure	Description	Importance level	Comment
Low	Low consequence for loss of human life, <i>or</i> small or moderate economic, social <i>or</i> environmental consequences	1	Minor structures (failure not likely to endanger human life)
Ordinary	Medium consequence for loss of human life, <i>or</i> considerable economic, social <i>or</i> environmental consequences	2	Normal structures and structures not falling into other levels
High	High consequence for loss of human life, <i>or</i> very great economic, social or environmental consequences	3	Major structures (affecting crowds)
		4	Post-disaster structures (post-disaster functions or dangerous activities)
Exceptional	Circumstances where reliability must be set on a case by case basis	5	Exceptional structures

F3 DESIGN EVENTS

Design events (in terms of annual probability of exceedance) shall be as given in Table F2 for use in determining the actions affecting the structure. Structures whose failure might result in loss of human life shall not be designed for less than a 25 year life.

Importance Level 4 structures shall not be designed for less than a 25 year life. For importance Level 4 structures with design working life of 100 years or more, the design events shall be determined by a risk analysis but shall have probabilities less than or equal to those for importance Level 3.

The design working life of structures that are erected for a number of short periods of use, and dismantled between each, is equal to the total of the periods of use.

NOTE: The design life for normal structures is generally taken as 50 years. For further guidance on the use of Table F2 see AS/NZS 1170.0 Supp 1, *Structural design actions—General principles—Commentary (Supplement to AS/NZS 1170.0:2002.)*