AS/NZS 2785:2020

Australian/New Zealand Standard™

Suspended ceilings — Design and installation

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AS/NZS 2785:2020

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The following are represented on Committee BD-035:

Association of Wall and Ceiling Industries of Australia
Association of Wall and Ceiling Industries of New Zealand
Australian Aluminium Council
Business New Zealand
Cement Concrete & Aggregates Australia
Engineering New Zealand
Engineers Australia
Gypsum Board Manufacturers of Australasia
New Zealand Institute of Architects

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Australian/New Zealand Standard™

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-035, Ceiling Systems, to supersede AS/NZS 2785:2000.

The objective of this Standard is to provide the minimum requirements for the design, construction, installation, maintenance, and testing of internal and external non-trafficable suspended ceiling systems of dry construction with suspension systems for commercial and industrial applications. This Standard also applies to domestic structures designed in accordance with AS 1170.4 in Australia.

This Standard is based on limit states philosophy and covers aspects of the design and performance requirements, installation, workmanship, maintenance, and testing of suspended ceiling systems.

This edition incorporates the following major changes:

(a) The word "load" has been replaced by the word "action" to be consistent with the terminology for structural design and the AS/NZS 1170 series of Standards.

(b) The definitions have been substantially upgraded.

(c) The word "fastener" has replaced the word "fixing".

(d) The concept of Seismic Grade (SG) of the ceiling has been introduced.

(e) Design Producer's Statement (PS) has been introduced.

(f) Construction Monitoring (CM) has been introduced.

(g) The concept of Specific Engineering Design (SED) has been introduced.

(h) Section 2, Design requirements, has been substantially revised including earthquake and wind design.

(i) Restraint of luminaires has been added.

(j) The design of fasteners into concrete has been revised.

(k) The acoustic requirements have been modified.

(l) Detailing, ceiling restraints and services interaction has been included in Section 4.

(m) Testing and verification methods have been upgraded in Section 6.

(n) The appendices have been upgraded.

In its deliberations, Committee BD-035 has considered the following documents:

ASTM C635, *Standard Specification for the Manufacture, Performance and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings*

ASTM C636, *Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels*

ASTM E580, *Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions*

ASTM E1264, *Standard Classification for Acoustical Ceiling Products*

EN 13964, *Suspended ceilings — Requirements and test methods*

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

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This Standard includes a commentary on some of the clauses. The commentary directly follows the relevant clause, is designated by "C" preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

The terms "normative" and "informative" have been used in Standards to define the application of the appendix to which they apply. A "normative" appendix is an integral part of a Standard, whereas an "informative" appendix is only for information and guidance.

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Introduction

The needs of a client or owner for a given building may require more stringent requirements than those set out in the relevant earthquake and ceilings Standards. Early in the preliminary design phase of a building, designers should ascertain the client or owner's expectations of the building in the event of a severe earthquake. Should the designers be considering life safety or alternatively low-damage design, and whether a cost-benefit analysis of a more robust design is appropriate.

Commonly, clients/building owners have a different view on what earthquake design means for their building. They mistakenly assume that their building will survive a major earthquake without damage, which is not the intent of the earthquake Standards or design to this ceiling Standard. Non-structural parts and components, including ceilings, are equally important as the structure, and designers of ceilings must be involved in the discussion on whether they are designing for life safety or low-damage design. The failure of ceilings can cause harm to occupants and the public, prevent evacuation, and often result in an inoperative building. Designing of ceilings to this Standard is about life safety, accepting some damage, and hopefully preventing collapse. This Standard only provides the minimum requirements.

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Section 1 Scope and general

1.1 Scope

This Standard sets out the minimum requirements for the design, construction, installation, maintenance, and testing of internal and external non-trafficable suspended ceiling systems of dry construction with suspension systems attached to a supporting structure. It is intended for use in commercial and industrial applications. This Standard also applies to domestic structures designed in accordance with AS 1170.4 in Australia.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1170.4, *Structural design actions, Part 4: Earthquake actions in Australia*

AS 1397, *Continuous hot-dip metallic coated steel sheet and strip — Coatings of zinc and zinc alloyed with aluminium and magnesium*

AS 1449, *Wrought alloy steels—Stainless and heat-resisting steel plate, sheet and strip*

AS 1530.4, *Methods for fire tests on building materials, components and structures, Part 4: Fire-resistance tests for elements of construction*

AS 1566, *Copper and copper alloys — Rolled flat products*

AS 1720.1, *Timber structures, Part 1: Design methods*

AS 1720.2, *Timber structures, Part 2: Timber properties*

AS 2841, *Galvanized steel wire strand*

AS 2848.1, *Aluminium and aluminium alloys — Compositions and designations, Part 1: Wrought products*

AS 3600, *Concrete Structures*

AS 3715, *Metal finishing — Thermoset powder coatings for architectural applications of aluminium and aluminium alloys*

AS 4100, *Steel Structures*

AS 5216, *Design of post-installed and cast-in fastenings in concrete*

AS 5637.1, *Determination of fire hazard properties, Part 1: Wall and ceiling linings*

AS ISO 354, *Acoustics — Measurement of sound absorption in a reverberation room*

AS ISO 717.2, *Acoustics — Rating of sound insulation in buildings and of building elements, Part 2: Impact sound insulation*

AS/NZS 1163, *Cold-formed structural steel hollow sections*

AS/NZS 1170.0, *Structural design actions, Part 0: General principles*

AS/NZS 1170.1, *Structural design actions, Part 1: Permanent, imposed and other actions*

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