AS 3850.3:2021

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Prefabricated concrete elements

Part 3: Civil construction

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Australasian Fire and Emergency Service Authorities Council
Australian Council of Trade Unions
Australian Engineered Fasteners and Anchors Council
Australian Institute of Building Surveyors
Australian Steel Institute
Austroads
Better Regulation Division – SafeWork NSW
Building Designers Association of NSW
Cement Concrete & Aggregates Australia — Cement
Cement Concrete & Aggregates Australia — Concrete
Civil Contractors Federation
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Concrete Pipe Association of Australasia
Crane Industry Council of Australia
Curtin University of Technology
Department of Transport and Main Roads (QLD)
Engineers Australia
National Precast Concrete Association Australia
Steel Reinforcement Institute of Australia
Sydney University
WorkSafe Victoria

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Preface

This Standard was prepared by the Standards Australia Committee BD-066, Prefabricated Concrete Elements.

The objective of this document, is to provide requirements which impact on safety in the planning, manufacturing, construction, design, casting, transportation, erection and incorporation into the final structure of prefabricated concrete elements in civil, infrastructure and non-building construction.

This document complements AS 3850.1 and AS 3850.2:2015.

A list of all parts in the AS 3850 series can be found in the Standards Australia online catalogue.

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

This document includes commentary on some of the clauses, tables and figures of the Standard. The commentary directly follows the relevant clause, table or figure, 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.

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Contents

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Part 3: Civil construction

1 Scope and general

1.1 Scope

This document provides requirements which impact on safety for planning, manufacturing, construction, design, casting, transportation, erection and incorporation into the structure of prefabricated concrete elements in civil, infrastructure and non-building construction. It applies to prefabricated concrete elements, including but not limited to pipes, culverts, bridge elements, tunnel elements, poles, piles, drainage and sewerage access and maintenance chambers, manholes, pits, lintels, headwalls, covers and surrounds, and water quality products.

This document does not cover the in-service design of these elements.

Additional requirements for some products are covered in other Standards.

This document does not cover the following:

(a) Elements used in building construction.

(b) Small individual concrete elements able to be handled manually (e.g. bricks, blocks, pavers).

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 1379, *Specification and supply of concrete*

AS 1597.1, *Precast reinforced concrete box culverts, Part 1: Small culverts (not exceeding 1200 mm span and 1200 mm height)*

AS 1597.2, *Precast reinforced concrete box culverts, Part 2.Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm and 4200 mm height)*

AS 1657, *Fixed platforms, walkways, stairways and ladders — Design, construction and installation*

AS 2550 (all parts), *Cranes, hoists and winches — Safe use*

AS 3600, *Concrete structures*

AS 3610.1, *Formwork for concrete, Part 1: Specifications*

AS 3799, *Liquid membrane-forming curing compounds for concrete*

AS 3850.1, *Prefabricated concrete elements, Part 1: General requirements*

AS 4100, *Steel structures*

AS 4139, *Fibre reinforced concrete pipes and fittings*

AS 4991, *Lifting devices*

AS 5100 (series), *Bridge design*

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

AS(/NZS) 1100, *Technical drawing*

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*

AS/NZS 1170.2, *Structural design actions, Part 2: Wind actions*

AS/NZS 1554 (series), *Structural steel welding*

AS/NZS 2425, *Bar chairs in reinforced concrete — Product requirements and test methods*

AS/NZS 4058, *Precast concrete pipes (pressure and non-pressure)*

AS/NZS 4671, *Steel for the reinforcement of concrete*

1.3 Terms and definitions

For the purposes of this document, the terms and definitions given in AS 3600 and the following apply.

1.3.1
casting bed
bed used for the manufacture of concrete elements with a flat underside

Note 1 to entry: see mould (1.3.11) for other elements.

1.3.2
competent person
person who has acquired through training, qualifications or experience, or a combination of these, the knowledge and skills enabling that person to perform a specified task

Note 1 to entry: See Appendix B for information on specific competent persons.

1.3.3
deadman
deadman anchor
deadman footing
object buried in, or secured to, the ground for the purpose of providing anchorage of a temporary support

EXAMPLE Concrete pile or trench footing.

1.3.4
documentation
1.3.4.1
erection documentation
installation documentation, drawings, arrangements, procedures and instructions for lifting and temporary support for above- and below-ground installation of elements

Note 1 to entry: Erection documentation is specified in Appendix A.

1.3.4.2
product-specific documentation
specification or data sheet provided by the manufacturer of a standard precast concrete element

EXAMPLE Documentation provided for concrete pipe.

1.3.4.3
project-specific documentation
engineering project drawings, shop drawings, layout plans and elevations provided by designers which detail the requirements of elements used for individual projects

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