AS 8700—2011

Australian Standard®

Execution of prefabricated vertical drains

This Australian Standard® was prepared by Committee CE-020, Geosynthetics. It was approved on behalf of the Council of Standards Australia on 20 October 2011.
This Standard was published on 11 November 2011.

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- Australian Geomechanics Society
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- Australian Water Association
- Austroads
- AWTA Textile Testing
- Commerce Queensland
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- Monash University
- Technical Textile and Nonwoven Association
- Waste Management Association of Australia

The following are represented on Subcommittee CE-020-00-10, Prefabricated Vertical Drains:

- Menard Bachy
- Port of Brisbane
- SoilWicks
- University of Wollongong

This Standard was issued in draft form for comment as DR AS 8700.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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First published as AS 8700—2011.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 0 7337 9965 5

PREFACE

This Standard was prepared by Standards Australia Committee CE-020 Geosynthetics, in response to requests from industry representatives in the field of prefabricated vertical drains, especially in the area of land reclamation.

This Standard is based on BS EN 15237, *Execution of special works. Vertical drainage.*

The objective of this Standard is to establish general principles for the execution, testing, supervision and monitoring of prefabricated vertical drains.

This Standard expands on design only where necessary, but provides full coverage of the construction and supervision requirements.

The terms ‘normative’ and ‘informative’ have been used in this Standard 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.

Numbers set within parentheses refer to documents referred to during the preparation of this Standard. These references are listed in the Bibliography.

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard provides general requirements for the execution, testing, supervision, monitoring and installation methods of prefabricated vertical drain projects. It also includes information on design considerations, and practical and design aspects of vertical drainage.

Prefabricated vertical drains are used for the improvement of low-permeability, highly compressible soils, and in on-land and marine constructions for—

(a) (pre)consolidation and reduction of post-construction settlements; speeding up the consolidation process by decreasing the path lengths for pore water dissipation;

(b) increasing soil stability (by increasing effective stresses in the soil);

(c) groundwater lowering; and

(d) mitigation of liquefaction effects.

In each case there is an overall treatment of the soil (the volume of the drains is small in relation to the soil volume treated).

Prefabricated vertical drains may also be combined with other foundation or ground improvement methods (e.g. sand drains, vacuum consolidation, electro-osmosis, piles and compacted sand piles, rigid inclusions, dynamic compaction and deep mixing).

NOTES:

1 See References 1, 2, 3 and 4 in the Bibliography.

2 Guidance on practical aspects of prefabricated vertical drains, such as investigation of drain properties, execution procedures and equipment, is given in Appendix A.

3 Guidance on the evaluation of soil characteristics and design considerations is given in Appendix B.

1.2 NORMATIVE REFERENCES

The following are normative documents referenced in this Standard:

NOTE: Documents referenced for informative purposes, including material referred to during the preparation of this Standard, are listed in the Bibliography.

AS

1726 Geotechnical site investigations

2001 Methods of test for textiles

2001.2.15 Part 2.15: Physical tests—Determination of thickness of textile fabrics

2001.2.3.2 Part 2.3.2: Physical tests—Determination of maximum force using grab method (ISO 13934-2:1999, MOD)

