



CSA B184 Series:22
National Standard of Canada



Polymeric subsurface stormwater management structures



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Technical Committee on Stormwater Structures

V. Williams	Halifax Water, Halifax, Nova Scotia, Canada <i>Category: Regulatory Authority</i>	<i>Chair</i>
A. P. Selvadurai	McGill University Department of Civil Engineering and Applied Mechanics, Montréal, Québec, Canada <i>Category: User/General Interest</i>	<i>Vice-Chair</i>
M. Heralall	City of Brampton, Brampton, Ontario, Canada <i>Category: Regulatory Authority</i>	<i>Vice-Chair</i>
J. J. Breede	Terrafix Geosynthetics Inc., Toronto, Ontario, Canada	<i>Non-voting</i>
D. Chan	Aplin & Martin Consultants Ltd., Surrey, British Columbia, Canada <i>Category: Design, Installation, and Maintenance</i>	
P. Cheung	City of Toronto — Toronto Water, Toronto, Ontario, Canada <i>Category: Regulatory Authority</i>	
C. R. Douglass	DI Labs, Inc., Spicer, Minnesota, USA <i>Category: Design, Installation, and Maintenance</i>	
D. Filip	ACO Systems, Ltd., Oakville, Ontario, Canada	<i>Non-voting</i>
R. Herlache	R. Herlache Consulting, Freeland, Michigan, USA	<i>Non-voting</i>
K. P. Hill	Ontario Ministry of Municipal Affairs, Toronto, Ontario, Canada	<i>Non-voting</i>
D. Kanters	Soleno Inc., Ajax, Ontario, Canada	<i>Non-voting</i>

F. M. Kulick	Brentwood Industries, Inc., Reading, Pennsylvania, USA	<i>Non-voting</i>
J. Kurdziel	Advanced Drainage Systems, Inc., Fort Wayne, Indiana, USA	<i>Non-voting</i>
A. Lathia	CSA Group, Independence, Ohio, USA	<i>Non-voting</i>
J. Miskovich	Triton Stormwater Solutions, Brighton, Michigan, USA	<i>Non-voting</i>
I. D. Moore	Queen's University, Kingston, Ontario, Canada <i>Category: User/General Interest</i>	
D. Morin	Alberta Municipal Affairs — Safety Services, Edmonton, Alberta, Canada	<i>Non-voting</i>
A. I. Murra	Abraham Murra Consulting, Rancho Santa Margarita, California, USA <i>Category: User/General Interest</i>	
A. Navarro	Advanced Drainage Systems, Inc., Mississauga, Ontario, Canada <i>Category: Producer Interest</i>	
S. Piper	Galaxy Plastics, Barrie, Ontario, Canada <i>Category: Producer Interest</i>	
M. R. Zwick	Cultec Inc., Bookfield, Connecticut, USA <i>Category: Producer Interest</i>	
S. Chung	CSA Group, Toronto, Ontario, Canada	<i>Project Manager</i>

Preface

This is the third edition of the CSA B184 Series of Standards, *Polymeric subsurface stormwater management structures*. It supersedes the previous editions published in 2017 and 2011.

This Series consists of the following Standards:

- B184.0, *General requirements and methods of testing for polymeric subsurface stormwater management structures*;
- B184.1, *Polyethylene (PE) chambers*; and
- B184.2, *Polypropylene (PP) chambers*.

The changes to this edition include the following:

- addition of PE thermoformed chambers;
- additional chamber sizes;
- addition of the oxidation induction time test;
- replacement of AASHTO LRFD Bridge Design Specifications with ASTM F2787 for structural design;
- clarification of intended voids or cells in closed-cell cellular structures;
- clarification of wall thickness measurements;
- update to marking requirements; and
- addition of Annex G for performance qualification and in-plant quality control of the internal cellular structure of profile walls.

These Standards were prepared by the Technical Committee on Stormwater Structures, under the jurisdiction of the Strategic Steering Committee on Construction and Civil Infrastructure, and have been formally approved by the Technical Committee.

These Standards have been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. They have been published as National Standards of Canada by CSA Group.

These Standards are considered suitable for use for conformity assessment within the stated scope of the Standard.

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.*
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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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CSA B184.0:22

General requirements and methods of testing for polymeric subsurface stormwater management structures

0 Introduction

0.1

In undeveloped areas, rainwater is intercepted by vegetation and held in natural depressions, and can be absorbed directly into the ground on which it falls. When an area is developed, buildings and parking areas cover the natural absorption areas where the rain would normally be infiltrated back into the ground. These impervious structures alter the typical absorption pattern. As a result, when the rain is not allowed to penetrate the ground it begins to accumulate and can cause ponding or flooding, or flow to another location.

Consequences of flooding can include:

- a) on roads: collisions, washouts, and traffic delays;
- b) with buildings: structural and property damage, sewer backups, foundation settlement, and devaluation of property values;
- c) environmental damage;
- d) utility service interruptions;
- e) creation of health hazards;
- f) clean-up costs and increased insurance costs; and
- g) personal inconvenience.

0.2

Subsurface stormwater structures are used in the collection, detention, retention, and infiltration of stormwater runoff. Structures can have configurations that include, but are not limited to, beds or trenches of various sizes or shapes that are designed to fit on most sites and offset the impact of impervious structures that cover natural absorption areas.

1 Scope

1.1

This Standard covers polymeric subsurface stormwater management structures and accessories used in the collection, detention, retention, and infiltration of stormwater runoff. Applications include, but are not limited to, commercial, municipal, residential, agricultural, industrial, recreational, and highway drainage.

Note: *In the CSA B184 Series, polymeric subsurface stormwater management structures are also referred to as “stormwater structures”.*