



**CSA  
Group**

**Z151-17**

# **Concrete pumps and placing booms**



This is a preview. [Click here to purchase the full publication.](#)

# Legal Notice for Standards

Canadian Standards Association (operating as “CSA Group”) develops standards through a consensus standards development process approved by the Standards Council of Canada. This process brings together volunteers representing varied viewpoints and interests to achieve consensus and develop a standard. Although CSA Group administers the process and establishes rules to promote fairness in achieving consensus, it does not independently test, evaluate, or verify the content of standards.

## Disclaimer and exclusion of liability

This document is provided without any representations, warranties, or conditions of any kind, express or implied, including, without limitation, implied warranties or conditions concerning this document’s fitness for a particular purpose or use, its merchantability, or its non-infringement of any third party’s intellectual property rights. CSA Group does not warrant the accuracy, completeness, or currency of any of the information published in this document. CSA Group makes no representations or warranties regarding this document’s compliance with any applicable statute, rule, or regulation.

IN NO EVENT SHALL CSA GROUP, ITS VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES, DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF CSA GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES.

In publishing and making this document available, CSA Group is not undertaking to render professional or other services for or on behalf of any person or entity or to perform any duty owed by any person or entity to another person or entity. The information in this document is directed to those who have the appropriate degree of experience to use and apply its contents, and CSA Group accepts no responsibility whatsoever arising in any way from any and all use of or reliance on the information contained in this document.

CSA Group is a private not-for-profit company that publishes voluntary standards and related documents. CSA Group has no power, nor does it undertake, to enforce compliance with the contents of the standards or other documents it publishes.

## Intellectual property rights and ownership

As between CSA Group and the users of this document (whether it be in printed or electronic form), CSA Group is the owner, or the authorized licensee, of all works contained herein that are protected by copyright, all trade-marks (except as otherwise noted to the contrary), and all inventions and trade secrets that may be contained in this document, whether or not such inventions and trade secrets are protected by patents and applications for patents. Without limitation, the unauthorized use, modification, copying, or disclosure of this document may violate laws that protect CSA Group’s and/or others’ intellectual property and may give rise to a right in CSA Group and/or others to seek legal redress for such use, modification, copying, or disclosure. To the extent permitted by licence or by law, CSA Group reserves all intellectual property rights in this document.

## Patent rights

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. CSA Group shall not be held responsible for identifying any or all such patent rights. Users of this standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.

## Authorized use of this document

This document is being provided by CSA Group for informational and non-commercial use only. The user of this document is authorized to do only the following:

If this document is in electronic form:

- load this document onto a computer for the sole purpose of reviewing it;
- search and browse this document; and
- print this document if it is in PDF format.

Limited copies of this document in print or paper form may be distributed only to persons who are authorized by CSA Group to have such copies, and only if this Legal Notice appears on each such copy.

In addition, users may not and may not permit others to

- alter this document in any way or remove this Legal Notice from the attached standard;
- sell this document without authorization from CSA Group; or
- make an electronic copy of this document.

If you do not agree with any of the terms and conditions contained in this Legal Notice, you may not load or use this document or make any copies of the contents hereof, and if you do make such copies, you are required to destroy them immediately. Use of this document constitutes your acceptance of the terms and conditions of this Legal Notice.



This is a preview. [Click here to purchase the full publication.](#)

# ***Standards Update Service***

***Z151-17***

***October 2017***

**Title:** *Concrete pumps and placing booms*

To register for e-mail notification about any updates to this publication

- go to [shop.csa.ca](http://shop.csa.ca)
- click on **CSA Update Service**

The **List ID** that you will need to register for updates to this publication is **2425700**.

If you require assistance, please e-mail [techsupport@csagroup.org](mailto:techsupport@csagroup.org) or call 416-747-2233.

Visit CSA Group's policy on privacy at [www.csagroup.org/legal](http://www.csagroup.org/legal) to find out how we protect your personal information.

# Z151-17

## ***Concrete pumps and placing booms***



*®A trademark of the Canadian Standards Association, operating as "CSA Group"*

*Published in October 2017 by CSA Group  
A not-for-profit private sector organization  
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3*

*To purchase standards and related publications, visit our Online Store at [shop.csa.ca](http://shop.csa.ca)  
or call toll-free 1-800-463-6727 or 416-747-4044.*

*ISBN 978-1-4883-1150-5*

*© 2017 CSA Group*

*All rights reserved. No part of this publication may be reproduced in any form whatsoever  
without the prior permission of the publisher.*

[This is a preview. Click here to purchase the full publication.](#)

# Contents

Technical Committee on Truck-Mounted Concrete Pumps	3
Preface	6
<b>1 Scope</b>	<b>7</b>
<b>2 Reference publications</b>	<b>7</b>
<b>3 Definitions</b>	<b>9</b>
<b>4 Design, construction, installation, and markings</b>	<b>11</b>
4.1 Design, construction, and installation of concrete pumps and placing booms	11
4.1.1 General	11
4.1.2 Stability	12
4.1.3 Lifting attachments	12
4.1.4 Work platforms, access walkways, and gangways	12
4.1.5 Electrical	12
4.1.6 Ergonomics	13
4.1.7 Outriggers	13
4.1.8 Outrigger controls	14
4.1.9 Controls and indicators	14
4.1.10 Hour meters	15
4.1.11 Standardized joystick movements	15
4.1.12 Guarding	15
4.1.13 Placing booms	16
4.1.14 Boom tip attachments	16
4.1.15 Delivery systems	16
4.1.16 Interruption of power	17
4.1.17 Remote starting	17
4.1.18 Manuals	17
4.1.19 Fuel and exhaust systems	17
4.1.20 Hoppers	18
4.1.21 Pump pressure release	18
4.2 Markings and safety signs	18
4.2.1 Placing boom markings	18
4.2.2 Machine markings	19
4.2.3 Straight delivery pipe markings	19
4.2.4 Delivery system elbow markings	19
4.2.5 Delivery system hose markings	20
4.2.6 Delivery system accessory markings	20
4.2.7 Air compressor markings	20
4.2.8 Safety signs	20
<b>5 Inspection, maintenance, and testing</b>	<b>21</b>
5.1 Concrete pump log	21
5.2 Inspection	21
5.2.1 General	21

5.2.2	Regular inspections	21
5.2.3	Unscheduled inspections — Concrete pumps and placing booms not in regular use	25
5.2.4	Post-incident inspections	25
5.3	Maintenance	25
5.4	Testing	26
5.4.1	Operational tests	26
5.4.2	Stability test	26
5.4.3	Availability of test results	27
5.4.4	Post-maintenance testing	27
<b>6</b>	<b>Responsibilities and operation</b>	<b>27</b>
6.1	Qualifications of concrete pump operators	27
6.1.1	Operation of concrete pumps	27
6.1.2	Concrete pump operator	27
6.1.3	Trainees or apprentices	28
6.1.4	Maintenance personnel and inspectors	28
6.1.5	Permitted on machines	28
6.2	Responsibilities	28
6.2.1	General	28
6.2.2	Concrete pump owner	28
6.2.3	Concrete pump user	29
6.2.4	Site supervisor	29
6.2.5	Pour supervisor	30
6.2.6	Concrete pump operator	31
6.2.7	Ready-mixed concrete supplier	32
6.2.8	Ready-mixed concrete supplier driver	32
6.2.9	Placing crew	32
6.3	Concrete pump operator conduct	33
6.4	General operating practices	33
6.5	Operating near electrical power lines	34
6.6	Cleaning of the boom pipeline	35
6.7	Machine lockout/tagout	36
6.8	Signals	36

---

Annex A (informative)	— Concrete boom pump safe work procedures, outrigger support options, and surface load bearing evaluation	47
-----------------------	---	----