



**CSA B355:24**  
National Standard of Canada



# Platform lifts and stair lifts for barrier-free access



# 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.



# ***Standards Update Service***

***CSA B355:24***

***November 2024***

**Title:** *Platform lifts and stair lifts for barrier-free access*

To register for e-mail notification about any updates to this publication go to [updates.csagroup.org](https://updates.csagroup.org).

The **List ID** that you will need to register for updates to this publication is **2431437**.

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](https://www.csagroup.org/legal) to find out how we protect your personal information.

**Canadian Standards Association (operating as “CSA Group”)**, under whose auspices this National Standard has been produced, was chartered in 1919 and accredited by the Standards Council of Canada to the National Standards system in 1973. It is a not-for-profit, nonstatutory, voluntary membership association engaged in standards development and certification activities.

CSA Group standards reflect a national consensus of producers and users — including manufacturers, consumers, retailers, unions and professional organizations, and governmental agencies. The standards are used widely by industry and commerce and often adopted by municipal, provincial, and federal governments in their regulations, particularly in the fields of health, safety, building and construction, and the environment.

More than 10 000 members indicate their support for CSA Group’s standards development by volunteering their time and skills to Committee work.

CSA Group offers certification and testing services in support of and as an extension to its standards development activities. To ensure the integrity of its certification process, CSA Group regularly and continually audits and inspects products that bear the CSA Group Mark.

In addition to its head office and laboratory complex in Toronto, CSA Group has regional branch offices in major centres across Canada and inspection and testing agencies in fourteen countries. Since 1919, CSA Group has developed the necessary expertise to meet its corporate mission: CSA Group is an independent service organization whose mission is to provide an open and effective forum for activities facilitating the exchange of goods and services through the use of standards, certification and related services to meet national and international needs.

For further information on CSA Group services, write to  
CSA Group  
178 Rexdale Boulevard  
Toronto, Ontario, M9W 1R3  
Canada

A National Standard of Canada is a standard developed by a Standards Council of Canada (SCC) accredited Standards Development Organization, in compliance with requirements and guidance set out by SCC. More information on National Standards of Canada can be found at [www.scc.ca](http://www.scc.ca).

SCC is a Crown corporation within the portfolio of Innovation, Science and Economic Development (ISED) Canada. With the goal of enhancing Canada’s economic competitiveness and social wellbeing, SCC leads and facilitates the development and use of national and international standards. SCC also coordinates Canadian participation in standards development, and identifies strategies to advance Canadian standardization efforts.

Accreditation services are provided by SCC to various customers, including product certifiers, testing laboratories, and standards development organizations. A list of SCC programs and accredited bodies is publicly available at [www.scc.ca](http://www.scc.ca).

Standards Council of Canada  
600-55 Metcalfe Street  
Ottawa, Ontario, K1P 6L5  
Canada



Cette Norme Nationale du Canada n’est disponible qu’en anglais.

*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 to judge its suitability for their particular purpose.*

®A trademark of the Canadian Standards Association, operating as “CSA Group”

*National Standard of Canada*

*CSA B355:24*

***Platform lifts and stair lifts for  
barrier-free access***



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



*Published in November 2024 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  
[www.csagroup.org/store/](http://www.csagroup.org/store/) or call toll-free 1-800-463-6727 or 416-747-4044.*

*ICS 91.140.90  
ISBN 978-1-4883-5208-9*

*© 2024 Canadian Standards Association  
All rights reserved. No part of this publication may be reproduced in any form whatsoever  
without the prior permission of the publisher.*

# Contents

Technical Committee on Platform Lifts and Stair Lifts for Barrier-Free Access 6

Preface 9

Sustainable Development Goals (SDG) Foreword 11

## 1 Scope 12

- 1.1 General 12
- 1.2 Requirement inclusions 12
- 1.3 Recommendations and non-mandatory inclusions 12
- 1.4 Device exclusions 12
- 1.5 Scope exclusions 12
- 1.6 Performance with technical documentation 12
- 1.7 Terminology 13

## 2 Reference publications 13

## 3 Definitions 14

## 4 Design requirements and limitations 18

- 4.1 Design considerations 18
  - 4.1.1 General 18
  - 4.1.2 Protection against hazards 18
  - 4.1.3 Protection against falling from the platform at landings 19
  - 4.1.4 Obstructions and projections 19
  - 4.1.5 Vertical clearance 19
  - 4.1.6 Adverse environment lift installations 20
- 4.2 Travel, limits of travel, landings, and inclination 20
  - 4.2.1 Travel 20
  - 4.2.2 Floor penetration 20
  - 4.2.3 Limits of travel 20
  - 4.2.4 Intermediate landings 21
  - 4.2.5 Inclination for stair lifts and stair platform lifts 21
- 4.3 Rated speed 21
- 4.4 Types of carriages 21
  - 4.4.1 Vertical platform lifts 21
  - 4.4.2 Stair platform lifts 21
  - 4.4.3 Stair lifts 21
- 4.5 Capacity, rated load, and size 21
  - 4.5.1 General 21
  - 4.5.2 Platforms supporting wheelchairs over 70 kg 21
  - 4.5.3 Area and size of platforms 22
  - 4.5.4 Signage 22
- 4.6 Safety factors 22
  - 4.6.1 General requirement 22
  - 4.6.2 Calculation 22
- 4.7 Welding 22

4.8	Lighting	22
4.8.1	Minimums	22
4.8.2	Totally enclosed runways	22
4.8.3	Emergency lighting	22
<b>5</b>	<b>Runway</b>	<b>23</b>
5.1	Runway enclosures	23
5.1.1	General requirements	23
5.1.2	Enclosed vertical platform lifts	23
5.1.3	Unenclosed vertical platform lifts	23
5.1.4	Enclosed stair platform lifts	24
5.2	Landing doors and gates	24
5.2.1	General	24
5.2.2	Height and width	25
5.2.3	Door or gate interlock	25
5.2.4	Testing and certification of interlocks, combination mechanical locks, and electrical contacts	26
5.2.5	Required tests and procedures	27
5.3	Mechanical limits	30
5.3.1	All lifts	30
5.3.2	Vertical platform lifts	30
5.4	Under-platform access	30
5.4.1	Under-platform clearance	30
5.4.2	Access when the runway floor is more than 300 mm below the bottom landing sill	31
5.5	Horizontal clearances	31
5.5.1	Vertical platform lifts	31
5.5.2	Stair lifts	31
5.6	Guide rails	32
5.6.1	General	32
5.6.2	Strength	32
5.6.3	Securement	32
5.7	Stair lift guards at ceiling intersections	32
5.7.1	General	32
5.7.2	Exposed edge of guards	32
5.7.3	Glass guards	32
<b>6</b>	<b>Drive unit</b>	<b>32</b>
6.1	Requirements for all drive units	32
6.1.1	General	32
6.1.2	Power transmission	33
6.1.3	Drive unit brakes	34
6.1.4	Manual moving of the carriage in case of emergency	34
6.1.5	Alignment	35
6.1.6	Drive unit enclosure	35
6.2	Suspension wire rope, winding drums, sheaves, protection and guarding, and traction	35
6.2.1	Suspension wire rope	35
6.2.2	Winding drums	36
6.2.3	Sheaves	36
6.2.4	Protection and guarding	37

6.2.5	Traction	37
6.3	Rack and pinion drive	37
6.3.1	Pinion drive	37
6.3.2	Racks	37
6.3.3	Guarding	38
6.4	Chain and chain sprocket drive	38
6.4.1	Chains	38
6.4.2	Chain drive sprockets	38
6.4.3	Protection and guarding	38
6.5	Screw and nut drive	39
6.5.1	Screw	39
6.5.2	Nut	39
6.5.3	Screw and nut assembly	39
6.5.4	Guarding	39
6.6	Hydraulic drive	39
6.6.1	General requirements for components under fluid pressure	39
6.6.2	Valves	41
6.6.3	Piping requirements	41
6.6.4	Connections and fittings	42
6.6.5	Speed-limiting devices	42
6.6.6	Levelling device, anti-creep	42
6.6.7	Safety bulkhead	42
6.6.8	Pressure sensor	43
6.6.9	Telescopic plunger guides	43
6.6.10	Operation dependent on electric power supply	43
6.6.11	Hydraulic fluid overheating protection	43
6.7	Rope chain and rope sprocket drives	43
6.7.1	Rope chain	43
6.7.2	Rope sprocket	43
6.8	Friction drive	44
6.8.1	General	44
6.8.2	Materials	44
6.9	Counterweights	44
6.9.1	General requirements	44
6.9.2	Design requirements for frames and rods	44
6.9.3	Clearances between carriage, counterweight, and counterweight guard	45
6.9.4	Protection of space below runway	45
6.9.5	Location and guarding of counterweights	45
<b>7</b>	<b>Carriage</b>	<b>45</b>
7.1	Types of carriages	45
7.2	Requirements for all carriages	46
7.2.1	Construction	46
7.2.2	Attachment of suspension means	46
7.2.3	Protection on carriages	46
7.2.4	Sensitive edges or sensitive surfaces	47
7.2.5	Safeties and overspeed governors	47
7.2.6	Foldable components	49
7.2.7	Ascending car overspeed protection	49

7.3	General requirements for all platform carriages	49
7.3.1	Platform construction	49
7.3.2	Platform ceilings	50
7.4	Chair carriage	50
7.4.1	Two chairs	50
7.4.2	Construction of chair	50
7.4.3	Rotation of chair	50
7.4.4	Footrest location	50
7.4.5	Safety belt	50
7.4.6	Directional control device	50
7.5	Standing platform	51
7.5.1	Specifications	51
7.5.2	Handgrips	51
7.5.3	Guard (enclosure)	51
7.5.4	Clearances at landings	51
7.6	Wheelchair platform	51
7.6.1	Specifications	51
7.6.2	Guard (enclosure)	52
7.6.3	Rollaway protection	53
7.6.4	Clearances at landings	53
7.6.5	Ramps, flaps, and hinged-edge stops	53
7.6.6	Foldable seat	54
7.7	Wheelchair-and-attendant platform	54
7.7.1	Specifications	54
7.7.2	Guard (enclosure)	54
7.7.3	Platform gate	54
7.7.4	Clearances at landings	54
7.7.5	Handrails	54
7.7.6	Foldable seat	55
7.7.7	Platform gate combination mechanical locks and electrical contacts	55
7.8	Special adaptation platforms	56
<b>8</b>	<b>Electrical equipment</b>	<b>56</b>
8.1	General	56
8.1.1	Requirements in <i>Canadian Electrical Code, Part I</i>	56
8.1.2	Requirements in CSA B44.1/ASME A17.5	56
8.2	Operation and operating devices	56
8.2.1	Type of operation	56
8.2.2	Types of operating devices	56
8.2.3	Location of operating and signal devices	57
8.2.4	Automatic levelling	57
8.3	Alarm and warning signal	58
8.3.1	General	58
8.3.2	Actuation	58
8.3.3	Emergency operation	58
8.3.4	Audiovisual warning signal	58
8.3.5	Emergency communication device	58
8.4	Control and control equipment	59
8.4.1	Control circuits	59

8.4.2	Protection in the case of failure	59
8.4.3	Controller	59
8.4.4	Normal terminal-landing stopping devices	60
8.4.5	Phase reversal	60
8.5	Electrical protective devices	60
8.5.1	General	60
8.5.2	Emergency stop device	60
8.5.3	Final terminal-stopping switches	60
8.5.4	Sensitive edge and sensitive surface switches	61
8.5.5	Slack belt or chain drive, drum, sheave, and safeties switches	61
8.5.6	Foldable, rotatable, or hinged component contacts	61
8.5.7	Gate and passenger restraining arm contacts	61
8.5.8	Landing door or gate interlock contacts	61
8.5.9	Runway stop device	61
8.5.10	Top of platform enclosure stop devices	62
8.5.11	Manual moving device switch	62
<b>9</b>	<b>Data plate and signs</b>	<b>62</b>
9.1	Data plate	62
9.2	Under-platform sign	62
9.3	Markings of data plate and sign	62
9.4	Markings of landing zone for an enclosed vertical platform lift	62
9.5	Signs required with lift operating instructions	62
9.5.1	Residential installations	62
9.5.2	Signage	63
9.5.3	Requirements	63
<b>10</b>	<b>Alterations</b>	<b>63</b>
<b>11</b>	<b>Maintenance</b>	<b>63</b>

---

Annex A (informative) — Inspection and testing 66

Annex B (informative) — Maintenance for platform lifts and stair lifts 68

Annex C (informative) — Technical differences between the current (2024) edition of this Code and the seventh (2019) edition of this Code 76

Annex D (informative) — Alterations 79

Annex E (informative) — Relocatable lifts 84

# Technical Committee on Platform Lifts and Stair Lifts for Barrier-Free Access

<b>S. Salib</b>	Technical Standards & Safety Authority (TSSA) Toronto, Ontario, Canada <i>Category: Regulatory Authority</i>	<i>Chair</i>
<b>R. Murphy</b>	Garaventa Canada Ltd. Surrey, British Columbia, Canada <i>Category: Producer Interest</i>	<i>Vice-Chair</i>
<b>J. Borisoff</b>	British Columbia Institute of Technology (BCIT) Burnaby, British Columbia, Canada <i>Category: User Interest</i>	
<b>M. Brose</b>	Transportation Action Now Toronto, Ontario, Canada <i>Category: User Interest</i>	
<b>D. Bruce</b>	Alberta Municipal Affairs Edmonton, Alberta, Canada <i>Category: Regulatory Authority</i>	
<b>P. Dinh</b>	Garaventa Lift Brampton, Ontario, Canada	<i>Non-voting</i>
<b>P. Fraser</b>	Government of Newfoundland and Labrador/ Service NL Mount Pearl, Newfoundland and Labrador, Canada	<i>Non-voting</i>
<b>D. Gagnier</b>	Euchner Canada Inc. Oldcastle, Ontario, Canada	<i>Non-voting</i>
<b>M. Gatje</b>	KONE Inc. Mississauga, Ontario, Canada <i>Category: Producer Interest</i>	
<b>R. Helps</b>	New Dundee, Ontario, Canada <i>Category: General Interest</i>	
<b>T. B. Irmischer</b>	KONE Elevators & Escalators Victoria, British Columbia, Canada	<i>Non-voting</i>

<b>T. Kassens</b>	Bruno Independent Living Aids, Inc. Oconomowoc, Wisconsin, USA <i>Category: Producer Interest</i>	
<b>K. Langereis</b>	Technical Safety BC Victoria, British Columbia, Canada <i>Category: Regulatory Authority</i>	
<b>A. Leblanc</b>	Annapolis Valley Farms Wolfville, Nova Scotia, Canada	<i>Non-voting</i>
<b>S. E. MacArthur</b>	Government of Prince Edward Island, Department of Housing, Land & Communities Charlottetown, Prince Edward Island, Canada	<i>Non-voting</i>
<b>P. McClare</b>	Nova Scotia Technical Safety, Department of Labour, Skills, and Learning Halifax, Nova Scotia, Canada <i>Category: Regulatory Authority</i>	
<b>P. McDermott</b>	Technical Standards & Safety Authority (TSSA) Toronto, Ontario, Canada	<i>Non-voting</i>
<b>S. Mercier</b>	Régie du bâtiment du Québec Montréal, Québec, Canada	<i>Non-voting</i>
<b>R. Meunier</b>	RAM Manufacturing Ltd. Edmonton, Alberta, Canada <i>Category: Producer Interest</i>	
<b>M. Peros</b>	Ashford Engineering Limited Toronto, Ontario, Canada <i>Category: General Interest</i>	
<b>R. Piatti</b>	Federal Elevator Holdings Limited Mississauga, Ontario, Canada <i>Category: Producer Interest</i>	
<b>S. Plante</b>	Toronto Transit Commission Toronto, Ontario, Canada <i>Category: General Interest</i>	
<b>W. Richardson</b>	Savaria Concord Lifts Inc. Brampton, Ontario, Canada <i>Category: Producer Interest</i>	

<b>E. Ryba</b>	Public Services and Procurement Canada Ottawa, Ontario, Canada	<i>Non-voting</i>
<b>R. Scharfe</b>	Pembroke, Ontario, Canada <i>Category: General Interest</i>	
<b>A. Schneider</b>	KJA Consultants Inc. Vancouver, British Columbia, Canada <i>Category: General Interest</i>	
<b>K. Steeves</b>	Province of New Brunswick Department of Public Safety Moncton, New Brunswick, Canada <i>Category: Regulatory Authority</i>	
<b>P. Tait</b>	Markham, Ontario, Canada	<i>Non-voting</i>
<b>S. Tevyaw</b>	Public Services and Procurement Canada (PSPC) Ottawa, Ontario, Canada <i>Category: Regulatory Authority</i>	
<b>S. Thomas</b>	Government of the Northwest Territories Yellowknife, Northwest Territories, Canada	<i>Non-voting</i>
<b>M. Townsend</b>	Garaventa Canada Ltd. Surrey, British Columbia, Canada	<i>Non-voting</i>
<b>K. Vashi</b>	Euchner Canada Inc. Vaughan, Ontario, Canada	<i>Non-voting</i>
<b>R. Watters</b>	Spinal Cord Injury Ontario/Enable Wellness Inc. Toronto, Ontario, Canada <i>Category: User Interest</i>	
<b>L. Yang</b>	CSA Group Toronto, Ontario, Canada <i>Category: General Interest</i>	
<b>G. Lee</b>	CSA Group Toronto, Ontario, Canada	<i>Project Manager</i>

# Preface

This is the eighth edition of CSA B355, *Platform lifts and stair lifts for barrier-free access*. It supersedes the previous editions published in 2019, 2015, 2009, 2000, 1994, 1986, and 1981 under the title *Lifts for persons with physical disabilities*. This edition incorporates the requirements previously contained in CAN/CSA-B613, *Private residence lifts for persons with physical disabilities*.

This edition also includes the following changes:

- a) addition of requirements to address adverse environment lift installations;
- b) revised requirements for the inclination for stair lifts and stair platform lifts;
- c) addition of a requirement for locking and unlocking as intended in misalignment tests;
- d) revised requirements for examination of operation;
- e) revised terminology of platform vs. carriage;
- f) addition of a requirement for hydraulic fluid overheating protection;
- g) addition of a requirement for supporting handhold clearances in normal operation and while the lift is in motion;
- h) revised requirements for the carriage and counterweight safeties;
- i) revised requirements for requirements in CSA B44.1/ASME A17.5;
- j) revised requirements for audible alarm and warning signals and actuation;
- k) revised requirements for emergency stop devices;
- l) removal of pendant control requirements;
- m) addition of requirements for signs required with lift operating instructions; and
- n) revised engineering tests of safeties in informative Annex [A](#).

An itemized list of changes is provided in Annex [C](#).

This Code is considered suitable for use for conformity assessment within the stated scope of the Code.

This Code was prepared by the Technical Committee on Platform Lifts and Stair Lifts for Barrier-Free Access, under the jurisdiction of the Strategic Steering Committee on Mechanical Industrial Equipment Safety, and has been formally approved by the Technical Committee.

This Code has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

## 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 Code is stated in its Scope, it is important to note that it remains the responsibility of the users of the Code to judge its suitability for their particular purpose.*
- 3) *This Code was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Code.*
- 4) *To submit a request for interpretation of this Code, please send the following information to [inquiries@csagroup.org](mailto:inquiries@csagroup.org) and include “Request for interpretation” in the subject line:*
  - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
  - b) *provide an explanation of circumstances surrounding the actual field condition; and*