

Issued January 1, 2005; Revised March 8, 2007

Regulatory excerpt

Section 13.1 of the *OHS Regulation* ("*Regulation*") includes the following definitions:

"boom-supported" means supported by an elevating device that telescopes, articulates, rotates or extends relative to the machine base or vehicle, so that the platform can be positioned completely beyond the base;

"boatswain's chair", also known as a bosun's chair, means a seat attached to a suspended rope designed to accommodate one person in a sitting position;

"elevating work platform" means a movable work platform that self-elevates to overhead work locations;

"movable work platform" means a work platform that can be re-positioned during the course of the work;

"permanent powered platform" means a movable work platform that

(a) is raised or lowered by other than manual means, and

(b) is permanently installed on or attached to a building or structure;

"portable powered platform" means a movable work platform that

(a) is raised or lowered by other than manual means, and

(b) is not permanently installed on or attached to a building or structure;

"scaffold" means any temporary elevated work platform and its supporting structure used for supporting workers, materials or equipment;

"self-propelled" means the capability of an elevating work platform to travel under power with the primary controls on the work platform;

"swing stage" means a work platform that is raised and lowered by manual or powered hoisting equipment, supported by 2 or more suspension lines;

"work platform" means an elevated or suspended temporary work surface used for supporting workers and includes a scaffold and boatswain's chair.

Purpose of guideline

This guideline provides a chart to show the various types of work platforms covered by [Part 13](#) of the *Regulation*, and a brief explanation of some types of movable platforms.

Chart - Types of work platforms



Explanation of terms

Confusion sometimes arises about the differences between some of the terms in the chart, particularly related to movable work platforms. The following explanations are intended to assist the reader.

Movable work platforms: A movable work platform is a platform that can be moved, manually or by power, in either the vertical or horizontal direction, or both, and covers a range of types of equipment. The different types of movable work platforms shown in the chart can be discussed in three groups: suspended staging, elevating work platforms, and platforms supported by other equipment.

- **Suspended staging** (permanent powered platforms, swing stages, and boatswain's chairs): These are all movable platforms that are supported by line(s) from a building or structure, and can be repositioned vertically during use.
- **Elevating work platforms:** An elevating work platform is one that self-elevates, and includes design features for lateral mobility (travel). If the platform travels under power when operated by controls on the work platform it is termed "self-propelled." There are two types of self-propelled units, those that are boom supported, and other designs, such as self-propelled scissor lifts. Alternatively, if an elevating work platform is moved by hand or is attached to the deck of a powered vehicle, it is called a "portable elevating work platform." There are a range of types of portable elevating work platforms in use, from elevating equipment mounted on service trucks, to compressed gas power lifts that are moved by hand. Mast climbers that provide access to the face of a building, and that can be repositioned vertically as work proceeds are also included in this group.
- **Platforms supported by other equipment** (lift truck supported, and crane or hoist supported): A platform that is elevated by another piece of equipment is not an elevating work platform, because the platform itself is not designed to be capable of elevating. Examples of this type of work platform are those that are positioned and supported by a crane, hoist, or lift truck. These platforms are movable, but they are not elevating.

G13.2 Standards

Issued January 1, 2005; Editorial Revision May 2005; Editorial Revision August 12, 2008; Editorial Revision September 1, 2009; Editorial Revision March 31, 2010; Editorial Revision May 17, 2012; Revised April 1, 2013

Regulatory excerpt

Section 13.2(1) of the *OHS Regulation* ("Regulation") states:

A ladder, window cleaner's belt or work platform must meet and be used in accordance with

- (a) the applicable CSA or ANSI standard in effect when the equipment or structure was manufactured, except as otherwise determined by the Board,
- (b) another standard acceptable to the Board, or
- (c) if there is no applicable standard under paragraphs (a) or (b), the requirements of a professional engineer.

Purpose of guideline

The purpose of this guideline is to provide a list of some common applicable standards under section 13.2(1)(a). The guideline also provides a list of standards acceptable to WorkSafeBC under section 13.2(1)(b). Refer to OHS Guideline [G13.2\(1\)-2 Application of CSA and ANSI standards for suspended stages](#).

List of standards under section 13.2(1)

Agency	Standard number	Standard title ⁶
CSA ¹	B354.1	Portable Elevating Work Platforms
CSA	B354.2	Self-propelled Elevating Work Platforms
CSA	B354.4	Self-propelled Boom-Supported Elevating Work Platforms
CSA	B354.5	Mast-climbing work platforms
CSA	C225	Vehicle-Mounted Aerial Devices
CSA	S269.2	Access Scaffolding for Construction Purposes
CSA	Z11	Portable Ladders
CSA	Z91-02	Health and Safety Code for Suspended Equipment Operations
CSA	Z185	Safety Code for Personnel Hoists
CSA	Z271	Safety Code for Suspended Platforms
CSA	Z323.5	Mechanical/Electromechanical Lifting Devices for Persons
CSA	Z797	Code of Practice for Access Scaffold
WCB ²	WPL2-2004	Design, Construction and Use of Crane Supported Work Platforms
WCB	LDR1-2004	Job Built Ladders
WCB	WPL3-2004	Safety Factor and Minimum Breaking Strength for Suspended Work Platforms and Associated Components
WCB	WPL1-2004	Design, Construction and Use of Wood Frame Scaffolds
WCB	WorkSafeBC13.30	Work Platforms Supported by Lift Trucks
ANSI ³	A10.22	Safety Requirements for Rope-Guided and Non Guided Workmen's Hoists
ANSI	A10.8	American National Standard for Construction and Demolition Operations - Scaffolding - Safety Requirements
ANSI	A120.1	Powered Platforms for Exterior Building Maintenance
ANSI	A14.1	Safety Requirements for Portable Wood Ladders
ANSI	A14.2	Safety Requirements for Portable Metal Ladders
ANSI	A14.3	American National Standard for Ladders - Fixed - Safety Requirements
ANSI	A14.5	Safety Requirements for Portable Reinforced Plastic Ladders
ANSI	A14.7	Safety Requirements for Mobile Ladder Stands and Mobile Ladder Stand Platforms
ANSI	A39.1	Safety Code for Window Cleaning
ANSI	A92.1	Mobile Ladder Stands and Scaffolds (Towers), Manually Propelled
ANSI	A92.2	Vehicle-Mounted Elevating and Rotating Aerial Devices (Work Platforms)
ANSI	A92.3	American National Standard for Manually Propelled Elevating Aerial Platforms
ANSI	A92.5	Boom-Supported Elevating Work Platforms
ANSI	A92.6	American National Standard for Self-propelled Elevating Work Platforms
ANSI	A92.8	American National Standard for Vehicle-Mounted Bridge Inspection and Maintenance Devices
ANSI	A92.9	American National Standard for Mast-Climbing Work Platforms
ASME ⁴	B30.23	Personnel Lifting Systems
ANSI	B56.1	Safety Standard for Low Lift and High Lift Trucks
ANSI	B56.6	Safety Standard for Rough Terrain Forklift Trucks
ANSI	A14.4	Job-Made Ladders, Safety Requirements for
ASTM ⁵	C 478M	Standard Specification for Precast Reinforced Concrete Manhole Sections

¹CSA: Canadian Standards Association

²WCB: WorkSafeBC (Workers' Compensation Board of British Columbia)

³ANSI: American National Standards Institute

⁴ASME: American Society of Mechanical Engineers

⁵ASTM: American Society for Testing and Materials

⁶Standard titles may vary between published editions of a Standard

G13.2(1) Ships' ladders

Issued May 25, 2005

Regulatory excerpt

Section 13.2(1) (Standards) of the *OHS Regulation* ("*Regulation*") states:

- (1) A ladder, window cleaner's belt or work platform must meet and be used in accordance with
 - (a) the applicable CSA or ANSI standard in effect when the equipment or structure was manufactured, except as otherwise determined by the Board,
 - (b) another standard acceptable to the Board, or
 - (c) if there is no applicable standard under paragraphs (a) or (b), the requirements of a professional engineer.

Purpose of this guideline

This guideline sets out the circumstances where a "ship's ladder" would normally be acceptable for use. It also provides guidance on the expectations of the Board for the design, installation and use of such a ladder.

What is a ship's ladder?

A ship's ladder, as addressed by this guideline, means a permanently installed steep pitched stair-like structure having rigid treads supported by rigid side rails, with handrails on each side. It does not include a ladder configuration made of treads or rungs supported by "side rails" made of fibre or wire rope. While the ladder is referred to as a ship's ladder, the usage covered in this guideline is with respect to land-based applications as described below.

Where are they appropriate?

A ship's ladder should only be considered for use where a conventional stairway cannot be installed due to limited space. Installation should be limited to places where only occasional use is required, such as for servicing machinery or equipment on a typical frequency of less than daily.

There is no CSA or ANSI standard that has been issued to address ship's ladders. In the absence of a standard the Board has a number of expectations for the design, installation and use of these ladders under section 13.2(1) of the *Regulation*, which are outlined below.

Ladder design and installation

A ship's ladder should:

- be designed so the angle between the side rails and the horizontal is between 50 and 70 degrees. The preferred angle is in the range of 60 to 68 degrees.
- serve only a single platform or landing and have a maximum height of 4 metres (12 feet)
- have treads at least 130 millimetres (mm) (5 inches) wide, with a nonskid finish, uniformly spaced at not more than 305 mm (12 inches). Treads should be at least 430 mm (17 inches) long, but not longer than 630 mm (24 inches).
- have a minimum design working load of 1.1 kiloNewtons (kN) (250 pounds) applied uniformly to a 90 mm (3.5 inch) strip across the centre of the tread
- have handrails provided on both sides of the ladder at approximately 900 mm (36 inches) above the tread nosing
- have a safety guard installed parallel to the slope of the ladder and offset approximately 150 mm (6 inches) from the rear of the treads. (This guard is to stop a worker's leg from passing through to the backside of the ladder if a foot slips off the back side of the tread.)

Note that a ship's ladder is a permanent load-carrying structure and needs to be properly engineered, as required by section 13.2(1)(c). Design drawings and specifications should show all information necessary for the fabrication and installation of the ship's ladder, including details on how it is to be secured in place. The completed installation will need to be certified by a professional engineer as being fabricated and installed in accordance with good engineering practice.

Ladder use

The user of a ship's ladder should:

- be trained on the correct way to use the ladder
- face the ladder when ascending or descending
- have both hands free to grasp the handrails when using the ladder. Tools or other items which prevent both hands from being free to grasp the handrails should not be carried up or down the ladder.
- maintain "three points of contact" when using the ladder. Three points of contact means two feet and one hand or two hands and one foot in contact with the ladder and handrails at all times. (This is recommended practice when using any type of ladder.)

G13.2(1)(b) Ladders in manholes

Issued January 1, 2005

Section 13.2(1) of the *OHS Regulation* ("Regulation") states:

- (1) A ladder, window cleaner's belt or work platform must meet and be used in accordance with
 - (a) the applicable CSA or ANSI standard in effect when the equipment or structure was manufactured, except as otherwise determined by the Board,
 - (b) another standard acceptable to the Board, or
 - (c) if there is no applicable standard under paragraphs (a) or (b), the requirements of a professional engineer.

This guideline sets out a standard acceptable to the Board for the design and construction of an individual rung ladder in a manhole that is part of a water, sewer or storm sewer system. These manholes typically have an outside diameter of 48 inches or less, and may have a tapering cone section near the top. For these structures it is recognized that the amount of interior space for access and to perform work is limited and the access ladder arrangement needs to provide for safe access while not protruding unnecessarily into the entry and work space. The Board recognizes the *ASTM Specification C 478M Standard Specification for Precast Reinforced Concrete Manhole Sections* as a standard acceptable to the Board under section 13.2(1)(b) for an individual rung ladder in such manholes. (Note this version is the metric companion to *ASTM Specification C 478*, which is also acceptable to the Board.) This standard refers to an individual rung as a "step".

ASTM Specification C 478M was developed for manholes assembled using precast concrete components for the base, riser, cone, and top sections. Manholes are also assembled using components for these sections made from other materials. Manhole steps or individual rungs will be cast, mortared, or attached by mechanical means to the walls of base, riser, or cone sections. Steps or rungs in a manhole must meet the design, material, dimension, and testing and acceptance criteria of the *ASTM Specification C 478M*, regardless of the material used to make the risers or cone sections.

ASTM Specification C 478M requires steps in a manhole's base, riser(s) and conical top section be aligned to form a continuous ladder with steps (rungs) equally spaced vertically at a maximum spacing of 400 millimetres (16 inches). Rungs must project a minimum clear distance of 100 millimetres (4 inches) from the wall of the base, riser or cone section measured at the point of embedment or attachment. The minimum clear distance between the rung and the opposite wall of the riser or cone must be 450 millimetres (18 inches) measured at the centre face of the rung. The minimum width of a step or rung is 250 millimetres (10 inches).

The maximum distance down from the entry level (rim of the manhole cover) to the centerline of the first rung below entry level in any manhole should be 500 mm (20 inches) where no handhold is provided above the first rung. Where a handhold is provided between the entry level and the first rung, the maximum distance may be increased to not more than 660 mm (26 inches).

ASTM Specification C 478M does not require any additional ladder safety features, such as a cage, rest platform, or ladder climbing device, regardless of the length of climb. Safety cages and rest platforms should not be used in a manhole as they may impede rescue or retrieval procedures. A worker entering a deep manhole, such as one more than 5 metres (16 feet) deep, should use a personal fall protection/rescue harness system, which will arrest a fall and allow for rescue/recovery if necessary. Such systems are often part of the employer's confined space entry program for work in and around manholes.

A worker assigned to enter manholes should receive training that includes awareness of the limited step depth and width for manhole rungs and the need to proceed cautiously when climbing into or out of a manhole. Training should also include procedures to assess the integrity of the steps or rungs when going into a manhole that has not been entered for a while, as rungs may have deteriorated due to corrosion or become loose due to deterioration of the supporting concrete or other material in the riser or cone sections.

The above acceptance of *ASTM Specification C 478M* is intended to apply to manholes where entry into such manholes is infrequent; for example, access to manholes is typically in the range of once or twice per year. If more regular access is required, such as monthly or more frequently, ladder access meeting the requirements of *ANSI Standard A14.3 American National Standard for ladders-fixed-safety requirements* should be provided. It is not the intention of the Board to require existing manholes which are currently used frequently to be modified to accommodate a fixed ladder. However, new facilities where frequent entry is going to be made should be sized and installed with a proper fixed ladder. A ladder in a well or shaft is required to meet the ANSI standard.

G13.2(1)-2 Application of CSA and ANSI standards for suspended stages

Issued December 3, 2007; Revised April 1, 2013

Regulatory excerpt

Section 13.2(1) of the *OHS Regulation* ("Regulation") states, in part:

- A ladder, window cleaner's belt or work platform must meet and be used in accordance with
- (a) the applicable CSA or ANSI standard in effect when the equipment or structure was manufactured, except as otherwise determined by the Board,

Purpose of guideline

WorkSafeBC has determined that suspended stage work platforms must meet and be used in accordance with specific standards. The purpose of this guideline is to describe the required standards for suspended stage work platforms.

Background information

Suspended stages are movable work platforms that are supported by line(s) from a building or structure, and can be repositioned vertically during use. They include permanent powered platforms, swing stages, and boatswain's (bosun's) chairs. Refer to [OHS Guideline G13.1 - Types of work platforms](#).

There are a number of Canadian Standards Association (CSA) and American National Standards Institute (ANSI) standards that address design, construction, installation, and use of work platforms. Refer to OHS Guideline [G13.2 - Standards](#) for a list of some of these standards. The listed standards specific to suspended stages are (standard titles may vary between different published editions) as follows:

CSA Z271 Safety code for Suspended Platforms

CSA Z91-02 Health and Safety Code for Suspended Equipment Operations

ANSI A120.1 Safety Requirements for Powered Platforms for Building Maintenance

ANSI A10.8 American National Standard for Construction and Demolition Operations - Scaffolding - Safety Requirements

Each of these standards has multiple editions, and a number of elements of design, construction, and use are addressed in more than one standard. This has resulted in some confusion as to which is the applicable standard.

Determination of applicable standards for design, construction, and installation of suspended stage equipment

WorkSafeBC has determined that suspended stages must meet the design, construction, and installation requirements (and any associated maintenance requirements) of any of the following applicable CSA and ANSI standards in effect when the equipment was manufactured:

CSA Z271

ANSI A120.1

ANSI A10.8

The applicable editions of *CSA Z271* standards for design, construction, and installation of suspended stages used for gaining access to exterior and interior building surfaces and other structures for the purpose of construction, demolition, or building maintenance are as follows:

- A. *CSA Z271-10 Safety Code for Suspended Platforms*
- B. *CSA Z271-98 Safety Code for Suspended Elevating Platforms*
- C. *CSA Z271-M84 Safety Code for Suspended Powered Platforms*
- D. *Supplement No. 1-1977 to CSA Z271-1974*
- E. *CSA Z271-1974 Safety Code for Powered Platforms*

The applicable editions of *ANSI A120.1* standards for design, construction, and installation of powered suspended stages used to gain access to building surfaces for building maintenance are as follows:

- A. *ANSI/ASME A120.1-2008 Safety Requirements for Powered Platforms and Traveling Ladders and Gantries for Building Maintenance*
- B. *ANSI/ASME A120.1-2006 Safety Requirements for Powered Platforms and Traveling Ladders and Gantries for Building Maintenance*
- C. *ANSI/ASME A120.1-2001 Safety Requirements for Powered Platforms for Building Maintenance*
- D. *ANSI/ASME A120.1-1996 Safety Requirements for Powered Platforms for Building Maintenance - Addenda A - 1997; Addenda B - 11/12/1999*
- E. *ANSI/ASME A120.1-1992 Safety Requirements for Powered Platforms for Building Maintenance*
- F. *ANSI/ASME A120.1-1970 Safety Requirements for Powered Platforms for Building Maintenance*

Maintenance includes "specific activities such as exterior building cleaning, painting, application of sealants and insulation, brickwork repointing, renovations, inspections, and related building/structure maintenance. ... (and) may also be applied to non-traditional activities, such as observation or photography, that may occasionally be carried out from suspended equipment." (ref. *CSA Z91-02, Health and Safety Code for Suspended Equipment Operations*). Exterior building cleaning includes window cleaning.

The applicable *ANSI A10.8* standards for design, construction, and installation of suspended stages used to gain access to building surfaces for construction and demolition operations are as follows:

- A. *ANSI/ASSE A10.8-2011 Scaffolding Safety Requirements*
- B. *ANSI/ASSE A10.8-2001 American National Standard for Construction and Demolition Operations - Safety Requirements for Scaffolding*
- C. *ANSI A10.8-1998 American National Standard for construction and demolition operations - scaffolding - safety requirements*
- D. *ANSI A10.8-1988 American National Standard for construction and demolition operations - scaffolding - safety requirements*
- E. *ANSI A10.8-1977 American National Standard Requirements for Scaffolding*

Determination of applicable standard for the use of suspended stage equipment

WorkSafeBC has determined that the use of a suspended stage must meet the requirements of *CSA Z91-02 Health and Safety Code for*

Suspended Equipment Operations. This is the required standard regardless of the year of manufacture of the equipment. The standard specifies safety requirements for use of equipment normally used for window and general cleaning, painting, maintenance, inspection, construction operations, and similar work. The following elements of use are addressed in *CSA Z91-02*:

- Training requirements for operation and occupancy of suspended stages
- General safety requirements such as weather restrictions, equipment and tool use and storage, signage, overhead protection, and fall protection
- Equipment operation, including general safety requirements, maintenance, use of suspended lines and lifelines, fall-arrest equipment, anchorage, support systems, work units, acceptable landings, special applications such as working from operable windows, and rigging techniques and practices
- Periodic inspection and testing of temporary and permanently installed equipment and anchor systems
- Documentation, such as the equipment log, roof plan, work plan, rigging plan, and fall protection procedures

There are also informative appendices to this standard. Although these are non-mandatory parts of the standard, they provide useful safety information for users of suspended stages. The appendices are entitled *Work Plan* and *Emergency Response Plan* and *Washing Windows in Complete Safety*.

Other acceptable standards

There may be an instance where a person finds it impracticable to comply with the above standards. In this case, application should be made to WorkSafeBC Prevention Practices and Quality for acceptance of an alternate standard.

Note that *Regulation section 2.3* specifies that the provisions of the *Regulation* prevail if there is any conflict between a prescribed code or standard and the *Regulation*.

G13.2(1)-3 Training requirements for operators of elevating work platforms

Issued December 19, 2013

Regulatory excerpt

Section 13.2(1) of the *OHS Regulation* ("*Regulation*") states:

- (1) A ladder, window cleaner's belt or work platform must meet and be used in accordance with
 - (a) the applicable CSA or ANSI standard in effect when the equipment or structure was manufactured, except as otherwise determined by the Board,
 - (b) another standard acceptable to the Board, or
 - (c) if there is no applicable standard under paragraphs (a) or (b), the requirements of a professional engineer.

Purpose of guideline

The purpose of this guideline is to clarify the training requirements for operators of elevating work platforms.

Applicable standards

Section 13.2 of the *Regulation* requires that elevating work platforms must be used in accordance with the applicable standards. These standards provide information applicable to the training and retraining of the operators of this equipment, and list the topics that must be covered during the training. The following are some of the standards that include requirements for training operators of elevating work platforms:

- *CSA B354.1 Portable Elevating Work Platforms*
- *CSA B354.2 Self-Propelled Elevating Work Platforms*
- *CSA B354.4 Boom-type Elevating Work Platforms*
- *ANSI/SLA A92.2 Vehicle-Mounted Elevating and Rotating Aerial Devices*
- *ANSI/SLA A92.3 Manually Propelled Elevating Aerial Platforms*
- *ANSI/SLA A92.5 Boom-Supported Elevating Work Platforms*
- *ANSI/SLA A92.6 Self-Propelled Elevating Work Platforms*

Trainer qualifications

The CSA and ANSI standards referenced in the *Regulation* also set out the qualifications for the trainer. Persons providing the training must be qualified in accordance with the requirements of the standard that the particular elevating work platform being operated has been manufactured to. Elevating work platforms may also be manufactured to meet more than one standard, such as both the applicable CSA and ANSI standards.

The employer may choose to have the operator training provided by a training agency, a qualified person working for the employer, or by some other qualified individual.

Proof of Training

The standards either require or recommend that upon successful completion of the training, the training provider issues the operator with a document that indicates proof of the training received. Generally, the standards require that the following information is provided:

- The name of the person trained
- The date the training took place
- The name of the organization or entity that provided the training
- The name of the trainer(s) that delivered the training
- The specific type of elevating work platform covered by the training (e.g., scissor lift, boom-supported elevating work platform, etc.)
- The applicable standard under which the program of training was provided

The requirement for the retention of proof of training and retraining documents vary, depending on the applicable standard. In general, CSA standards require that the operator keep the proof of training document with them at all times while operating the equipment; whereas ANSI standards typically require the employer to retain training and retraining records for a period of at least four years, but place no obligation on the operator to keep the proof of training documents with them while operating the equipment.

Retraining and upgrade training

The applicable standards do not require that retraining be conducted at a specific interval. Rather, employers are required to provide retraining to an operator based upon their observations and evaluation of an operator's competency. Where deficiencies are identified, the employer must arrange to provide retraining that addresses the specific operational deficiencies that were identified.

Employers may wish to provide operator retraining on a regular fixed interval. Employers have a duty under section [115\(2\)\(e\)](#) of the *Workers Compensation Act* ("*Act*") to provide to their workers the information, instruction, training, and supervision necessary to ensure the health and safety of those workers in carrying out their work and to ensure the health and safety of other workers at the workplace. Provided that any operational deficiencies that are identified in the period between the established formal retraining intervals are addressed appropriately, and employers comply with the above requirement, they may determine the frequency of any retraining program they wish to implement.

Where operators are required to operate an elevating work platform that they are not familiar with, the employer must provide operators with adequate upgrade training to ensure that they can demonstrate proficiency in the operation of the particular elevating work platform. Operators must receive upgrade training when any of the following circumstances arise:

- New equipment is introduced in the workplace that is unfamiliar to the operator
- The equipment is modified in a manner that affects its safe operation or load capacity
- The operating conditions or the environment in which the operator works has changed
- The operator has been involved in an incident relating to the equipment
- Skill or knowledge deficiencies have been identified
- The requirements of the applicable standards or the *Regulation* change

Retraining or upgrade training may be provided by a training agency, a qualified person working for the employer, or by some other qualified individual, depending on the individual learning needs of the operator at that time.

Ensuring compliance

Employers must adhere to the requirements specified in the standard that applies to the particular equipment they are using. Since the individual elements of the various standards differ in areas such as operator training, retraining, the proof of training provided, and the retention of records, this can present a challenge with respect to ensuring compliance on an ongoing basis.

To ensure compliance, employers are encouraged to review the training related elements of the various standards that apply to the elevating work platforms they use, and consider adopting the most stringent elements of the standards that apply to that type of equipment. For example, ensure that all operators possess a suitable proof of training document, and keep that document with them at all times while operating the equipment.

Employers have a duty under section [115\(2\)\(e\)](#) of the *Act* to provide to their workers the information, instruction, training, and supervision necessary to ensure the health and safety of those workers in carrying out their work and to ensure the health and safety of other workers at the workplace.

Employers also have a duty under sections [3.23 and 3.24](#) of the *Regulation* to ensure that new workers are given health and safety orientation and training specific to that workplace. As defined in section [3.22](#), a new worker is any worker who is new to the workplace, returning to a workplace where the hazards have changed, affected by a change in the workplace hazards, or relocated to a new workplace if the hazards are different.

In addition, there must be compliance with the applicable mobile equipment requirements set out in [Part 16](#) of the *Regulation*.

G13.8 General requirements - Chair design

Issued August 1, 1999; Revised January 1, 2005; Revised April 1, 2013

Regulatory excerpt

Section 13.8 of the *OHS Regulation* ("*Regulation*") states:

Each work platform must

- (a) have sufficient strength to bear the load to be placed on it, and
- (b) be secured against separation from the supporting equipment, structure or surface to which it is attached.

Purpose of guideline

This guideline explains design requirements for boatswain's (bosun's) chairs in order to meet strength requirements.

Design information

A boatswain's chair is a work platform under *Regulation* sections [13.2](#) and [13.8](#). A boatswain's chair raised and lowered by manually powered hoisting equipment, or used with a "descent only" rigging arrangement, must be designed to support a minimum load of 250 pounds. Please refer to the applicable CSA or ANSI standards for general requirements of a boatswain's chair design, e.g., *ANSI/ASSE A10.8-2001 Safety Requirements for Scaffolding* and *CSA Z271*. Refer to OHS Guideline [G13.2 Standards](#).

G13.4 Ladder ratings and selection

Issued January 1, 2005; Revised December 19, 2014; Revised February 1, 2016; Revised July 27, 2016

Regulatory excerpt

Section 13.2(1) of the *OHS Regulation* ("*Regulation*") states:

A ladder, window cleaner's belt or work platform must meet and be used in accordance with

- (a) the applicable CSA or ANSI standard in effect when the equipment or structure was manufactured, except as otherwise determined by the Board,
- (b) another standard acceptable to the Board, or
- (c) if there is no applicable standard under paragraphs (a) or (b), the requirements of a professional engineer.

Section 13.4 of the *Regulation* states:

A manufactured portable ladder must be marked for the grade of material used to construct the ladder and the use for which the ladder is constructed.

Purpose of guideline

The purpose of this guideline is to describe how portable ladders are classified under the applicable CSA and ANSI standards according to their intended use.

Portable ladder grades and types

Section 13.2(1) of the *Regulation* requires ladders to meet and be used in accordance with the following:

- (a) the applicable CSA or ANSI standard in effect when they were manufactured
- (b) another standard acceptable to WorkSafeBC
- (c) if there is no applicable standard, the requirements of a professional engineer

Under the applicable CSA and ANSI standards (listed under OHS Guideline [G13.2](#)), portable ladders are classified as follows:

Duty Rating	Load Rating	CSA Ladder Grade	ANSI Ladder Type
Special duty	170 kg (375 lb)	1AA	IAA
Extra heavy duty	136 kg (300 lb)	1A	IA
Heavy duty	113 kg (250 lb)	1	I
Medium duty	102 kg (225 lb)	2	II
Light duty	91 kg (200 lb)	3	III

Note: ANSI Standard A14.2 requires the use of Type I, IA, or IAA ladders with ladder jacks, and stage and scaffold planks.

If a portable ladder meeting a CSA or ANSI standard is not marked in accordance with the classification summarized in this table, then the ladder will not meet the requirements of section 13.4 of the *Regulation*.

Selecting an appropriate ladder

When considering a portable ladder for a work activity, the employer must select one of the appropriate grade/type. As described in the applicable CSA and ANSI standards, the employer must consider the following factors when selecting a ladder: the requirements of the worker, the task, the environment, the length required, the working load, the duty rating, and the frequency of use to which the ladder will be subjected.

For instance, depending on these factors and the particular circumstances:

- Grade 1/Type I ladders (or higher) will typically be required for the types of work activities undertaken on construction sites.

- Grade 2/Type II ladders will generally be appropriate for tasks such as light maintenance and light painting, but only after conducting an assessment of the factors listed above.
- Grade 3/Type III ladders are light duty and typically only suitable for household use; not workplace use.

G13.14 Guardrails on end frame scaffolds

Issued August 1999; Revised January 1, 2005; Revised December 19, 2014

Regulatory excerpt

Section 13.14 of the *OHS Regulation* ("Regulation") states:

- (1) The platform of each scaffold must
 - (a) be a minimum nominal width of 50 cm (20 in), except that a nominal 30 cm (12 in) wide work platform may be used with ladder jacks, pump jack or similar systems,
 - (b) not leave more than one opening in the work platform, which must be no greater than 25 cm (10 in) in width, and
 - (c) if not level, be designed to ensure adequate footing for workers using the platform
- (2) Guardrails may be omitted from the edge of a work platform if
 - (a) the platform is adjacent to a structure that provides protection equivalent to guardrails, and
 - (b) the open space between the platform and the structure is equal to or less than 30 cm (12 in.)

Purpose of guideline

The purpose of this guideline is to set out that cross-bracing is not an acceptable alternative to guardrails.

Cross-bracing

Standard tubular or other cross-bracing that forms an "X" pattern on cross-braced end-frame scaffolding does not provide a compliant alternative to standard guardrails because it does not provide at least equal protection to a top rail and intermediate rail.

G13.19 When and how to ground metal scaffold

Issued January 1, 2005

Section 13.19 of the *OHS Regulation* states:

- A scaffold must be effectively grounded if
- (a) it is a metal scaffold and is located close to a high voltage energized electrical conductor or equipment, and
 - (b) a hazardous level of electrical charge is likely to be induced in the scaffold.

This guideline describes when a metal scaffold near an energized high-voltage conductor or equipment should be grounded. It also provides guidance to consider grounding when a metal scaffold is near a low voltage but "high energy" system.

When a scaffold is erected parallel to an energized high-voltage electrical conductor or equipment there is a potential hazard of voltage being induced into the scaffold. The actual voltage level induced into the scaffold will be influenced by a number of factors such as:

- Distance from the conductor or equipment (whether overhead or underground)
- Length of scaffold parallel to the conductor or equipment
- Voltage and/or current flow in the conductor or equipment

The scaffold should be grounded immediately in either of the following situations:

- A worker feels an electric shock at any time, including during the erection of the scaffold.
- A voltage potential of more than 30 volts is measured between the metal scaffold and a ground point at least 5 metres (15 feet) from the base of the scaffold.

The following example explains how conditions may vary. Consider a metal scaffold system being erected parallel to an energized high-voltage conductor (power line), and about 6 metres (20 feet) away from the line. When the scaffold is about 30 metres (100 feet) long, a potential difference of 29 volts is measured between the scaffold and the chosen ground point. A voltage less than 30 volts is not considered hazardous, so no grounding would be required (unless workers report feeling an electric shock). When the scaffold was extended to 100 metres (300 feet) long, the induced voltage is now measured at 90 volts. Workers touching the scaffold while standing on the ground, or touching part of an adjacent building or structure while on the scaffold, may feel a shock. Although there may not be sufficient power to cause a direct electrical injury, the shock could startle the worker and the worker's reaction could result in a forceful contact with an object or in a fall. In this case the scaffold should

be sufficiently grounded before further use.

If metal scaffold is erected adjacent to the main power feed and/or distribution panel for a large building, or adjacent to the supply conductor for a large electric motor, the voltage of the electrical equipment may be below the limit of "high voltage" (750 volts) but due to the high current flow in the electrical equipment, a strong electric field may be present and capable of inducing a voltage in the scaffold. For example, the main power supply to a large building may be operating at 600 volts and carrying 400 amperes of current. Likewise, an electric motor for a large saw or pump in a mill may be operating at 440 volts and drawing 150 amperes of current. These systems are usually isolated by effective cover to eliminate any hazard of direct electrical contact, but metal scaffold elements erected parallel to the electrical equipment may have a voltage induced due to the high electric field present around such electrical equipment. If a worker reports feeling electric shocks upon touching the scaffold, or if a voltage of more than 30 volts is measured between the scaffold and a ground point, the scaffold should be grounded.

Effective grounding

There are different methods of grounding the scaffold so that any induced voltage is immediately dissipated so as not to pose a hazard to workers. The ground-connecting fixture should be connected to the scaffold with a #2 AWG copper conductor. The scaffold should be grounded at both ends. Suitable ground-connecting fixtures are ground plates or rods.

The installation of the grounding should be in accordance with the *BC Electrical Code*.

[Back to Top](#)

G13.23(1) Inspection and certification of elevating work platforms

Issued January 1, 2007; Revised December 19, 2013

Regulatory excerpt

Section 13.23(1) (Testing) of the *OHS Regulation* ("Regulation") states:

- (1) A vehicle-mounted elevating work platform and a self-propelled boom-supported elevating work platform must be
 - (a) inspected in accordance with good engineering practice at least every 12 months, and
 - (b) certified in writing by the equipment manufacturer or a professional engineer as complying with this Part and safe for use.

Purpose of guideline

This guideline outlines some of the factors that should be considered when determining if an inspection has been conducted in accordance with "good engineering practice" under this section. It also provides information on who is authorized to certify that the inspection has been done and that the equipment complies with the *Regulation* and is safe for use.

The concept of good engineering practice

The annual inspection and certification of a vehicle-mounted elevating work platform or a self-propelled boom-supported elevating work platform is required by the *Regulation*. This inspection and certification is to be done in accordance with good engineering practice. The concept of good engineering practice as it applies to this section means inspection, assessment, repair (if necessary), and certification of the equipment, is to be done in consideration of the following:

- Applicable regulations, safety codes, and standards
- Manufacturer's instructions for operation, inspection, maintenance, servicing, and repair
- Operating, maintenance, and service records

Who may do the certification?

Certification will generally be done by a professional engineer. If the inspection, assessment and any necessary repair work is done in B.C., the engineer, as required by the [Engineers and Geoscientists Act](#), must be licensed to practice in B.C. If this work is being done outside of B.C., for example in Alberta, the engineer must be licensed to practice in that jurisdiction.

If certification is to be provided by the equipment manufacturer, the person signing on behalf of the manufacturer must be specifically authorized in writing by the manufacturer to make such a certification on behalf of the manufacturer.

For convenience, the professional engineer or equipment manufacturer's representative will be referred to as the "certifying professional" in the remainder of this guideline.

The inspection and certification process

The employer or owner of the equipment should consult the certifying professional in advance to arrange the location of the inspection, testing, and necessary repair work, and to ensure qualified people and adequate facilities are used. Generally the "hands on" part of inspection, testing, and repair will be done by mechanics, service technicians, non-destructive testing (NDT) technicians, and other qualified workers as necessary (for example, welders), working under the direction of the certifying professional.

Inspection and certification requires assessment of the "critical components," meaning the structural, mechanical, and control system components which affect the safe operation of the equipment. The specific identity of these components will vary from one type of equipment to another,

depending on the design and configuration of the equipment.

The frequency of inspections and their extent, including dismantling, assessment, and NDT or other testing, will be determined by the certifying professional. The factors relevant in making these determinations include the following:

1. Requirements of the applicable regulations, safety codes, and standards
2. The equipment manufacturer's specifications and instructions
3. The certifying professional's familiarity with the particular design and model of equipment, including known reliability problems or component problems
4. Previous inspection history and results
5. Age of the equipment and number of hours of use
6. Circumstances of use of the equipment (for example, heavy duty vs. light use) and any known incidents since the last certification
7. The general condition of the equipment
8. The environment in which the equipment has been used (for example, a corrosive environment vs. a clean, dry shop, or yard area)
9. The available use, service, inspection, and maintenance records
10. The certifying professional's knowledge of the overall effectiveness of the service and maintenance program

Based on the outcomes of the inspection, the certifying professional will determine any necessary repair work.

The certification document will include a statement that the equipment is "safe for use" at the completion of the inspection and any necessary repair. This means that the equipment should then reasonably be expected to perform safely until the next inspection and certification is required if operated according to the manufacturer's instructions.

If the certifying professional deems it necessary to provide a restricted certification statement (for example, that some components are currently acceptable for safe use but will likely require replacement or renewal before the next annual inspection), the certifying professional will ensure the owner or employer is made aware of these concerns and will also note the condition on the equipment inspection and maintenance records.

Dielectric Testing

All insulated elevating work platforms that are to be used in proximity to power lines or electrical sources need to be tested at least once every 12 months as per section [19.9](#) of the *Regulation* Insulated elevating work platform.

Further specific information is available in the *CSA B354* series standards for various types of elevating work platforms.

G13.25 Warning devices

Issued January 1, 2005

Section 13.25 of the *OHS Regulation* states:

- (1) An elevating work platform, except a vehicle-mounted work platform, must have a warning system consisting of an intermittent horn or flashing light that
 - (a) is automatically activated during any motion of the work platform, and
 - (b) can be seen or heard by other workers in proximity to the work platform.
- (2) If the safe operation of an elevating work platform requires its carrier vehicle to be on a level surface or level within specified degrees, the platform must be fitted, as the carrier requires, with a device to warn the operator that
 - (a) the carrier is not level, or
 - (b) the carrier is outside the permitted degrees from level.

This guideline describes appropriate warning signals to indicate any motion of a work platform and devices to warn when the vehicle is not level.

Section 13.25(1)(a) uses the phrase "any motion of the work platform." This phrase applies to raising and lowering the work platform as well as movement of the support base. The raising or lowering motion may create pinch or shear points in the exposed support mechanisms, or components of the support mechanism or platform may enter work areas occupied by other workers.

The design or selection of an appropriate warning system (intermittent horn or flashing light) to satisfy the requirement of section 13.25(1)(b) will depend on the circumstances of use of the platform.

- If an audible warning device is selected, an automobile-type horn or a "backup alarm" is generally found to be satisfactory for this purpose, provided it is loud enough to be heard by workers over the ambient noise level in the work area, including any workers wearing hearing protection. An audible warning system may have a volume adjustment to allow the warning signal volume to be raised or lowered to accommodate work site conditions.
- If a flashing light warning system is selected, a rotating beacon or a strobe-type light, visible for 360 degrees about the machine, is generally found to be satisfactory.

Section 13.25(2) requires a device to warn the operator when the carrier is off level or beyond the tilt limit specified by the manufacturer.

- One method of complying with this section is to have a "tilt alarm" or other suitable signalling device that activates automatically when the platform is elevated and the carrier is off level beyond the specified tilt limit. Few "finished floor" surfaces are perfectly level but they generally do not have a slope of more than 5 degrees. A carrier vehicle tilted less than 5 degrees is generally considered as level.
- If a manually read indicator is used, it should allow the operator to determine when the carrier is off level by more than the manufacturer's specified limit or 5 degrees, whichever is less.

Some elevating work platforms are designed so the work platform always has the same tilt as the carrier or base; for example, most scissor lifts would be this type. For such units, a manually read tilt indicator mounted where it can be viewed during operation of the unit's controls may be suitable. A spirit level type arrangement used as a manually read tilt indicator (for example, a bent tube containing liquid or a moving ball or a cat's eye bubble) may be suitable, as long as the device will reliably indicate when the maximum permitted tilt angle is reached or has been exceeded.

G13.28(2) Safe work procedure acceptable to the Board to prevent two-blocking in pile driving and similar applications

Issued March 31, 2010

Regulatory excerpt

Section 13.28 of the *OHS Regulation* ("Regulation") states:

- (1) A crane or hoist used to raise a work platform on a load line must be equipped with
 - (a) a device to prevent two-blocking at all points, or
 - (b) in the case of a lattice boom crane, a two-blocking warning device.
- (2) Despite subsection (1), a work procedure acceptable to the Board may be followed to minimize the risk of two-blocking if it is not practicable to maintain a two-blocking prevention or warning device on a conventional lattice boom crane used for pile driving and similar applications.

Purpose of guideline

The purpose of this guideline is to provide guidance on the development of an acceptable work procedure to minimize the risk of two-blocking if it is not practicable to maintain a two-blocking prevention or warning device on a conventional lattice boom crane used for pile driving and similar applications.

Acceptable work procedure

Regulation subsection 13.28(1) requires the use of a two-blocking prevention device or, for a lattice boom crane, a warning device when a crane or hoist is used to raise a work platform on a load line. For a crane used for pile driving or similar applications, subsection 13.28(2) recognizes that it may not be practicable to use a prevention or warning device. For example, a device to prevent two-blocking may not be durable enough to withstand the work process.

When it is not practicable to use the prevention or warning device, a work procedure acceptable to the Board may be followed to minimize risk of two-blocking. The Board will consider the work procedure to be acceptable if it includes all of the following:

1. The minimum separation between the travelling block and the stationary block is determined by performing a trial lift through the complete travel path of the work platform.
2. Where the minimum separation between the travelling block and the stationary block is at least 20 feet, the load line is identified so that 20 feet of separation between the travelling and stationary block is apparent to all concerned.
3. Whenever a crane suspended work platform is utilized and the minimum separation between the travelling block and the stationary block is less than 20 feet, the load line is flagged 6 feet above the load block or headache ball and the employer has assigned a worker to act as a safety watch.
4. The worker assigned as a safety watch will be equipped with an air horn or similar warning device that will be activated to warn the crane operator whenever the load block or headache ball is hoisted to within 6 feet of the boom tip.
5. The warning device is effective in alerting the crane operator in the ambient conditions at the site.
6. The crane operator will stop the hoisting operation immediately when the air horn or similar warning device is activated.
7. The line speed is kept as low as reasonably practical and will not exceed 100 feet per minute when hoisting personnel.
8. Adequate supervision is provided to ensure the safe work procedure required to comply with these conditions is followed.

In order for the work procedure to be acceptable, the above criteria will be incorporated in a specific safe written work procedure for the use of the crane suspended work platform. The procedure should be reviewed with each worker involved in the work process in a pre-job meeting before work commences.

Other work procedures

If an employer wishes to use a work procedure that does not meet the criteria outlined in this guideline, the employer may submit an alternative procedure for review to the Prevention Practices and Quality Department at WorkSafeBC with a request for an acceptance of this alternative procedure. The application should include an explanation of why the safe work procedure described in this guideline cannot be implemented.

Issued May 17, 2006

Regulatory excerpt

Section 13.29 of the *OHS Regulation* states:

- (1) Cranes, winches and other devices used for hoisting and lowering movable work platforms must
 - (a) be operated as slowly as practicable while supporting the work platform,
 - (b) be lowered under power, if the device is powered, and
 - (c) not be equipped with a free running boom or hoisting winch controlled only by brakes.
- (2) If a moveable work platform is suspended from a crane, winch or other device over a structure that cannot safely support its weight or if other hazards exist below the platform, lower limit travel devices compatible with the hoist system must be used to ensure the platform cannot be lowered beyond the safe lower limit of travel.
 - (2.1) If the lower limit travel devices required by subsection (2) are not practicable, the employer must ensure that work procedures acceptable to the Board are used that will minimize the risk of the platform going beyond the safe lower limit of travel.
- (3) A trial lift for a work platform suspended from or attached to a crane or hoist must be performed at all work locations before the platform is occupied.

Purpose of guideline

This guideline provides information on the application of section 13.29(2) and (2.1) of the *OHS Regulation*. In particular, it addresses the issue in subsection (2) of hazards below the platform, and in subsection (2.1) the circumstances in which lower limit travel devices may not be practicable.

Hazards below the platform

The intent of section 13.29(2) is to ensure that lower limit travel devices are used to prevent a work platform, including a permanent or portable powered work platform, or a boatswain's chair, from being lowered beyond a safe level. These devices are needed if the work platform is suspended over a structure that cannot safely support its weight, or if other hazards exist below the platform.

Some examples of the hazards that might exist below a work platform include water that is deep enough to present a hazard of drowning, energized and exposed high voltage equipment, a canopy entrance to a building, the entrance to the underground parking area of a building, or circumstances where the platform is above vehicle traffic or moving machinery.

Practicability of lower travel limit devices

Lower limit travel devices are generally practicable if the hoisting equipment being used is a powered swing stage (permanent or portable powered platform). The *CSA Standard Z271 Safety Code for Suspended Elevating Platforms*, clauses 7.3.12.4.2 and 8.3.6.4.3, requires such equipment to have lower limit travel devices if there is a hazard in the event of descent beyond a predetermined point. Most permanent powered platforms will have automatic lower limit travel devices. Many portable powered platforms use a cable climbing hoist. For these types of hoists, the use of cable clips positioned at the appropriate spot on the hoist line(s) may be considered a lower limit travel device.

In circumstances where section 13.29(2) and (2.1) apply, the use of a lower limit travel device is the preferred means of worker safety. The use of work procedures will be acceptable only where lower limit travel devices do not exist or are not practicable.

Lower limit travel devices are generally not practicable for work platforms suspended from a crane load line or a winch load line. If a winch or drum hoist is being used, painting a warning mark on the hoist line at an appropriate spot may be part of the work procedures for controlling lower travel limits. The work procedure would need to include the use of a signaler to direct the crane, or a hoist operator where the operator does not have an adequate view of the platform to safely move the platform under the direction of a designated signaler on the platform.

G13.30 Lift truck mounted work platforms

Issued August 1999; Revised January 1, 2005; Editorial Revision February 6, 2006; Revised February 1, 2008; Revised consequential to February 1, 2013 Regulatory Amendment

Regulatory excerpt

Section 13.30 of the *OHS Regulation* ("*Regulation*") states:

- (1) In this section, "work platform" means a movable work platform that is supported by a lift truck.
- (2) A work platform may be used to support workers only if other conventional means of access for the task, such as ladders, scaffolds and elevating work platforms, are not practicable.
- (3) An employer must ensure that a work platform intended for use by workers was designed, and is used by workers, in accordance with

(a) *ANSI/ITSDF B56.1-2009, Safety Standard for Low Lift and High Lift Trucks*, if the platform is being used with a high lift truck as defined in Part IV of that standard, or

(b) *ANSI/ITSDF B56.6-2011, Safety Standard for Rough Terrain Forklift Trucks*, if the platform is being used with a rough terrain forklift truck as defined in section 2 of that standard.

(4) The employer must ensure that a work platform intended for use by workers is legibly marked in a conspicuous place to show

(a) the name of

(i) the manufacturer of the platform, or

(ii) the professional engineer who certified the platform as having been built to meet the applicable standard referred to in subsection (3),

(b) if the platform was built by a manufacturer,

(i) the model number and serial number, or

(ii) other unique marking or identification that links the platform with the manufacturer's documentation respecting the platform's design and use,

(c) if the platform was custom built, the unique identification number or code that links the platform with the professional engineer's documentation for the platform's design and use,

(d) the title of the safety standard or standards the platform was designed to meet,

(e) the weight of the platform when the platform is empty,

(f) the rated load of the platform, and

(g) the minimum width, as measured in accordance with subsection (5), and minimum rated capacity a lift truck must have to support the platform in a manner that complies with the applicable standard in subsection (3) when the platform is loaded to its rated load.

(5) The width of a lift truck referred to in subsection (4) (g) must be measured in a straight line from any point on the outer part of the right load bearing tire to the corresponding point on the outer part of the left load bearing tire.

(6) The employer must ensure that a qualified person inspects both the work platform and the lift truck supporting the work platform

(a) each time the platform is mounted on the lift truck, and

(b) at the start of each work shift, if the platform is already mounted on the lift truck at the start of the work shift,

to ensure the platform is properly secured to the lift truck and the lift truck and the platform are safe for use.

(7) The employer must ensure that the inspections referred to in subsection (6) take place before either the work platform or the lift truck is used by a worker.

(8) Only a worker who is qualified and authorized by the employer may operate a work platform, and the lift truck supporting the work platform, for the purpose of supporting workers on the platform.

(9) A worker must not operate either a work platform or the lift truck supporting the work platform unless

(a) there is effective two-way voice communication between the lift truck operator and a worker on the platform who is designated by the employer to provide the lift truck operator with directions for platform movement, and

(b) the lift truck operator and the designated worker on the platform prearrange hand and arm signals, if the voice communication referred to in paragraph (a) relies on the use of a radio or other electronic system, to allow the designated worker to signal the lift truck operator to bring the platform to the ground or floor level in the event the radio or other electronic system fails.

(10) A lift truck operator must remain at the controls of the lift truck at all times there are any workers on the platform supported by the lift truck.

(11) Before a work platform may be used to support workers, the lift truck operator must conduct a trial lift of the platform, with no workers on the platform, to assess the suitability of the surface bearing the weight of the lift truck and whether the platform is clear of all obstructions, unless

(a) the lift truck is on a type of surface the employer has identified as capable of safely supporting the lift truck and the platform when the platform is loaded to its rated load, and

(b) the space in and around which the platform is to be raised is clear of all obstructions.

Purpose of guideline

The purpose of this guideline is to explain selected portions of the standards referenced in section 13.30 of the *Regulation* that are applicable to the design and use of lift truck mounted work platforms.

Explanatory notes for specified sections

Availability of standards (Section 13.30 (3))

Section 13.30 references two standards that apply to the design and use of lift truck mounted work platforms: *ANSI/ITSDF B56.1-2009, Safety Standard for Low Lift and High Lift Trucks* and *ANSI/ITSDF B56.6-2011, Safety Standard for Rough Terrain Forklift Trucks*. Both ANSI/ITSDF standards are available at no cost from the Industrial Truck Standards Development Foundation at <http://www.itsdf.org>

Definitions

ANSI/ITSDF B56.1-2009 applies to both low lift and high lift trucks. "Low lift" refers to a variety of lift trucks generally designed and intended to raise the load just enough to accommodate horizontal movement. Some equipment, such as low lift order pickers, may be capable of raising a work platform to a maximum of 1200 mm (approx. 47 inches). "High lift" trucks are defined as a "self-loading truck equipped with an elevating mechanism designed to permit tiering." Tiering is "the process of placing one load on or above another."

ANSI/ITSDF B56.6-2011 applies to rough terrain forklift trucks, which are defined as "a wheeled-type truck designed primarily as a fork truck with a vertical mast and/or a pivoted boom, variable reach or of fixed length, which may be equipped with attachments. This truck is intended for operation on unimproved natural terrain as well as the disturbed terrain of construction sites. This definition excludes machines designed primarily for earth moving, such as loaders and dozers, even though their buckets and blades are replaced with forks, and machines designed primarily as over-the-road trucks equipped with lifting devices."

Work platforms built prior to February 2013

Work platforms meeting the version of *ANSI B56.1* or *ANSI B56.6* in place when the work platform was manufactured meet a standard acceptable to WorkSafeBC under section [4.4\(1\)](#) or [4.4\(2\)\(a\)](#) of the *Regulation*.

Work platforms meeting [WorkSafeBC Standard 13.30 Work Platforms Supported by Lift Trucks](#) may continue to be used, subject to the following:

- Work platform floor depth does not exceed twice the load centre distance of the lift truck
- Work platform width is not greater than the overall width of the truck plus 250 mm (10 inches) on either side

Marking and use requirements specified in section 13.30(4) of the *Regulation* are followed, regardless of the age of the work platform.

Work platforms that are designed by a professional engineer using the exemption in clause 4.7 of *WorkSafeBC Standard 13.30* are no longer acceptable for use.

Work platforms meeting the WCB A324 Standard

WCB Standard A324 was withdrawn in April 1998. Work platforms constructed to meet that standard must be permanently removed from service as of February 1, 2013, until such time as they are evaluated by a professional engineer and brought into compliance with the applicable standard referenced in section 13.30 of the *Regulation*.

Changing lift truck location

ANSI/ITSDF B56.1-2009 does not allow high lift trucks to be moved from location to location while workers are on the work platform. Minor adjustments in horizontal positioning are permitted, but only at the request of workers on the work platform.

ANSI/ITSDF B56.6 2011 does not allow any movement of rough terrain forklifts while the platform is raised. Platforms may be raised and lowered or the boom adjusted while the workers are on the platform, but these movements must only be done at the request of workers on the work platform.

Custom built work platforms (Section 13.30(4))

Custom built work platforms are normally built to order on a one-off basis. Work platforms built by manufacturers are normally commercially available, produced in larger quantities, and listed in catalogues. A custom built work platform must have a unique identification number or code that links the platform with the professional engineer's documentation for the platform's design or use. The employer will need to have a copy of the documentation for use and at a minimum should have a letter with the professional engineer's seal indicating that the work platform meets the requirements of *ANSI/ITSDF B56.1-2009* or *ANSI/ITSDF B56.6-2011* as applicable.

Remaining at the controls (Section 13.30(10))

Lift truck operators are deemed to be at the controls of the lift truck if lift truck operators are seated in the operator's position, ready to operate the equipment.

Trial lifts (Section 13.30(11))

A trial lift is required to verify the capability of the supporting surface to support the lift truck and that there is adequate clearance from any obstructions, except where the following applies:

- Lift truck is supported on a floor surface designed for lift truck operation or in an established yard or road area where the truck is regularly used
- Employer knows that the surface can safely support the lift truck with a load
- Area is clear of obstructions such as structures, overhead electrical conductors or vegetation that may interfere with the positioning of the platform

Lifts performed with the lift truck positioned on natural ground or disturbed ground such as that occurring on a construction site will require a trial lift to verify the ground can support the load. The work platform does not need to be loaded with test weights for the trial lift.

Fall protection

The ANSI/ITSDF standards require that work platforms that can be elevated to a height of greater than 1200 mm (approx. 47 inches) have a means of fall protection such as guardrails or a means for securing workers such as a body belt or lanyard. The guardrail may be hinged, removable or consist of chains.

The standards may permit the use of body belts; however, fall protection must be selected and used in accordance with [Part 11](#) of the *Regulation*. In circumstances where a fall can occur, personal fall arrest equipment must be used.

G13.32 Prior permission - Platform use in high risk situations

Issued August 1999; Revised January 1, 2005; Revised February 8, 2007; Retired February 1, 2011

Prior permission is no longer required - see section [13.32](#) as amended.

G13.32-1 Work in high-risk situations - Inspection and testing requirements

Issued April 1, 2013; Revised consequential to February 1, 2015 Regulatory Amendment

Regulatory excerpt

Section 13.1 of the *OHS Regulation* ("*Regulation*") states, in part:

"*swing stage*" means a work platform that is raised and lowered by manual or powered hoisting equipment, supported by 2 or more suspension lines;

Section 13.32 of the *Regulation* states:

Before a swing stage, boatswain's chair or portable powered platform is used in any of the following circumstances, a professional engineer must have certified in writing that the design, installation and proposed use of the swing stage, boatswain's chair or portable powered platform, as the case may be, meets the requirements of [CSA Standard CAN/CSA Z271-10 Safety code for suspended platforms](#) and [CSA Standard CAN/CSA Z91-02 \(R2008\) Health and Safety Code for Suspended Equipment Operations](#):

- one work platform will be used above or below any portion of another work platform,
- a deck or planking will be used to span a gap between two independent work platforms,
- the work platform will exceed 10 m (32 ft) in length, or
- the suspension height will exceed 91 m (300 ft).

Purpose of guideline

This guideline is to clarify the requirements for inspection and testing in [CSA Standard CAN/CSA Z271-10 safety code for suspended platforms](#) ("*Standard*") and to identify the difference between a "swing stage" and a "multi-point suspended platform."

Background information

Section 13.32 of the *Regulation* requires that in high-risk situations, the design, installation, and proposed use of swing stages (including multi-point suspended platforms), boatswain's (bosun's) chairs, or portable powered platforms meet the requirements of the *Standard*. This *Standard* contains requirements on inspection and testing.

Inspection and testing requirements

The *Standard* sets out separate inspection and testing requirements for the following events or intervals, and the *Standard* should be reviewed for the details of the inspections:

- Prior to first use of a new or altered suspended platform
- Prior to first use following erection or relocation of a suspended platform
- Each use
- After an accident or equipment failure

(e) Periodically

(f) Annually

(g) Five years

Performance of inspecting and testing

Many of the required inspections and tests may be performed by a service representative of the suspended platform manufacturer, a supplier, or a competent person. The *Standard's* definition of 'competent person' aligns with WorkSafeBC's definition of 'qualified' under the *Regulation*.

For example, the *Standard* requires periodic inspection and testing of all electrical and mechanical parts of a suspended platform, and permits this inspection to be done by a service representative of the suspended platform manufacturer, a supplier, or a competent person.

However the *Standard* does require certain inspections and tests to be performed by a professional engineer or in some cases the engineer's delegate, as outlined below:

- New or altered anchorage connectors must be inspected and tested prior to first use (professional engineer or engineer's delegate)
- A multi-point suspended platform that has been erected or relocated must be inspected prior to first use (professional engineer only)
- A suspended platform involved in an accident or equipment failure (professional engineer or engineer's delegate)
- The structural components of a suspended platform must be inspected annually (professional engineer or engineer's delegate)
- The structural components of the equipment and attachments to the structure must be inspected every five years (professional engineer or engineer's delegate).

Multi-point suspended platforms

Multi-point suspended platforms (MPSPs) are defined in the *Standard* as:

A suspended platform that is supported from at least three separately spaced points and is more than 0.75 m in width

In the *Regulation* the definition of a "swing stage" includes work platforms suspended by two or more suspension lines, so any section of the *Regulation* that refers to "swing stages" will also apply to MPSPs.

[Back to Top](#)

DIVISION 1 - GENERAL

G13.1 [Types of work platforms](#)

G13.2 [Standards](#)

G13.2(1) [Ships' ladders](#)

G13.2(1)(b) [Ladders in manholes](#)

G13.2(1)-2 [Application of CSA and ANSI standards for suspended stages](#)

G13.2(1)-3 [Training requirements for operators of elevating work platforms](#)

DIVISION 2 - LADDERS

G13.4 [Ladder ratings and selection](#)

DIVISION 3 - WORK PLATFORMS

G13.8 [General requirements - Chair design](#)

DIVISION 4 - SCAFFOLDS

G13.14 [Guardrails on end frame scaffolds](#)

G13.19 [When and how to ground metal scaffold](#)

DIVISION 5 - MOVABLE WORK PLATFORMS

G13.23(1) [Inspection and certification of elevating work platforms](#)

G13.25 [Warning devices](#)

G13.28(2) [Safe work procedure acceptable to the Board to prevent two-blocking in pile driving and similar applications](#)

G13.29 [Lower travel limit devices](#)

G13.30 [Lift truck mounted work platforms](#)

G13.32 [Prior permission - Platform use in high risk situations](#) [Retired]

G13.32-1 [Work in high-risk situations - Inspection and testing requirements](#)