

APPLICATION OF CARGO SECUREMENT STANDARDS FOR TRANSPORTATION OF ROUND BALES

Following is a compliance guide relative to pertinent sections of the Manitoba Cargo Securement Regulation 37/2005 and accompanying North American Cargo Securement Standard pertaining to the securement of hay or straw bales. This is an abbreviated version developed to convey the intent of the cargo securement requirements and is to be used as a guide only. For complete summary of the following listed sections reference Manitoba Regulation 37/2005 and accompanying North American Cargo Securement Standard. The regulation and standard is available at www.gov.mb.ca/tgs/alerts/index.html

Note: In the event of a discrepancy between this guide and Manitoba Regulation 37/2005 including the North American Standard, Manitoba Regulation 37/2005 and the accompanying North American Standard will prevail.

For all other required cargo securement safety responsibilities pertaining to the registered owner of a vehicle and/or the driver of a vehicle, reference Manitoba Regulation 37/2005 and accompanying North American Standard.

The Cargo Securement Regulation and Standard applies to a vehicle with a registered gross weight of 4500 kilograms or more and includes any trailer towed by the vehicle while transporting cargo on a highway. [Manitoba Regulation 37/2005 – Section 1](#)

NOTE: The following listed sections are contained in the North American Cargo Securement Standard.

- 4(1) Cargo Securement systems, and each components of a system used to contain, immobilize or secure cargo on or within a vehicle shall be strong enough to withstand the forces described in section 5(1).
- 6(1) The cargo securement systems used to contain, immobilize or restrain cargo shall be appropriate for the size, shape, strength and characteristics of the cargo.
- 7 Where the cargo transported by a vehicle is contained, immobilized or secured in accordance with the applicable requirements of Division 3, 4, and 5 and Part 2, it meets the requirements of Section 5.
- 9 Cargo shall be firmly immobilized or secured on or within a vehicle by structures of adequate strength, blocking, bracing, dunnage or dunnage bags, shoring bars, tie downs, or combination of these.

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- 10(1) In this section, the aggregate WLL is the sum of one half of the WLL for each end section of a tiedown that is attached to an anchor point
- (2) The aggregate WLL of the cargo Securement system used to secure an article of cargo on or within a vehicle shall not be less than 50% of the weight of the article.
- (3) The aggregate WLL of the cargo Securement system used to secure a group of articles on or within a vehicle shall no be less than 50% of the total weight of the group.
- 11 Securement devices marked with Working Load Limit.
- 12 Unmarked securing devices.
- 14 The aggregate WLL of the components of a blocking system used as a unique form of Securement to prevent an article of cargo from moving forward, including tiedowns used as blocking, shall not be less than 50 % of the weight of the article being blocked.
- 17 Where the articles of cargo on or within a vehicle are placed beside each other and secured by tiedowns that pass over 2 or more articles, the articles shall be
- a) placed in direct contact with each other, or
 - b) prevented from moving towards each other while the vehicle is on a highway.
- 18 Where any cargo or portion thereof may roll, it shall be restrained by chocks, wedges, a cradle or another securing device that prevents the cargo from rolling.
- 19 (1) A tiedown used to secure cargo to a vehicle shall be designed and constructed and maintained so that the driver of the vehicle can tighten it.
- (4) A tiedown used to secure cargo to a vehicle shall be used in a manner that prevents the tie down from slipping, loosening, opening or releasing while the vehicle is on the highway.
- (5) A tiedown used to secure stacked articles of cargo is considered to contribute to the securement of all articles on which that tie down causes pressure.

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- 22(1) Subject to subsection 4, cargo transported by a vehicle shall be secured using the number of tiedowns calculated under subsection (2) or (3).
- (2) Where an article of cargo is not blocked or immobilized by a front end structure, bulkhead, by other immobilized cargo or by another device that prevents it moving forward, it shall be secured by at least:
- a) 1 tiedown where the article is 1.52 m or shorter and weighs not more than 500 kilograms.
 - b) 2 tiedowns where the article is
 - i) 1.52 m or shorter and weighs more than 500 kilograms or
 - ii) longer than 1.52 m but not longer than 3.04 m regardless of weight or
 - c) where the article is longer than 3.04 metres
 - i) 2 tiedowns for the first 3.04 m of length and
 - ii) 1 extra tiedown for each additional 3.04 metres or fraction of 3.04 metres
- (3) Where the article of cargo is blocked or immobilized by a front end structure, bulkhead, by other immobilized cargo or by another device to prevent it moving forward, it shall be secured by at least;
- a) 1 tiedown where the article is not longer than 3.04 m or
 - b) where the article is longer than 3.04 m
 - i) 1 tiedown for the first 3.04 m of length and
 - ii) 1 extra tiedown for each additional 3.04 m or fraction of 3.04 m

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Recommended Load Security Requirements:

1. General:

Regardless of the type, shape of the bales or the loading style, all bales must be adequately restrained against any movement that could result in any bale becoming unstable and falling from the vehicle during transit. [Sec 4 Manitoba Regulation 37/2005](#); [Sec 6](#), [Sec 9](#), and [Sec 18 Cargo Securement Standards](#).

Loads can be built up to more than one tier only if the bales are solidly packed. Bales must be strong enough to support the bales loaded above. A load cannot be transported properly if any bale collapses under the weight of those above. [Sec 17 \(a\) and \(b\) and Sec 19\(5\) Cargo Securement Standards](#)

Bales must be loaded without space between them. Vibration during transit can close the gap, causing the tiedowns to lose their tension and their effectiveness. [Sec 17 \(a\) and \(b\) Cargo Securement Standards](#)

All tiedowns must be tensioned as tightly as possible. All tiedowns must be checked at least once within the first 80 km of the trip and at regular intervals thereafter. Periodic inspections shall occur every three hours or every 240 km, whichever occurs first. Automatic tensioning devices have been proven to reduce the need for retightening of tiedowns during the regular checks while in transit. [Sec 3 \(2\) and \(3\)](#); [Sec 19 \(2\) and \(4\) Cargo Securement Standards](#)

2. Round Bales:

It is recommended bales not be loaded in a second tier if there is room on the deck for an additional bale. Bales in the second tier should be loaded consecutively in the well(s) formed by the bales in the tier beneath. Bales should not be loaded more than two tiers.

Round bales loaded crosswise can only be transported if the bottom tier is secured against rolling by a front and rear end structure that is either part of the vehicle structure or firmly mounted to the vehicle, or another securing device that prevents the cargo from rolling. If the front and rear of the upper tier of bales are resting against a front or rear end structure or if no front or rear end structure is used and the upper tier of bales is resting in the well provided by the bottom tier each upper row of bales shall be secured by a transverse tiedown. [Sec 09](#), [Sec 14](#), [Sec 18](#), [Sec 22\(1\), \(2\) and \(3\) Cargo Securement Standards](#)

Round bales loaded pipe style should be loaded continuously front to rear, without space between the rows. [Sec 17 Cargo Securement Standards](#)

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3. Rectangular Bales:

Bales should be loaded so they interlock within tiers. Different loading patterns should be used for consecutive tiers to reduce lengths of the vertical interfaces between bales. A load of bales is most stable if each bale is placed with its largest face down. Bales should not be loaded with the longest dimension placed vertically. [Sec 17 Cargo Securement Standards](#)

Tiedowns should run over V-boards that capture each bale in the top tier. [Sec 09 Cargo Securement Standards](#)

The load should be secured with transverse tiedowns. The number of transverse tiedowns are determined by the length of the load. Additional tiedowns may be required if the bales are not interlocked. [Sec 9 and Sec 22 Cargo Securement Standards](#)