

Information Document

NEW CARGO SECUREMENT STANDARDS DRAFT REGULATION

This document summarizes the main provisions of the new Cargo Securement Standards Draft Regulation published in the Gazette officielle du Québec on February 16, 2005

OBJECT AND INTREPRETATION (Section 1)

The standards of the draft Regulation govern securement of cargo carried by heavy vehicles. They also govern securement of the contents of intermodal containers and containers carried on heavy vehicles. Some exemptions apply to farm motor vehicles and farm trailers.

Heavy vehicle mean:

- a) a road vehicle or a combination of road vehicles, within the meaning of the Highway Safety Code, having a net mass in excess of 3,000 kg;
- b) a minibus or a tow truck, within the meaning of the same Code, regardless of their net mass;
- c) a road vehicle subject to the Transportation of Hazardous Substances Regulation.

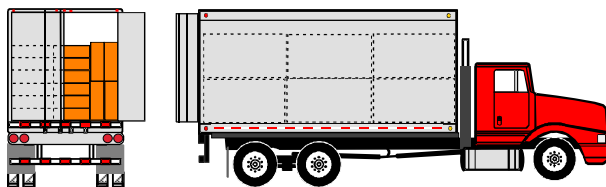
GENERAL CARGO SECUREMENT STANDARDS (Sections 4 and 5)

(National Safety Code Standard 10 – Cargo Securement, Part 1)

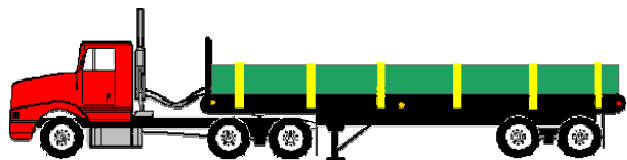
The Cargo Securement Standards Draft Regulation prescribes general standards which apply to all types of cargo, except for bulk cargo transported in sided vehicles. In fact, the term “bulk” covers several classes of products (aggregates, liquids, gases, granular products, etc.) which are piled in for transport.

Thus, a cargo must be firmly immobilized or secured on or within the vehicle which transports it by structures of adequate strength, blocking, bracing, dunnage or dunnage bags, shoring bars, tiedowns or a combination of these.

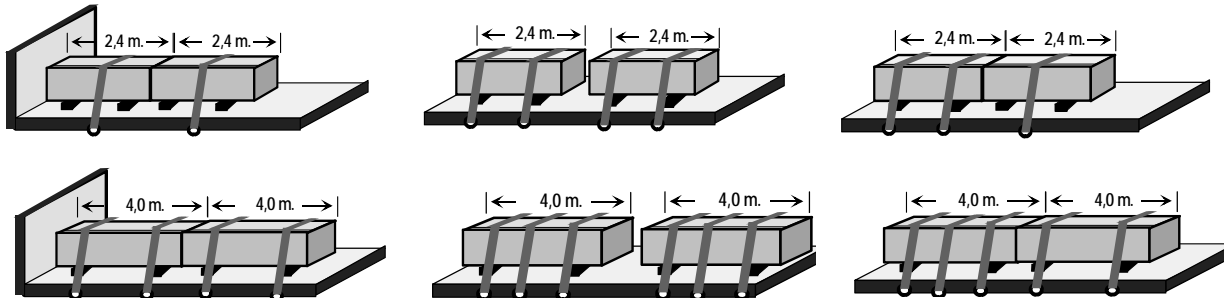
Sided vehicle



Flatbed vehicle



The general standards also govern the use of tiedowns. Use of a minimum number of tiedowns is required, established in relation to the strength of the tiedowns and the weight and length of the cargo to be secured. Thus, each article of cargo must be secured by at least one tiedown for each length of 3.04 metres or fraction of 3.04 metres. Moreover, at least one additional tiedown is required when an article is not immobilized (to prevent forward movement) by a structure of the vehicle, a blocking device or another correctly secured article.



It is also required that the aggregate working load limit (WLL) of the tiedowns used in a securement system must not be less than 50% of the total weight of the cargo restrained by this system.

The standards also describe that the working load limit (WLL) of a tiedown is established based on the manufacturer’s certification affixed to this device. In the absence of this certification, the standards prescribe an implicit working load limit (WLL) value for this tiedown.

SPECIAL STANDARDS

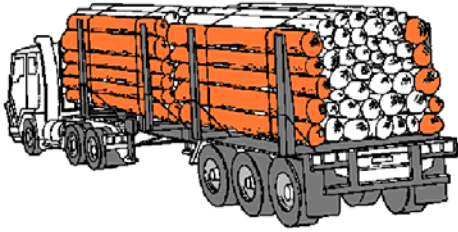
The draft Regulation also prescribes special securement standards for different types of cargoes which exhibit specific transportation and securement characteristics related to the special features of the nature of this cargo or its components.

LOGS (Section 7)

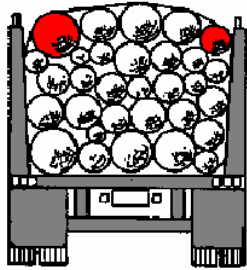
(National Safety Code Standard 10 – Cargo Securement, Sections 28 to 40)

A log has the characteristics of being both cylindrical and slender when trees loaded lengthwise are involved. These special features mean that a combination of tiedowns and blocking devices is necessary for the correct securement of all types of log cargoes.





The standards prescribe that outside logs of a stack of logs must be restrained by at least two bunks, bolsters or stakes on one side of the stack and at least two other bunks, bolsters or stakes on the other side of the same stack.



It is also prescribed that the centre of the highest outside log on each side of a stack of logs must be lower than the top of the bunks or stakes and the upper logs that form the top of the cargo must be crowned.

A minimum of two tiedowns is also prescribed to secure each outside log. However, a single tiedown may be used to secure a stack of logs 1.22 m long loaded crosswise on a vehicle. It is also possible to use a single tiedown for stacks of logs loaded lengthwise when all the logs in a stack are contained in all horizontal directions, or by a structure of the vehicle or by logs of another stack.

The special standards also prescribe that the aggregate working load limit (WLL) of the tiedowns used to restrain a stack of logs loaded lengthwise must be at least equivalent to 1/6 of the weight of this stack.

DRESSED LUMBER (Section 8)

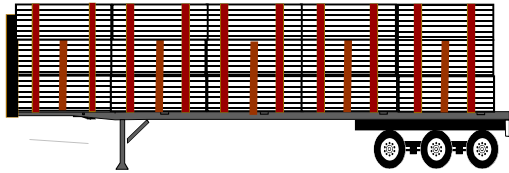
(National Safety Code Standard 10 – Cargo Securement, Sections 41 to 47)

The transport of bundles of dressed lumber involves special cargo securement standards. During their transport, the bundles are generally stacked on top of each other and secured by tiedowns installed on top of the bundles. Stacking the bundles has the effect of increasing the height of the centre of gravity and reducing the efficiency of the tiedowns in terms of application of uniform tension to all the articles they restrain.



To account for these special conditions, the draft Regulation prescribes special securement standards for dressed lumber cargoes composed of bundles loaded on more than one layer of bundles.

The use of stakes or blocking devices is prescribed to restrain the layers of bundles from lateral movement in addition to the tiedowns required by the general cargo securement standards. When such stakes or blocking devices are not used, the use of a greater number of tiedowns than those required by the general cargo securement standards is prescribed.



For example, this is the case of stacks of more than two layers of bundles. In these circumstances, the use of tiedowns to restrain the bundles of a middle layer is then required. The aggregate working load limit (WLL) of the tiedowns used must not be less than 50% of the total weight of the articles they restrain.

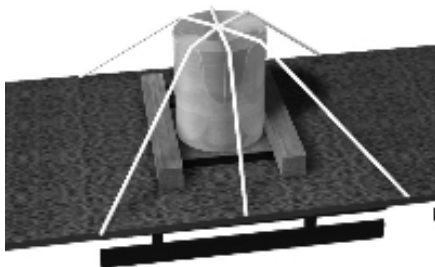
METAL COILS (*Section 9*)

(National Safety Code Standard 10 – Cargo Securement, Sections 48 to 58)

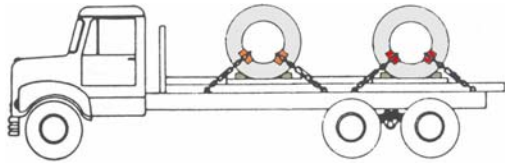
A metal coil is a heavy cylindrical object. These features make it necessary to use effective immobilization devices, especially when the coil is loaded with eyes horizontal.



To consider these special features, the draft Regulation prescribes special securement standards for cargoes of metal coils with eyes vertical or horizontal.



For the transport of metal coils with eyes vertical, the use of a combination of tiedowns is prescribed, which must be installed on top of each coil. The use of blocking or immobilizing devices is also prescribed to prevent the coils from shifting longitudinally.



For the transport of metal coils with eyes horizontal, the use of blocking devices is prescribed which make it possible to immobilize each coil and raise it off the platform of the vehicle. In addition to blocking devices, the use of tiedowns to restrain each coil is prescribed.

The aggregate working load limit of (WLL) of the tiedowns used must not be less than 50% of the weight of the coil they restrain.

PAPER ROLLS (*Section 10*)

(National Safety Code Standard 10 – Cargo Securement, Sections 59 to 72)

A paper roll is a heavy cylindrical object which has a certain fragility related to the nature of the product (paper). These features mean that cargoes of paper rolls are generally transported inside sided vehicles or intermodal containers.



To account for these features, the use of blocking devices, bracing devices, friction mats, tiedowns or a combination thereof is prescribed to immobilize the paper rolls and prevent the paper rolls from moving horizontally within sided vehicles or intermodal containers.



Special securement standards are also prescribed for transport of paper rolls on flatbed vehicles. The paper rolls must be loaded and secured as if this were a sided vehicle and the entire cargo must be secured by tiedowns as prescribed in the general cargo securement standards. The aggregate working load limit (WLL) of the tiedowns used must not be less than 50% of the total weight of the articles they restrain.

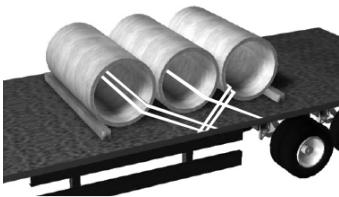
CONCRETE PIPE (Section 11)

(National Safety Code Standard 10 – Cargo Securement, Sections 73 to 82)

A concrete pipe has a cylindrical shape and its outer texture has a high friction coefficient. A pipe can be transported alone on a vehicle (large diameter), but a cargo of pipes (small diameter) may be composed of several pipes loaded against each other and stacked.



To account for these features, the draft Regulation presents special securement standards for cargoes of small and large diameter concrete pipe.



For pipe cargoes with eyes horizontal, blocking devices must be used to prevent the pipes from rolling and tie-downs must complete the securing system to prevent the pipes from shifting in all directions. The aggregate working load limit (WLL) of the tie-downs used must not be less than 50% of the total weight of the pipes they restrain.

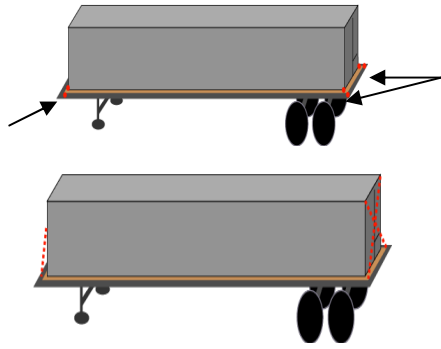
INTERMODAL CONTAINERS (Section 12)

(National Safety Code Standard 10 – Cargo Securement, Sections 83 to 86)

An intermodal container is a metal box or platform of standard dimensions which is used to transport cargo. An intermodal container is equipped with integral locking devices so that it can be secured to a container chassis vehicle. These devices also allow the securement of intermodal containers to flatbed vehicles.



For a loaded intermodal container, the use of integral locking devices is prescribed to secure all the lower corners of the container.



In the absence of such devices on the vehicle, the use of chains or wire ropes is prescribed to secure all the lower corner of the container or the use of crossed chains that are fixed to all the upper corners. When the container is empty, it is prescribed to use these same securement systems or conform to the minimum requirements of the general standards concerning the use of tiedowns.

The aggregate working load limit (WLL) of all the tiedowns and locking devices used must not be less than 50% of the total weight of the container.

ROLL-ON / ROLL-OFF CONTAINERS (*Section 13*)

(National Safety Code Standard 10 – Cargo Securement, Sections 94 to 96)

A roll-on / roll-off container is a specialized container which is loaded or unloaded onto from a tilt frame body, by a lifting device in conjunction with rollers which are fixed to the container. This type of container is transported by vehicles specially adapted to secure the container from the front and rear.



It is prescribed that the front of a roll-on / roll-off container be immobilized with blocking devices and secured by means of the lifting device (generally a wire rope). For the rear, it is prescribed to use at least one tiedown attached both to the vehicle chassis and the container chassis or by at least two tiedowns which secure each side of the container to the vehicle's side rails. The working load limit (WLL) of each tiedown used to secure the rear of the container must be at least 2,268 kg (5000 lb). It is also possible (for the rear) to use two hooks or any other equivalent mechanism allowing the two sides of the container to be secured to the vehicle chassis, at least as effectively as the tiedowns mentioned above.

VEHICLES AS CARGO

a) Vehicle with an individual weight of 4,500 kg or less (*Section 14*)

(*National Safety Code Standard 10 – Cargo Securement, Section 88*)

A vehicle with an individual weight of 4,500 kg or less generally consists of moving mechanical parts which allow the vehicle to move. Some of these mechanical parts (tires, suspension, etc.) allow free vertical movements. These characteristics mean that transport of such vehicles requires the use of special securement systems.



It is prescribed to use a minimum of two tiedowns installed at the front and rear of the vehicle to prevent it from moving sideways, lengthwise and vertically. It is possible to use at least two tiedowns installed on the front and rear of the vehicle which are designed to fit over or around the vehicle's wheels. The aggregate working load limit (WLL) of the tiedowns used must not be less than 50% of the weight of the vehicle they secure.

b) Flattened or crushed vehicle with an individual weight of 4,500 kg or less (*Section 14*)

(*National Safety Code Standard 10 – Cargo Securement, Sections 91 to 93*)

A flattened or crushed vehicle is a road vehicle which has been compressed mechanically to reduce its volume to facilitate storage and transport. When they are crushed or flattened, the vehicles can be stacked for transport. This process also has the effect of breaching a vehicle's integrity, which has the consequence of crushing or dislocated parts which are an integral part of this vehicle. Thus, such parts can become detached during transport when subjected to external forces generated by heavy vehicle traffic.



For transport of such cargo, use of a transport vehicle with walls high enough to contain all the cargo is prescribed. When the cargo is not completely contained within the walls, use of a minimum number of tiedowns is then prescribed, combined with structures that extend to the full height of the cargo not contained within the walls. The aggregate working load limit (WLL) of the tiedowns used must not be less than 50% of the total weight of the articles they restrain.

c) Vehicle with an individual weight greater than 4,500 kg (*Section 14*)

(*National Safety Code Standard 10 – Cargo Securement, Section 89*)

A vehicle with an individual weight greater than 4,500 kg, just like a vehicle of lesser weight, is generally composed of moving parts which allow the vehicle to move. Such vehicles also include tracked machinery or equipment. Some of these mechanical parts (tires, suspension, etc.) allow free vertical movements. These characteristics mean that transport of such vehicles necessitates the use of special securement systems.



The use of at least four tiedowns is prescribed, attached as close as practical to the front and rear of the vehicle or to the mounting points which were designed for this purpose, so as to prevent the vehicle from moving sideways, lengthwise and vertically. The working load limit (WLL) of each tiedown must be at least 2,268 kg. Moreover, the aggregate working load limit (WLL) of the tiedowns used must not be less than 50% of the weight of the transported vehicle. The accessories, including a hydraulic shovel, must be completely lowered and secured to the vehicle.

BOULDERS (*Section 15*)

(*National Safety Code Standard 10 – Cargo Securement, Sections 97 to 100*)

A boulder is a large, irregularly shaped rock, either natural or extracted from a quarry, with a weight of 5,000 kg or more, or a volume exceeding 2 m³.

Although sometimes coming in shapes that may be similar to another boulder, each boulder has unique characteristics (shape, weight, etc.).



To consider these special features, the draft Regulation presents special securement standards for this type of cargo. These standards combine requirements regarding the use of hardwood blocking to support each boulder and certain tiedown arrangements depending on the shape of the boulders (cubic and non-cubic). The aggregate working load limit (WLL) of the tiedowns used must not be less than 50% of the weight of the boulder they restrain.

BULK CARGO (Section 16)

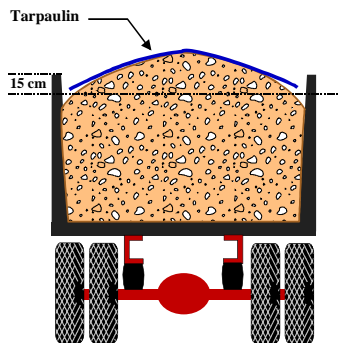
The term “bulk” covers several classes of products (aggregates, liquids, gases, granular products, etc.) which are piled in for transport.

Certain bulk cargoes are transported in a dump truck, a container or other type of container with an upper part that is totally or partially open.



For transport of cargo in a dump truck, container or any other type of container whose upper part is totally or partially open, use of a covering system is prescribed, composed of a tarpaulin, a canvas or other type of equivalent cover to restrain the cargo within the vehicle structure. However, some exemptions may apply.

Tarpaulin



The covering system must cover at least any portion of the load that extends beyond reference point 15 cm below the top of the lowest wall. It must remain in direct contact with any portion of the load that extends beyond the nearest wall, unless the covering system is maintained above the load by bows secured to the vehicle.

The covering system must also be exempt from tears or other damage in the section used for cargo securement.

SECUREMENT INSPECTION (Section 17)

The draft Regulation prescribes that the driver must inspect the vehicle’s cargo securement in accordance with Section 3 of *National Safety Code Standard 10 – Cargo Securement*.

Service de la normalisation technique

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(*National Safety Code Standard 10 – Cargo Securement* is available on the following Web site: <http://www.ccmta.ca>)

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