

March 22, 2019

Subject: Cargo Securement Unitized **SMALL** Bales of Hay and Straw

Hay / straw may be secured in accordance with general securement regulations 393.100 – 393.114.

V-boards and longitudinal straps are NOT required when using general securement.

Below are **alternate / excepted methods** of securing hay and straw.

If all requirements of the alternate method are not met, the load would be considered in violation of general load securement regulations and would be OOS based on 393.100(b).

General Information

- Hay/straw is considered “unitized” when longitudinal ropes or tiedown assemblies are present.
 - Hay not “unitized” must be secured in accordance with general securement regulations.
- A **small bale** is rectangular having one or more dimensions measuring less than 2 ½ x 3 ½ x 6'.
 - These bales generally weigh **no more than 200 pounds each**.
- Tie-downs may consist of chain, wire rope, manila rope, synthetic fiber rope and/or synthetic webbing.
- The incidental blow-off of individual stems of hay or straw is not a violation.
- Loss of load occurs with the disintegration and/or loss of a complete bale, flake or cluster of hay or straw. If this occurs, the vehicle should be placed OOS based on 393.100(c). (**Be reasonable**)

Alternate Method



Lateral Tie-Down(s)

- Trucks/trailers (**32 feet or less**) require a minimum of **1 lateral** tie-down positioned at approximately center of the truck or trailer.
- Trucks/trailers (**greater than 32 feet** in length) require **at least 2 lateral** tie-downs positioned at approximately 1/3 and 2/3 the length of the truck or trailer.
 - If a lateral tiedown is less than two inches in width or diameter it must be used in conjunction with V-boards to protect bale integrity.

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Longitudinal Tie-Downs

- Two longitudinal tie-downs are required and **must be applied over V-boards**.

V-Boards Must:

- Be positioned at top edge of the load beneath the tiedowns.
- Consist of two parallel pieces of lumber, metal or other material (having a strength no less than that of a nominal size 1x3 piece of Douglas fir) not more than 12 feet in length, attached together near each end by flexible material.

If V-boards are more than 6 feet in length they must also be attached at the approximate midpoint.

V-boards must be of sufficient length to restrain at least $\frac{1}{2}$ of each bale to which they are applied. As far as is practicable, multiple tiedowns must be uniformly spaced over the entire length of a V-board.

V-Boards



Working Load Limit

The “standard” aggregate working load limit (WLL) noted in FMCSR 393.106 **DOES NOT** apply. However,

- Each longitudinal tiedown must have a WLL no less than 2,100 pounds.
- Each lateral tiedown must have a WLL of at least 4,000 pounds. If not, multiple tiedowns may be used, but they must each have a minimum WLL of 625 pounds and cumulatively must total at least 4,000 pounds.

Load Construction

The bales on the outside must not be placed in the same direction in more than two successive tiers, except that one bale on each side of a tier may be in the same direction up to a maximum of three tiers in succession. The bale lengths in the top tier of the load must be loaded crosswise. In no case can a small bale be loaded vertically on its end.

Load Projection

If bales project beyond the front and/or rear of the vehicle bed, **no portion** can extend beyond the vehicle bed **into the area between** a truck and trailer or between semi-trailer and trailer. Loads **must not extend more than 1/3 bale length beyond the rear** of the bed surface on a **single vehicle** or the **last vehicle in a combination** of vehicles.

Loads may only extend beyond the front end of the truck bed over the driver’s compartment or sleeper berth if this portion of the load is supported by permanent, substantial steel (or equivalent) construction and tied into the remainder of the load by interlocking construction. The load or supporting structure cannot obstruct the view of the driver to the front or sides of the vehicle.