

## Specific Securement Requirements by Commodity Type

## §393.116 What are the rules for securing logs?

(a) *Applicability.* The rules in this section are applicable to the transportation of logs with the following exceptions:

(a)(1) Logs that are unitized by banding or other comparable means may be transported in accordance with the general cargo securement rules of §§ 393.100 through 393.114.

(a)(2) Loads that consist of no more than four processed logs may be transported in accordance with the general cargo securement rules of §§ 393.100 through 393.114.

(a)(3) Firewood, stumps, log debris and other such short logs must be transported in a vehicle or container enclosed on both sides, front, and rear and of adequate strength to contain them. Longer logs may also be so loaded.

(b) *Components of a securement system.* (1) Logs must be transported on a vehicle designed and built, or adapted, for the transportation of logs. Any such vehicle must be fitted with bunks, bolsters, stakes or standards, or other equivalent means, that cradle the logs and prevent them from rolling.

(b)(2) All vehicle components involved in securement of logs must be designed and built to withstand all anticipated operational forces without failure, accidental release or permanent deformation. Stakes or standards that are not permanently attached to the vehicle must be secured in a manner that prevents unintentional separation from the vehicle in transit.

**[Editor's Note: The following paragraph is revised effective July 24, 2006.]**

(b)(3) Tiedowns must be used in combination with the stabilization provided by bunks, stakes and bolsters to secure the load.

**[Editor's Note: The following paragraph is added effective July 24, 2006.]**

(b)(4) The aggregate working load limit for tiedowns used to secure a stack of logs on a frame vehicle, or a flatbed vehicle equipped with bunks, bolsters, or stakes must be at least one-sixth the weight of the stack of logs.

(c) *Use of securement system.* (1) Logs must be solidly packed, and the outer bottom logs must be in contact with and resting solidly against the bunks, bolsters, stakes or standards.

(c)(2) Each outside log on the side of a stack of logs must touch at least two stakes, bunks, bolsters, or standards. If one end does not actually touch a stake, it must rest on other logs in a stable manner and must extend beyond the stake, bunk, bolster or standard.

(c)(3) The center of the highest outside log on each side or end must be below the top of each stake, bunk or standard.

(c)(4) Each log that is not held in place by contact with other logs or the stakes, bunks, or standards must be held in place by a tiedown. Additional tiedowns or securement devices must be used when the condition of the wood results in such low friction between logs that they are likely to slip upon each other.

(d) *Securement of shortwood logs loaded crosswise on frame, rail and flatbed vehicles.* In addition to the requirements of paragraphs (b) and (c) of this section, each stack of logs loaded crosswise must meet the following rules:

(d)(1) In no case may the end of a log in the lower tier extend more than one-third of the log's total length beyond the nearest supporting structure on the vehicle.

(d)(2) When only one stack of shortwood is loaded crosswise, it must be secured with at least two tiedowns. The tiedowns must attach to the vehicle frame at the front and rear of the load, and must cross the load in this direction.

(d)(3) When two tiedowns are used, they must be positioned at approximately one-third and two-thirds of the length of the logs.

(d)(4) A vehicle that is more than 10 meters (33 feet) long must be equipped with center stakes, or comparable devices, to divide it into sections approximately equal in length. Where a vehicle is so divided, each tiedown must secure the highest log on each side of the center stake, and must be fastened below these logs. It may be fixed at each end and tensioned from the middle, or fixed in the middle and tensioned from each end, or it may pass through a pulley or equivalent device in the middle and be tensioned from one end.

(d)(5) Any structure or stake that is subjected to an upward force when the tiedowns are tensioned must be anchored to resist that force.

(d)(6) If two stacks of shortwood are loaded side-by-side, in addition to meeting the requirements of paragraphs (d)(1) through (d)(5) of this section, they must be loaded so that:

(d)(6)(i) There is no space between the two stacks of logs;

(d)(6)(ii) The outside of each stack is raised at least 2.5 cm (1 in) within 10 cm (4 in) of the end of the logs or the side of the vehicle;

(d)(6)(iii) The highest log is no more than 2.44 m (8 ft) above the deck; and

(d)(6)(iv) At least one tiedown is used lengthwise across each stack of logs.

**[Editor's Note: The following paragraph is revised effective July 24, 2006.]**

(e) *Securement of logs loaded lengthwise on flatbed and frame vehicles.* In addition to meeting the requirements of paragraphs (b) and (c) of this section, each stack of shortwood loaded lengthwise on a frame vehicle or on a flatbed must be secured to the vehicle by at least two tiedowns.

(f) *Securement of logs transported on pole trailers.* (1) The load must be secured by at least one tiedown at each bunk, or alternatively, by at least two tiedowns used as wrappers that encircle the entire load at locations along the load that provide effective securement.

(f)(2) The front and rear wrappers must be at least 3.04 meters (10 feet) apart.

(f)(3) Large diameter single and double log loads must be immobilized with chock blocks or other equivalent means to prevent shifting.

(f)(4) Large diameter logs that rise above bunks must be secured to the underlying load with at least two additional wrappers.

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