

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.

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

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

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

§ 393.118 What are the rules for securing dressed lumber or similar building products?

(a) *Applicability.* The rules in this section apply to the transportation of bundles of dressed lumber, packaged lumber, building products such as plywood, gypsum board or other materials of similar shape. Lumber or building products which are not bundled or packaged must be treated as loose items and transported in accordance with §§ 393.100 through 393.114 of this subpart. For the purpose of this section, “bundle” refers to packages of lumber, building materials or similar products which are unitized for securement as a single article of cargo.

(b) *Positioning of bundles.* Bundles must be placed side by side in direct contact with each other, or a means must be provided to prevent bundles from shifting towards each other.

(c) *Securement of bundles transported using no more than one tier.* Bundles carried on one tier must be secured in accordance with the general provisions of §§ 393.100 through 393.114.

(d) *Securement of bundles transported using more than one tier.* Bundles carried in more than one tier must be either:

(1) Blocked against lateral movement by stakes on the sides of the vehicle and secured by tiedowns laid out over the top tier, as outlined in the general provisions of §§ 393.100 through 393.114; or

(2) Restrained from lateral movement by blocking or high friction devices between tiers and secured by tiedowns laid out over the top tier, as outlined in the general provisions of §§ 393.100 through 393.114; or

(3) Placed directly on top of other bundles or on spacers and secured in accordance with the following:

(i) The length of spacers between bundles must provide support to all pieces in the bottom row of the bundle.

(ii) The width of individual spacers must be equal to or greater than the height.

(iii) If spacers are comprised of layers of material, the layers must be unitized or fastened together in a manner which ensures that the spacer performs as a single piece of material.

(iv) The arrangement of the tiedowns for the bundles must be:

(A) Secured by tiedowns over the top tier of bundles, in accordance with the general provisions of §§ 393.100 through 393.114 with a minimum of two tiedowns for bundles longer than 1.52 meters (5 ft); and

(B) Secured by tiedowns in accordance with the general provisions of §§ 393.100 through 393.114 over the second tier or over a middle tier of a maximum height of 1.85 meters (6 ft) above the trailer deck, whichever is greater, for each stack of bundles composed of more than two tiers; or

(4) Secured by tiedowns over each tier of bundles, in accordance with §§ 393.100 through 393.114 using a minimum of two tiedowns over each of the top bundles longer than 1.52 meters (5 ft), in all circumstances.

§ 393.120 What are the rules for securing metal coils?

(a) *Applicability.* The rules in this section apply to the transportation of one or more metal coils which, individually or grouped together, weigh 2268 kg (5000 pounds) or more. Shipments of metal coils that weigh less than 2268 kg (5000 pounds) may be secured in accordance with the provisions of §§ 393.100 through 393.114.

(b) *Securement of coils transported with eyes vertical on a flatbed vehicle, in a sided vehicle or intermodal container with anchor points—*(1) *An individual coil.* Each coil must be secured by tiedowns

arranged in a manner to prevent the coils from tipping in the forward, rearward, and lateral directions. The restraint system must include the following:

(i) At least one tiedown attached diagonally from the left side of the vehicle or intermodal container (near the forwardmost part of the coil), across the eye of the coil, to the right side of the vehicle or intermodal container (near the rearmost part of the coil);

(ii) At least one tiedown attached diagonally from the right side of the vehicle or intermodal container (near the forwardmost part of the coil), across the eye of the coil, to the left side of the vehicle or intermodal container (near the rearmost part of the coil);

(iii) At least one tiedown attached transversely over the eye of the coil; and

(iv) Either blocking and bracing, friction mats or tiedowns must be used to prevent longitudinal movement in the forward direction.

(2) *Coils grouped in rows.* When coils are grouped and loaded side by side in a transverse or longitudinal row, the each row of coils must be secured by the following:

(i) At least one tiedown attached to the front of the row of coils, restraining against forward motion, and whenever practicable, making an angle no more than 45 degrees with the floor of the vehicle or intermodal container when viewed from the side of the vehicle or container;

(ii) At least one tiedown attached to the rear of the row of coils, restraining against rearward motion, and whenever practicable, making an angle no more than 45 degrees with the floor of the vehicle or intermodal container when viewed from the side of the vehicle or container;

(iii) At least one tiedown over the top of each coil or transverse row of coils, restraining against vertical motion. Tiedowns going over the top of a coil(s) must be as close as practicable to the eye of the coil and positioned to prevent the tiedown from slipping or becoming unintentionally unfastened while the vehicle is in transit; and

(iv) Tiedowns must be arranged to prevent shifting or tipping in the forward, rearward and lateral directions.

(c) *Securement of coils transported with eyes crosswise on a flatbed vehicle, in a sided vehicle or intermodal container with anchor points*—(1) *An individual coil.* Each coil must be secured by the following:

(i) A means (*e.g.*, timbers, chocks or wedges, a cradle, etc.) to prevent the coil from rolling. The means of preventing rolling must support the coil off the deck, and must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit. If timbers, chocks or wedges are used, they must be held in place by coil bunks or similar devices to prevent them from coming loose. The use of nailed blocking or cleats as the sole means to secure timbers, chocks or wedges, or a nailed wood cradle, is prohibited;

(ii) At least one tiedown through its eye, restricting against forward motion, and whenever practicable, making an angle no more than 45 degrees with the floor of the vehicle or intermodal container when viewed from the side of the vehicle or container; and

(iii) At least one tiedown through its eye, restricting against rearward motion, and whenever practicable, making an angle no more than 45 degrees with the floor of the vehicle or intermodal container when viewed from the side of the vehicle or container.

(2) *Prohibition on crossing of tiedowns when coils are transported with eyes crosswise.* Attaching tiedowns diagonally through the eye of a coil to form an X-pattern when viewed from above the vehicle is prohibited.

(d) *Securement of coils transported with eyes lengthwise on a flatbed vehicle, in a sided vehicle or intermodal container with anchor points*—(1) *An individual coil-option 1.* Each coil must be secured by:

(i) A means (*e.g.*, timbers, chocks or wedges, a cradle, etc.) to prevent the coil from rolling. The means of preventing rolling must support the coil off the deck, and must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit. If timbers, chocks or wedges are used, they must be held in place by coil bunks or similar devices to prevent them from coming loose. The use of nailed blocking or cleats as the sole means to secure timbers, chocks or

wedges, or a nailed wood cradle, is prohibited;

(ii) At least one tiedown attached diagonally through its eye from the left side of the vehicle or intermodal container (near the forward-most part of the coil), to the right side of the vehicle or intermodal container (near the rearmost part of the coil), making an angle no more than 45 degrees, whenever practicable, with the floor of the vehicle or intermodal container when viewed from the side of the vehicle or container;

(iii) At least one tiedown attached diagonally through its eye, from the right side of the vehicle or intermodal container (near the forward-most part of the coil), to the left side of the vehicle or intermodal container (near the rearmost part of the coil), making an angle no more than 45 degrees, whenever practicable, with the floor of the vehicle or intermodal container when viewed from the side of the vehicle or container;

(iv) At least one tiedown attached transversely over the top of the coil; and

(v) Either blocking, or friction mats to prevent longitudinal movement.

(2) *An individual coil—option 2.* Each coil must be secured by:

(i) A means (*e.g.*, timbers, chocks or wedges, a cradle, etc.) to prevent the coil from rolling. The means of preventing rolling must support the coil off the deck, and must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit. If timbers, chocks or wedges are used, they must be held in place by coil bunks or similar devices to prevent them from coming loose. The use of nailed blocking or cleats as the sole means to secure timbers, chocks or wedges, or a nailed wood cradle, is prohibited;

(ii) At least one tiedown attached straight through its eye from the left side of the vehicle or intermodal container (near the forward-most part of the coil), to the left side of the vehicle or intermodal container (near the rearmost part of the coil), and, whenever practicable, making an angle no more than 45 degrees with the floor of the vehicle or intermodal container when

viewed from the side of the vehicle or container;

(iii) At least one tiedown attached straight through its eye, from the right side of the vehicle or intermodal container (near the forward-most part of the coil), to the right side of the vehicle or intermodal container (near the rearmost part of the coil), and whenever practicable, making an angle no more than 45 degrees with the floor of the vehicle or intermodal container when viewed from the side of the vehicle or container;

(iv) At least one tiedown attached transversely over the top of the coil; and

(v) Either blocking or friction mats to prevent longitudinal movement.

(3) *An individual coil—option 3.* Each coil must be secured by:

(i) A means (*e.g.*, timbers, chocks or wedges, a cradle, etc.) to prevent the coil from rolling. The means of preventing rolling must support the coil off the deck, and must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit. If timbers, chocks or wedges are used, they must be held in place by coil bunks or similar devices to prevent them from coming loose. The use of nailed blocking or cleats as the sole means to secure timbers, chocks or wedges, or a nailed wood cradle, is prohibited;

(ii) At least one tiedown over the top of the coil, located near the forward-most part of the coil;

(iii) At least one tiedown over the top of the coil located near the rearmost part of the coil; and

(iv) Either blocking or friction mats to prevent longitudinal movement,he forward direction.

(4) *Rows of coils.* Each transverse row of coils having approximately equal outside diameters must be secured with:

(i) A means (*e.g.*, timbers, chocks or wedges, a cradle, etc.) to prevent each coil in the row of coils from rolling. The means of preventing rolling must support each coil off the deck, and must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit. If timbers, chocks or wedges are used, they must

§ 393.122

49 CFR Ch. III (10–1–02 Edition)

be held in place by coil bunks or similar devices to prevent them from coming loose. The use of nailed blocking or cleats as the sole means to secure timbers, chocks or wedges, or a nailed wood cradle, is prohibited;

(ii) At least one tiedown over the top of each coil or transverse row, located near the forward-most part of the coil;

(iii) At least one tiedown over the top of each coil or transverse row, located near the rearmost part of the coil; and

(iv) Either blocking, bracing or friction mats to prevent longitudinal movement.

(e) *Securement of coils transported in a sided vehicle without anchor points or an intermodal container without anchor points.* Metal coils transported in a vehicle with sides without anchor points or an intermodal container without anchor points must be loaded in a manner to prevent shifting and tipping. The coils may also be secured using a system of blocking and bracing, friction mats, tiedowns, or a combination of these to prevent any horizontal movement and tipping.

§ 393.122 What are the rules for securing paper rolls?

(a) *Applicability.* The rules in this section apply to shipments of paper rolls which, individually or together, weigh 2268 kg (5000 lb) or more. Shipments of paper rolls that weigh less than 2268 kg (5000 lb), and paper rolls that are unitized on a pallet, may either be secured in accordance with the rules in this section or the requirements of §§ 393.100 through 393.114.

(b) *Securement of paper rolls transported with eyes vertical in a sided vehicle.* (1) Paper rolls must be placed tightly against the walls of the vehicle, other paper rolls, or other cargo, to prevent movement during transit.

(2) If there are not enough paper rolls in the shipment to reach the walls of the vehicle, lateral movement must be prevented by filling the void, blocking, bracing, tiedowns or friction mats. The paper rolls may also be banded together.

(3) When any void behind a group of paper rolls, including that at the rear of the vehicle, exceeds the diameter of the paper rolls, rearward movement must be prevented by friction mats,

blocking, bracing, tiedowns, or banding to other rolls.

(4)(i) If a paper roll is not prevented from tipping or falling sideways or rearwards by vehicle structure or other cargo, and its width is more than 2 times its diameter, it must be prevented from tipping or falling by banding it to other rolls, bracing, or tiedowns.

(ii) If the forwardmost roll(s) in a group of paper rolls is not prevented from tipping or falling forwards by vehicle structure or other cargo and it is restrained against forward movement by friction mat(s) alone, and its width is more than 1.75 times its diameter, it must be prevented from tipping or falling forwards by banding it to other rolls, bracing, or tiedowns.

(iii) Otherwise, when a paper roll or the forwardmost roll in groups of rolls that are not prevented from tipping or falling forwards by vehicle structure or other cargo and its width exceeds 1.25 times its diameter it must be prevented from tipping or falling by banding it to other rolls, bracing or tiedowns.

(5) If paper rolls are banded together, the rolls must be placed tightly against each other to form a stable group. The bands must be applied tightly, and must be secured so that they cannot fall off the rolls or to the deck.

(6) A friction mat used to provide the principal securement for a paper roll must protrude from beneath the roll in the direction in which it is providing that securement.

(c) *Securement of split loads of paper rolls transported with eyes vertical in a sided vehicle.* (1) If a paper roll in a split load is not prevented from forward movement by vehicle structure or other cargo, it must be prevented from forward movement by filling the open space, or by blocking, bracing, tiedowns, friction mats, or some combination of these.

(2) A friction mat used to provide the principal securement for a paper roll must protrude from beneath the roll in the direction in which it is providing that securement.

(d) *Securement of stacked loads of paper rolls transported with eyes vertical in a sided vehicle.* (1) Paper rolls must not be loaded on a layer of paper rolls beneath