**Section 558.40 Regulations for Securing Cargo**

Each flatbed vehicle on which objects meeting the limits indicated in paragraph (d) or (e) of this section are being transported must be equipped with devices providing protection against shifting or falling cargo. These devices must meet the requirements of at least one of the following paragraphs – (a), (b), (c), or (d) – and, in addition, must conform to the rules in Sections 558.50, 558.60, and 558.70.

a) The flatbed vehicle must have sides, sideboards, or stakes and a rear endgate, endboard, or stakes. Those devices must be strong enough and high enough to assure that cargo will not shift upon, or fall from, the vehicle. Those devices must have no aperture large enough to permit cargo in contact with one or more of the devices to pass through it.

b) The flatbed vehicle must have at least one tiedown assembly that meets the requirements of Section 558.50 for each 10 linear feet of lading or fraction thereof. In addition, the vehicle must have as many additional tiedown assemblies meeting the requirements of Section 558.50 as are necessary to secure all cargo being transported either by direct contact between the cargo and the tiedown assemblies or by dunnage which is in contact with the cargo and is secured by tiedown assemblies. Tiedown assemblies or dunnage in contact with sufficient exterior (including topmost) pieces of the cargo and securely holding each interior piece comply with this requirement.

c) The flatbed vehicle must have other means of protecting against shifting or falling cargo which are at least as effective as those specified in paragraph (a) or (b) of this Section.

d) Whenever a motor carrier transports one or more coils of metal which, individually or as a combination banded together, weigh 5,000 pounds or more and the vehicle does not conform to the rules in paragraphs (a), (b), or (c) of this Section, the coils shall be secured as listed below. The same tiedown assembly shall not be used to comply with more than one of the requirements of paragraphs (d)(1)(A), (B), or (C) of this Section.

1) Coils with eyes vertical (see Illustration A – Figure 1): One or more coils which are grouped and loaded side by side in a transverse or longitudinal row must be secured by all three of the following tiedown assemblies –

A) A tiedown assembly against the front of the coil or row of coils, restraining against forward motion; and

B) A tiedown assembly against the rear of the coil or row of coils, restraining against rearward motion; and

C) A tiedown assembly over the top of each coil or transverse row of coils, restraining against vertical motion.

2) Coils with eyes crosswise (see Illustration A-Figure 2): Each coil transverse row of coils loaded side by side and having approximately the same outside diameters must be secured by –

A) A tiedown assembly through the eye of each coil, restricting against forward motion and making an angle of less than 45 degrees with the horizontal when viewed from the side of the vehicle; and

B) A tiedown assembly through the eye of each coil, restricting against rearward motion and making an angle of less than 45 degrees with the horizontal when viewed from the side of the vehicle; and

C) Timbers, having a nominal cross section of 4 x 4 inches or more and a length which is at least 75 percent of the width of the coil or row of coils, tightly placed against both the front and rear sides of the coil or row of coils and restrained to prevent movement of the coil or coils in the forward and rearward directions.

D) If coils are loaded to contact each other in the longitudinal direction and relative motion between coils, and between coils and the vehicle, is prevented by tiedown assemblies and timbers –

i) Only the foremost and rearmost coils must be secured with timbers; and

ii) A single tiedown assembly, restricting against forward motion, may be used to secure any coil except the rearmost one, which must be restrained against rearward motion. However, in every case, at least one tiedown assembly shall be used for each coil or transverse row of coils.

3) Coils with eyes lengthwise (see Illustration A-Figure 3): A coil or transverse row of coils having approximately equal outside diameters and loaded side by side or a longitudinal row of coils having approximately equal outside diameters and loaded end to end must be secured as follows:

A) The coil or coils must be restrained against side-by-side and fore-and-aft movement by –

i) One or more tiedown assemblies over the top of each coil or transverse row; or

ii) Two or more tiedown assemblies through the eye of each coil or longitudinal row; or

iii) One or more tiedown assemblies, crossing from one side of the vehicle to the other, through the eye of each coil or longitudinal row of coils in a transverse row.

B) Timbers having nominal cross section of 4 x 4 inches or more must be tightly placed against the sides of each coil or against the outboard sides of each transverse row of coils which are loaded side by side so that the timbers restrain against side-to-side movement,

C) If, in accordance with paragraph (d)(3)(A)(i) of this Section, only one tiedown assembly over the top of each coil or transverse row of coils is used to restrain against side-to-side movement and fore-and-aft movement, timbers a nominal cross section of 2 x 4 inches or more and which are firmly secured to longitudinal blocking must be tightly placed against the front and back of each coil, each longitudinal row of coils, and each transverse row of coils in a manner which restricts forward and rearward movement.

4) Timber which is used for blocking must be sound lumber which is free of defects (such as knots or cracks) that materially reduce its strength.

5) Timbers need not be used on vehicles which have depressions in the floor or are equipped with other restraining devices which perform the functions specified for timbers by the rules in this Section.

6) As used in this Section, the term "nominal", when used to describe timber, means commercially dressed sizes generally designated by the dimensions indicated.

e) Except as provided in paragraph (e)(3) of this Section, whenever a motor carrier transports steel rolls or other objects including, but not limited to, cut-to-length bars, plates, rods, sheet and tin mill products, billets, blooms, ingots, slabs, structural shapes, or pipe, and other tubular products and those objects, either individually or as a combination of objects banded or boxed together and handled as a single unit, weigh more than 2,000 pounds, and the vehicle does not conform to the rules in paragraphs (a), (b), or (c) of this Section, the object shall be secured in the following manner:

1) A single object, a group of objects, or a combination of objects loaded side by side across the width of the vehicle must be secured by at least one tiedown assembly over its top for at least every 8 feet of its length and at least two tiedown assemblies securing each individual object or combination of objects banded or otherwise secured together and handled as a single unit. However, objects which individually have a strength of 8 feet or less and which are securely butted against each other in the fore-and-after direction may be secured by metal angles secured by tiedown assemblies, or they may be secured by a timber having a nominal cross section of 4 x 4 inches or more placed longitudinally over the objects and secured by tiedown assemblies. Tiedown assemblies may not be located beyond the ends of the object which they secure.

2) If objects are tiered and each tiered object rests securely on the one beneath it, the tier may be secured in the same manner as a single level of those objects is secured in accordance with the rules in this Section.

3) The rules in this paragraph do not apply to special loads consisting of machinery or fabricated structural items, such as beams, girders, and trusses, which are fastened by special methods. However, those loads must be securely and adequately fastened to the vehicle.