



Cargo Tiedown



Cargo tiedown is any combination of securing devices which forms an assembly that attaches articles of cargo to, or restrains articles of cargo on, a vehicle or trailer, and is attached to anchor point(s). Tiedowns include chains, ropes, webbing, steel straps, binders, buckles, and other devices. Tiedowns are obviously a very important part of a safe trucking operation, because they prevent the shifting or loss of cargo.

The cargo securement requirements of the Federal Motor Carrier Safety Regulations, found in [Subpart I of Part 393](#), specify how cargo tiedowns are to be used. In September 2002, these rules were essentially replaced with a new standard based on model regulations designed to be adopted continent-wide. Though the regulations took effect on December 26, 2002, motor carriers had until January 1, 2004, to be in full compliance.

Working Load Limits

“Working load limits” are used to specify the minimum strength of tiedowns and other cargo securement devices. The working load limit is the maximum load that may be applied to a component of a cargo securement system during normal service. The load limit is usually assigned by the manufacturer of the component, and is generally equal to $\frac{1}{3}$ of the ultimate breaking strength of that device. In some cases the working load limit is $\frac{1}{4}$ of the ultimate breaking strength.

The working load limit of a tiedown, associated connector, or attachment mechanism is the lowest working load limit of any of its components (including tensioner), or the working load limit of the anchor points to which it is attached, whichever is less. This is based on the idea that the securement system is only as strong as its weakest component.

Determining Working Load Limits

The regulations do not require tiedowns to be marked or labeled. However, manufacturers of tiedowns and associated equipment are encouraged to provide motor carriers and enforcement officials with a means to easily determine the working load limits of their products.

The working load limits may be determined by using either:

- The tiedown manufacturer's markings,

The working load limits listed in the tables are to be used when the tiedown material is not marked by the manufacturer with the working load limit. When the values in the tables and on marked tiedowns differ, the marked value is to be used.



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Aggregate Working Load Limits

The *aggregate* working load limit of any securement system must be at least $\frac{1}{2}$ times the weight of the article(s) secured. For example, the tiedowns used to secure cargo weighing 30,000 pounds would have to have an aggregate working load limit of 15,000 pounds. The aggregate working load limit is determined by adding together:

1. $\frac{1}{2}$ the working load limit of each tiedown that goes from an anchor point on the vehicle to an anchor point on an article of cargo;
2. $\frac{1}{2}$ the working load limit of each tiedown that is attached to an anchor point on the vehicle, passes through, over, or around the article of cargo, and is then attached to an anchor point on the same side of the vehicle; and
3. The working load limit for each tiedown that goes from an anchor point on the vehicle, through, over, or around the article of cargo, and then attaches to another anchor point on the other side of the vehicle.

Tiedowns and associated connectors and mechanisms (except steel strapping) must allow for in-transit adjustment.

