

The Load Must Stay Put

A rate confirmation can describe the load. Only the securement plan keeps it from becoming a projectile.

0.8 g	0.5 g	50%	10 ft
required forward deceleration resistance	required rearward and lateral resistance	minimum aggregate working load limit versus cargo weight	key length increment in general tiedown count rules

EXECUTIVE SUMMARY

FMCSA requires securement systems to withstand 0.8 g forward deceleration and 0.5 g acceleration in both rearward and lateral directions, applied separately.

The aggregate working load limit of the securement system must be at least half the weight of the article or group being restrained.

General rules apply broadly, while listed commodities such as coils, machinery, logs, paper rolls, concrete pipe, vehicles, and intermodal containers have additional commodity-specific requirements.

01 The rule is built around movement, not normal driving

Securement must control the load during hard braking, reversing contact, and lateral movement. The required force values are higher than normal cornering because the system must survive foreseeable emergency forces.

The carrier remains responsible for compliant securement, but shippers and brokers influence the equipment choice, commodity description, loading method, weight distribution, appointment pressure, and documentation. A vague tender can create a predictable securement failure.

Evidence: Cargo Securement Rules

02 Working load limit and tiedown count are separate tests

A load can have enough straps and still fail the aggregate working load limit. It can also have enough rated capacity and still fail the minimum tiedown count. Both tests apply unless a different commodity-specific rule controls.

FMCSA's general rule requires aggregate working load limit equal to at least half the cargo weight. For articles not blocked against forward movement, general tiedown counts depend on length and weight, with extra tiedowns as length passes ten feet.

Article under general rule	General tiedown floor	Other test
Five feet or less and 1,100 pounds or less	One tiedown	Aggregate working load limit still applies
Five feet or less and over 1,100 pounds	Two tiedowns	Aggregate working load limit still applies
Over five feet but under ten feet	Two tiedowns	Aggregate working load limit still applies
Over ten feet and not blocked forward	Two for first ten feet, plus one for each additional ten feet or fraction	Aggregate working load limit still applies
Blocked or braced forward	At least one per ten feet or fraction	Aggregate working load limit still applies

Evidence: Cargo Securement Rules

03 Commodity-specific rules override the shortcut

FMCSA lists commodity-specific requirements for logs, dressed lumber, metal coils, paper rolls, concrete pipe, intermodal containers, automobiles, heavy equipment, flattened vehicles, roll-on or roll-off containers, and large boulders.

When the cargo falls into one of those categories, the desk should stop using a generic strap-count answer. Equipment, orientation, weight, blocking, coil eye direction, vehicle weight, and other commodity facts can change the required method.

- Use the exact commodity and configuration.
- Confirm gross weight and the weight of individual articles.
- Confirm equipment type and anchor points.
- Identify blocking, bracing, chocks, wedges, cradles, or dunnage.
- Use edge protection where tiedowns face abrasion or cutting.
- Reject damaged or weakened securement components.

Evidence: Cargo Securement Rules

04 The load file should prove the plan and the execution

A securement file has two jobs. Before pickup, it gives the carrier enough information to bring suitable equipment and devices. After loading, it records what was actually used.

For unfamiliar, high-value, heavy, or commodity-specific freight, require a written securement plan and dated photos before release. Photos should show the full load, anchor points, tiedown tags when readable, blocking or bracing, edge protection, and door or tarp condition.

1. Describe the commodity, dimensions, individual weights, total weight, and center-of-gravity concern.
2. Identify whether a commodity-specific rule applies.

3. Confirm trailer type, deck, anchor points, and securement devices.
4. Calculate tiedown count and aggregate working load limit.
5. Confirm blocking, bracing, dunnage, chocks, wedges, and edge protection.
6. Capture load photos before release.
7. Record driver recheck expectations after initial movement and during the trip.
8. Preserve the plan, calculations, photos, and exceptions in the shipment file.

Evidence: Cargo Securement Rules

RECOMMENDED ACTIONS

1. Add dimensions, individual weights, and commodity-specific securement status to every relevant tender.
2. Require pre-release photos for heavy, unusual, high-value, and commodity-specific loads.
3. Use both tiedown count and aggregate working load limit in the desk check.

QUESTIONS WORTH ASKING NEXT

- Does the carrier know the weight of each article before arriving?
- Can the shipment file prove what securement was actually used?

LIMITS AND CAUTIONS

- The tables summarize general rules and do not replace commodity-specific requirements or current 49 CFR Part 393.
- Securement depends on the exact cargo, equipment, orientation, devices, anchor points, and loading method.
- This paper is educational and not an engineering or legal determination for a specific load.

PRIMARY PUBLIC SOURCES

1. Cargo Securement Rules

Federal Motor Carrier Safety Administration | current program page

Web edition: <https://prospectsentinel.com/tools/cargo-securement-load-file.html> | Published 2026-07-23 | Public sources only