



# “Safety & Compliance are Never a Compromise”

## Keep it moving!

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### Cargo securement: Preventing a dangerous situation

A professional driver's job is to safely and efficiently transport cargo to the customer, making sure it arrives on time and damage free. Proper cargo securement is an important step when it comes to making this happen, as it helps in preventing accidents, injuries, damage to products being hauled, and unnecessary downtime.



#### General requirements

Sections 391.13 and 392.9 of the Federal Motor Carrier Safety Regulations (FMCSRs) address general securement requirements. A driver must know how to properly locate, distribute, and secure cargo. This regulation also requires that the driver be familiar with the methods and procedures for securing cargo in or on his/her vehicle.

A vehicle may not be driven unless the vehicle's cargo is properly distributed and adequately secured.

The vehicle's tailgate, tailboard, doors, tarpaulins, spare tire, and other equipment used in its operation, and the means of fastening the cargo, must be secured.

In addition, the vehicle's cargo must not:

- Block the driver's view ahead or to the right or left sides;
- Interfere with the free movement of the driver's arms or legs;

- Prevent the driver from reaching accessories required for emergencies; or
- Prevent the driver or any other person from exiting the vehicle's cab or driver's compartment.

Once on the road, the driver must inspect the vehicle's cargo and the devices used to secure the cargo within the first 50 miles of the trip.

#### Securement terms

Blocking, bracing, dunnage, load locking bars, and tiedowns are just some of the terms commonly used when discussing cargo securement.

**Blocking** is a structure or device placed on the front, back, or sides of a piece of cargo to keep it from sliding. Blocking fits snugly against cargo and is secured to the cargo deck or sides to prevent movement.

**Bracing** is a structure or device placed against an article of cargo to prevent

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## Cargo securement: Preventing a dangerous situation *(continued from page 1)*

it from tipping or shifting. It is generally used between the cargo and the trailer ends or sides to keep an object stationary.

**Dunnage** is filler material used in empty spaces between cargo to keep it from shifting. Wood, cardboard, airbags, extra pallets, bubble wrap, and plastic are some of the materials used as dunnage.

**Load locking bars** can be used vertically or horizontally to prevent cargo from tipping or shifting. The bars have rubber feet that are placed against the vehicle's walls or ceiling and floor. The bars are placed snugly against the cargo and then tightened with a jacking device until they are tightly wedged in place against the cargo.

**Tiedowns** are a combination of securing devices, attached to anchor points, which form an assembly that attaches articles of cargo to, or restrains articles of cargo on, a vehicle or trailer. Tiedown equipment includes straps, chains, and tensioning devices, including winches and ratchets.

### Specific requirements

Part 393, Subpart I of the FMCSRs covers load-securement specifics. The regulations, which begin with Sec. 393.100, apply to trucks, truck tractors, semi-trailers, full trailers, and pole trailers.

A vehicle must be loaded and equipped, and the cargo secured, in a way that prevents the cargo from leaking, spilling, blowing, or falling from the vehicle.

All cargo must be contained, immobilized, or secured to prevent shifting that adversely affects your vehicle's stability or maneuverability.

All cargo must be firmly immobilized or secured on or within a vehicle by structures of adequate strength, dunnage or dunnage bags, shoring bars, tiedowns, or a combination of these.

Cargo that is likely to roll must be restrained by chocks, wedges, a cradle, or other equivalent means to prevent rolling. The means of preventing rolling must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit.

### Use of tiedowns

Cargo placed beside each other and secured by tiedowns must either be placed in direct contact with each other or prevented from shifting towards each other while in transit.

The aggregate working load limit of any securement system used to secure cargo against movement must be at least one-half times the weight of the cargo.

Usually, the working load limit of a tiedown is marked on the device by the manufacturer. If it is not listed on the device, the table in Sec. 393.108 must be used.

Section 393.110 specifies the minimum number of tiedowns that must be used:

- One tiedown is required for cargo that is 5 feet or less in length, and weighs 1,100 pounds or less.
- Two tiedowns are required if the cargo is 5 feet or less in length, and weighs more than 1,100 pounds.
- Two tiedowns are required if the cargo is longer than 5 feet but less than or equal to 10 feet in length, regardless of the weight.
- Two tiedowns are required if the cargo is longer than 10 feet and one additional tiedown is required for every additional 10 feet in cargo length or fraction thereof, beyond the first 10 feet of length.

If an individual article is blocked, braced, or immobilized to prevent movement in the forward direction by a headerboard, bulkhead, other articles which are adequately secured, or by an appropriate blocking or immobilization method, it must be secured by at least one tiedown for every 10 feet of article length, or fraction thereof.

### Special loads

Certain types of cargo have specific securement requirements. These requirements are found in Sections 393.116 to 393.136 of the FMCSRs.





# Safety focus: Quality sleep for commercial drivers

Commercial drivers may find it difficult to get a good night's sleep due to the schedules they keep and the sleep environments they experience. This may result in drowsy driving and a greater risk of being in a crash.

## Sleep = health

A lifestyle of sleep deprivation may result in health concerns, including:

- Emotional health (i.e., bad moods);
- Weakened immune system opening the individual up to more infections;
- High blood pressure; and
- Diabetes.

A lack of sleep may also lead to an increased appetite, overeating, and obesity.



## Getting comfortable

Healthy sleep may require creating a more conducive sleep environment. No matter where you sleep (sleeper berth, motel, or home) or whether it is day or night, consider the following tips to enhance the sleep experience:

- **Light control.** Block out all light by closing the curtains and truck shades, and consider using an eye mask.
- **Noise control.** The ringer on the phone next to the bed should be silenced, with audible ringtones assigned to important contacts. Ear plugs and white noise (e.g., fan) will also assist in blocking out distractions.
- **Temperature setting.** The sleeper berth or bedroom should be kept cool to promote sleep. Of course, this would be a matter of personal preference since everyone is different.
- **Pillow/mattress.** If the pillow or mattress is not comfortable or has seen better days, consider replacing it to aid in a more restful night.

## Getting proper sleep

Individuals should sleep 7 to 9 hours per day, preferably the same time each day. If you are getting enough sleep, you will actually fall asleep faster and sleep better in the future.

Consider the following:

- Exercise during the course of the day improves sleep;
- Avoid nicotine and other stimulants; and
- Avoid light from electronic screens (television, tablets, computers, phones) before going to bed.

Drivers should work a relaxation routine into the end of their day to signal the brain that it is time to sleep.

## Biology of being sleepy

A person becomes sleepy due to, in part, substances the body produces.

One substance, **adenosine**, is built up in your body when awake and is broken down when you sleep. It is thought that levels of adenosine may trigger sleep.

Another chemical in the body that affects sleep is **serotonin**. High levels relate to being awake, while low levels are associated with sleep. In fact, during REM sleep (dreaming) the serotonin system shuts off. Serotonin is synthesized in the body to make melatonin.

**Melatonin** in your body makes you sleepy at night. It helps set your internal clock and sleep patterns. A small bundle of brain cells uses internal and external environmental cues throughout the day and night. Light signals received through your eyes control these cells, triggering the production of melatonin.

## Foods to promote sleep

Avoid heavy or spicy meals at least two to three hours before bed. Caffeine later in your day can affect you even five hours later.

Just as there are foods to avoid when trying to get a good night's sleep, there are those that may assist your body for slumber. Certain uncaffeinated beverages will help you fall asleep faster. For example, an herbal tea such as chamomile, ginger, or peppermint will relax you. A glass of warm milk contains tryptophan and melatonin, along with the calming effect of a warm beverage will aid in relaxation.

Complex carbohydrates paired with foods high in tryptophan right before bed improves sleep. Examples include whole wheat crackers and bread, brown rice, and beans paired with lean proteins. Certain fruits contain melatonin, such as tart cherry juice and whole cherries, bananas, pineapple, oranges, and kiwi.

Unsaturated fats increase your serotonin levels, as they improve your heart health. Examples include peanut butter and nuts.





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## Practice mindfulness for better health

*"Do not dwell  
in the past,  
do not dream  
of the future,  
concentrate  
the mind on  
the present  
moment."*

Buddha



**Take time out to  
practice mindfulness.**

Smartphones, computers, and other screen-focused technology make it easier than ever to disconnect from the world around us. However, paying more attention to what's going on outside that screen can be good for your health.

Mindfulness involves being aware of what's happening around you and how this makes you feel. It means being present in the current moment of time. Practicing mindfulness can aid in relaxation, and may help you manage stress and reduce anxiety.

Mindfulness can be practiced throughout the day. Try it by paying attention to your breathing, your fingers typing, or the sounds you hear while on a walk.

If your mind is racing, notice those thoughts. Then return to the moment.

Becoming a more mindful person takes practice. You can learn more through yoga and meditation classes, books, or mindfulness-based stress reduction programs.

Be mindful each day by:

- **Breathing deeply.** Breathe in through your nose and count to four. Hold for one second and exhale through your mouth to a count of five.
- **Taking a walk.** Look around and take note of what you see and hear. It's fine



to notice thoughts or worries that enter your mind; take note of them, and then return to the present.

- **Eating mindfully.** Focus on the flavors and texture in each bite of food. Recognize the feeling of fullness. Eat more slowly and be more aware. Think about why you want to eat? Are you truly hungry or are you bored or stressed out. Perhaps you could take a walk or do something else instead.

By practicing mindfulness, you may notice that you become more grateful for what you are able to accomplish in this moment. The ability to walk, eat, and even breathe are all things we should appreciate, but that we take for granted.