

# TA Services

28-05-2026

# Forward

This cargo securement manual is intended for use as a practical reference and information guide for our employee drivers. It is not a replacement for professional experience or live training conducted by a qualified instructor. Following the policies and procedures in this manual, as well as your instructors, is required and will assist you in loading and transporting our customers' products safely and without any damage.

## Safety Statement

Safety is extremely important to the Company and must be equally important to our employees. Securement-related losses can result in suffering, waste, lost profits, and negatively impact our customer relationships. We never want our employees to take any action that is unsafe or illegal. We genuinely care about the health and safety of our employees and the motoring public. Our employees have the responsibility and authority to make the decision to refuse to haul any freight they deem unsafe.

## (1.) General Safety: Loading - Unloading & Securement

While engaging in loading, unloading, and securement processes, you must do the following:

### **Wear proper clothing**

- Long pants should always be worn during the loading/unloading and securement process. These should be heavy work pants and not wind or track pants, nor sweat pants.
- Properly fitting clothes should be worn. Pants and shirts that are too large or too small can cause injury.
- Close toed shoes with rubber soles should be worn. Sandals, slippers, and shoes that have no back are not allowed.

### **Use your personal protective equipment (PPE)**

- Hard Hat with chin strap
- High visibility vest, jacket, or shirt with reflective tape
- Leather work gloves
- Safety glasses with side shields
- Steel toe work boots - required by certain shippers and consignees
- Long sleeve shirt - required by certain shippers and consignees

### **Protect yourself from slips, trips, and falls**

- Know your load and be aware of tripping hazards. Tarped loads can have hard to see trip and fall hazards.
- Use any and all fall protection provided by the shipper or receiver.
- Wear proper footwear.

- Always use 3-point contact when entering or exiting the tractor, when climbing up to and down from the trailer, as well as when climbing on cargo loaded on the trailer.
- Never jump off a trailer.
- Be mindful of wet or icy surfaces both on the ground and on the trailer.

### **During the loading process**

- Stay off the trailer during the loading and process.
- Stay alert. The loading/unloading process involves the use of heavy equipment. This equipment can have large blind spots. Lift cables and chains can break. Hydraulics can fail. Operators can make mistakes. Make sure you are in a safe area while this equipment is in use.
- Inspect your securement devices before each use. If anything is damaged or worn contact your Driver Manager to get a plan in place to replace it.
- Inspect the freight being hauled for damage. Any damage seen at the shipper should be reported to your Driver Manager or to Risk Management.
- Be sure the trailer deck is free of debris (rocks, nails, etc.) before and after the loading process.
- If you are unsure about how to properly secure the freight you are hauling contact the Safety Department.

### **During the unloading process**

- Stay off the trailer during the unloading process.
- Stay alert. Be mindful of equipment in operation and keep a safe distance.
- Watch for shifting freight when releasing tie-downs. Freight can shift once these tie-downs are released. Release the first or last tie-down over the load last and be sure you have an escape route to get out of the way if anything moves.
- Inspect your securement devices after use. If anything is damaged or worn contact your Driver Manager to get a plan in place to replace it.
- Look at your signed Bill of Lading to be sure that the consignee did not notate any damage or issues with the load. If there is damaged on the BOL it should be reported to the Risk Management Department.

# **(2.) Pre-Trip / Post Trip, Load Checks / Inter-trip Inspections**

## **Pre-Trip Inspection**

Pre-Trip inspections should be done at the beginning of every work shift. This should always be done "ON DUTY" and include but not be limited to the following:

### **Truck paperwork**

- Current Annual Inspection
- IFTA Form
- Insurance Card
- Tag Registration form (cab card)
- Spare paper logs
- E-log user manual or reference sheet

### **Safety Equipment**

- Emergency Triangles
- Fire Extinguisher-Charged and latched into its mounting bracket.

### **Lights**

- All lights including the ABS malfunction lamp on the trailer should be checked.

### **Tires**

- Properly inflated with no cuts or bulges on sidewalls or air leaks.
- 4/32-inch minimum tread depth on steer tires.
- 2/32-inch minimum tread depth on drive and trailer tires.

### **Brakes**

- No cracks in linings, drums, or discs. No missing springs, pins, or shackles.
- No oil or grease present.
- No audible air leaks.

### **Frame**

- No cracks or missing bolts including springs, spring shackles, shocks and mounting points.

### **Engine**

- Fluid Levels - Oil, coolant, windshield washer fluid
- Belts - No cracking or excessive wear
- Signs of fluid leaks

### **5th Wheel**

- Securely latched. No signs of cracking or missing bolts on mounts.

## **Wheels & Hubs**

- Full of oil with no signs of leaks. No cracks in wheels.

## **Cargo Securement**

- All devices in use are tight and undamaged.
- No signs of shifting or failing blocking.
- All equipment and dunnage properly stowed.

## **Load Checks / Inter-trip Inspection**

Load checks should be done as follows:

- 1 in the first 50 miles of the load.

Then after the first check:

- 1 every 3 hours or every 150 miles, whichever comes first.
- And every change of duty status.

While commonly called a “load check” this should qualify as an inter-trip inspection. It is very important that a driver check his or her load as well as looking for developing problems on the tractor and trailer. Inter-trip inspections are vital in reducing damage to product, load shifts, and violations.

During this inspection a driver should check the following:

### **Load securement**

- Damage done to straps, chains, or cargo
- Tightness of all securement devices
- Dunnage, blocking, or cribbing used on the load for cracks and signs of failure
- Edge protectors
- Equipment stored on the trailer and headache rack of the tractor

### **Tractor and Trailer**

- All lights
- Mud flaps
- Listen for audible air leaks
- Air lines for chaffing and leaks
- Tires

If problems are found, do not put the repair off until later. Get it repaired or resolved as soon as possible. The longer a driver waits to correct issues, the bigger the problem can become.

# (3.) Truck & Trailer Weight Distribution- Spread Axel VS Stretch Trailers

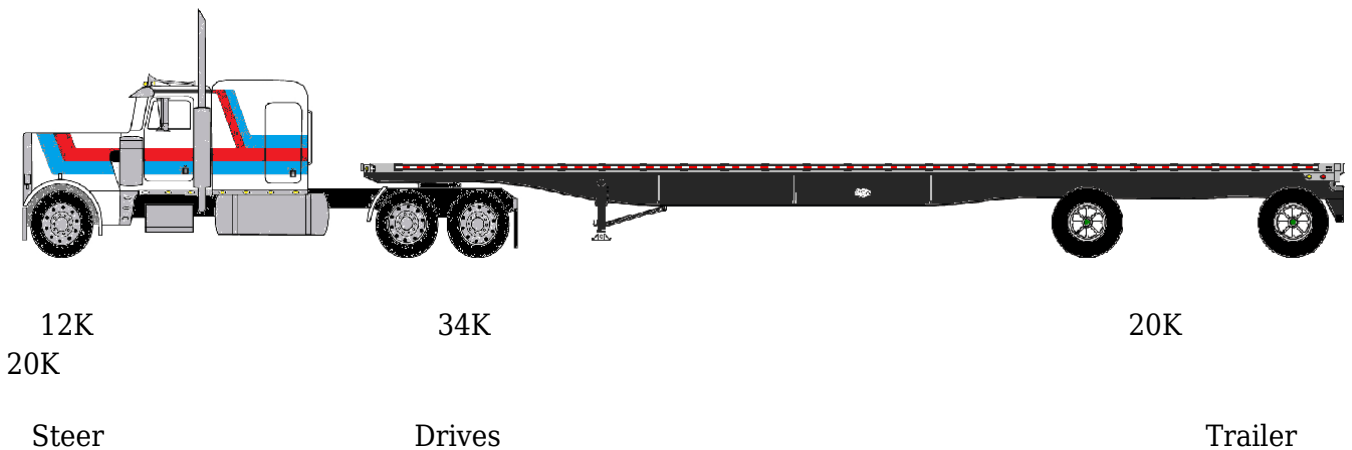
## Spread Axel Trailers

Spread axle trailers do not have adjustable axles to shift weight so all loads must be loaded in the center of the trailer to avoid overweight issues.

### Gross Weight: Maximum of 80,000 lbs.

Combined weight of tractor, trailer, driver, fuel, cargo, and equipment. Any truck grossing over 80,000 lbs. must have overweight permits.

**Maximum Axle Weights- Spread Axle Trailers** - A truck can weigh less than 80k and still get weight violations on individual axles. The weight limits per axle are listed below. Note that spread axle trailers can be up to 40,000 lbs. but cannot exceed 80,000 lbs. gross weight.



### Spread Axle Trailer Weight Troubleshooting Chart

Problem	Solutions
Over Gross Weight	<ol style="list-style-type: none"> <li>1. Have shipper remove part of load.</li> <li>2. Apply for overweight permits</li> </ol>
Over on Steer Axle	<ol style="list-style-type: none"> <li>1. If the truck has an adjustable 5<sup>th</sup> wheel, have driver move the 5<sup>th</sup> wheel back. Each notch should remove about 500lbs from the steer axles</li> <li>2. Reload cargo more towards the rear of the trailer.</li> </ol>

Over on Drive Axles	<ol style="list-style-type: none"> <li>1. If the truck has an adjustable 5<sup>th</sup> wheel, adjust the 5<sup>th</sup> wheel forward. This will shift weight from the drive axle to the steer axel. (~500lbs per notch)</li> <li>2. Reload cargo more towards the rear of the trailer.</li> </ol>
Over on Trailer Axles	Cargo must be reloaded forward of its current position.

**Moving Cargo-** If the weight of the cargo is evenly distributed, a 4-inch shift forward or reverse will transfer around 500lbs to the axle in the direction of that shift.

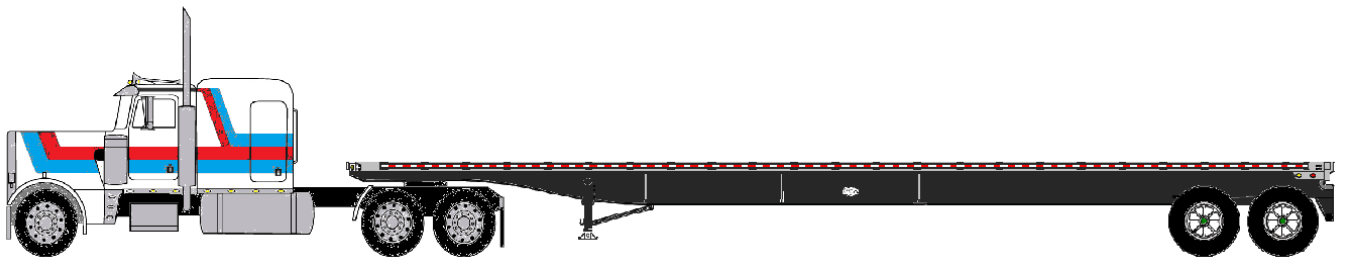
**5<sup>th</sup> Wheel Shifts-** Not all tractors are equipped with sliding 5<sup>th</sup> wheels. If the weight to be shifted exceeds 2000 lbs. there will likely not be enough adjustment to fix the problem.

## Stretch Trailers

**Gross Weight: Maximum of 80,000 lbs**

Combined weight of tractor, trailer, driver, fuel, cargo, and equipment. Any truck grossing over 80,000 lbs. must have overweight permits.

**Maximum Axle Weights- Tandem Trailers (Stretch trailers)**



12K	34K	34K
Steers	Drives	Trailer

Problem	Solutions
Over Gross Weight	<ol style="list-style-type: none"> <li>1. Have shipper remove part of load</li> <li>2. Apply for overweight permits</li> </ol>

Over on Steer Axle	<ol style="list-style-type: none"> <li>1. If the truck has an adjustable 5<sup>th</sup> wheel, have driver move the 5<sup>th</sup> wheel back. Each notch should remove about 500lbs from the steers.</li> <li>2. Reload cargo more towards the rear of the trailer.</li> </ol>
Over on Drive Axle	<ol style="list-style-type: none"> <li>1. Have driver move tandems on trailer forward. Each notch forward will deflect 250 to 500 lbs to the trailer weight</li> <li>2. Cargo must be shifted to the rear of the trailer.</li> </ol>
Over on Trailer Axles	<ol style="list-style-type: none"> <li>1. Have driver move trailer tandems back. Each notch back will deflect 250 to 500 lbs to the drive axles.</li> <li>2. Cargo must be shifted forward on the trailer</li> </ol>

**Moving Cargo-** If the weight of the cargo is evenly distributed, a 4-inch shift forward or reverse will transfer around 500lbs to the axle in the direction of that shift.

**5<sup>th</sup> Wheel Shifts-** Not all tractors are equipped with sliding 5<sup>th</sup> wheels. If the weight to be shifted exceeds 2000 lbs. there will likely not be enough adjustment to fix the problem.

**Tandem Shifts-** Only stretch trailers have adjustable trailer tandems. The amount of weight deflected per notch will depend on how far the trailer is stretched.

# **(4.) Securement Equipment, Equipment Storage, & Securement Chart.**

## **Securement Equipment**

### **Supplied Equipment**

8ft-Drop Lumber Tarps	2
Bungee Cords	50
5/16-inch Grade 70 Chains	10
Ratchet Binders	10
Friction Mats (Rubber)	10
Coil Racks	10
4 ft Beveled Coil Timbers	10
Cheater Bar	1
Plastic Sheeting (Roll)	1
4 ft Pipe Stakes	4
1-inch Nylon Straps	2

2-inch Nylon Ratchet Straps	4
4-inch Nylon Straps for Trailer Winches	2
Metal Edge Protectors	16
Plastic Edge Protectors	16
Cardboard Edge Protectors	32
8ft 4"x 4" Hardwood Timbers	8

**Recommended Equipment - Not provided but strongly recommended**

Claw Hammer	1
3-inch Nails (Box)	1
Heavy Duty Tape Roll (Gorilla Brand)	1
Flashlight	1
Flashlight Batteries	1
Cell Phone with the ability to send and receive photographs	1
Spray Lubricant (can)	1

Measuring Tape (16 or 25 feet)	1
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Inspect your securement equipment before and after every use. If anything is damaged or worn do not use it and get it replaced as soon as possible.

## Proper Storage of Equipment

### Dunnage

- Dunnage stored on the braces of the trailer landing gear should be secured with a **2-inch** ratchet strap. Using anything less is considered improper securement and can lead to roadside violations.
- Dunnage stored on the side braces of the trailer should be secured with a **4-inch** strap from one of the winches on the trailer. This strap should go from the winch, back behind the lumber, then be hooked to the frame rail of the trailer.



### Tarps

- Secure with 1-inch ratchet straps when secured to the headache rack.
- Secure with 4-inch strap if left on trailer deck out of the flow of air around the truck during travel.



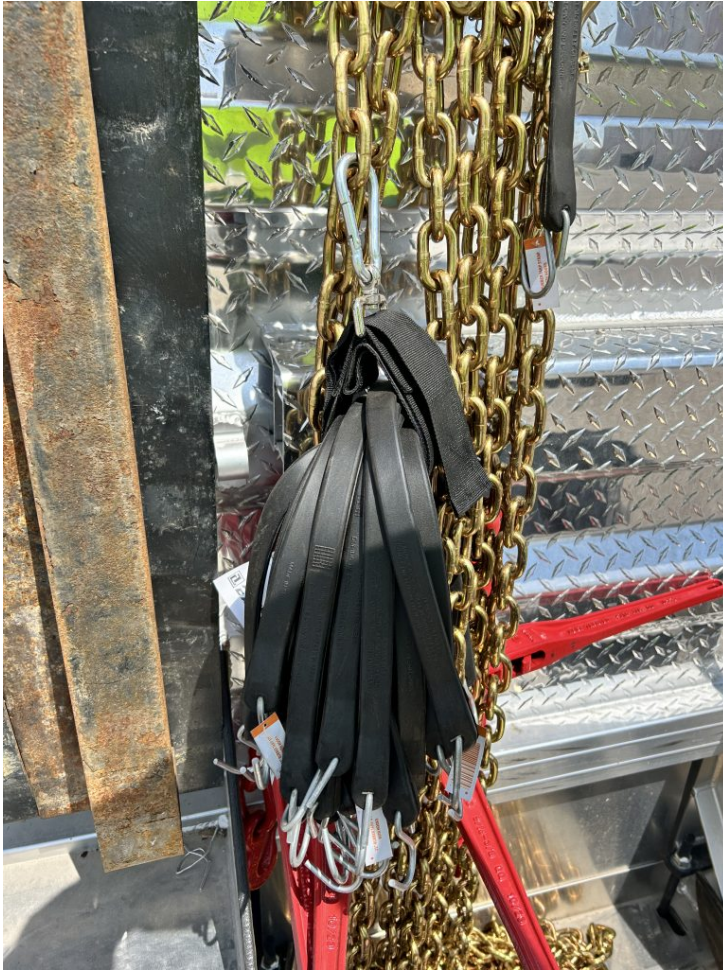
***BUNGEE CORDS DO NOT COUNT AS A SECUREMENT DEVICE!***

**Any** equipment secured with only bungee cords is improperly secured equipment and opens the driver up to roadside violations. This includes hanging bundles of bungee cords from a single bungee on the headache rack, truck, or trailer. It also includes edge protectors, tarps, and friction mats.

**Alternative Securement for hanging bungees and other equipment**

- Rope - 1/4 -inch poly propylene or braided nylon.
- 1-inch ratchet straps.
- Roll bundles of bungees in the last 6 feet of a tarp and secure them.

## Examples of Proper Securement:



## Securement chart

Minimum tie-down requirements are listed below. Note that additional tie-downs may be needed for specific types of cargo, securement equipment, and configurations.

5/16" Grade 70 Transport Chain 4700lb Working Load Limit

Weight (Pounds)	Number of required Chains
0-9,400	2
9,401-18,800	3
18,801-28,200	4

Weight (Pounds)	Number of required Chains
28,201- 37,600	5
37,601-47,000	6
47,001-56,400	7

4-inch Nylon Webbing Strap: 5400lbs Working Load Limit

Weight (Pounds)	Number of Required Straps
0-10,800	2
10,801-21,600	3
21,601-32,400	4
32,401-43,200	5
43,201-54,000	6
54,001-64,800	7

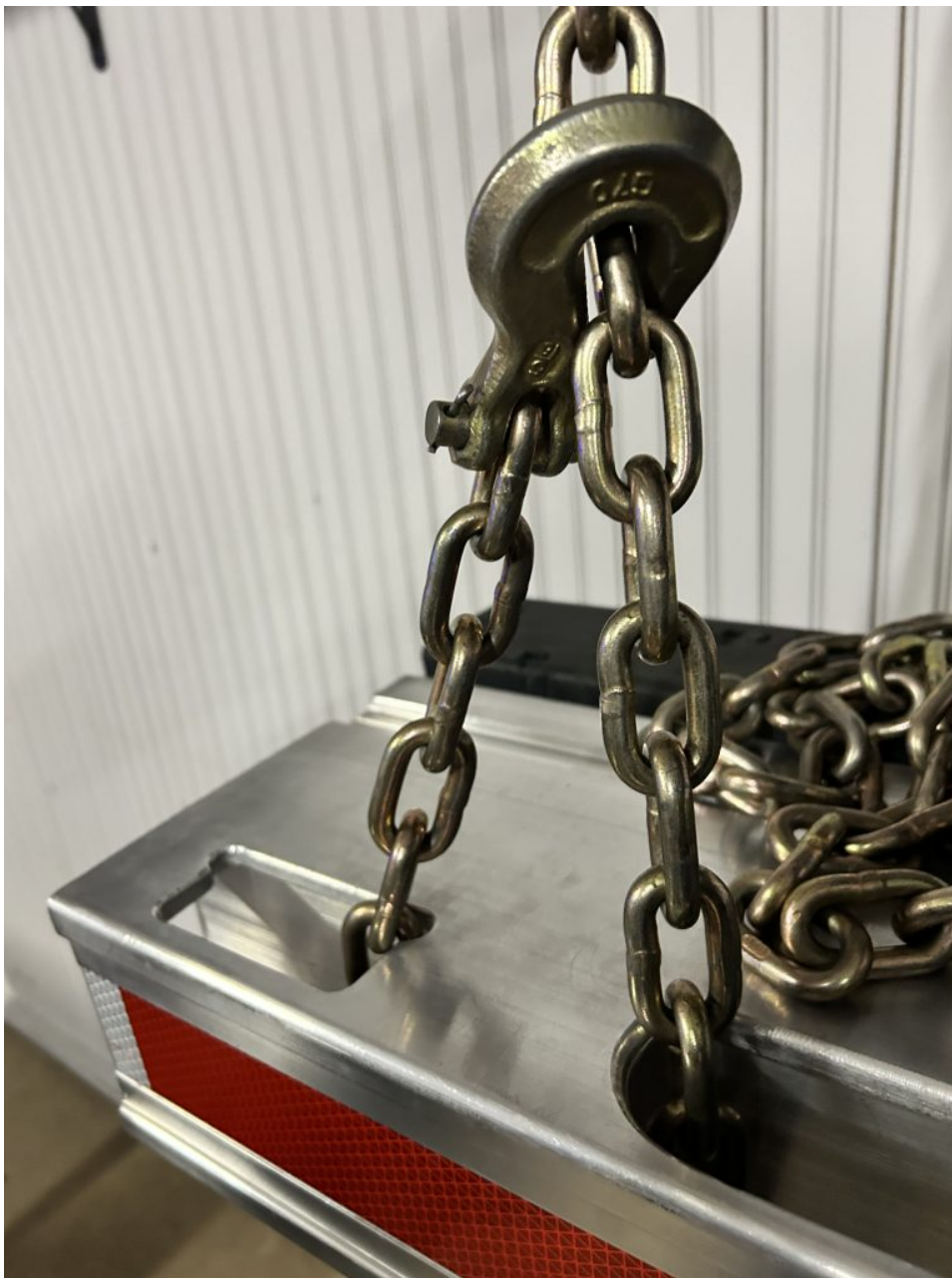
The above charts were calculated in accordance to FMCSR 393.108 with one extra added as per company policy.

## (5.) Flatbed Trailer Securement Points

- [Fontaine](#)
- [Utility / Great Dane](#)
- [East Trailer](#)

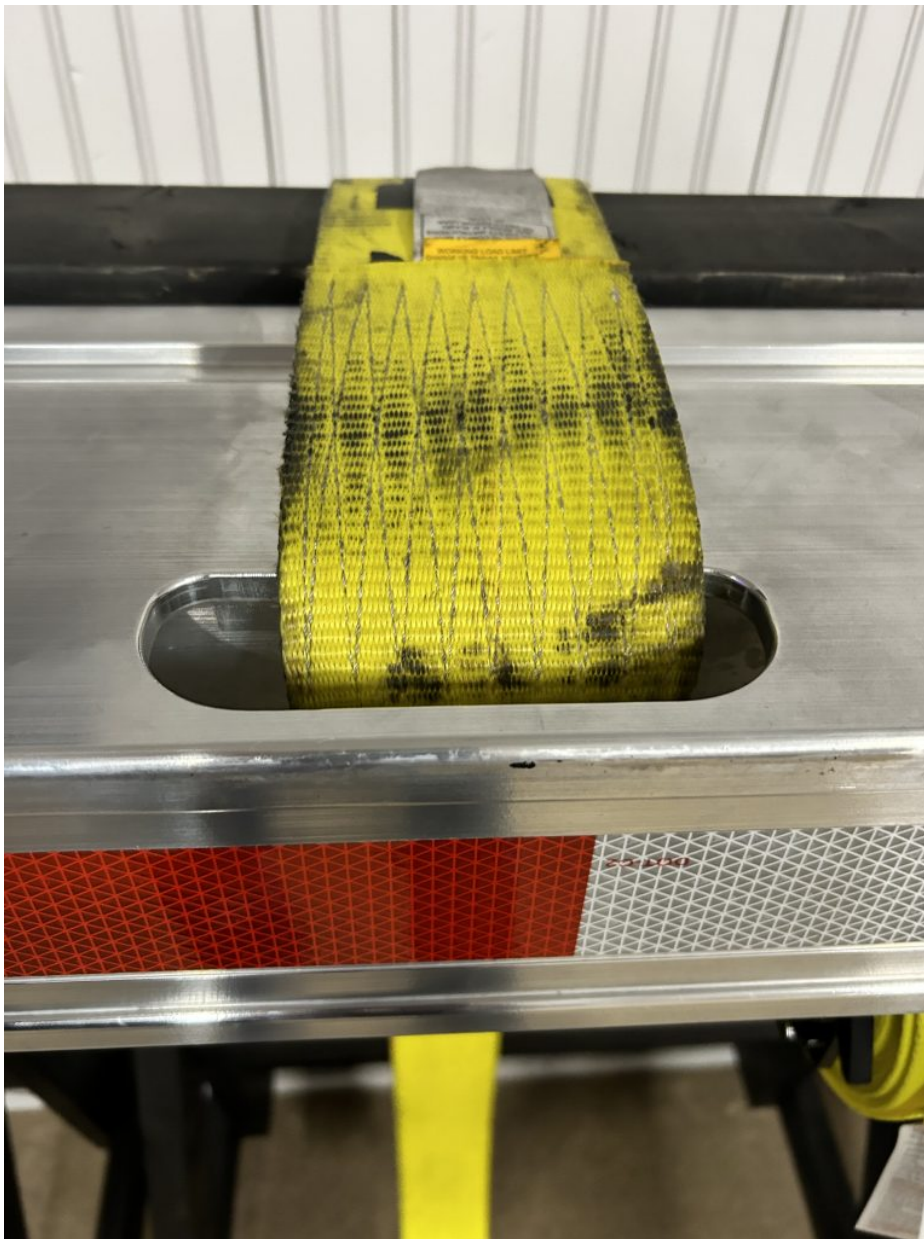
### Fontaine Chain Securement Points

- Chain should be through rub rail as follows:
- Tear drop chain through trailer cut outs in rub rail.
- Chain hook should be secured firmly around one link.
- Hook chains as shown below.

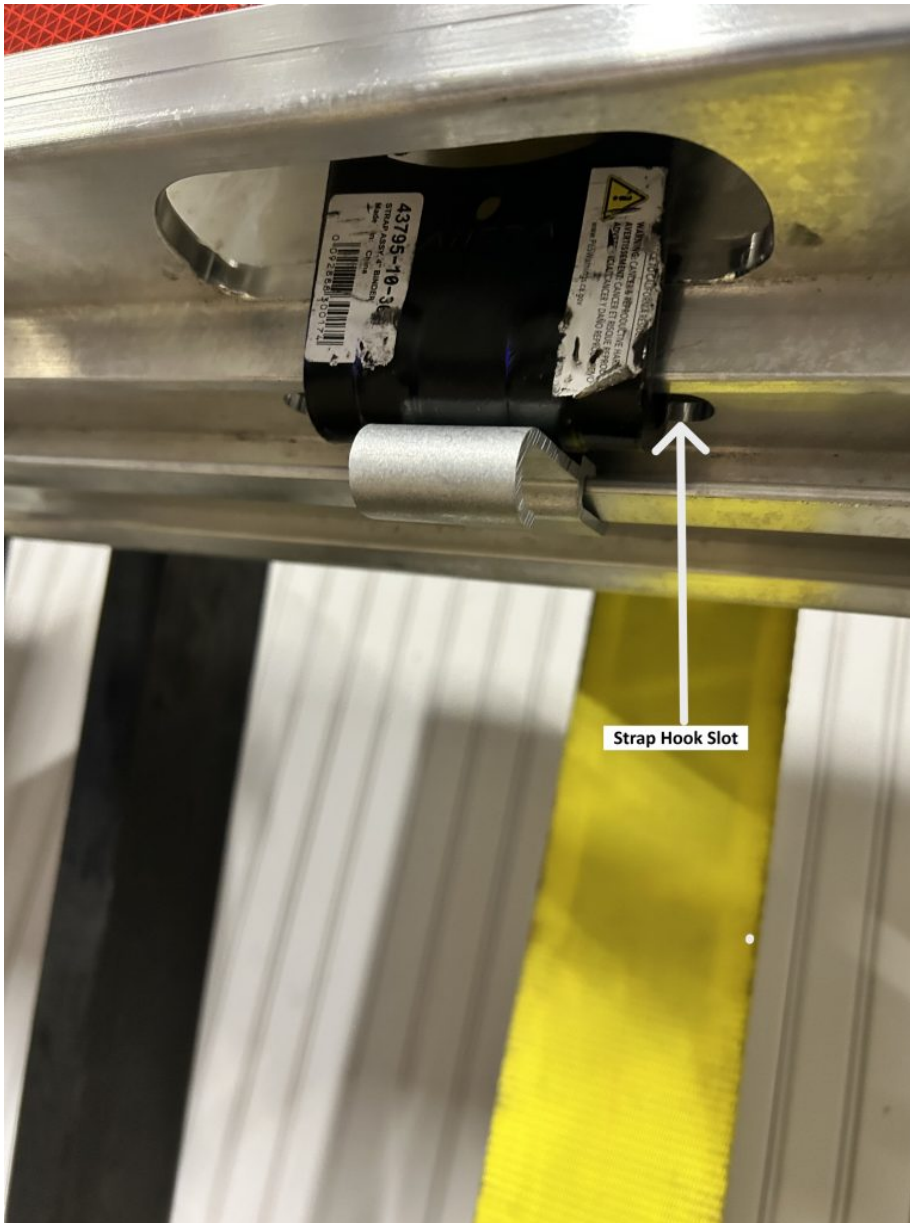


## Fontaine Strap Securement Points

- Strap should be secured as follows:
- Straps through side rail.
- Position straps as shown below.



- Hooks are secured in a slot in bottom of the side rail.
- Position the aluminum slide to keep hook in position as shown below.

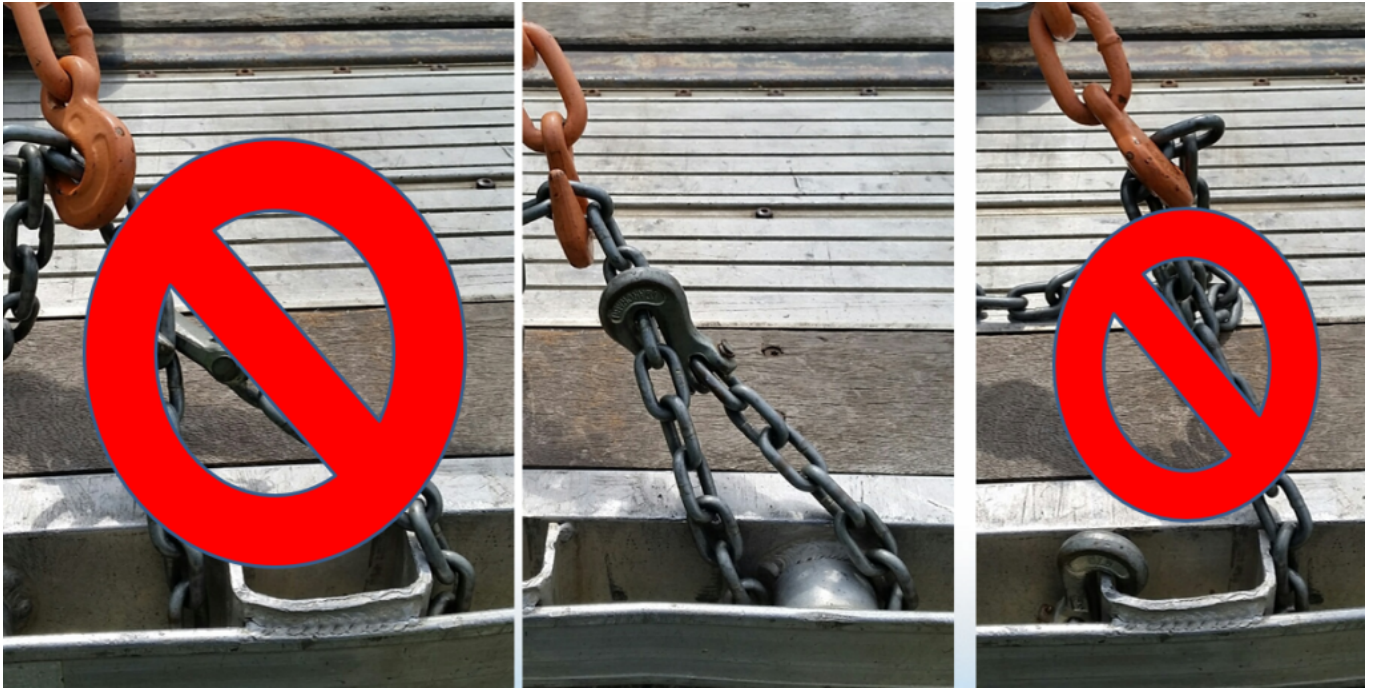


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## Utility / Great Dane Chain Securement Point

- All chains should be hooked around the **spools** on the trailer and hooked back into itself in a teardrop fashion.
- Do not chain or hook to the stake pockets or rails on trailers.
- Do not hook chains or binders onto the stake pockets or rails on the trailers.
- Do not teardrop chains around the stake pockets on trailers.

Rails and pockets on the trailers in our fleet are not designed to have chains attached at these points. Chaining or hooking binders to anything other than the spools between the stake pockets can result in failure of the tie-down point.



## Utility / Great Dane Strap Securement Point

- All straps should be under the rub rail on both sides of the trailer.
- Straps should be hooked to the bottom flange or lip of the rub rail as shown in the above photograph.
- Do not hook straps to the rub rails of the trailer.

The trailers in our fleet are not designed to have the rub rails used as a securement point for straps. Straps can put enough pressure on the aluminum rails to damage them.



## East Trailer Strap Securement Point

- Some East trailers have aluminum brackets that the strap hook slides into.
- The brackets will slide on the trailer rail also.
- Hold the strap hook straight up and down and slide it in from left to right or right to left.





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## (6.) Oversize Loads

Each state has laws that define legal dimensions for loads. Any load greater than these state set limits makes the load oversized. These oversized loads must be permitted to be legally transported. There are five basic types of oversized loads:

1. **Over Height Loads** - Loads higher than the legal limit. For most states this is 13 feet 6 inches but could be more depending on the states in which you are running.
2. **Over Width Loads** - These loads are wider than legally allowed. For most states this is 102 inches. PS Logistic trailers are 102 inches wide, so anything load that is wider than the rub rails on the trailer makes the load oversized.
3. **Over Length Loads** - The rules for legal load length vary greatly from state-to-state. Any load longer than 53 feet could be oversized depending on the states in which you are driving.
4. **Overhanging Loads** - Many states have limits on how far a load can hang over the front and rear of the trailer. This varies from state to state. The most common regulation is up to 4 feet off the rear of the trailer (some states are less).
5. **Overweight Loads** - If the combined weight of the truck, trailer, and load is greater than 80,000 pounds the load is oversized.

### Additional Equipment

Hauling an oversized load will require additional equipment. What is needed will vary depending on the dimensions of the load and the state it is being transported through. Required additional equipment will be listed on the load permits issued by the state. This includes but is not limited to the following:

- Oversize Load Banner- 7ft x 1.5ft yellow banner with 10-inch black letters reading "OVERSIZE LOAD". "WIDE LOAD" banners are not legal in many states. Be sure to have the proper banner.
- Safety Flags- These are 18-inch square red flags. These may be required on the front corners of the tractor, on the corners of the load, or at the rear of the load depending on permit requirements. These can be mounted to the tractor or load in different ways.
- Beacon Lights- Rotating or strobing yellow lights may need to be mounted on both the top of the tractor and the load.

### Pilot Cars

Some loads that exceed certain dimensions may require the use of pilot cars or escort vehicles. These cars, typically passenger vehicles, assist the driver in moving down the highway. These cars help a driver spot problems, obstacles, interferences, and communicate them back to the driver. Escorts also can assist the driver by blocking traffic for safe lane changes and tight turns. Working with pilot services requires a CB radio and good communication skills to coordinate movement.

### Permits

Oversize load permits will be obtained by operations before the load moves. The driver must keep a copy of this permit in his truck while hauling the load. Always read your permits carefully to ensure compliance with state laws for oversized loads. This includes the following:

- Requirements for additional equipment and placement of these devices.
- Legal moving hours - Many loads will be restricted to daylight hours only. A driver will need to plan his or her trip with this in mind.
- Routing- Some loads will require you to take exact routes to get to your destination. These routes are planned to avoid heavy traffic, narrow roads, narrow and weight restricted bridges, low clearance obstacles, and other problems that may not be obvious.

## **On The Road**

Each type of oversize load presents different challenges to truck drivers. Here are few things to consider.

- All oversize loads must stop at ALL open weight stations and present the permits for the loads. This will increase the chance of inspection by DOT officers.
- Wide loads will hang into adjacent lanes and over the shoulder of the road. A driver must watch traffic, as well as roadside hazards such as parked vehicles, utility poles, and mailboxes that are close to the edge of the road.
- Long loads take much more room to turn than legal sized loads. This will require more space to swing wide. This swing can create situations in which traffic moves in beside the trailer during the turn. A driver must have a good circle of awareness and keep his or her eyes moving to see developing problems.

Overhanging loads create tail swing. Tail swing is a side-to-side motion that can be outside the path of the wheel while the trailer is turning. Drivers must compensate for this when turning and backing, particularly in tight areas and during backing.

**Example of combining a strap and a chain on a load that is too large for a strap to reach by itself.**



# (7.) Avoiding Cargo Shifts

## Securement

- Go the extra step when you secure your freight. Always above and beyond FMCSA required minimums.
- Secure your load to prevent forward motion during hard braking by using methods discussed in this manual. Header boards, bulkheads, crossed chains or straps, and trip chains and straps are very important.
- Make sure every piece of cargo on your trailer has downward pressure from a tie-down, a block of dunnage, or another piece of cargo that is restrained.

## Behind the wheel

Your driving habits can greatly affect the performance of your securement setup. While a driver cannot control the other drivers around him in traffic, there are steps every driver must take to remain safe on the road. Most cargo shifts are the result of hard or emergency braking. When on the road be sure you are practicing good driving habits.

- **Avoid distraction-** Traffic and conditions are constantly changing. Staying alert allows a driver to detect changes early and react accordingly.
- **Practice good space management-** As taught in orientation and other training exercises. The extra space given by proper following distance greatly improves the driver's visibility
- **Take your time turning-** Go a bit slower when going around curves and turning corners. Cornering too quickly puts lateral pressure on the load and can cause shifts.
- **Brake Early-** Look out as far as you can see ahead of you. Recognize problems early and brake as early as possible. Earlier braking means lighter braking, and lighter braking reduces the risk of shifting cargo.

## (8.) Avoiding Roadside Cargo Securement Violations

1. **Know the rules for the type of freight you are hauling-** When in doubt contact the Safety Department or your Driver Manager for assistance.
2. **Use proper edge protection-** Manage the equipment on your truck and replace the edge protectors that are damaged or come up missing. If you do not have enough edge protection for your load there are other alternatives. Old carpet, cardboard, old mud flaps, and rubber friction mats can all be used as protection under straps. A discarded 4-inch strap can be cut into lengths of 12 to 18 inches and used if there is no other option.
3. **Do your load checks-** Always give a check just before weight stations.
4. **Be sure all equipment is properly stowed-** Remember that bungees do not count as a securement device.
5. **Pay attention to detail-** Cargo securement must be perfect. One damaged tie-down is a violation. One loose tie-down is a violation. Even if you are using more that is required by law.
6. **Keep the trailer deck clean-** Debris such as dirt and gravel can lead to violations. Remember if it is on the deck of your trailer it is considered cargo.
7. **Inspect your securement devices after each use-** Discard and replace anything that is damaged or worn.
  - **Chains and Binders:**
    - **Inspect your securement devices after each use-** Discard and replace anything that is damaged or worn.
    - No excessive wear.
  - **Straps:**
    - Cannot have damage caused by not using edge protectors.
    - No cuts, burns, or holes bigger than ¼ inch across the face of the strap.
8. **How FMCSA/DOT regulations are interpreted and enforced can vary from state-to-state, location-to-location, and even officer-to-officer.**

# (9.) Customer Specific Instructions

## Choose a Shipper

1. [American Cast Iron Pipe](#)
2. [Arconic](#)
3. [Array Technologies](#)
4. [Charlotte Pipe and Foundry](#)
5. [EMJ \(Earle M Jorgensen\) Schaumburg, IL](#)
6. [GAF Shingles](#)
7. [Georgia-Pacific Gypsum Sweetwater, TX](#)
8. [Gerdau Jackson, TN](#)
9. [Gold Bond Westwego, LA](#)
10. [Greenheck Tulsa, OK](#)
11. [Metromont](#)
12. [Nucor Vulcraft Fort Payne, AL](#)
13. [O'Neal Steel Birmingham, AL](#)
14. [Outokumpo Calvert, AL](#)
15. [Port of Panama City, FL](#)
16. [Scotch Gulf And Lumber Veneer](#)
17. [Steel Dynamics Columbus, MS](#)
18. [USG Greenville Ceiling Tiles](#)
19. [US Gypsum Sweetwater, TX](#)
20. [USG Otsego Paper Mill](#)
21. [US Pipe](#)

## O'Neal Steel-Birmingham, Alabama

### Check in at Shipper

- Check into scale house.
  - The speed limit around the scale house is 5 mph.
  - Obtain paperwork with trailer number listed.
  - Obey all rules posted at entry.
  - Speed limit around facility is 15 mph.



## attention truck drivers.

- shirt, closed toed shoes, safety glasses, and hardhat are required at all times.
- any person under the age of 18 must be confined to the cab of the vehicle at all times.
- smoking is prohibited inside of all O'Neal Steel facilities.
- engine must be in the off position before loading or unloading will begin.
- only certified O'Neal Steel personnel are permitted to operate equipment or participate in the loading or unloading process.
- under no circumstance is a driver to assist, be on a trailer, or in a material landing area while loading or unloading is occurring.
- drivers must stay in the cab of the vehicle or in the designated safe area clear from the vehicle while loading and unloading is occurring.
- O'Neal Steel personnel have the right to refuse loading or unloading any vehicle that appears unsafe.
- O'Neal Steel will refuse the loading or unloading of drivers who are uncooperative or in disregard of O'Neal Steel policies.
- entering the facility or backing to a loading dock is solely the responsibility of the driver. O'Neal Steel personnel are prohibited from assisting and must remain clear during these operations.
- while moving material around property, at least one safety chain or strap must be used to secure load at all times.



**O'NEAL STEEL**  
THE METALS COMPANY  
AN ONSITE COMPANY



## PPE

- Make sure Personal Protective Equipment is worn upon arrival
- This includes but is not limited to the following:
  - Hard hat
  - Safety glasses
  - Safety vest
  - Closed toed shoes
- PPE is important when outside the cab of the truck.
  - There is lots of other equipment operating at this facility. You need to stay alert and make yourself visible to others.
  - Securing freight sometimes occurs next to others. Additional hazards could include others throwing straps and chains near you.





## Loading

- Locate trailer at back of warehouse to start securement of freight.
- Walk around trailer and take note of all pieces and how they are situated.
- If additional securement is needed to properly transport, check with onsite personnel.
- Additional supplies are located across the street in the blue building pictured below.
- The only equipment not in this location will be the load securement blocks. To obtain additional load securement blocks, visit the scale house at the entrance of this facility.



- If the load is unable to be secured safely for transport, the drivers can work with forklift drivers to position in a different way.
  - Forklift drivers are available for assistance.
  - Communicate clearly with the forklift driver about what needs to be moved.
  - Once communication has been established, stand in a safe location and in the site of the operator.



- Straps must be protected with edge protectors.



- Down pressure must be applied to all commodities.
  - This can be accomplished by different methods:
    - Load blocks
    - Load blocks can be positioned differently or stacked to allow for down pressure.
    - Weaving straps up and under freight
    - You may have to ask a forklift driver to create separation of the freight.



### **Returned / Refused Material**

- Material that is returned to the shipper must be dropped in the securement area and all straps **MUST** be loosened.





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## USG Greenville Ceiling Tile

These loads will be pre-loaded.

The **preloaded process** will be as follows:

1. Plastic will be draped over the load, wrapped around the front, and stapled to the pallets on the side of the product.
2. This plastic will help prevent moisture from damaging the product.





3. Load will be tarped and straps will be placed over the tarp with edge protection.



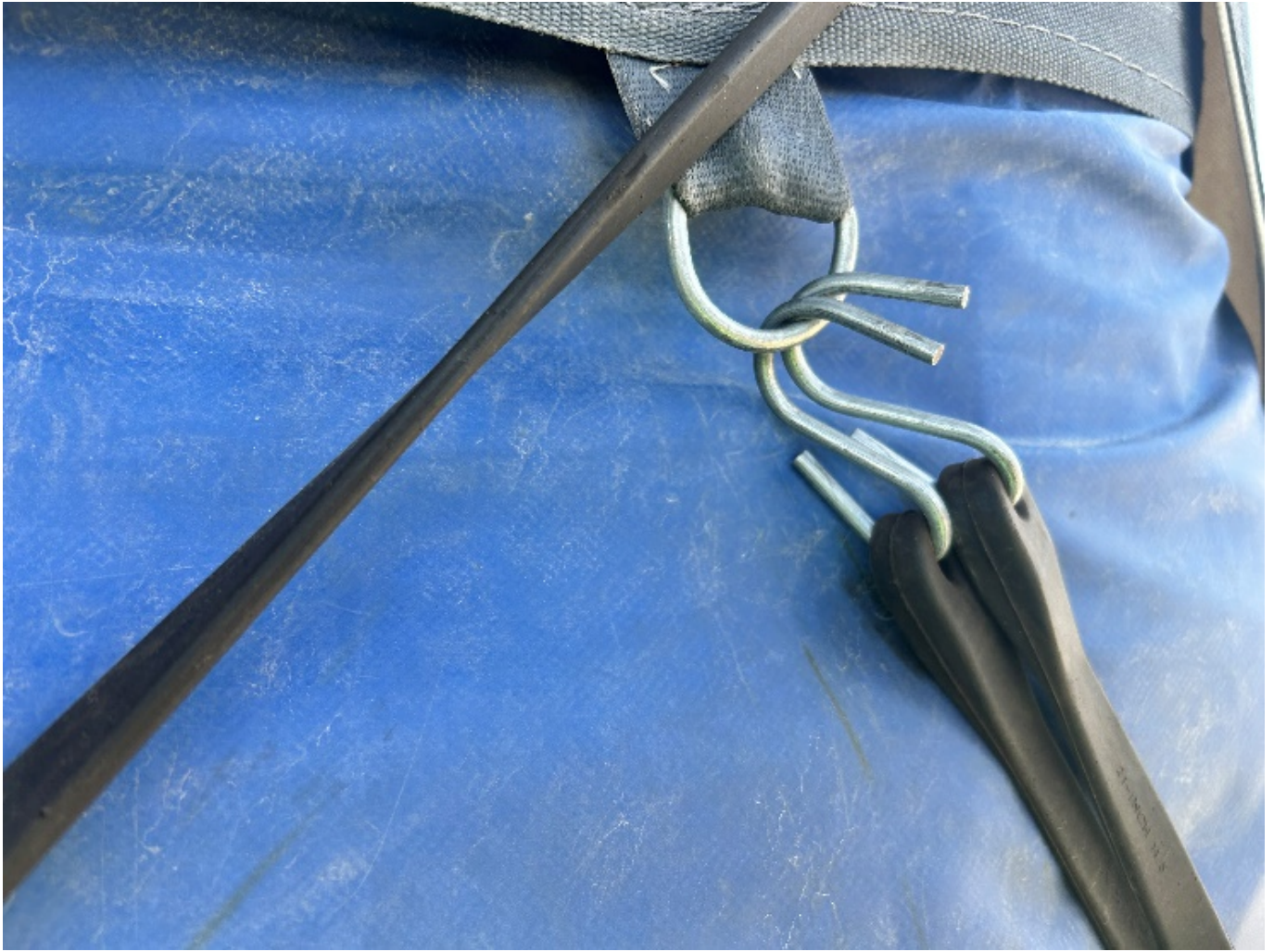
When you arrive, your load should look like the above product. You should **inspect the load**.

1. Check for any overtightening damage to the product.
2. Check under the tarp to make sure plastic is in place and the product is not wet.
3. If any damage is discovered, take photos, and call your driver manager immediately.
  - a. **DO NOT LEAVE** the facility if damage is visible.

Final **Securement of load** will involve the driver doing the following:

1. This load does not have bungees securing tarp. Place bungees on each d ring to prevent tarp from ballooning.
  - a. Bungees should have hook facing outward.
  - b. Failure to bungee tarp properly can result in air getting underneath the tarp and damaging product.





2. Straps should be snug but not over tightened.
  - a. This typically involves 1-2 clicks on the winch after being preloaded.
  - b. This product can be easily damaged from over tightening.
  - c. Strap should have a twist to prevent vibration against the product, causing damage.
  - d. This product does not shift easily, so an x strap on this product is not required.
    - i. An X strap on this product could increase probability of a cargo claim.



3. Excess tarp

- a. Any excess tarp in the rear of the load should be strapped down to prevent tarp from flapping in transit.



## Delivering of load

1. Pull back tarp in sections, so that material is not completely exposed.

## Delivering Multiple Stops

1. First stops are usually loaded at the rear of the trailer.
  - a. Do not take the tarp completely off, only uncover the material that is to be removed at the current location.
  - b. Taking the tarp completely off will make it almost impossible to re-tarp.

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# Scotch Gulf and Lumber Veneer

## Veneer

- Driver will back into loading dock.
- Plastic will be placed on trailer deck.
- Veneer will be loaded on top of plastic.
- Plastic will then be draped back over the veneer.



- Veneer at base of product should be held up to prevent road grime from splashing onto product.

- This can be accomplished by taking a piece of scrap product and inserting through the plastic and into the veneer. Scrap pieces can be found on the ground inside the warehouse





- Driver will pull out of the loading bay to strap and tarp the product.
  - Strapping the load should occur prior to tarping.
  - The first section of product should be secured with a minimum of 3 straps.
  - All other sections will require a minimum of 2 straps .
  - Corner protectors should be utilized.
    - Corner protectors will allow maximum pressure on the product.
    - **APPLY AS MUCH PRESSURE AS PHYSICALLY POSSIBLE!!!**



- Driver to tarp the load over the straps.
  - Driver will use rolling ladder to access top of load.
  - Ladder must be locked into place prior to utilization.
  - Personnel protective equipment should be worn.
    - Hard hat with chin strap
    - Safety glasses
    - Safety vest
    - Gloves
    - Steel toed boots





- Extra caution should be observed while on top of the load. The middle layer may be one stack as opposed to two stacks.



- Load to be tarped and tarp straps should be used to hold in place while transporting.



- Front and Rear should be cross strapped to help control any load shifts.
  - Note: Cross straps can be applied under or over tarps.





- Load should be tightened as much as possible.
  - **Damaging the product because of over tightening is not a concern.**
- Load check should occur within first 50 miles.
- Additional load checks should occur with each additional 150 miles or 3 hours; whichever comes first.

**This Product is difficult to keep tight.**

**Frequent load checks and tightening of the load can help prevent shifts and potential claims.**

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## **GAF Shingles**

Pallets are loaded onto trailer.

2 straps must be placed on the pallets in the first and last positions.

Cross straps must be placed on pallets that are in the first and last position.

Note:

- All packages must have downward pressure.
- Corner protectors must be utilized
  - Note: Avoid overtightening – this may cause damage to the product.
- Check each pallet's top layer for loose packaging.
  - Packet of roofing may have to be positioned in different way to comply.





### **Tarping Requirements:**

Load must always be tarped when picking up before the weekend and delivering after the weekend. This is mandatory to deter any theft of the product.

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# Array Technologies

## Solar Tracker Parts

- Edge protection must be used on this product to prevent damage to the straps



- Two straps to be placed on the front and rear pallets.



- Pallets with boxes on them must be tarped.
- It would be best to position these in the first position.



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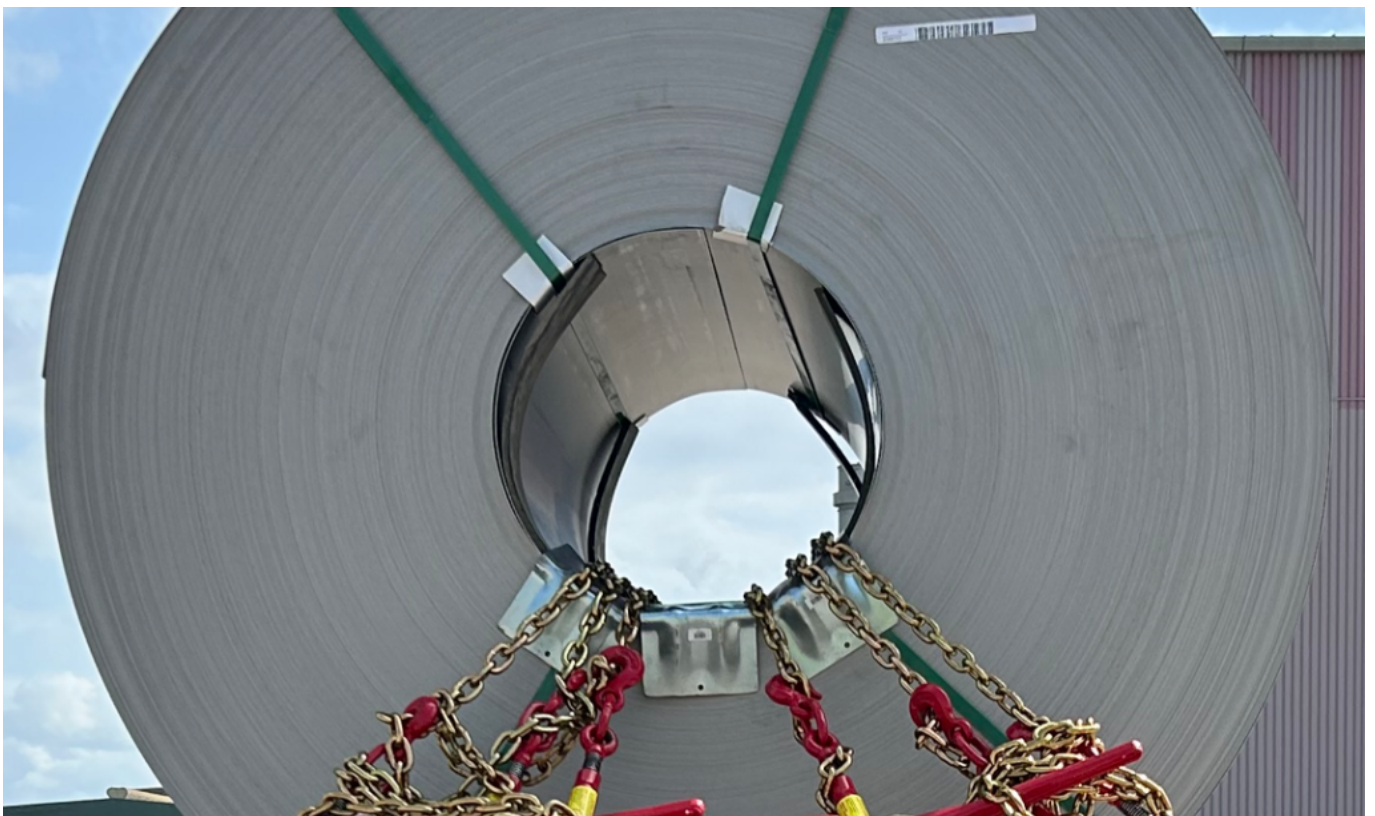
## **Outokumpo Coils - Suicide and Eye to the Sky**

### **Coil Eye Crosswise (Suicide)**

- Set up with rubber matt under coil racks and on timbers



- Rubber Mats on inside of coil along with metal edge protectors to protect coil



- Chains hooked to the appropriate location on trailer (Most trailers are designed for chain to be

tear dropped around spool and back to chain)



- Chains should be pulling down at appropriate angles.



- Tarp load to prevent wind from damaging the tarp and exposing the product.



## Coils Eye Vertical (Eye to the Sky)

- Place a strap down the middle of each coil.
- Place two straps over the top of each coil in an x pattern.





- Place a trip strap on the front and rear coil to prevent forward and rearward movement. Trip strap should go under the banding.

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## Metromont





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## SCOPE AND APPLICATION

This manual will outline procedural requirements for the shipping of precast concrete pieces produced at Metromont precast facilities. It is intended for use by all CDL drivers to ensure units are handled properly, efficiently, and safely. Due to the wide variation in size and shape of precast units, not every conceivable handling consideration will be specifically addressed in this document. This guide is therefore intended to provide general information only, with the understanding that unusual units be reviewed on a case-by-case basis by the facility management and/or Engineering department. When in doubt, consult a supervisor or manager. It is also important that supervisors and managers provide adequate training to employees in the methods and application of the handling requirements as well as the safe and proper use of all related equipment.

- To ensure your safety and the safety of the motoring public, the following guidelines have been established.
- SAFETY is Paramount with all equipment, loads and movements.
- As a professional driver, you know the importance of delivering the right quantity of the right product to the right job site safely, damage-free and on time.

### **Why cargo securement is important:**

- **The customer trusts you** to pick up and deliver the product on time, and damage free.
- **Other motorists trust you** won't put them at risk for crashes, injury or worse, due to unsecured, falling and shifting cargo. Safe and responsible cargo securement will help you and our organization build a positive public image that reflects safe and professional employees.
- **Your company trusts you** to prevent costly cargo claims and incidents due to improperly secured freight.

Tractors, flatbeds, and extendable trailers must, when transporting cargo, be loaded and equipped to prevent the shifting or falling of cargo. Loads must be secured to conform to the provisions of the Federal Motor Carrier Safety Regulations.

### **Ensure every load is properly secured.**

**The rules of securement are located in the Federal Motor Carrier Safety Regulations book section 393.100 thru 393.136.**

**Please take time to read these sections.**

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## **DEFINITION OF RESPONSIBILITIES**

Each department plays a crucial role in the safe and efficient handling operation of the precast units. The following list outlines the basic responsibilities of the various departments involved.

Engineering (Project Coordinator and/or Engineering Manager)

- Coordinates with other departments to develop detailed handling procedures for each unit.
- Provides maximum size or weight limits for racks, frames and other storage elements.
- Responds to engineering related handling or shipping questions from other departments.

Safety Department

- Conduct regular safety reviews to ensure that the storage, loading, handling, and shipping of precast units are performed safely and in compliance with applicable State and Federal regulations and company policies.
- Report findings to Facility Management.
- Review and report on regulatory updates including DOT and OSHA.
- Conduct quarterly safety meetings with drivers to address any shipping, loading, and safety related issues.

Loading (Loading Foreman)

- Loads panels and readies trailers for shipping according to handling instructions.

- Corrects unacceptable loading conditions immediately as identified by the driver or Quality Control Inspector.
- If unsure what to do, request additional information from the Engineering Department.
- Marks load list with racks required and special dunnage requirements.
- Makes sure racks are secured properly.
- Verify all sticks of dunnage are nailed to the trailer. All dunnage that is stacked should be nailed down to dunnage beneath it to prevent movement.
- Verify that the product is supported properly and is adequately shimmed to distribute the load on all support points.

#### Delivery Scheduling (Dispatcher)

- Coordinates with erector to provide delivery sequences to Loading Foreman with adequate lead- time.
- Establishes shipping route, including verifying clearances under all bridges.
- Obtains proper permits as required.

#### Transportation Manager

- Trains all drivers in proper load securement requirements.
- Monitors, audits, and enforces all cargo securement procedures.
- Ensures that all applicable DOT regulations and guidelines are met.
- Ensures that drivers inspect all cargo securement devices on a regular basis to ensure that they meet applicable DOT requirements.
- Responds to any driver concerns regarding proper cargo securement.
- Ensures that drivers have planned routes and proper access to job sites and/or drop lots.
- In conjunction with the Safety Department conducts quarterly safety meetings with drivers to address any shipping, loading, and safety related issues.

#### Shipping (Truck Driver)

##### **Pre-trip:**

- Verifies upon acceptance of the load that DOT regulations for length, width, height, and weight limitations are satisfied.
  - Ensure proper flags, banners, beacon light, escorts and permits are used for wide loads as required.
  - Consults with Loading Foreman prior to departure if questions concerning the load arise.
  - Secures the load in accordance with all applicable DOT regulations and company policies.
  - The national safety code states that all drivers shall stop and check their load within the first 50 miles & then again, every 3 hours or every 150 miles, whichever comes first.
  - Travel is authorized 7 days a week from sunrise to sunset. Sunrise and sunset are determined by the time published by the United States Naval Observatory according to the vehicles current location.
  - Only legal loads can be transported without time restrictions.

##### **At the jobsite:**

- Reports any shipping issues, shifting of loads, damaged equipment, and accidents immediately to their supervisor. This includes trailers and products stored on drop lots.

- When unloading symmetrical loads, the second piece must be secured to the rack and the landing gear must be down before unloading the first piece.
- Prior to leaving the jobsite, ensure that empty racks are secured to the trailer bed with chains in addition to the racks being bolted to the pockets.
- No one is permitted to be directly under suspended loads or within the fall zone of the suspended load.
- Cargo securement devices (chains) shall not be used for lifting.
- When returning with an empty trailer, ensure all dunnage is secured properly and returned to the plant.

**\*\*\* The driver ALWAYS has the responsibility to refuse to accept any load that he/she deems unsafe or is otherwise not in accordance with DOT or generally accepted shipping regulations until a qualified person has determined that safety has been assured. \*\*\***

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## EQUIPMENT

Various pieces of equipment including racks, chains, and/or rigging are utilized during the handling and shipping of precast units. These are broken down into the following categories.

### Shipping Racks

Racks are used to support precast units and to ensure they are stable while secured to the trailers. Not all precast units require the use of racks. The three basic types of shipping racks are:

- Steel A-frames (offset or rail to rail)
  - Bicycle/Pipe Rack
  - Lay-down
  - Rack Trailers

### Trailers

Trailers are used to haul precast units either around the plant or from the plant to the job site. In all cases, the maximum weight and length limits for each trailer type must not be exceeded. There are five basic types of trailers.

1. Flat Bed
2. Low boy
3. Step (“Drop”) deck
4. Stretch / extendable
5. Wall Panel Trailer

**The driver is required to visually inspect all trailer**

## connections including the 5<sup>th</sup> wheel and trailer pins to ensure that they are properly locked and secured.

Dunnage (Loading Department)

Dunnage is the general term used to describe that material which separates precast units from storage supporting elements such as steel, concrete, or wood.

- In the event of ice, sleet, or snow make certain that dunnage sits on a section of the trailer bed that is as dry and clear as possible to reduce the chance of slippage.
  - Dunnage is placed as illustrated on the Handling Tag.

Transport Chains

Transport chains are used to secure precast units to trailers or racks. All required chains will be selected and provided by the company. Transport chains are Grade 70 chains. Grade 70 is extremely strong and lightweight and is used primarily for load binding in the transportation industry. The high strength to weight ratio of Grade 70 is achieved by special heat treating. Grade 70 meets all applicable State and Federal requirements. Note: Grade 70 chains are NOT to be used for rigging panels for lifting.

## Header Chain (aka forward-motion chain; trap chain)

**FMC REG 393.114 (c)** The front-end structure must be capable of withstanding the following horizontal forward static load:

**(1)** For a front-end structure less than 6 feet in height, a horizontal forward static load equal to one-half of the weight of the articles of cargo being transported on the vehicle uniformly distributed over the entire portion of the front-end structure that is within 4 feet above the vehicle's floor or that is at or below a height above the vehicle's floor at which it blocks forward movement of any article of the vehicle's cargo, whichever is less.

**Part (e)** Substitute devices. The requirements of this section may be met using devices performing the same function as a front-end structure, if the devices are at least as strong as, and provide protection against shifting articles of cargo at least equal to, a front-end structure which conforms to those requirements.

The load must be protected from forward movement. The chain must be in contact with the front of the load or a part of the load that will stop forward movement.



**FMC REG 393.110 (d) Special rule for special purpose vehicles. The rules in this section do not apply to a vehicle transporting one or more articles of cargo such as, but not limited to, machinery or fabricated structural items (e.g., steel or concrete beams, crane booms, girders, and trusses, etc.) which, because of their design, size, shape, or weight, must be fastened by special methods. However, any article of**

**cargo carried on that vehicle must be securely and adequately fastened to the vehicle.**

- Using the required number of chains to satisfy the weight ratings is still required.
- This rule is why we don't have to have securement every 10' feet.
- We still must meet the chain weight ratio.
- Our chains are (5/16<sup>th</sup> grade 70) 4700 lbs.WLL
- We must have at least one chain at every point of dunnage.
- 5 dunnage points minimum of 6 chains. (with header chain)
- 4 dunnage points 47000 lbs. minimum of 5 chains.

## **Grade 70 Chain Working Load Limits (WLL)**

<b>Trade Size (Inches)</b>	<b>Working Load Limit (WLL) (Lbs)</b>
1/4	3,150
<b>5/16</b>	<b>4,700</b>
3/8	6,600
7/16	8,750

**Stake pockets at 5,400 lbs. WLL will control the WLL of 3/8" and 7/16" chains. Note: 5/16" chains are generally used for tie down.**

The following chart shall be used to determine the number of 5/16" Grade 70 chains required to tiedown the load:

**Table 1**

Panel Length Min.	Panel Length Max	Minimum No. of Chains
0-12"	10' 0"	2
10' ¼"	20' 0"	3
20' ¼"	30' 0"	4
30' ¼"	40' 0"	5
40' ¼"	50' 0"	6
50' ¼"	60' 0"	7

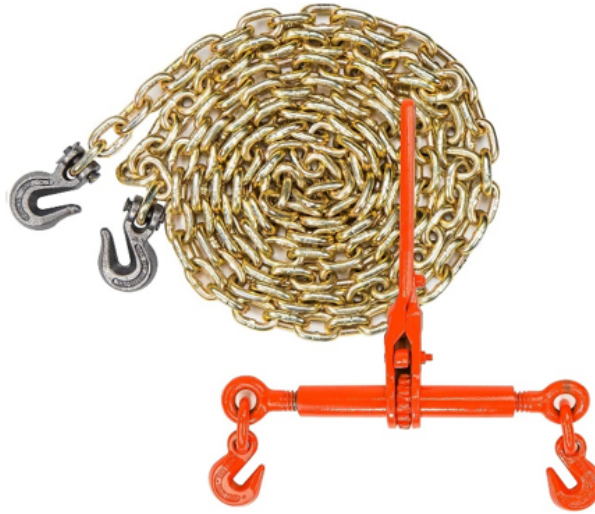
**Table 2**

No. of Chains	Capacity (WLL) (Lbs)	Weight of Load (Lbs)
2	9,400	18,800
3	14,100	28,200
4	18,800	37,600
5	23,500	47,000
6	28,200	56,400
7	32,900	65,800
8	37,600	75,200
<u>9</u>	<u>43,200</u>	<u>84,600</u>
<u>10</u>	<u>47,000</u>	<u>94,000</u>
<u>11</u>	<u>51,700</u>	<u>103,400</u>
<u>12</u>	<u>56,400</u>	<u>112,800</u>
<u>13</u>	<u>61,100</u>	<u>122,200</u>

**NOTE: Two (2) chains minimum are required for all loads up to ten (10) feet in length. One (1) additional chain shall be added for each ten (10) feet over the original. Precast product designs may not allow you to equally space the chains; however, you must use the number of chains required in either Table 1 or Table 2, whichever quantity is greater.**

- Stake pockets are rated for 5,400 lbs. WLL.
- Do not exceed one (1) chain per pocket. ***Do not chain to the rub rail.***
- **The chain used to secure a panel from lateral movement shall be in addition to the number of chains required to comply with DOT regulations.**
- Chains are to be tight but ***NOT*** over tightened to the point that they damage the product.
- A minimum of (1) 5/16" chain at a 2:1 angle shall be used on each piece to restrict forward
- motion.

## Chains & Binders



### ▪ **Use and Care**

- Chains & binders shall not be loaded more than the working load limit as provided by the manufacturer.
  - Ratchet binders are the only binders to be used to secure loads. The use of lever/snap binders is prohibited.
  - Binders should always be connected to chains and never directly to the stake pockets.
  - Before operating any binder, the user shall secure their footing on the ground to prevent slipping or falling. In adverse weather conditions, including freezing temperatures, additional caution should be exercised.
  - Binders shall be matched with the equivalent grade of chain. Using the wrong grade of binder or chain may reduce the assembly WLL of the securement system.
  - Chains & binders shall be checked periodically and adjusted during transit to maintain proper tension.
  - Chains & binders designed for load securement are not approved for overhead lifting applications. Products for lifting require certification.
  - Regulations require that each tie down be attached and secured in a manner that prevents it from becoming loose, unfastened, opened, or released while the vehicle is in transit. Latches, chain wrap, and/or other means should be used to secure binders and chains.
  - Plywood forms shall be used any time a ratchet binder meets concrete to prevent damage to the concrete piece.

### • **Environmental Considerations:**

- Chains & binders are subject to dirt, mud, snow, ice, road salt, cleaning solutions, etc. Binders shall be cleaned and lubricated as needed to ensure proper operation.
  - Chains & binders not in use shall be stored properly and in a rack.

- If either have mud, snow, ice, etc. in the gear or pivot points, they can be gently struck with a hammer to break loose and remove any foreign material. Care should be taken with binders manufactured with cast parts as striking with a hammer especially in sub-freezing temperatures may cause the binder to break and result in possible injury from flying pieces of material. Eye protection shall be always worn when striking binders with a hammer.

- **Inspection:**

- Initial inspection shall be made before a binder is placed into service to ensure the binder is being used for the application and that it matches the chain grade being used as closely as possible. Capacity shall be based on the lowest working load limit (WLL) of all load securement components (stake pockets, racks, binders, chains).
  - Chains & binders shall be inspected prior to each use.

- **Removal from Service:**

- A binder shall be removed from service if any of the following conditions exists:
  - Hooks that are worn, bent, distorted, twisted, stretched, or cracked.
  - Links that are bent, gouged, distorted, stretched, cracked, or worn (see wear allowances per manufacturer).
  - Evidence of welding on any component except for the initial factory production welds.
  - Gear is worn, chipped, or cracked.
  - Markings are missing, incomplete, not legible, or incorrect.
  - Excessive rust.
  - End fitting threads that are worn, bent, distorted, or will not turn.
  - Bent or deformed handle.
  - Swivel sockets or ball worn or deformed
- Chains shall be removed from service if any of the following conditions exist:
  - Hooks that are worn, bent, distorted, twisted, stretched, or cracked.
  - Links that are bent, gouged, distorted, stretched, cracked, or worn (see wear allowances per manufacturer).
  - Evidence of welding on any component except for the initial factory production welds.
  - Markings are missing, incomplete, not legible, or incorrect.
  - Excessive rust.

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## PRODUCT HANDLING AND SHIPPING

### General

From the time a precast unit is stripped out of the mold to the moment it is unloaded at the job site, several handling steps are involved. For each step, it is imperative that systematic and well thought out procedures be implemented. In general, the number of times a unit is picked and handled should be kept to a minimum.

There are basic handling steps that a precast unit undergoes between casting and erection: stripping, plant-to-yard hauling, yard roll-up (when applicable), yard storage and shipping. In all

cases, it is crucial to ensure the proper equipment, rigging, chains, and related devices are used to secure the unit.

It is also important that early handling coordination occurs between engineering, production, yarding, and shipping to ensure that the most efficient and safe handling methods are used. When questions or discrepancies arise concerning how a piece should be handled or shipped, the Engineering Department shall be consulted.

### **Precast Stability and Securement**

Precast concrete units in storage or in transit shall always be **S**table, **S**ecure and **S**afe.

It is the responsibility of Engineering, Production, Loading, Quality Control, Haul, and Safety to collectively ensure that these criteria are met. While the individual responsibilities of each department vary, each plays an important role in achieving these goals.

#### **Stable -**

Stability means that when subjected to a given load, the precast will remain in the position it was originally placed. The kinds of loads a panel is subjected to could be wind, gravity, accidental impacts, and the forces imposed from braking and acceleration.

**Stability must be achieved and always maintained** - whether a panel is at rest in the yard **or** being hauled around on a trailer. The following are used to achieve and maintain stability:

### **Use of frames or racks -**

Frames or racks can help stabilize a precast unit by preventing it from tipping or sliding. Provided the frames are themselves secure, the precast units in the following cases are unable under most load conditions to shift out of position either by tipping or sliding. If inclined racks are used during the shipping of precast units, additional chains may be required to prevent tipping of the panel away from the frame, as shown in the sketch.

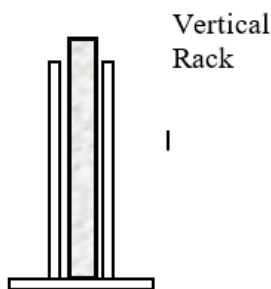


Fig. 1 – Vertical Rack or Frame

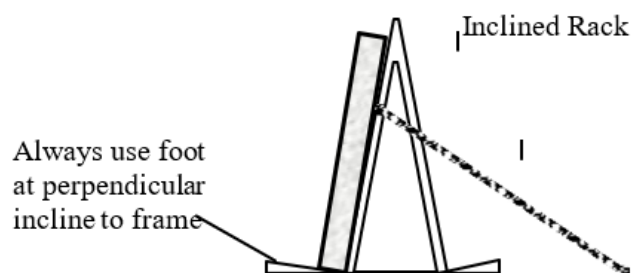


Fig. 2 – Inclined Rack or Frame

For short, low profile precast elements, it is not always necessary to use racks to make the pieces stable. The lower a unit is to the ground the less likely it will be to tip. As a general “rule of thumb”, if a precast unit has a height to width ratio less than 2 to 1, it might not require a rack. All panels that exceed the 2 to 1 ratio shall be supported on racks or frames, unless expressed written consent

by engineering is given.

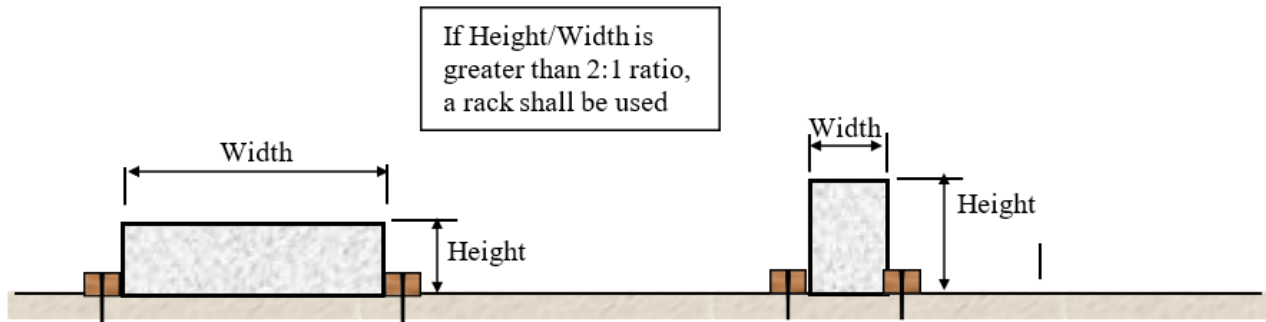


Fig. 3 – 2 to 1 ratio

## Secure -

A precast unit is secure when it is integrally fastened to the trailer or frame on which it rests. For product in transit this means that the panel is incapable of physically coming off of the trailer.

Securing a panel to a trailer means locating frames or jacks at the proper location from each end of the units and ensuring the chains, frames, trailers, and ratchet binders are properly sized and in good working condition. Racks or frames shall be secured to the trailer with  $\frac{3}{4}$ " coil rod passing through the rack, trailer stake pockets, a piece of 3" channel and (2) nuts jammed together. Chains placed over the panels and hooked onto the stake pockets on each side of the trailer will then ensure the precast unit is secured to the frame. Softeners are placed as required to protect the panel before the binder is tightened by the screw vice. See also Appendix D for specific requirements and load limits for chains. The use of lifting loops, erection anchors, and conduit pockets may be used to secure the load.

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# LOADING & DELIVERY

## General

**393.100** The regulations in this subpart are applicable to trucks, truck tractors, semitrailers, flat trailers, and extendable trailers.

"Prevention against loss of load. Each commercial motor vehicle must, when transporting cargo on public roads, be loaded and equipped, and the cargo secured, in accordance with this subpart to prevent the cargo from leaking, spilling, blowing or falling from the motor vehicle."

The following are special procedures that should be followed during shipping:

- Panels shall be loaded according to the handling instructions and loading diagrams with the dunnage located properly.
- Loading diagram/instructions provided by the Loading Foreman shall match what is shown on the handling instructions shown on the shop and field drawings.
- All products (except double tees) shall have a minimum of two (2) nylon straps or chains while being transported from the plant to dry finish area and from storage to transportation staging area. Double Tees shall be set on notched 8x8 crossties or metal beams with side clips that

are fastened to the trailers or shall have two (2) nylon straps or chains to prevent the load from moving.

- Soft spacers shall be used on panels that have a plastic form liner in face of panel.
- Corner guards shall be used on all products with square corners.
- Panels without form liners shall use bubble pads on top of dunnage. (For use when transporting from the plant area to sand blasting area)
- If it is necessary to ship a load with only one (1) precast unit on a set of frames, offset toward the left side of the trailer as viewed from behind. The amount of offset will depend on the size, weight, and configuration of the panel and will be shown on the load diagram. Single piece loads will always be loaded on the curbside of the shipping frames.
- Units shall be shipped in an appropriate shipping rack to ensure the capacity of the rack is not exceeded.

## **Normal Loads**

(no permit is required) can be up to 8'6" wide, under 13'-6" high and total gross weight (truck + trailer + load) is 80,000 Lbs. or less (an overweight permit can be obtained if the weight exceeds the 80,000 lbs. limit).

### **Standard Loads are loads that:**

- *Can be directly secured to the bed of the trailer.*
- *Can be symmetrically loaded on a trailer while maintaining balance during transport regardless of the use of racks.*

### **Non-Standard or Specialty Loads are loads that:**

- *Cannot be symmetrically loaded on a trailer and are unbalanced while being transported, thus requiring the proper placement of Counterweights.*
- *Any load that needs special loading or securement details from the Engineering Department*

## **How to Secure Loads**

No panel shall be loaded, transported, or shipped free standing in a manner that does not comply with the 2:1 height to width ratio rule. This means that a panel cannot be placed on edge when the width of the base is one half or less than the height of the panel. All racks are to be secured to the trailers using

$\frac{3}{4}$ " coil rod with (2) nuts jammed together on the bottom.

The following explains how panels shall be secured when being transported using A-Frames, Lay-Down Racks, or lying flat on the trailer.

A detailed description of each rack type along with the maximum limits for length, height, and weight are in Appendix C. These limits should not be exceeded without the expressed written consent from the Engineering Manager. If exceptions are granted for specific units, this information should be displayed in a prominent location. Verify that the load satisfies DOT regulations for length, Width, height, and weight limitations.

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## A-Frames

- Panels can be shipped as multi-piece loads on standard A-frame racks secured to the trailer 3/4 "diameter coil bolt passing through the rack, trailer stake pockets, a piece of 3" channel and (2) nuts that are then jammed together using (2) wrenches.
  - A-Frames are placed at an appropriate location from each end of the panel, as noted on the panel handling instructions or as otherwise directed by the Engineering manager.
  - Appropriately sized chains are placed over the panels and hooked into the stake pocket on each side of the trailer. The long chain is then hooked into the end of a binder.
  - Plastic corner protectors are placed as required to protect the panel and the binder tightened to secure panels to the A-Frame.
  - When unloading symmetrical loads, the second piece must be secured to the rack and the landing gear must be down before unloading the first piece.
  - Chains are to be placed within one (1) foot of the A-Frames. Chains shall meet or exceed DOT regulations contained in section 393 Subpart I-Protection Against Shifting and Falling Cargo.
  - If it is necessary to ship a load with only one (1) panel on a set of A-Frames, the trailer set-up is like that noted above, except that the A-Frames are offset toward the left side of the trailer as viewed from behind. The amount of offset will depend on the size, weight and configuration of the panel and will be shown on the load diagram for special cases. One-piece loads will always be loaded on the curbside of the trailer.
  - Consult the Yard Supervisor or Engineering Manager if any of the above items are unclear.

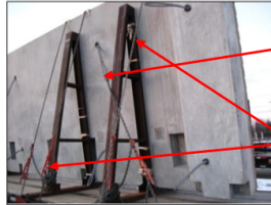


## A-Frame – One Panel Loads



The A-frame and the panel set as close to the centerline of the trailer as possible. The intent is to get center of gravity of panel to center line of trailer for even weight distribution.

In the event that it is necessary to ship a load with only one (1) panel on a set of A-Frames, the trailer set-up is similar to that previously noted, except that the A-Frames are offset toward the left side of the trailer as viewed from behind.



Chains set at opposing angles (front to rear) to secure forward and backward load movement. These are to be separate chains from those used for tie-downs.

Separate chains attached to the lift loops (or other lifting device) & run to the stake pockets then tightened with a binder.

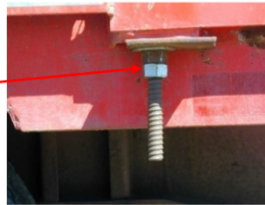


The number of chains and the size & strength must comply with DOT 393.100 b (2), b (4) & 393.102 (see Appendix "B")

3 chains were needed to support this 24000lb load as required by DOT. The chains must support 50% of the load laterally. Refer to pg. 20.

All A-frames must have feet attached to frame

A-frames are to be secured to the trailer by passing a (3/4" diameter Coil Rod) through the stake pocket and using two (2) nuts that are jammed together. Drivers are to ensure the tightness of bolts on ALL racks.



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## Lay-Down Racks

- Panels that are too tall for shipment on standard A-Frames can usually be shipped on lay-down racks that support the panel at about a thirty-six (36) degree angle to the trailer bed.
  - Racks are secured to the trailer similarly to the A-Frames but shall have two (2) 3/4" bolts at each end of the lay-down rack and have chains fastened to the high side of the lay-down rack and extending downward to the trailer rail at about forty-five (45) degree angle on both sides of the lay-down rack. This is to provide additional restraint for lay-down racks when starting and stopping (See Appendix C). Chains shall be angled with the ratchet binders to the side of the trailer.
  - The procedure for securing panels loaded on lay-down racks is like that stated above, except that additional corner protectors shall be used to protect the rack side corners when the panel overhangs the trailer. Lay-down racks should always be placed so the bottom edge of the panel is curbside like the one-piece load A-frames.
  - Binders should always be connected to chains and never directly to stake pockets.



## Lay Down Racks

When panels are too tall for shipment on standard A-Frames it is necessary to ship a load on Lay-Down Racks.



Chains are attached to the trailer frame and then to the lay down rack.

The procedure for set up and loading a single panel on a Lay-Down Racks is set forth on the engineering handling tag. The securing procedure is given by the Shipping Coordinator via the load list.



The panel was set as close to the centerline of the trailer as possible.

Rockers attached to Lay-Down Racks to support panel per Engineering.



The number of chains and the size & strength must comply with DOT 393.100 b (2), b (4) & 393.102

<sup>2</sup> chains were needed to support this 16,092lb load as required by DOT. The chains must support 50% of the load laterally and 80% in the forward direction

## Flat on Trailer

- Appropriately sized chains are placed over the product and hooked into the stake pockets on each side of the trailer. The long chain is then hooked into the end of a load binder.
- Plastic corner protectors are placed as required to protect the panel and the binder tightened to secure panels to the trailer. Plywood forms shall be placed under ratchet binders to prevent damage to the precast piece.
- The number of chains required is based on the weight and length of the load and is specified in DOT 393.100.
- Chains shall meet or exceed DOT regulations.

## Flat on deck

1.) The number of chains used to secure the load shall be one more chain than is required by standard FMCSA standards for cargo securement.

2.) Chains should only be placed over the product where there is dunnage underneath the load. Placement of chain anywhere else over the product can result in damage.

### Points to Remember:

- All chains must have edge protection where it touches the panel.
  - The front most chain on the load should be at nearest stake pocket of the first block of dunnage.
  - Rear most chain on the load should not be further back than the last block of dunnage.
  - Any load wider than 102 inches will require oversize load permits. Requirements for these loads can vary from state-to-state depending on dimensions and weight.
  - Be sure all required oversized signage and equipment are properly installed. This may include but is not limited to flags, banners, and strobe lights.



# Flat on Deck - Wall Panels

To ensure a product shipped flat is secured, it must be cross chained as described below. This will ensure the product cannot slide from side to side or front to rear.

This can be accomplished by using any of the following:



Base plates at the bottom of the panel.

Cross chain

Lift loops in the back of the panel. Chains are used to secure lateral motion



Cross chains shall be in addition to the number of chains required to comply with DOT regulations. Cross chains cannot rub.

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## MetroDeck

- 1.) The number of chains used to secure the load shall be one more chain than is required by standard FMCSA standards for cargo securement.
- 2.) Product must all be secured with chains only on the front and the rear of the product directly above the dunnage.



Figure 1: 35,000lb Metrodeck secured with four chains. Two chains at the front and two chains at the rear above the dunnage. Chains must be located directly above supporting dunnage. The trap chain is placed across the face of the product to prevent forward motion.

- Points to Remember:
- Chains not directly above the dunnage points must be avoided to prevent damaging the product.
- A trap chain must be used at the front of the load to prevent the product from forward motion.
- Edge protection must be used anywhere the chain comes into direct contact with the concrete.
- Any load wider than 102 inches will require oversize load permits. Requirements for these loads can vary from state to state depending on dimensions and weight.
- Be sure all required oversized signage and equipment are properly installed. This may include but is not limited to flags, banners, and strobe lights.

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## **Double Tees**

- 1.) The number of chains used to secure the load shall be one more chain than is required by standard FMCSA standards for cargo securement.
- 2.) When possible, all chains used to secure the freight should pass through the conduit pockets made into the vertical portions of the T. Only use the conduit pockets that are directly above the supported dunnage.



Figure 1: 35,000lb Double T secured with four chains. All four chains pass through the conduit pockets on the vertical faces of the t's. Use only conduit pockets located directly above supporting dunnage.

- Points to Remember:
- Chain over the whole piece should be avoided if possible. If a driver must go over the whole piece care must be taken not to over tighten that chain. The outer wings of the double T will NOT support a great deal of weight and can easily be damaged. A chain can be used over the top only to display flagging, not tightened to support the load.
- Edge protection must be used anywhere the chain comes into direct contact with the concrete.
- Any load wider than 102 inches will require oversize load permits. Requirements for these loads can vary from state to state depending on dimensions and weight.
- Be sure all required oversized signage and equipment are properly installed. This may include but is not limited to flags, banners, and strobe lights.

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## Stadium Stairs

- Chains should only be placed over dunnage supporting the load.
- Total amount of chains needed shall be at least one more chain that is required per FMCSA guidelines.

Points to Remember:

- Edge protection must be used anywhere the chain comes into direct contact with the concrete.

If the load is oversized be sure all required oversized signage and equipment are properly installed. This may include but is not limited to flags, banners, and strobe lights.

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## Columns

- 2 chains should be placed over the first 5ft of the load, then one additional chain only at the dunnage points.
- A chain must be placed around the front of the load to help prevent forward motion.



Figure 1: A precast column with a trap chain over the dunnage points, it also demonstrates the use of a trap chain to prevent forward motion.

- Points to Remember:
- Edge protection must be used anywhere the chain comes into direct contact with the concrete.
- If the load is oversized be sure all required oversized signage and equipment are properly installed. This may include but is not limited to flags, banners, and strobe lights. Proper load securement is achieved by the driver placing 5/16" chains in the proper places as

shown in the following photo for columns hauling.

The DOT requires that load securement must be equal to half of the total weight of the load. Also, they require one securement every ten feet or at all dunnage points.

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## **OVERSIZE LOADS**

Each state has laws that define legal dimensions for loads. Any load greater than these state set limits makes the load oversized. These oversized loads must be permitted to be legally transported. There are five basic types of oversized loads:

### Over Height Loads -

Loads higher than the legal limit. For most states this is 13 feet 6 inches but could be more depending on the states in which you are running.

### Over Width Loads -

These loads are wider than legally allowed. For most states this is 102 inches. Metromont trailers are 102 inches wide, so any load that is wider than the rub rails on the trailer makes the load oversize.

### Over Length Loads -

The rules for legal load length vary greatly from state-to-state. Any load longer than 53 feet could be oversize depending on the state in which you are driving.

### Overhanging Loads -

Many states have limits on how far a load can hang over the front and rear of the trailer. This varies from state to state. The most common regulation is up to 4 feet off the rear of the trailer (some states are less).

### Overweight Loads -

If the combined weight of the truck, trailer, and load is greater than 80,000 pounds the load is oversized.

### Additional Equipment Required on Oversize Loads

Hauling an oversize load will require additional equipment. What is needed will vary depending on the dimensions of the load and the state it is being transported through. Required additional equipment will be listed on the load permits issued by the state. This includes but is not limited to the following:

#### Oversize Load Banner-

7ft x 1.5ft yellow banner with 10-inch black letters reading "OVERSIZE LOAD". "WIDE LOAD"

Banners are not legal in many states. Be sure to have the proper banner.

#### Safety Flags-

These are 18-inch square red flags. These may be required on the front corners of the tractor, on the corners of the load, or at the rear of the load depending on permit requirements. These can be mounted to the tractor or load in different ways.

#### Beacon Lights-

Rotating or strobing yellow lights than may need to be mounted on both the top of the tractor and the load.

#### Pilot Cars-

Some loads that exceed certain dimensions may require the use of pilot cars or escort vehicles. They

assist the driver in moving down the highway by spotting problems, obstacles, and interferences and communicating with the driver through the use of a CB radio.

## Permits

Oversize load permits will be obtained by operations before the load moves. The driver must keep a copy of this permit in his truck while hauling the load. Always read your permits carefully to ensure compliance with state laws for oversize loads. This includes the following:

- Requirements for additional equipment and placement of these devices.
  - Legal moving hours - Many loads will be restricted to daylight hours only. A driver will need to plan his or her trip with this in mind.
  - Routing- Some loads will require you to take exact routes to get to your destination. These routes are planned to avoid heavy traffic, narrow roads, narrow and weight restricted bridges, low clearance obstacles, and other problems that may not be obvious.
  - Any load over 8' 6" wide requires flags at the widest point of the load front and rear. Also, a
    - wide/overside load sign must be displayed front and rear on the tractor and trailer.
  - Wide load/overside load must only be displayed when you are loaded. Make sure not to obscure your tag as it could create a citation for non - display of license tag.
  - Red flags are placed at the widest point of load on front and rear. Florida requires flags on tractors, also.
  - Holidays may have additional time constraints.

**Oversize Permit Required Loads** are as follows.

- 8'6-1/4" to 12' wide and up to 14' high, weight of 80,000 Lbs. gross (10' permit)
- 12' to 14' wide and up to 14' high and up to 102,000 lbs. gross (12' permit)
  - Escort vehicles are required Front & Rear on undivided roads.
  - Escort vehicles require Rear only while on Interstate.
- Greater than 14'w or greater than 14' high or greater than 102,000 lbs. gross (Super Load)
  - Escort vehicles are required Front and Rear on ALL roads. The front Escort MUST have the height warning pole attached.

## On The Road

Each type of oversize load presents different challenges to truck drivers. Here are a few things to consider:

- All oversize loads must stop at ALL open weight stations and present the permits for the loads. This will increase the chance of inspection by DOT officers.
- Wide loads will hang into adjacent lanes and over the shoulder of the road. A driver must watch traffic, as well as roadside hazards such as parked vehicles, utility poles, and mailboxes that are close to the edge of the road.
- Long loads take much more room to turn than legal sized loads. This will require more space to swing wide. This swing can create situations in which traffic moves beside the trailer during the turn. A driver must have a good circle of awareness and keep his or her eyes moving to see developing problems.
  - Overhanging loads create tail swing. A tail swing is a side-to-side motion that can be outside the path of the wheel while the trailer is turning. Drivers must compensate for this when turning and when in reverse.

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## DROP LOT TO ERECTION SITE

Consideration for transporting pre-cast products **from a Drop Lot to the Erection Site:**

- Extra cribbing may be required under the trailer’s landing gear if soft ground conditions exist.
- All products shall be properly secured with a minimum of two (2) nylon straps or chains with corner guards to prevent any product shifting while being transported from the Drop Lot to the Erection Site.
- If required to travel on DOT regulated roads, loads shall be secured per DOT requirements.



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### Metromont CDL Driver Checklist

Checklist	ITEM	Additional Info
Must Have in Truck		
	Backup Paper Log Book	Do not exceed 8 days of use
	Functional Samsara Device	Phone or Tablet

	Forward Reverse Camera	Must be functional and unobstructed at all times
	Valid CDL Licence	Must be with driver at all times do not operate vehicle without it.
	Valid Medical Card	Must be with driver at all times do not operate vehicle without it.
	Drivers Booklet	Must have permits, Registration, Insurance Card, IFTA Card, Trip Sheets
	PPE	Hardhat, Glasses, Vest, Gloves, Steel toe boots.
	Fire Extinguisher	Must be in Charge on guage and in proper bracket
	Safety Triangles	
	Tire Guage	
	Glad Hand Tire Inflator	
	Spill Kit	
Must Have on Truck		

	Wide Load Banner	Must be removed when load isn't oversized
	Functional Strobe Light	Must be visible from all sides of the vehicle
	DOT Numbers on Doors	
	IFTA Stickers	
	Chains and Binders	
	Edge Protectors	
	Ratchets and Straps	
Pre-Trip		
	Truck and Trailer Lights	All must be functioning before travel
	Check for Air Leaks Truck and Trailer	No travel with any noticeable air leaks
	Tires and Pressures	All tires must be inspected for both truck and trailer
	Axle Hubs	Check all hubs for leaks
	Proper Bumpers Truck and Trailer	

	Inspect all crossmembers on trailer	
	Perform visual brake pad check on Trailer	
	Check 7-way for damage	

## Spill Kit



### **LARGE VEHICLE KITS**

BUVZK-L - Universal

BOVZK-L - Oil-Only

BHVZK-L - HAZMAT

#### Kit Components:

- 3 Socks, 3" x 4'
- 30 Pads, 15" x 19"
- 1 3B Putty, 1/2 lb. jar,
- 1 Set of 9 Plugs
- 1 Pair Goggles
- 1 Pair Nitrile Gloves
- 2 Disposal Bags

# SPILL RESPONSE

A Step-By-Step Guide To Spill Response



Safeguard the health and safety of personnel, the environment and workplace by complying with all regulations and workplace spill procedures.

## 1 RISK ASSESSMENT.

The first step is to identify the liquid that spilled. This will tell you how serious a threat it poses and what precautions need to be taken. If you can't identify the spilled fluid treat it as highly toxic and unsafe. Each BREG Spill Kit contains a guide on how to identify and clean up spills.

## 2 PUT ON PROTECTIVE GEAR.

Protect your hands and eyes with gloves and goggles. For more aggressive spills, a full HazMat suit may be required and a ventilator to guard against toxic fumes.

## 3 CONTAIN THE SPILL.

Use BREG absorbent socks found in each Spill Kit to contain the spill and keep it from spreading and causing further contamination.

## 4 STOP THE FLOW A.S.A.P.

Take immediate action to stop the source of spill and minimize its impact.

## 5 CLEAN UP THE SPILL.

Using the appropriate style and type of absorbent, thoroughly clean up the spill with extreme care and attention.

## 6 DISPOSE AND DECONTAMINATE.

Properly dispose of all used sorbents and all other contaminated items and materials according to local, state and federal regulations. Determine if it's necessary to also decontaminate the site, personnel and equipment.

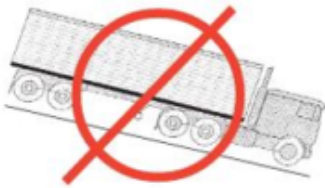
## 7 PREPARE THE NECESSARY REPORTS.

Use our incident reporting kit. Complete all required notifications and reports regarding the spill as mandated by the company, as well as all local, state and federal regulators.

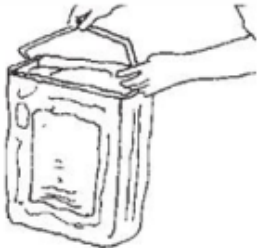
BREGENVIRONMENTAL.COM | (800) 433-1013

# VEHICLE SPILL KIT INSTRUCTIONS

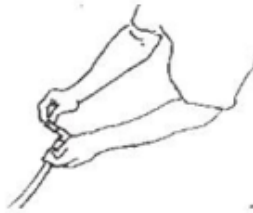
NOTE: YOUR KIT MAY, OR MAY NOT CONTAIN ALL OF THE GENERAL ITEMS DISCUSSED IN THESE GENERAL INSTRUCTIONS.



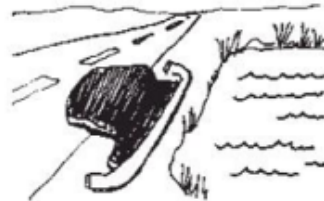
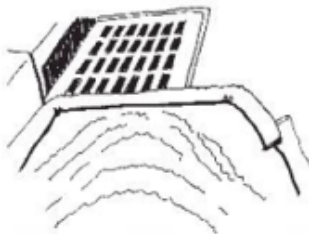
IN THE EVENT OF A SPILL, PULL YOUR VEHICLE AWAY FROM WATER AND STORM DRAINS AND OUT OF THE FLOW OF TRAFFIC WHERE YOU CAN EXIT THE VEHICLE SAFELY. DO NOT SMOKE, IGNITE A LIGHTER, STRIKE A MATCH OR BRING AN OPEN FLAME NEAR THE SPILL AREA.



PROTECT YOURSELF FIRST. REMOVE THE SPILL KIT WHEN YOU EXIT THE CAB AND PLACE SAFETY GOGGLES AND GLOVES ON YOUR EYES AND HANDS.



DO NOT ATTEMPT TO REPAIR A PUNCTURED FUEL TANK OR BROKEN CROSSOVER LINE UNLESS YOU HAVE RECEIVED APPROPRIATE TRAINING AS REQUIRED BY OSHA AND OTHER APPLICABLE LAWS. FOR THOSE WHO ARE APPROPRIATELY TRAINED, SEAL THE LEAK BY INSERTING A WOODEN DOWEL INTO THE HOLE AND THEN APPLYING 3B PUTTY DIRECTLY OVER THE RUPTURED AREA.



REMOVE THE BOOMS AND PADS AND PLACE THEM IN FRONT OF ANY DRAINS OR GRATES TO PREVENT LEAKAGE TO WATERWAYS. PLACE REMAINING BOOMS AT THE OUTSIDE EDGES OF THE SPILLED FLUID; SOAK UP THE FUEL BY PLACING THE PADS ON THE FUEL WITHIN THE BOOM AREA.

AFTER YOU HAVE CONTROLLED, CONTAINED AND CLEANED UP THE SPILLED FUEL, SEE YOUR SUPERVISOR FOR ADDITIONAL INSTRUCTIONS.

PLACE ALL USED/CONTAMINATED SORBENTS INTO THE DISPOSAL BAGS. BE SURE YOU PROVIDE FOR THE PROPER DISPOSAL. DO NOT PLACE THE BAGS IN THE CAB WITH YOU OR IN THE TRAILER IF IT CONTAINS FOOD PRODUCTS. HAVE A NEW SPILL KIT INSTALLED IN YOUR VEHICLE IMMEDIATELY.





## POST – ACCIDENT PROCEDURES

### DRIVERS

The following steps can be used to help protect you and Metromont.

- Immediately contact the Dispatcher or Transportation Manager.
- Stop Immediately – never leave scene without contacting your Dispatcher or Transportation Manager.
- Activate flashers – for your safety and to help prevent another collision.
- Call 911 or the local police department as required.
- If injured – remain in cab of the tractor (unless there is a safety issue) until medical assistance arrives.
- If uninjured – safely exit your tractor cab and check to see if any others involved may be injured.
- Place safety triangles out and check around tractor to make sure no additional safety concerns are present such as a fire, fuel or fluid spill, etc.
- If in a safe condition and without injury assess any damages to tractor, trailer, and or product.  
(Photograph any issues noted)
- Fill out FMCSA Post-Accident Documentation Form provided in your document binder.
- If the accident met the FMCSA criteria for performing a post-accident alcohol and drug testing, you will be required to go to the nearest facility to take a drug test.
- Drug test should be completed as soon as possible but must be completed within 32 hours.

**FMCSA Post-Accident Documentation Form**

Date of accident/incident: \_\_\_\_\_ Time of accident/incident: \_\_\_\_\_

Location of accident/incident: \_\_\_\_\_

Description of accident/incident: \_\_\_\_\_

\_\_\_\_\_

Employees (other people) involved in the accident/incident: \_\_\_\_\_

\_\_\_\_\_

**Did the accident meet FMCSA criteria for performing post-accident alcohol and drug testing:**

1. Was there a fatality associated with the accident?  
 Yes – **DOT post-accident drug and breath alcohol tests are required.**  
 No – go to next question.
  
2. Was the employee issued a citation for a moving violation as a result of the accident?  
 Yes – go to next question.  
 No – DOT testing is not required. If you test the employee, it should be a non-DOT test under your own authority.
  
3. Was a vehicle towed away from the scene of the accident?  
 Yes – **DOT post-accident drug and breath alcohol tests are required.**  
 No – go to next question.
  
4. Was there immediate medical treatment away from the scene?  
 Yes – **DOT post-accident drug and breath alcohol tests are required.**  
 No – DOT testing is not required. If you test the employee, it should be a non-DOT test under your own authority.

**Check any that apply:**

- Alcohol test was not administered within 2 hours after the accident, indicate reason below.
- Alcohol test was not administered within 8 hours after the accident, indicate reason below.
- Drug test was not administered within 32 hours after the accident, indicate reason below.

Reason why test was not administered within time limits, if applicable: \_\_\_\_\_

\_\_\_\_\_

Other comments: \_\_\_\_\_

\_\_\_\_\_

Supervisor (Print & Sign) \_\_\_\_\_

Date \_\_\_\_\_

- Attachments:**  Drug test results (chain of custody & result signed by MRO)  
 Alcohol test results

Provided by DISA (formerly Midwest Toxicology) 9-2019

*Common Shipping Paperwork*

**Handling Tag:** located on the piece on the trailer.



Shipping Ticket (BOL): printed or electronic file from Concrete Vision; taken with driver and used to determine required securement process.



Spartanburg, SC

Page 1 of 1  
**DELIVERY TICKET**  
 S-20849-153

Florence Urban Square PD  
 356 W N B Baroody St  
 Florence, SC 29501  
 Florence County

DELIVERED BY	DATE
Metromont LLC	11/15/2023
TRUCK NO.	TRAILER NO.
AB-11473	80002

CODE	PIECE MARK	CRANE	WEIGHT						
21	FTA015 - 227 60' 7 1/2" x 11' 11 1/2"	1	52,475						
<table border="1"> <thead> <tr> <th>Crane</th> <th>Erector Contact</th> <th>Cell Phone</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Scott Long</td> <td>864-365-5079</td> </tr> </tbody> </table>		Crane	Erector Contact	Cell Phone	1	Scott Long	864-365-5079		
Crane	Erector Contact	Cell Phone							
1	Scott Long	864-365-5079							
<b>OVERALL HEIGHT LESS THAN 13.5 FEET</b>			<b>52,475</b>						

The above weights are theoretical weights based on engineering drawings. Actual weights could vary based on actual production with respect to production concrete mix, finishing and other process variances, as well as moisture

ON JOB AT	TIME LEFT YARD	TIME ON JOB	TIME LEFT JOB	TIME ON YARD	TIMBERS	RECEIVED BY
9:30 AM						

ATL  CHL  GVL  NVL  WCL **ACCOUNTING**

November 15, 2023 09:23:57 AM

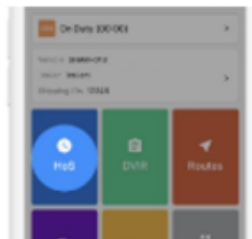
**SAMSARA DRIVER APP**

# DOT Instruction Sheet

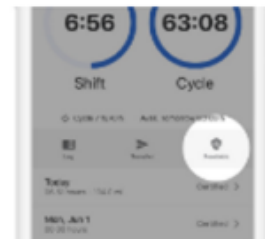
This instruction sheet is required to be kept on board and available to present during inspections per FMCSA 49 CFR § 395.22(h).

The Samsara ELD is a registered ELD with the Federal Motor Carrier Safety Administration (FMCSA). It plugs into the diagnostic port in a vehicle and integrally synchronizes with the vehicle engine. Drivers are not able to edit automatically-recorded driving time.

The Samsara Driver App allows drivers to view and interact with their logs via a smartphone or tablet. The app's DOT Inspection Mode enables officials to review and transfer hours of service logs.

**INSPECTING HOURS OF SERVICE LOGS**


**01**– Open the Samsara Driver App and tap the HoS icon.



**02**– Tap the Roadside icon.

**TRANSFERRING HOURS OF SERVICE LOGS**

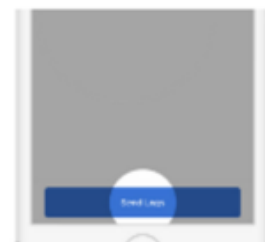

**01**– From the Roadside Inspection screen, tap 'Transfer'.



**02**– Send official logs via Wireless Web Services or E-mail to DOT.



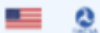
**03**– Enter officer-provided Data File.



**04**– Tap 'Send' to send logs to DOT.

**Manufacturer's Certification of ELD Registration and Compliance**

This document, provided by Samsara, certifies that the Samsara ELD is a registered ELD with the Federal Motor Carrier Safety Administration (FMCSA) and is compliant with FMCSA ELD technical regulations specified in 49 CFR § 395.


**Statement of Compliance: Electronic Recording Device**

This document certifies that the Samsara ELD can be used to meet requirements for Electronic Recording Devices in Canada SOR/2005-313 Section 83.



# DOT Instruction Sheet Cont'd

## ROADSIDE INSPECTION MODE INTERFACE

The screenshot shows the 'Roadside Inspection' screen in the Samsara app. At the top, it displays the time (9:29 AM) and battery level (82%). Below the title, there are navigation options for 'Transfer' and a date selector for 'Tuesday, Jun 2nd, 2020'. The main section is titled 'DRIVER'S DAILY LOG' with a sub-header 'USA 70 hour / 8 day'. It includes the Samsara logo, the driver's name 'Sam Sara', and the driver ID 'ssara'. A table lists vehicle information, including DL State (CA), DL # (K173599C), Co-Driver Name (ID), US DOT # (8508686), Carrier (Beepi 2.0), Main Office (350 Rhode Island St, San Francisco CA 94117), and Distance (1602.6 mi). Below this, a table lists multiple trucks and tractors with their IDs and VINs. Callouts on the right side of the screen point to specific features: 'Transfer logs' (top right), 'View next / previous day's logs' (date selector), 'View required information about driver, vehicle, and carrier' (driver details), 'View duty status changes for the day' (log table), and 'View required engine data' (bottom right).

## ELD MALFUNCTION REPORTING REQUIREMENTS & RECORD KEEPING PROCEDURES

Drivers in the event of an ELD Malfunction, are required to:

1. Provide written notice to the carrier within 24 hours.
2. Have available accurate electronic or paper logs for the current 24-hour period and the previous 7 days.
3. Continue forward with manually prepared ROD for no more than 8 days.

Carriers in the event of an ELD Malfunction, are required to:

1. Repair or replace the malfunctioning ELD within 8 days of discovering the condition.
2. Require the driver to maintain paper RODS until the ELD is back in service.

## SUMMARY OF KEY POINTS

- The driver shall perform a visual inspection of all loads and install the appropriate number of chains as required by DOT on all standard piece loads. The driver will ensure the proper quantity of chains are used as needed and are adequately secured to the trailer for non-standard or special loads.

- The driver must comply with all regulations noted on your permit such as time, weight, size and restrictions.
- The driver is responsible for securing Standard Loads in accordance with all applicable DOT, State, Federal and company policies.
- The driver is responsible to visually inspect chains/ratchets before use and make sure they are stored and clean correctly after each use.
- The driver is responsible for assisting the loading crew in securing Non-Standard or Specialty Loads and ensuring that they are secured in accordance with all applicable DOT, State, Federal and company policies.
- The driver ALWAYS has the right to refuse to accept any load that he/she deems unsafe or is otherwise not in accordance with DOT or generally accepted shipping regulations until a qualified person has determined that safety has been assured.
- Synthetic straps shall NOT be used to secure precast product.
- Ratchet binders are the only binders to be used to secure loads. The use of lever/snap binders is prohibited.
- Binders should always be connected to chains and never directly to the stake pockets.
- In the event of ice, sleet, or snow make certain that dunnage sits on a section of the trailer bed that is as dry and clear as possible to reduce the chance of slippage.
- Verify that the load satisfies DOT regulations for length, width, height, and weight limitations.
- When in doubt always consult a supervisor or manager.
- The use of lifting loops, erection anchors and conduit pockets may be used to secure the load.
- Standard Loads are loads that:
  - Can be directly secured to the bed the trailer.
  - Can be symmetrically loaded on a trailer, thus maintaining balance while it is being transported, regardless of the use of racks.
- Non-Standard or Specialty Loads are loads that:
  - Cannot be symmetrically loaded on a trailer and are unbalanced while being transported, thus requiring the proper placement of counterweights.
- Non - Standard Loads, or Specialty Loads shall NOT be unsecured until they are attached to the lifting rigging and are ready to be lifted by the crane at the erection site.
- When unloading symmetrical loads, the piece that remains on the trailer must be secured to the rack and the landing gear must be down before unloading the first piece.
- Empty racks are to be secured to the trailer bed with chains in addition to the racks being bolted to the pockets.
- Only use grade 70 chains of 5/16<sup>th</sup> inch or larger, supplied by the company, to secure loads.
- GRADE 70 Chains are NOT to be used for rigging panels for lifting.
- Stake pockets are rated for 5,400 lbs. Do not exceed one (1) chain per pocket. Never chain to the rub rail.
- Any chains used to secure a panel from lateral movement shall be in addition to the number of chains required to comply with DOT regulations.
- Chains are to be tight but should not be overtightened to the point that they damage the product.
- The proper number of chains is critical and should adhere to DOT and company requirements.
- Drivers are to ensure the tightness of bolts on ALL racks.
- Remember: Your safety and the Safety other motorist are in your hands.
- Failure to comply with these guidelines could result in disciplinary actions and or termination.
- Your continued efforts and focus to improve our process is greatly appreciated.

# SHIPPING MANUAL ACKNOWLEDGEMENT FORM

I hereby acknowledge that I have received and read a copy of the CDL Driver Training Reference Manual and agree to comply with the policies and procedures contained in the manual. Any questions that I had were adequately answered by my supervisor. In addition, I agree to attend all required training related to this manual.

---

Employee/Owner Operator's Signature

---

Date

---

Employee/Owner Operator's Name (PRINT)

---

Company Name

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## US Pipe

### Ductile Iron / Cast Iron Pipe

Freight should never be moved on Yard Without minimal securement.

Driver is expected to exit cab with proper PPE:

- Hard Hat
- Safety Glasses
- Safety Vest
- Long pants
- Closed toed shoes
  
- These loads are commonly loaded in two sections.
- Each section of pipe must have a minimum of 4 straps.
  - Placing straps next the dunnage will create more stability.
  - Placing Belly straps on the load is recommended.



- Gaskets and lube may accompany load. Gaskets must be in secure packaging and strapped down to the trailer. The Lube can be placed in side box for secure transportation.



- Note: When strapping and unstrapping load, always check for unsecure chocks. If packaging is not sufficient, notify shipper / loaded. If additional assistance is needed, contact Safety Department.

## ” Tips for Stuck Straps at Delivery “

On a hot sunny day when the pipe paint/coating gets hot and sticky, it can be an issue causing the straps to stick to the pipe coating. Most of the time a good wallop against the strap with the binder bar between the pipe layers breaks it loose but not always. Sliding an edge protector pole upward between the strap and the pipe is another thing to try but if it is stuck to the center pipe also, then

that won't always get it loose either. In that situation the best option is to take the strap loose and off of the winch, tie one of your portables or an extra 4" strap to it, and then throw that strap back across the top of the load, then you can pull both straps across the pipe peeling the stuck strap off of the pipe, always avoid climbing down the sides of the trailer or on top of the pipe trying to get it loose.

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## **Arconic**



## **PPE**

- PPE must be worn anytime driver is outside of his/her truck
- Hard hat
- Safety glasses with sides
- Shirt with sleeves
- Safety vest
- Long pants
- Closed toe shoes

## **Arconic Coils - Eye To Sky and Suicide**

- After checking in with guard shack you will review Arconic safety policies then you will be sent to the shipping department.
- After the shipping Dept backs you into the correct loading bay you will need to apply safety rails to your trailer.

## **Eye To Sky (palletized)**

- Always lay rubber matting on the deck on the trailer for coil to be set on.

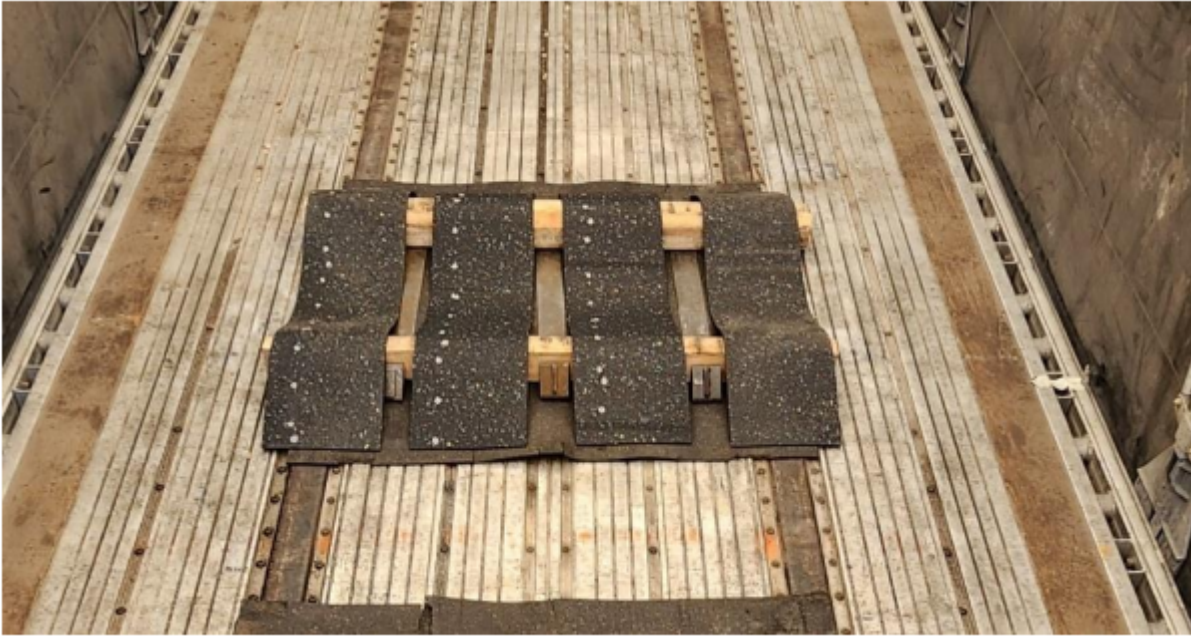


- All Eye to Sky coils must have a trip strap on them to help with forward movement.

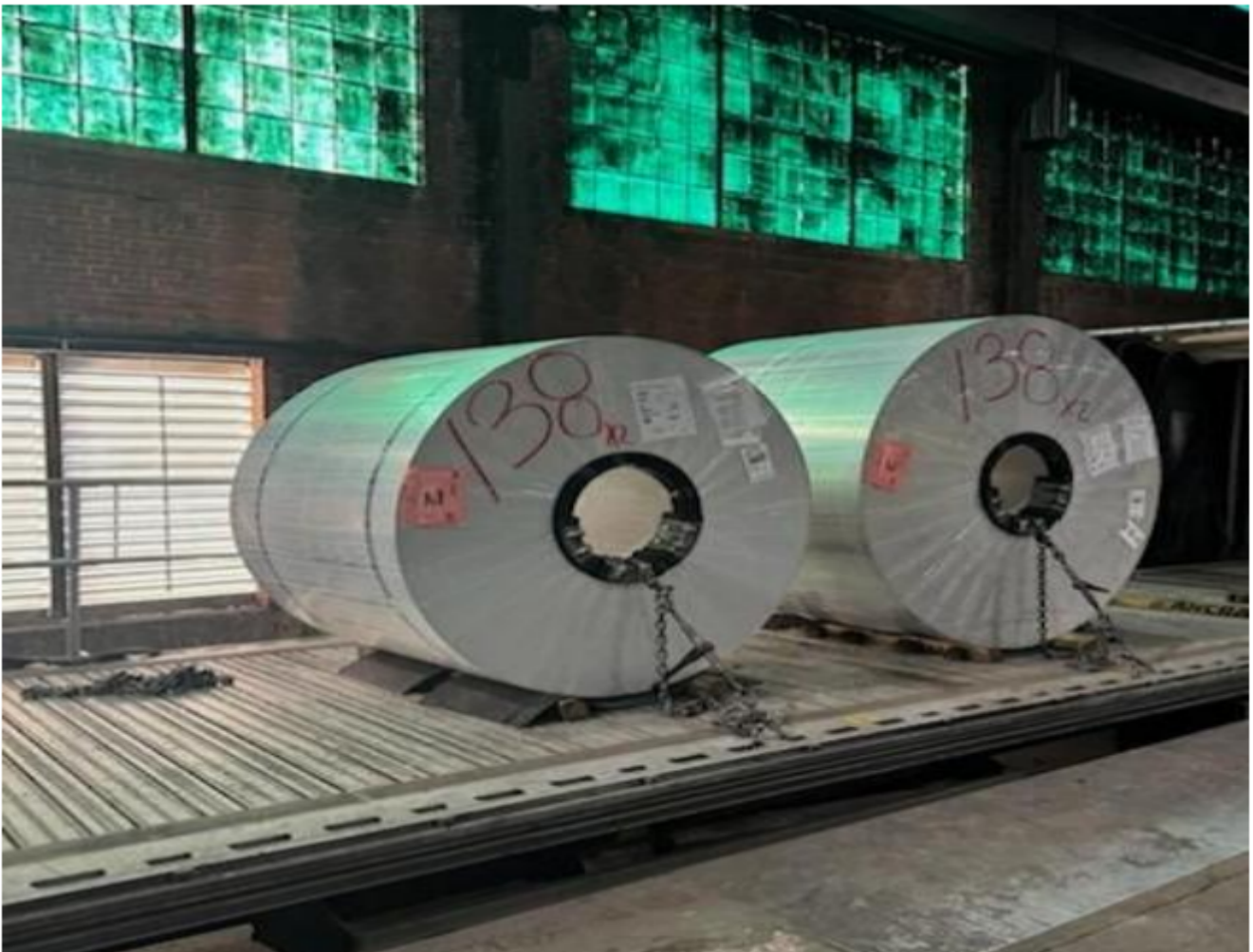


### **Eye To Side (suicide)**

- When loading suicide coils always put down rubber matting, coil racks, beveled timbers, then rubber matting on top of timbers.
- Arconic requires drivers to only use beveled timbers.



- Driver must add at least 1 securement device to each coil before pulling out of the loading bay.



- Suicide coils must have 2 straps crossed over the top of coil to help with forward movement.



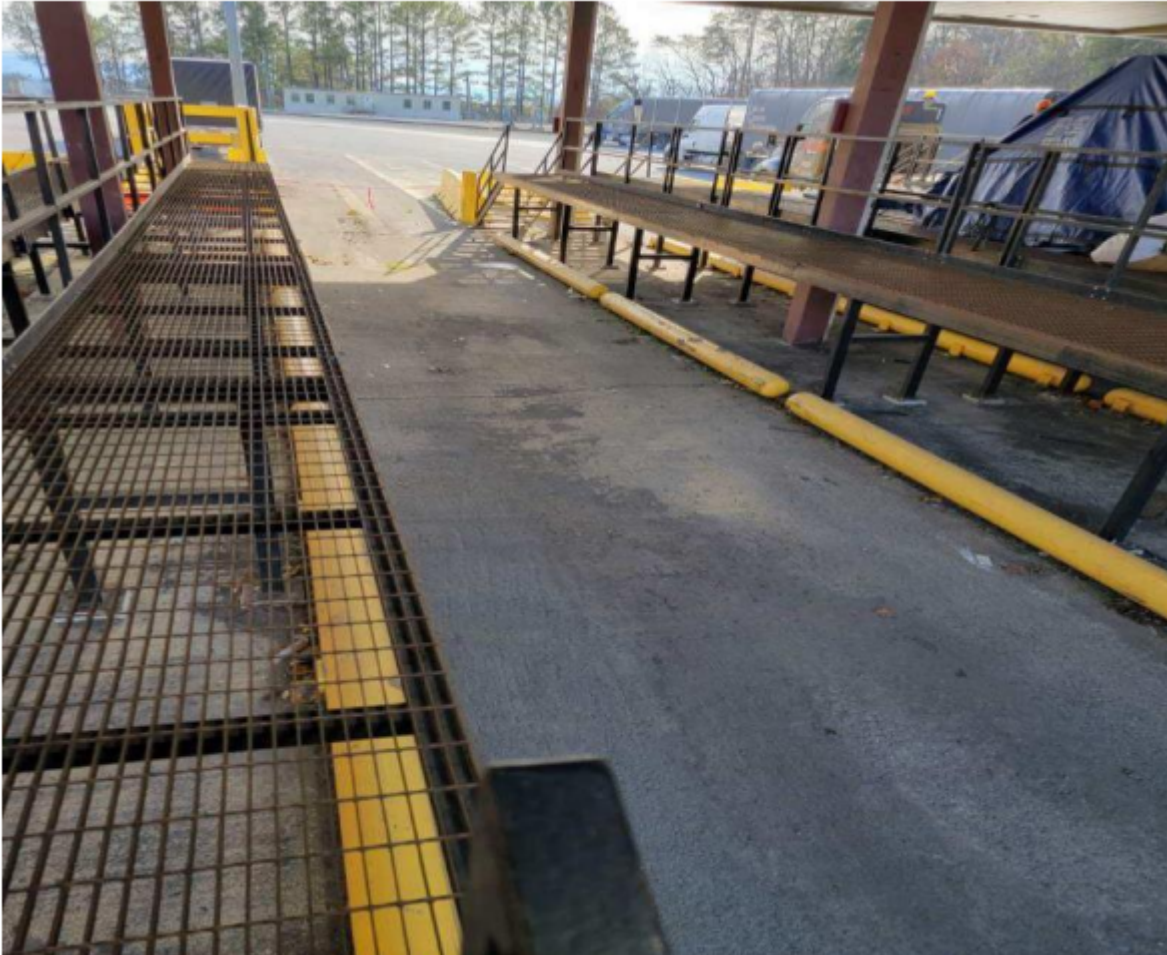
## Fall Protection

- Drivers with Conestoga trailers can't be on the deck of the trailer unless the curtain is closed.



- Drivers with Flatbed trailers can't be on the deck of the trailer unless they are in the tarping bay.





- After loading all drivers must contact the guard shack for instructions either by radio or by phone.



- When on plant property obey all posted speed limit signs and always stop at Railroad crossings.



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## **American Cast Iron Pipe Birmingham, AL**

- Turn off of Daniel Payne Dr. onto 32<sup>nd</sup> Ct W. to enter the facility. Speed limit is 15 mph.



- You will come to the security building, at that point stop and give the guard a wave then proceed unless he opens the window and ask you to stop.



As you pass this point, the speed limit remains 15 mph



Speed limit briefly changes to 30 MPH until you get to the scale house





Follow all posted instructions.

**ACIPCO requires all drivers to wear PPE before exiting the truck**

- Hard Hat
- Safety Glasses
- High Visibility Vest
- Closed toe shoes
- P&S Policy: Driver must wear long pants
- Once you leave the scale the Speed limit will remain 15 mph throughout the facility

**These yards and shippers are located across from the scale house.**

- A-yard
- F-yard
- Gasket warehouse
- Vulcan Painters
- L.B. Foster

**If loading at one of these yards, when you exit the scale and enter the road and make a right turn and go down the hill.**



Sign showing yards on the right.



Arrive at stop sign at the bottom of the hill



Do not turn right at the stop sign

**If you need to load at yard B C D E Z or Steel Pipe, when you exit the scale and enter the roadway go straight for approximately ½ mile go down the hill to the stop sign. Turn right for Yards B C D E & Z or turn left for steel pipe loading.**



- If you make the left for steel pipe loading, you will see the Loaded trailers on the left and right side of the road.
- Most of these loads are pre-loaded



Preloaded trailer are normally lined up on each side of the road.



Drop your empty trailer in the gravel lot on the right when possible



You must remain in truck while you are being loaded. The loading crew will then give you the pick ticket and instruct you if you will be required to pick up any other material from another yard and if you need to pick up gaskets. [REDACTED]



Once loaded pull straight forward out of the loading zone, pull over to the side and throw 2 straps per stack before proceeding.

After you get your gaskets, you can pull forward and off to the side to finish strapping, or after you scale out, you can pull off to the right about 100 yards past the scale to finish up.



## Points to Remember

- You must always scale in, even if picking up a pre-load
- Always follow signs to loading area when entering the yard where your product is located.
- Always obey all signs and speed limit
- ACIPCO requires all drivers to wear PPE before exiting the truck
- Most of the time (unless you are loading steel pipe) you will be required to go to the warehouse located in yard A for gaskets.
- You must scale out to receive your paperwork.

## ” Tips for Stuck Straps at Delivery “

On a hot sunny day when the pipe paint/coating gets hot and sticky, it can be an issue causing the straps to stick to the pipe coating. Most of the time a good wallop against the strap with the binder bar between the pipe layers breaks it loose but not always. Sliding an edge protector pole upward between the strap and the pipe is another thing to try but if it is stuck to the center pipe also, then that won't always get it loose either. In that situation the best option is to take the strap loose and off of the winch, tie one of your portables or an extra 4" strap to it, and then throw that strap back across the top of the load, then you can pull both straps across the pipe peeling the stuck strap off of the pipe, always avoid climbing down the sides of the trailer or on top of the pipe trying to get it loose.

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# Gold Bond Building Products

## Gold Bond Building Products

### Gypsum Board Plant

#### Westwego, LA



**Westwego requires all drivers to wear personnel protective equipment before exiting the truck**

- Hard Hat
- Safety Glasses
- Safety Vest
- Gloves
- Steel Toed Boots
- Long Pants

Speed Limit on all plant property is 10 mph. Please watch out for employees traveling by bicycle and walking along the main road.



### **Receiving a Load:**

- Upon entering the gate, turn to the left and proceed to the end of the road.
- Drop your empty trailer on empty lot.
- All drivers must leave:
  - 2 Tarps
  - 14 Edge Protectors
  - 30 bungees
- Please send a photo of the empty trailer with securement equipment to your DM.



- After you have dropped your empty trailer, check the P&S mailbox for your load paperwork. The mailboxes are located directly in front of the entrance gate.



- If your paperwork is not in the mailbox, please check in with the shipping and receiving department and let them know you are on site.
- When following the signs to the shipping and receiving department, the office door will be to your left at the top of a concrete ramp.





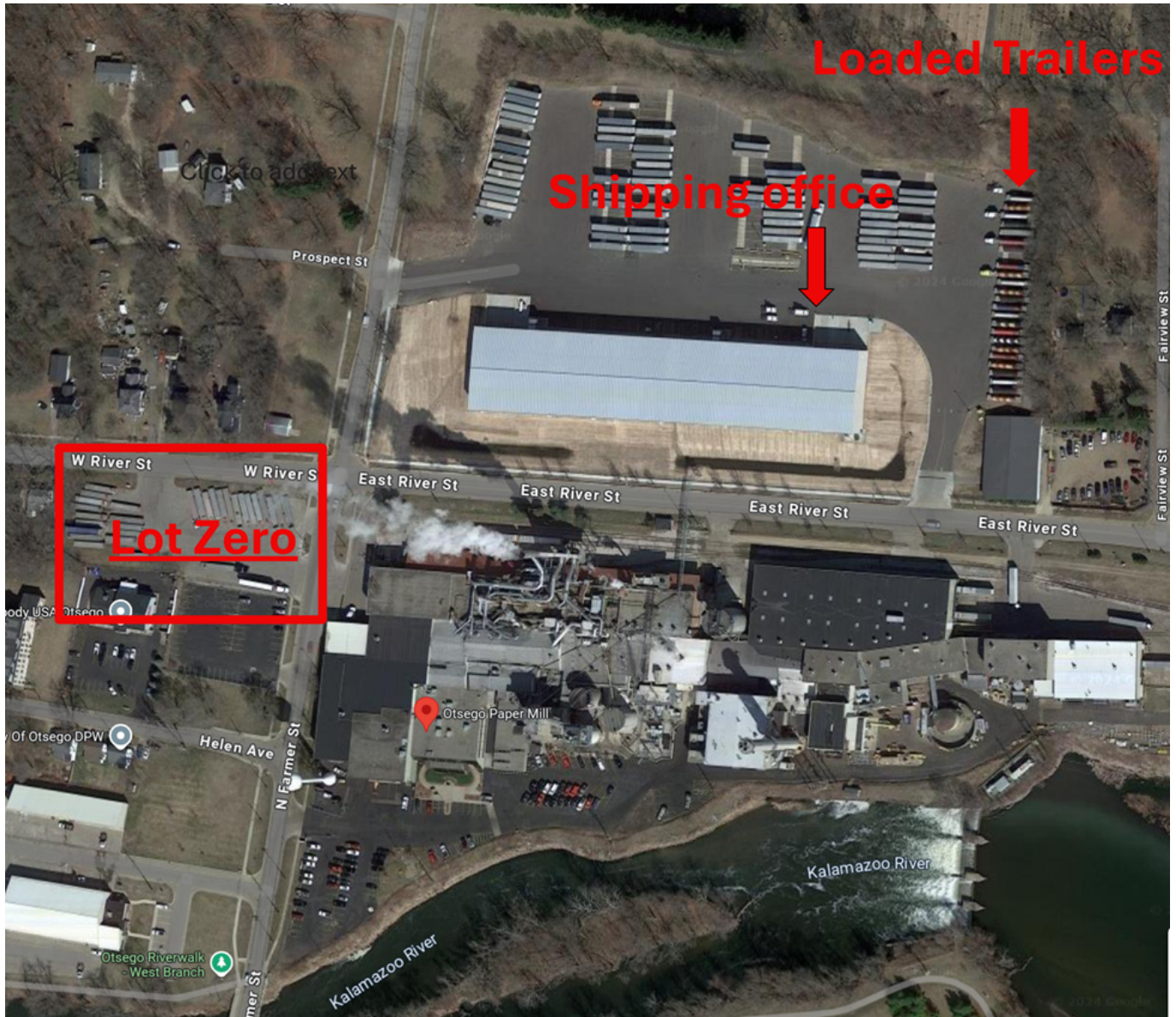
- All loads at Westwego are wrapped in plastic and tarped by a 3<sup>rd</sup> party company. **Before leaving with the load, please ensure:**
  - There are the correct number of straps on the load as required by P&S.
- Load check should occur within first 50 miles of travel.
- Additional load checks should occur with each additional 150 miles or 3 hours; whichever comes first.



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## **USG Otsego Paper Mill**

USG Otsego Paper Mill 320 N Farmer St. Otsego, MI 49078 Paper Rolls



**Required Equipment**

10 4-inch Straps, 20 bungees, 2 Lumber Tarps

**Required PPE** High-visibility vest, shirt, or jacket Safety glasses Hard Hat Gloves

**Drop and Hook**

- Upon arrival, driver must check in with his/her pick up number at the shipping office located beside the loading bays on the east side of the warehouse.



- Empty trailers are dropped in Lot Zero, located Southwest of the main warehouse.
  - Leave 2 lumber tarps, 20 bungees, and 10 straps on the trailer



- Locate loaded trailer on the eastern side of the main warehouse parking lot. Loaded trailers may be down on Lot Zero if additional parking is required.
  - Check securement. 2 straps should be over the first and last rolls. One strap over each interior roll.
  - Check the tarps. Additional bungees will likely be required to secure the tarps for travel.



- Once hooked up, return to the shipping office for bill-of-laden.

### **Live Load**

- Upon arrival, driver must check in with his/her pick up number at the shipping office located beside the loading bays on the eastern side of the warehouse.
- Shipping office will advise the driver where to drop the trailer. This is usually done in Lot Zero.
  - Leave 2 tarps, 20 bungees, and 10 straps on the trailer.
- Shuttle Service will pick-up empty trailer, take it to the loading bay, and load, secure, and tarp the load. It will then be dropped in the loaded trailer zone on the eastern end of the parking area.
- Locate loaded trailer on the eastern side of the main warehouse parking lot. Loaded trailers may be down on Lot Zero if additional parking is required.
  - Check securement. 2 straps should be over the first and last rolls. One strap over each interior role.
  - Check the tarps. Additional bungees will likely be required to secure the tarps for travel.
  - Once hooked up, return to the shipping office for bill-of-laden.

### **Pickup and Delivery Contractor/Customer Plant Safety Rules**

1. Truck drivers must remain in the plant designated area for truck drivers at all times.
2. Comply with posted signs and signals.
3. Tarping and tie-down should be done in designated areas only.
4. No parking on ramps at any time.
5. All passengers and pets must remain in designated waiting area or in vehicle at all times when inside plant area.
6. When pickup or delivery is complete, leave the premises immediately. No Loitering. No overnight parking.
7. No unauthorized vehicles permitted in plant area.
8. Facilities are limited to those provided in the truckers' waiting area. All other areas of USG premises are exclusively for USA employees.
9. Always use handrails when going up or down stairs or inclines.

10. "Horseplay" is not permitted on plant property.
11. Use only appropriate ladders, step stools, and stairs to gain access to equipment and facilities above ground level.
12. Seat belts must be worn at all times while operating mobile equipment (including trucks).
13. Never approach mobile equipment while it is in operation. First attract the operator's attention and have them shut down the equipment, then approach and converse with the operator.
14. Running is not permitted in the plant.

Violation of any of the following rules will result in disciplinary action as detailed in the plant's customer/contractor's safety program.

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## **Charlotte Pipe and Foundry Company**

- **PVC**
  - Huntsville, AL
  - Wildwood, FL
  - Maize, KS
  - Monroe, NC
  - Cameron, TX
- **Steel Cast Iron**
  - Oakboro, NC

### **Loading of material**

- All of the loads will be pre-loaded
- All PVC and Steel Cast Iron pipe must be belly strapped
  - A rope is placed between the pipe to assist with pulling the belly strap through the material
- All PVC and Steel cast Iron pipe must be strapped with 4-inch straps pulling in opposite direction
  - Trailers that are equipped with straps all on one side must have belly straps pulling in opposite directions

### **PPE is Required**

- Exit truck with PPE already on and ready to work
- Hard Hat
- Safety Glasses
- Safety Vest
- Gloves
- Steel Toed Boots
- Long Pants

### **Plant Transfers**

- Plant Transfers will be drop and hook
  - Wildwood, Florida requires that you check into the shipping office during business hours
- Once dropping the trailer, unhook all your straps

**40 ft. Load of Pipe - Recommended strap positions in diagram below**

Minimum 10 Straps on a 40 ft load (depending on the amount of 10 ft. pipe on the load, it could be more)

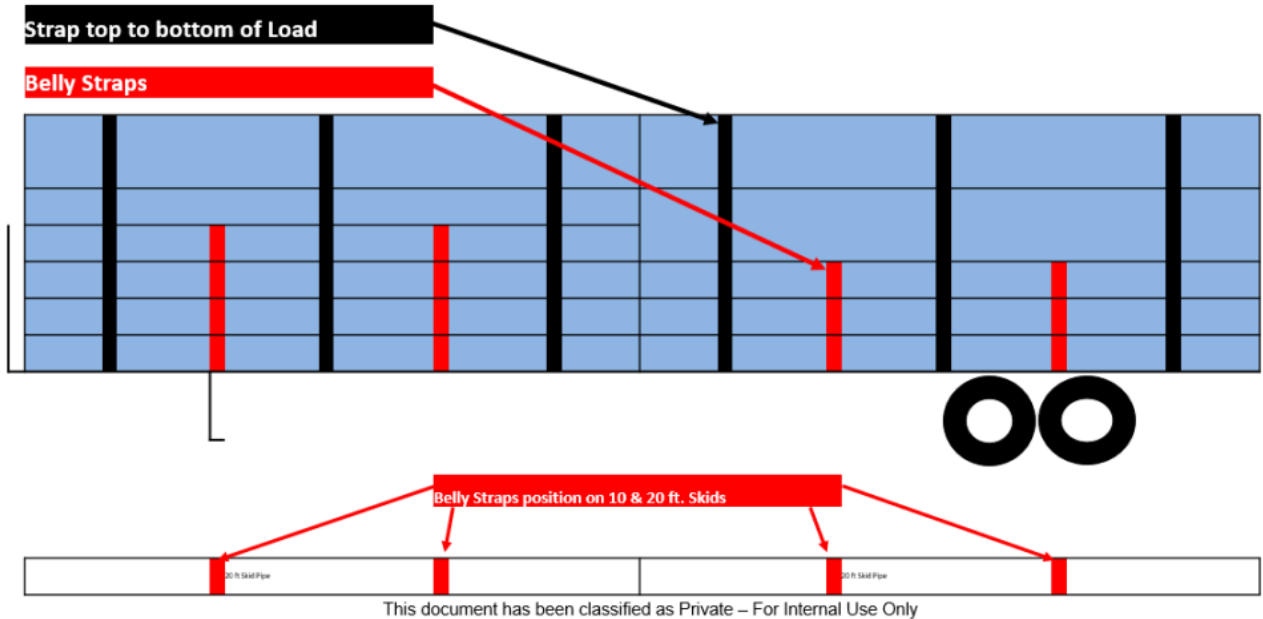
Belly straps be place on the RED highlighted area

1 belly strap on 10 ft skids & 2 belly straps on 20 ft skids

Belly straps be place 3 or 4 high skids high (loads are figured at 7 skids high)

Straps provided on the trailer by the carrier Charlotte Pipe Loader will throw belly straps across the load

NO straps provided on the trailer, then the driver will use push poles and roll around ladders (provided by Charlotte Pipe) to push belly straps through the load



**40 ft. Load of Pipe - Recommended strap positions in diagram below**

Minimum 10 Straps on a 40 ft load (depending on the amount of 10 ft. pipe on the load, it could be more)

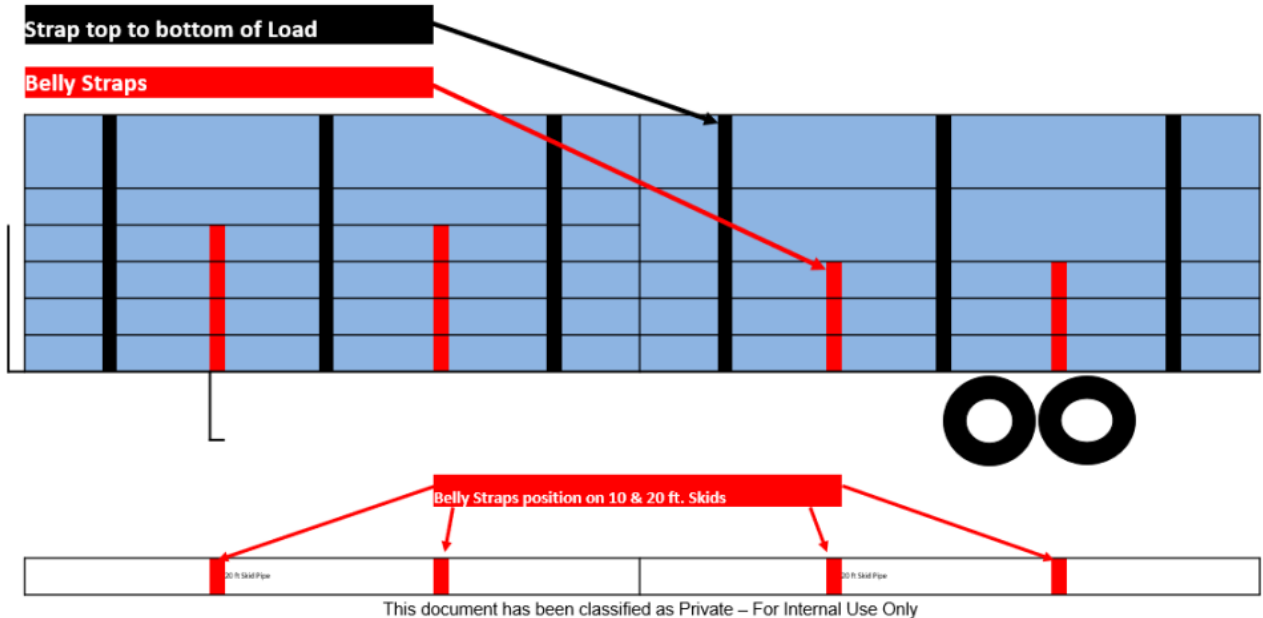
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Straps provided on the trailer by the carrier Charlotte Pipe Loader will throw belly straps across the load

NO straps provided on the trailer, then the driver will use push poles and roll around ladders (provided by Charlotte Pipe) to push belly straps through the load





Belly Straps:

CPF will slide rope in place of belly straps for driver to easily place in the belly straps



For final straps driver should alternate strap application/tightening, alternating from tightening on right to left, to keep load centered on the trailer.

### **Departing shipper**

- Load check should occur in advance of the 50-mile requirement to make sure pipe has not moved or shifted

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## **Georgia-Pacific Gypsum Sweetwater, TX**

GP requires all drivers to wear personnel protective equipment before exiting the truck

- Hard hat
- Safety Glasses
- Safety Vest
- Gloves
- Steel Toed Boots
- Long Pants



The speed limit on all plant property is 10 mph.

The GP Sweetwater plant has two entrances for loading. If your order number begins with **414** follow signs to the **West gate**. Order numbers beginning with **204** are loaded at the **East gate**.

### **Georgia- Pacific East Gate Instructions**

If your order number begins with 204 follow signs to Gate #4.



At the entrance to the east gate there are kiosks mounted in each entrance lane. Drivers must follow the prompts and enter all information requested to receive the location of the pre-loaded trailer they are picking up. If you enter your phone number correctly, this information will also be sent to your phone via text message.

Once the gate opens, find an empty parking spot in rows A- E to drop your empty trailer.



Please be sure to leave 2 sets of bungees across the front and back of the trailer. Two tarps should be left at the end of the trailer and not the front.

**Standing on the trailer deck is prohibited on GP Property.** Drivers may step onto the truck's catwalk but not the trailer deck.

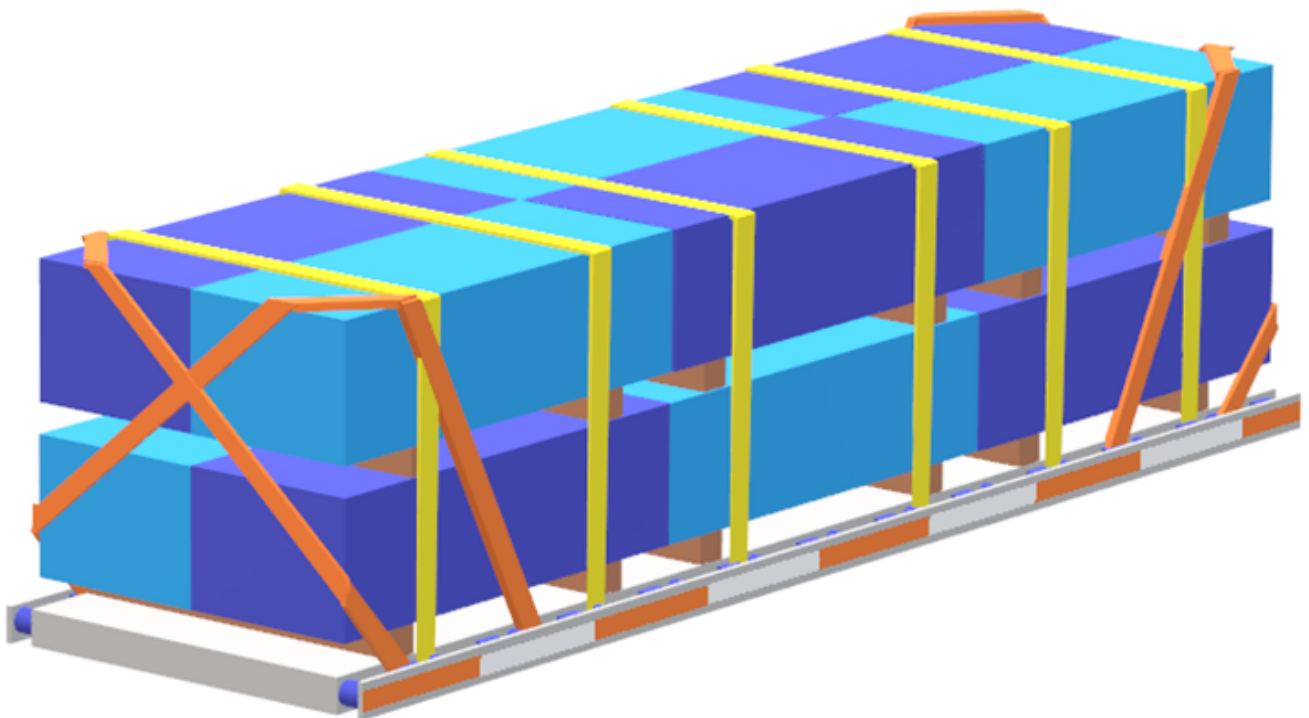


After hooking to your pre-loaded trailer, please proceed to the securement area past row H to fully secure your load.

1. Each bundle should be secured with two 4-inch straps.
2. Two additional straps should be used in a X pattern over the front and rear face of the load (Orange straps in Figure 1)

**Points to Remember:**

- Foam insulation board is tall but very light. Failure to X strap the front and rear of the load can result in damage to product and cargo shifts.
- Edge protection must be used to avoid damage to the product caused by straps.
- Be mindful that over-tightening straps can cause damage to the product.



**\*\*\* All loads shipping from this location MUST be fully tarped\*\*\***

Once your load is secure, please get in line to exit. Drivers are not allowed to exit their truck until you are first in line at the stop sign.

Exiting your truck from any other position in line will result in you being asked to move to the end of the line.

Please have a picture of the trailer number ready when approaching the guard window.



First enter your information in the exit kiosk. Then proceed to the guard window to show a picture of your trailer number and pick up your paperwork.

## Georgia-Pacific West Gate Instructions

If your order number begins with 414 follow signs to Gate #1.



Stop at the entrance gate and the guard on duty will instruct you to back into an available numbered parking spot.



Next, prep your trailer with 2 sets of bungees across the front and back of the trailer as pictured. Please make sure the tarps are at the end of your trailer and not the front.

**Standing on the trailer deck is prohibited on GP Property.** Drivers may step onto the truck's catwalk but not the trailer deck.



Next proceed to the shipping office to check in. All drivers must travel next to the yellow barriers marked with pedestrian signs.



Once in the shipping office, please check in on the provided lpads. After you have completed the check-in process, proceed to the window to pick up your paperwork.

.After you receive your paperwork, you can drop your empty prepped trailer on the right side of the yard and pickup your pre-loaded trailer from the left side.

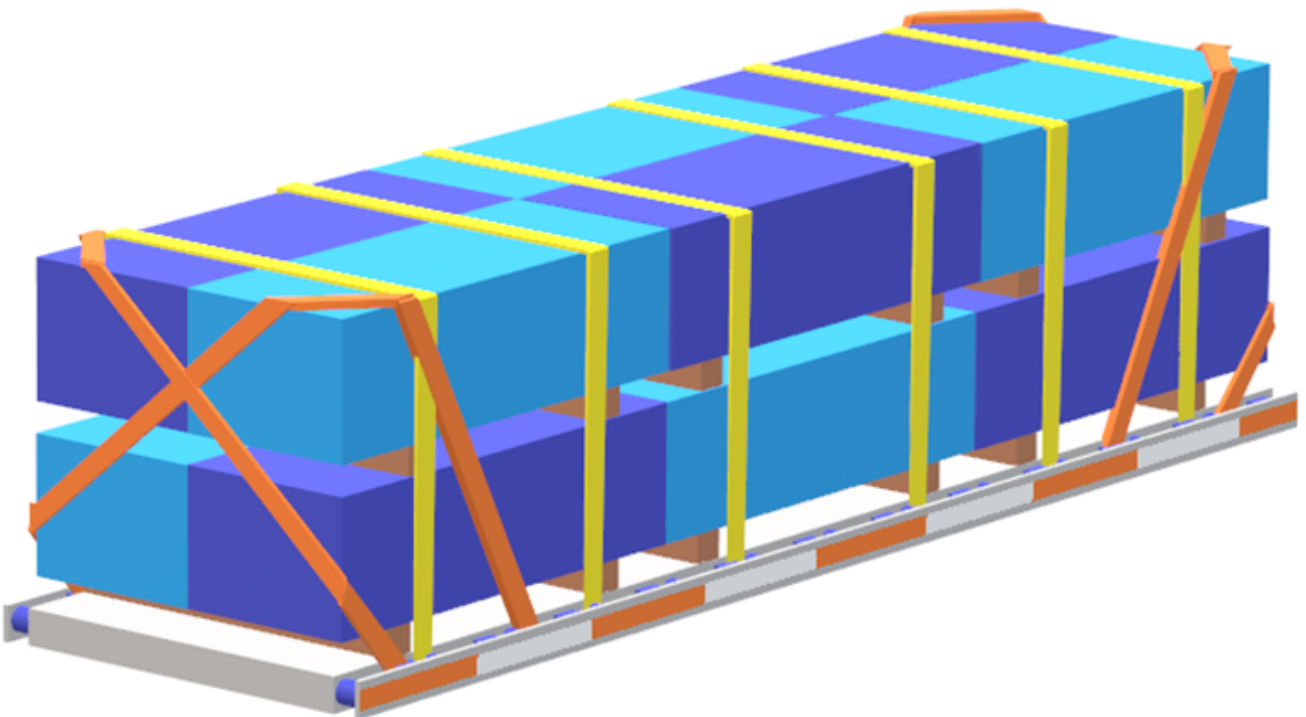


## Securing the Load

1. Each bundle should be secured with two 4-inch straps.
2. Two additional straps should be used in a X pattern over the front and rear face of the load (Orange straps in Figure 1)

### Points to Remember:

- Foam insulation board is tall but very light. Failure to X strap the front and rear of the load can result in damage to product and cargo shifts.
- Edge protection must be used to avoid damage to the product caused by straps.
- Be mindful that over-tightening straps can cause damage to the product.



**\*\*\* All loads shipping from this location MUST be fully tarped\*\*\***

Please stop at the guard house when exiting so the guard can confirm you have the correct trailer before exiting.

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## Port of Panama City, FL

### Copper

- Driver will check in at the guard shack.
  - Safety Vest is required to be worn at all times while at the port.
  - Driver should have TWIC and Port Pass ready to hand over.



- If you do not have a TWIC, the guard will instruct you to pull around to escort waiting. Do not move around the port, unless instructed to by your escort.
- Driver will then be instructed by the guard to either proceed to staging or to overflow.
- Once in the staging area you will need to put out your dunnage to be loaded.
- Be mindful where you place your dunnage, as this is where the loader is going to place the copper.



- The copper should be loaded in stacks two wide on the trailer.
  - Each section will require 2 straps and 4 edge protectors.
1. Copper is expected to run straight through from the shipper to the customer, without stops, within the means of the regulations set forth by the Federal Motor Carrier Safety Administration.
    - If adhering to this rule will cause any issues with maintaining compliance with the FMCSRs, the driver should immediately alert the company so that other plans can be made.
  2. The only place drivers are permitted to stop with a load of copper is at the Shelton terminal in Altha, FL.
    - 10 hour breaks or splits should only be taken at the Altha terminal or at the customer. Proper route planning is a part of the driver's responsibility, and drivers are expected to decline this load assignment if they will not have the hours to make it to either the customer or Altha terminal.
    - If, while under dispatch, an event occurs that will hinder a driver's ability to deliver safely (mechanical breakdown, etc) then it is the driver's responsibility to immediately notify their Driver Manager. The Driver Manager will provide instructions on how to proceed. They will confirm these instructions via telecom (samsara message) to protect the driver and ensure proper precautions are taken.
    - We expect drivers to conduct adequate pre and post trip inspections that will minimize these occurrences. Picking up copper with a known DOT violation (or any freight for that matter), is not acceptable.
  3. It is the driver's responsibility to ensure they have adequate fuel to complete delivery prior to loading.
  4. Driver should stop at the Altha terminal after loading if their HOS will not permit them to run the load straight through and remain in compliance.

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# USG Sweetwater, TX



USG requires all drivers to wear personnel protective equipment before exiting the truck.

- Hard hat
- Safety Glasses
- Safety Vest
- Gloves
- Steel Toed Boots
- Long Pants

Drivers should leave two tarps, 20 edge protectors and 40 bungees on their dropped trailer.


# Material Pickup Instructions

**Legend**

Material Pickup 



Rev. 1/24/2025

- Check-In with the Security Guard
- ALL Material Pickups: 
  1. Keep left down the hill. Take the first left into the Marshalling Yard
  2. Paperwork and Check-In will be at the Yard Office on your right
- ☐ Live Load Appointments:
  1. Continue to the Waiting Area and pull over until a Yard Service driver calls on you
  2. Drive around the plant until you see the Loading Bays and Park along the right side
  3. A Tarping Service employee will wave you into the next available bay
  4. Driver must remain in vehicle, turn vehicle off, and surrender keys
- ☐ Drop Trailer Pickup
  1. Paperwork will be in mailbox inside the Yard Office
  2. Loaded Trailer will be stationed in the Marshalling Yard for pickup
- **NO PARKING ALONG PLANT ROADWAYS. ALL DRIVERS MUST LEAVE THE PREMISE.**  
Designated Load Securement Pullover Areas are available at the yard entrance/exit



At the entrance to the marshalling yard, there are mailboxes located inside the yard office. Please check the P&S mailbox for the paperwork for your pre-loaded trailer.



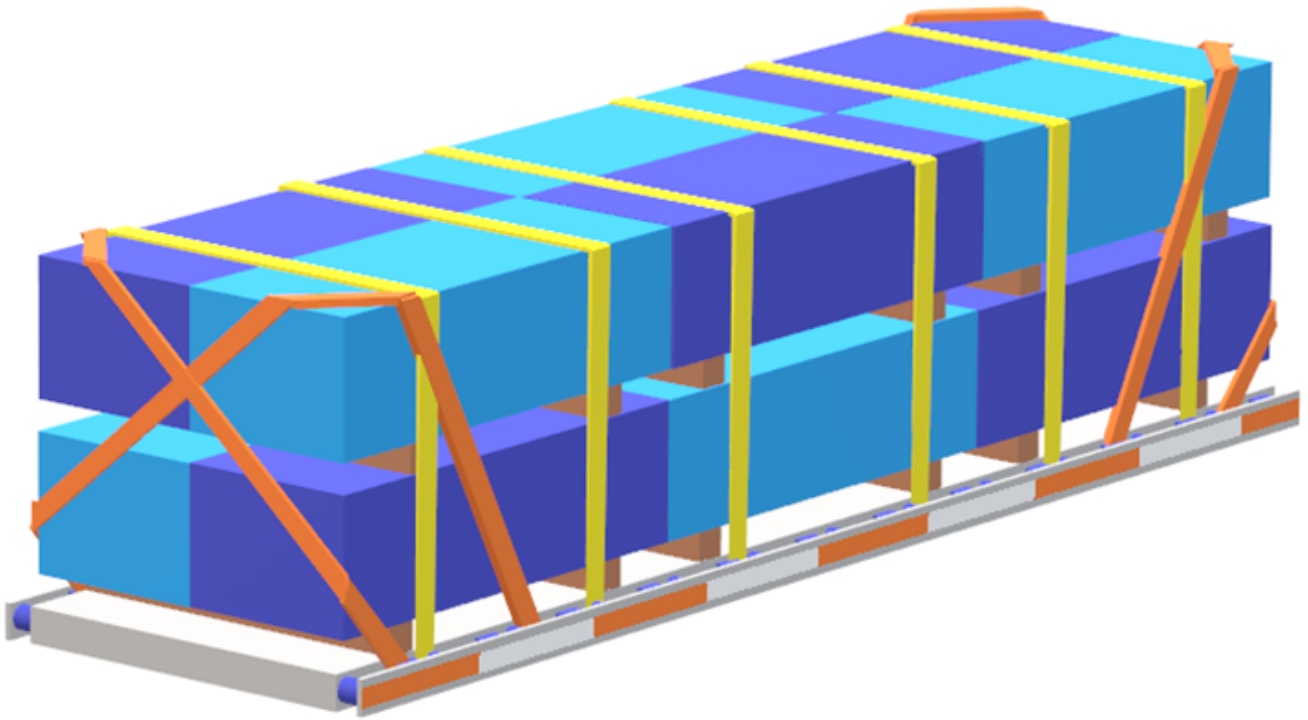
**Standing on the trailer deck is prohibited on USG property.**

**After hooking to your pre-loaded trailer, please fully secure your load.**

1. Each bundle should be secured with two 4-inch straps.
2. Two additional straps should be used in a X pattern over the front and rear face of the load (Orange straps in Figure 1)

## **Points to Remember:**

- Foam insulation board is tall but very light. Failure to X strap the front and rear of the load can result in damage to product and cargo shifts.
- Edge protection must be used to avoid damage to the product caused by straps.
- Be mindful that over-tightening straps can cause damage to the product.



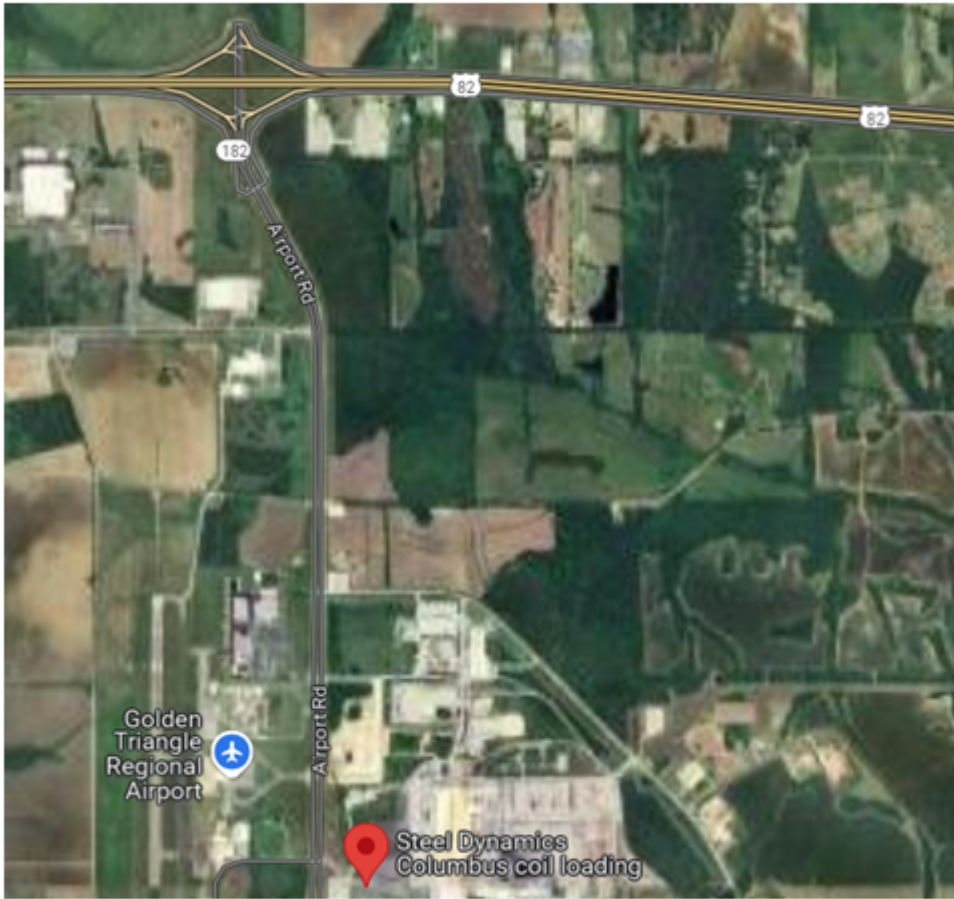
**\*\*\* All loads shipping from this location MUST be fully tarped\*\*\***

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**Arrival**

Approach Steel Dynamics off Airport Road



Enter at location indicated below.



Upon entry into facility, you will be required to weigh your truck and check in.

**PPE is required to be on prior to exiting your truck.**

<b>Steel Dynamics PPE Requirement</b>
Steel Toed Shoes
Safety Vest
Hard Hat
Safety Glasses

Long Pants

### **Checking in**

A test will be given to each driver to make sure that you can read and comprehend safety signs at the facility. You must pass this test to proceed with loading.

Once you pass, a hard hat sticker will be provided, and you will not need to take a test in future.



### **Important:**

At no time will you be allowed on top of your trailer without fall protection in place.

SDI will provide drivers operating open deck trailers with aluminum railing that must be placed in the side rails of all flatbed trailers.





1. **Conestoga Trucks:** These trucks are essentially equipped with fall protection when the cover is closed and locked. Moving forward, we will require that the covers be closed and locked whenever a driver needs to access the trailer, except when spatial limitations prevent this or if this creates some other safety hazards. When exceptions occur, the Conestoga will be treated like a flatbed.

2. **Side Kit Trucks:** These trucks have fall protection but pulling the side panels creates a fall risk. To minimize this risk until a secondary fall system is implemented, drivers must keep the side panels in place when accessing the trailer. Panels should only be pulled as the last step before exiting the trailer for coil placement and must be replaced after the coil is loaded, but prior to securing. This practice will significantly reduce the fall potential and will be discontinued once a secondary fall system is in place by the carrier or the facility. When exceptions occur, the Side Kit will be treated like a flatbed.

SDI has a **ZERO TOLERANCE** for failure to follow on site rules regarding fall protection. This means that you will be banned from the facility if caught not complying.

## **Loading**

Upon check in, you should receive directions on where your truck will be loaded.

If waiting in line to load, this is an opportunity to make sure all side rails are in place.

Once rails are in place, you are now allowed to set up rubber mats, coil racks and timbers as indicated in securement manual.

When truck is in position for crane operator to place coil on trailer deck, it is required for the driver to stand behind the rear of the trailer. Drivers are not allowed to stay in the cab during loading process.

**Note:** Overhead crane operators are instructed to apply the 10 ft. - 45 degree rule. This means that if they notice a driver within 10 feet or inside of 45 degrees while loading, the process will stop.

**Communicate with Crane Operator to make sure he is always aware of your location.**

## **Passengers**

At no time will a passenger be allowed out of the tractor without wearing all PPE.

Passengers will not be allowed to stay in the Cab during the loading process.

## **Securement**

After crane operator loads coil onto trailer, Place minimum securement (2 chains) on coils and proceed to securement area.

If driver must get on trailer deck to secure, fall protection must be in place.

Follow weight and chain requirements in cargo securement manual.

## **Departing Facility**

Aluminum railing must be returned to SDI prior to leaving.

Failure to do so will result in a charge for replacement cost.

Driver will be deducted this amount from his check, if he fails to return the SDI rails.

## **Staging Area / Parking Lot**

There is a truck parking area prior to entering the facility. All rules and regulations for the facility apply in this area.

This means, no accessing the trailer deck without fall protection in place.



[" Click Here for an Instructional Video "](#)

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## Greenheck Tulsa, OK

### **Instructions for Picking Up Pre-loaded Trailers:**

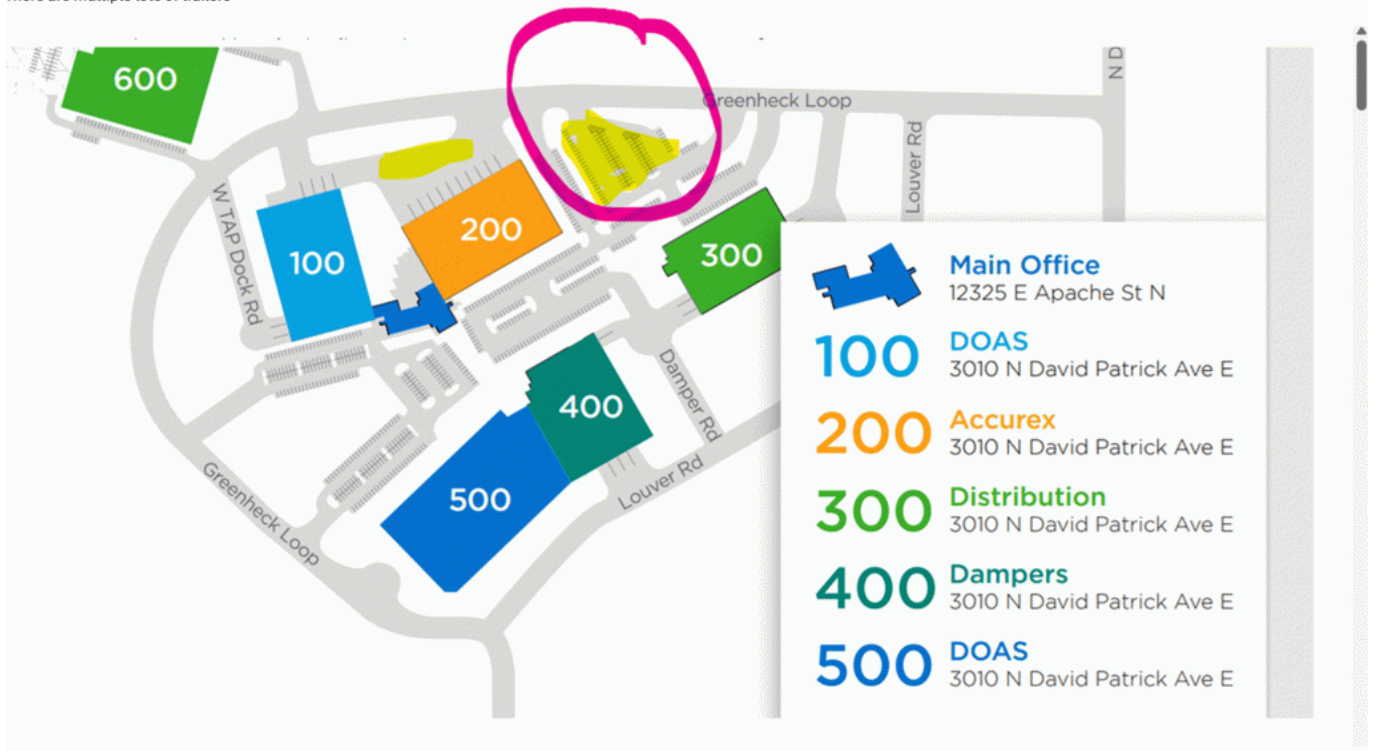
Please ensure that all drivers receive clear, step-by-step instructions on our process to avoid any confusion and ensure smooth operations.

### **Here are the steps drivers should follow:**

1. **Do not check in at any building.** Drivers should not check into any building.
2. **Locate their trailer,** which will be parked around Building 200 on the north or west side.
3. **Park the empty trailer** either next to the one being picked up or in an open spot.
4. **Hook up to the trailer** they are picking up.
5. **Secure the freight**
6. **Retrieve the paperwork** zip tied to the front of the trailer.
7. **They're good to go.**

### **Map of the Facility in Tulsa, OK - Where to Pick Up Pre-Loaded Trailers:**

All our loads—will come from this lot circled  
There are multiple lots of trailers



## Securement instructions

1. Put chains through the securement points at the bottom of the units
2. Make sure your chains have alternate directional pull such as front pulling back and back pulling forward.
3. Do not chain or strap the top of the unit.



Galaxy A15 5G



Galaxy A15 5G

## Post navigation

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# Nucor Vulcraft Fort Payne, AL

Driver will check in at the guard house.



After check in is complete driver will turn left there will be a platform on the right side of the road this may be used on the way in if delivering a coil or other materials to remove tarp of chains or after loading it may also be used for securement and tarping. This customer wants the ladder pushed up to the back of the trailer to prevent falling off the rear of the trailer.



If you are picking up a load continue past platform and follow signs.



If picking up a preload, you can go straight as indicated on the sign and go ahead and drop your trailer in the area shown below.



If live loading turn left and follow signs to the shipping office, which will be to the left of the scale, driver can park on the right side of the scale to check in the shipping office, the clerk will give you the trailer number you are picking up or if live loading direct you to the building and bay you are loading from.



Preloaded trailers will be directly across from the shipping office on the right side of the scale



Once you have your load you can use the scale if you want but not required, and then continue straight ahead until the road turns left, continue left and just before you get to the scale house there are a couple of securement / tarp platforms one on each side of the road or you can continue back around to the platform that was passed on the way in.

**Speed limit is 15 MPH**



## Points to Remember

- PPE Must be worn while out of truck

- Safety Vest
- Hard hat
- Long pants
- Closed toe shoes
- If you load tarps, it will say **Must Tarp** on your paperwork, and you will not be allowed out the gate without it. You should let your DM know so you will be paid for tarping.
- You must always use edge protection under your straps whether hauling Joist or decking.
- Chains are allowed on this material with edge protection and at least 2 must be used on stacks of decking. on the front and rear section of the stack.
- Belly straps should be placed in between the middle layers (if the load is 6 layers the bellies should be placed between the 3rd and 4th layers) and can be slid in from the front and the rear of the stack to the dunnage.
  - If the decking has dunnage on the top of the material chains can be placed in the slot of the dunnage as shown below.
  - If no dunnage on top, then the chains should be on the 2nd layer in front of the dunnage to prevent the material from shifting forward.



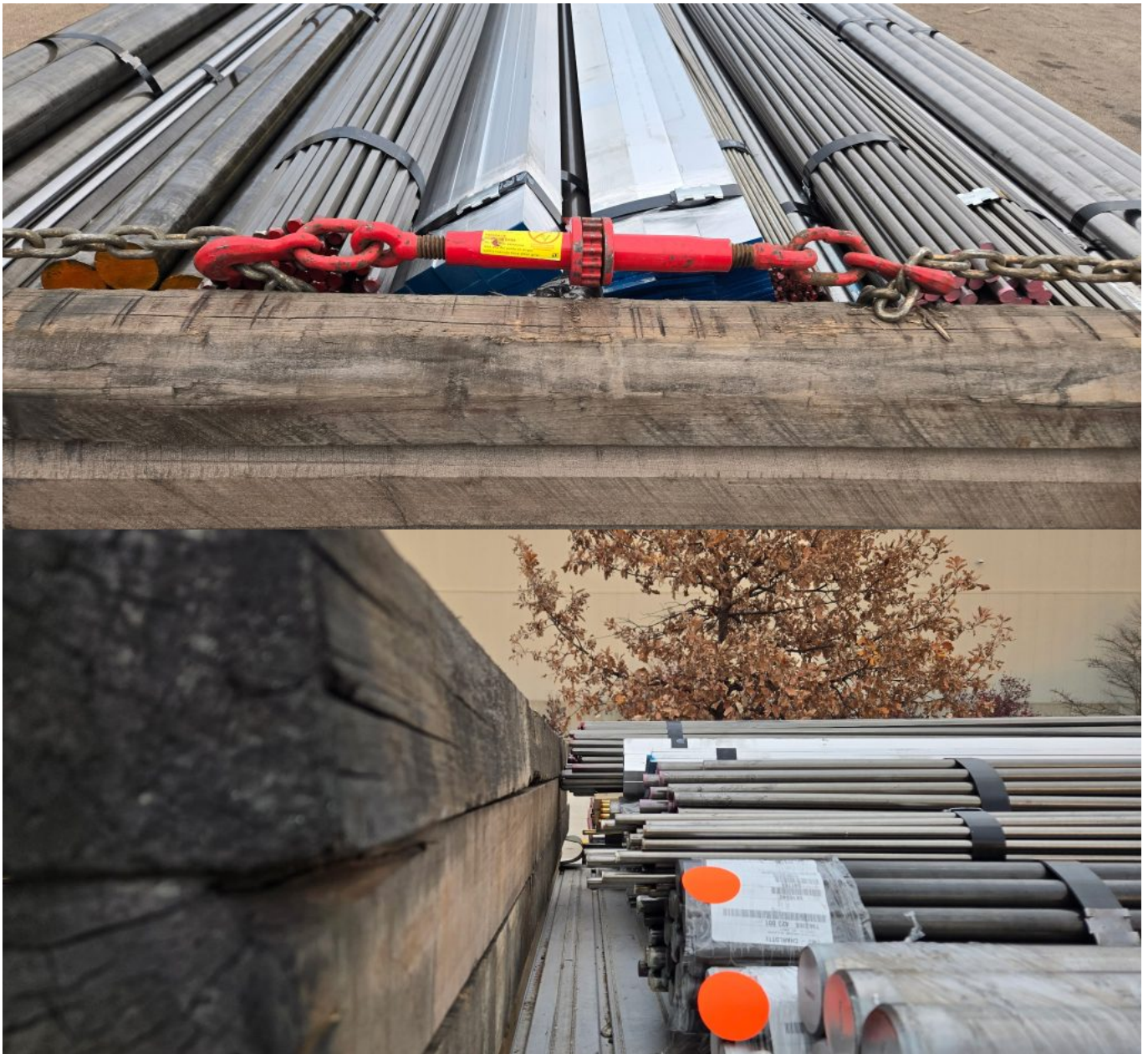
[Click Here for Instructional Video](#)

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## EMJ (Earle M Jorgensen) Schaumburg, IL

### Points to Remember

1. When loading at this facility the driver must build a bulkhead or header board at the front and back of the material.
2. The standard bulkheads require 4 stacked timbers, a chain and binder.
3. If bundles are different heights, you may need to weave straps to obtain down pressure on each.



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# Air Conditioners

## Securement instructions

1. Put chains through the securement points at the bottom of the units
2. Make sure your chains have alternate directional pull such as front pulling back and back pulling forward.
3. Do not chain or strap the top of the unit.



Galaxy A15 5G



Galaxy A15 5G

# Bulkhead Construction

- Stack Dunnage to the desired height
- Hook the chain about 1 foot from each end of the stacked timbers so the chain blocks the timbers from kicking out in either direction.
- Bind the chain on top of the timbers in between the hook points



# Cable Reels / Spools

## Spools of cable, wire, or tubing



- Front and rear should be secured with 2 chains through the eye, each pulling at opposite 45 deg. angles
- If the reels / spools are not butted together then each spool must have 2 forms of securement pulling at opposite 45 deg. angles. If you run out of chains, then straps may be used through the eye on the center ones
- If butted together then the front and rear reels / spools should be secured with 2 chains through the eye of spool pulling at opposite 45 deg. angles and the ones in between must each have a minimum of 1 securement device through the eye. **Note:** 2 is still preferred.
- The shipper normally supplies a pipe to push securement device through the eye.

# Coil Set up and Securement

1. [Setting up coil racks](#)
2. [Slinky coils](#)
3. [Steel coils loaded shotgun](#)
4. [Steel coils loaded crosswise \(suicide\)](#)
5. [Steel Coil Securement- Eye Vertical \(Eye-to-the-Sky\)](#)
6. [Steel Coil \(Stacked\) Eye-Vertical \(Eye-to-the-Sky\)](#)
7. [Steel Coil- Narrow Upright Shotgun](#)
8. [Steel Coil- Narrow Upright Suicide](#)
9. [Steel Coil Securement- Banded Slit Coils Eye Forward \(Shotgun\). Hogtie.](#)
10. [Steel Coil Securement- Banded Slit Coils Eye Crosswise \(Suicide\). Hogtie.](#)
11. [Aluminum Coil Securement- Eye Forward \(Shotgun\)](#)
12. [Aluminum Coil securement- Eye-crosswise \(Suicide\)](#)
13. [Aluminum Coil Securement- Eye Vertical \(Eye-to-sky\)](#)

## Setting up coil racks

1. Use one coil rack for every 10,000 lbs of coil. Always round this number up.
2. Rubber mats should be placed between the deck of the trailer and the coil racks.
3. Place beveled coil timbers inside the racks.
4. Rubber mats should be placed on top of the timbers before the coil is loaded.

Points to remember:

- Only beveled hardwood coil timbers should be used inside the coil racks.
- Timbers should be inspected before every use for signs of rot, damage, deep cracks, or weak points such as knots in the wood grain. Any timber that shows these signs should not be used and replaced as soon as possible.
- When setting up for eye crosswise coils (suicide) do not place the coil racks on the wood stripping on a trailer.

A five-coil rack set up for a 40,000lb or larger coil. Rubber mats should be added to the top of the timbers before loading. **Do not put Rubber mats between the timbers and the coils if loading narrow or slitted coils**



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## Slinky Coils - Rolled Wire/Rolled Rod Coils

1. Set a coil rack up on the front of the trailer. The first coil should be loaded into this rack.
2. Secure the first slinky with a butterfly wrapped 4-inch strap. This strap (pictured as orange below) should go through the eye then back across the top of the coil, then go back through the eye before being secured to the far side of the trailer.
3. Have the remaining coils loaded tightly against the first coil.
4. The rear most coil should be loaded into a coil rack and secured in the same manner as the first coil on the trailer.
5. On the front half of the load: Bring a strap under the rub rail at the rear edge of the coil, take it through the eye of the first coil, back across through the eye of the next coil behind it, then back through the eye of the first to the far side of the trailer. (Pictured in red below) Continue this process until you secure the front the centermost coil.
6. On the rear half of the load: Starting at the coil 1 behind the center bring a strap under the rub rail at the front edge of the coil, take it through the eye of the coil, back across through the eye of the next coil in front of it, then back through the eye of the first to the far side of the trailer. (Pictured in green below)
7. An additional butterfly strap should be included on the middle coil.

### Points to Remember:

- Winches used for the horizontal wraps (green and red straps below) should be on alternating sides as you move down the trailer.
- Note that the configuration of the red and green straps pulls all the coils towards the center of the trailer as they are tightened.
- Butterfly wraps are in place to keep the coils from leaning over during transit.



Figure 1: Load of slinky coils. Coil racks (purple) shown under the front and rear coils. Butterfly wraps (orange) on the front, rear, and center coils. Horizontal wraps are pulling rearward on the front half of the load (red) and forward on the rear half of the load (green).

## Eye to the Sky Slinky Coils

**If the coils are not butted together, then each must be loaded as a single eye to the sky coil. This means,**

- Each coil must have 3 forms of securement
  - 1 directly over the center of the eye
  - 2 diagonals over the eye (X'ED)
- If butted together so each one is touching the other, then 3 forms of securement may be placed on the front and rear as described above and the others can be secured with the diagonal straps.

- In most situations if you run short on straps a chain can be used over the center and then add the diagonal straps.



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# Steel Coil Securement- Eye Forward (Shotgun)

1. Set coil racks as described in coil rack section.
2. Secure the load with two 4-inch straps before moving.
3. Add two chains in an X configuration inside the eye.
4. Add additional chains until aggregate working load limit requirements are met. (FMCSA required plus one)
5. Use edge protectors under all chain so that the chain cannot touch the corners or front and rear face of the coil

## Points to remember:

- 4-inch straps over the top do count full working load limit toward but do not do anything to prevent forward motion. It is recommended to use 6 chains + 2 straps on any shotgun coil larger than 30,000 lbs.
- Chains that are put on in a “C” configuration (also called a “U” chain or a “Horseshoe”) Only count ½ the working load limit of the chain.
- Chain angle on the front side of the coil is very important. Chain should exit the coil and come straight over to the edge of the trailer. If the chains go too far forward from the front face of the coil they will not prevent forward motion. (See Figures 1 and 2)

## How many chains and straps do I need? (WLL for chain: 4700 lbs. Straps = 5400 lb WLL)

Weight (lbs)	0-9,400	9,401-18,800	18,801-28,200	28,201-37,600	37,601-47,000	47,001-50,000
# of Chains	2	3	4	6	6	6
# of Straps	2	2	2	2	2	3



**Figure 1:** Chains close to coil face preventing the coil forward motion.



**Figure 2:** Chains are too far out and will allow to slide forward.

## “Stack Back” method for chain- 3 sets of X chains.

1. First set of X chains (Blue chains below) are attached to the trailer at the front and rear faces of the coil.
2. Second set of X chains (green chains) are attached one spool behind the attachment points for the blue chains.
3. The third set of X chains (red chains) are attached one spool to the rear of the attachment points for the green chains.
4. This configuration makes all six chains wrap around the front of the coil, meaning all six chains must break before the coil can move forward.

- Edge protection must used under all chains at the eye and on the front outside edge of the coil. Chain cannot contact the front or rear face of the coil.



**Figure 3:** Front view of “Stack Back” method showing all 6 chains crossed inside the eye of the coil.



**Figure 4:** Side view of the Stack Back method. The front face of the coil is on the left. This shows the wrap around of all six chains on the front of the coil.

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## Steel Coil Securement - Eye Crosswise (Suicide)

- Set coil racks as described in the previous section.
- Be sure the loader centers the load in the coil racks.
- Secure the coil with two chains before moving. If it is a larger coil the two chains should be in the center of the coil to provide the greatest amount of downward pressure.
- Add chains to get to the total aggregate working load limit required. (FMCSA required plus one extra)
- Tarp if needed and properly store all equipment.

### Points to remember:

- Only use chain to secure steel suicide coils.
- Chains cannot cross inside the eye of the coil.
- Straps or chains over the top of the coil do not count toward aggregate working load limit.
- The front and rear chains must be at a 45-degree angle or less from the deck of the trailer. See figure 2.
- Metal edge protectors must be used under the chains.

### How many chains is needed (5/16” Grade 70 chain, 4700lb WLL):

Weight (lbs)	0-9,400	9,401-18,800	18,801-28,200	28,201-37,600	37,601-47,000	47,001-50,000
# of Chains	2	3	4	5	6	7



Figure 1: Eye crosswise coil with a weight of 45,000 lbs



Figure 2 secured with six chains.

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## Steel Coil Securement- Eye Vertical (Eye-to-the-Sky)

1. Coils typically weigh less than 20,000 lbs. and can either be loaded on dunnage provided by the driver or loaded on skids or pallets provided by the shipper.
2. Chains should be used for securement unless specifically prohibited by the shipper.
3. Chains should always be crossed in an X pattern over the tops of the coils
4. Chains on the forward side of the coil should attach to the trailer 12-18 inches in front of the edge of the coil to prevent forward motion.
5. All eye-to-the-sky coils must have a trip or toe strap or chain around the front to prevent forward motion.

### How many chains do I need? (Grade 70, 5/16" WLL 4700lbs)

Coil Weight (lbs)	0-9,000	9,000-18,000	18,000-27,000
# of Chains	2	3	4

#### Figure 1

Single 18,000lb coil showing 3 chains crossed over the top and a single trip chain (red). A 4-inch strap can be used instead of a trip chain



#### Figure 2

2 18,000lb coils. Three chains crossed over each and a trip chain (red) front and rear. 4-inch straps can be used in the place of the trip chains



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## Stacked Eye-Vertical Steel coils

- When hauling stacked eye-vertical coils, add the weight of each coil in the stack together and secure the stack like an individual coil.
- Use a vertical chain holder to keep the trip chain up on the upper coil to keep the top coil from shifting.
- Vertical Chain Holders are made of aluminum and direct downward pressure from a chain or strap will cause them to bend. They are not designed to be load bearing.



**Figure 3 (Above):** A stack of two 12,000lb steel coils. Total weight: 24,000lbs. Secured with 4 chains (Green & Yellow). The trip chain (red) is shown elevated by the Vertical Chain Holder (Orange) to keep the trip chain in contact with the upper coil to prevent shifting.



**Figure 4 (above):** A side view showing how the Vertical Chain Holder keeps the trip chain in contact with the upper coil. **Below:** A Vertical Chain Holder.

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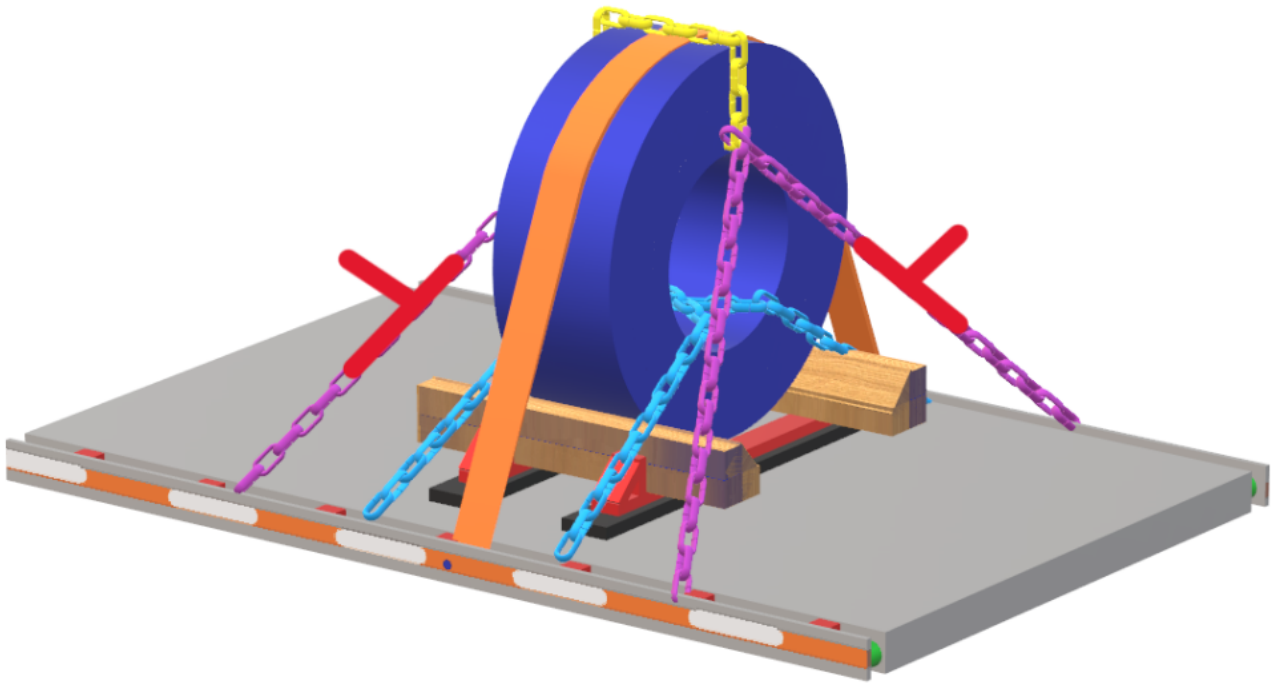
## Steel Coil- Narrow Upright Shotgun

Coils taller than 3ft but narrower than 2ft

1. [REDACTED]
2. Place a chain across the top of the coil and bring it back through the eye, hooking it into itself. (Yellow chain, Figure 1).
3. Chain through the loop on each side with chain (purple chains, Figure 1). [REDACTED]
4. Add cross chains to the coil to reach FMCSA aggregate working load limit plus 1.
5. Add a 4-inch strap across the top of the coil.

### Points to remember:

- Hogtie must be done first. The crane or forklift must hold the coil until this process is completed.
- Edge protection must be used on all contact points for the chain.
- Hogtie chains do not count toward FMCSA required securement.
- Coil racks should not be positioned outside the width of the coil. Failure to do this can result in too much stress of the coil timbers causing them to fail in the middle.



**Figure 1**

Illustration representing a 15,000lb narrow upright shotgun coil. The hogtie is done first (yellow and purple chains). These chains do not count toward FMSCA required securement. The coil is secured with 2 chains (blue) and 1 4-inch strap. Notice the coil racks are set up under the coil.

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## Steel Coil- Narrow Upright Suicide

Coils taller than 3ft and 2ft or less across.

1. Set up friction mats and coil racks according to weight. [REDACTED]  
[REDACTED]  
[REDACTED] For narrow coils the racks do not need to be set up outside the width of the coil.
2. Once the coil is placed in the racks a hogtie must be completed before the crane or forklift release the coil.
3. Throw one chain over the top of the coil bringing the hook back through the eye and hook it back into the chain. Repeat the process from the opposite side.
4. [REDACTED]
5. Secure the load with FMCSA required chains plus one extra as described in section \*\*\*

### Points to remember:

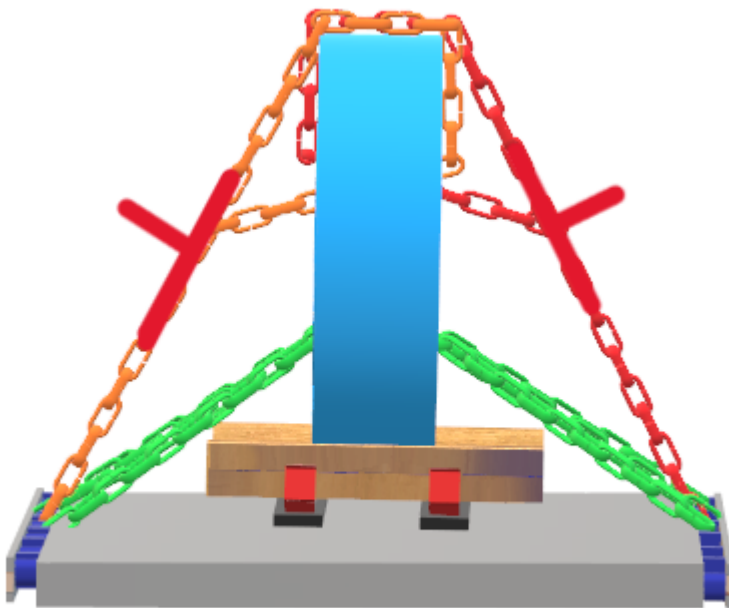
- Hogtie must be done first. The crane or forklift must hold the coil until this process is completed.

- Edge protection must be used on all contact points for the chain.
- Hogtie chains do not count toward FMCSA required securement.



**Figure 1:**

18,000 lb narrow steel coil secured with a hogtie (red & orange chains) and 3 chains through the base of the eye. The red and orange chains do not count toward FMCSA total aggregate working load limit.



**Figure 2:**

Front view of the coil from figure one showing chain configuration.

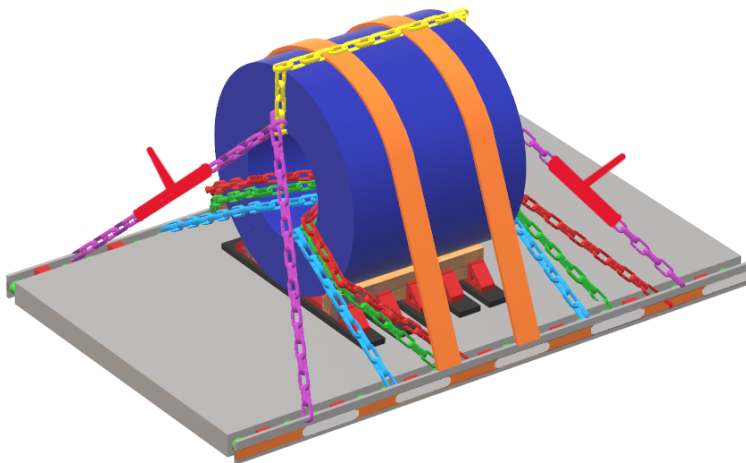
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## Steel Coil Securement- Banded Slit Coils Eye Forward (Shotgun). Hogtie.

1. Secure the coil according to the shotgun coil section. [REDACTED]
2. Place a chain around the top of the coil, bring it back through the eye and hook it back into itself (yellow chain on figure 1)
3. Place an additional chain through the looped chain on each side of the coil (purple chain figure 1)
4. [REDACTED]

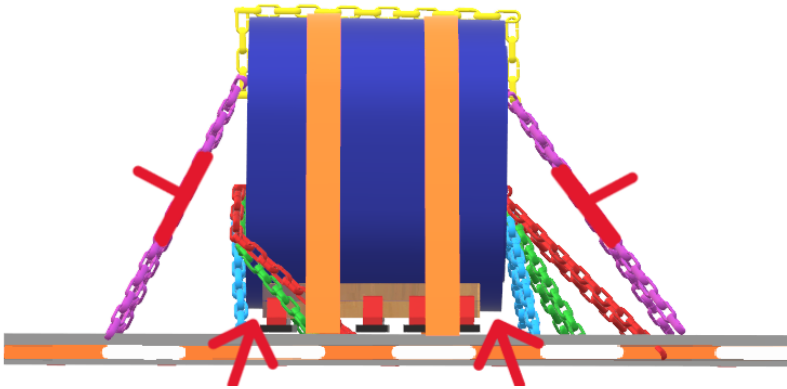
### Points to remember:

- The banding material that holds these coils together will break under stress, causing the coil to fall forward. This hogtie technique eliminates this issue.



**Figure 1**

45,000lbs cut coil showing a 6-chain, 3-X configuration with a hogtie. Notice the yellow chain looped around the top of the coil and the purple chain pulling on each side of the loop.








**Figure 2**

This shows the same coil above from the side. The front of the coil is on the left.



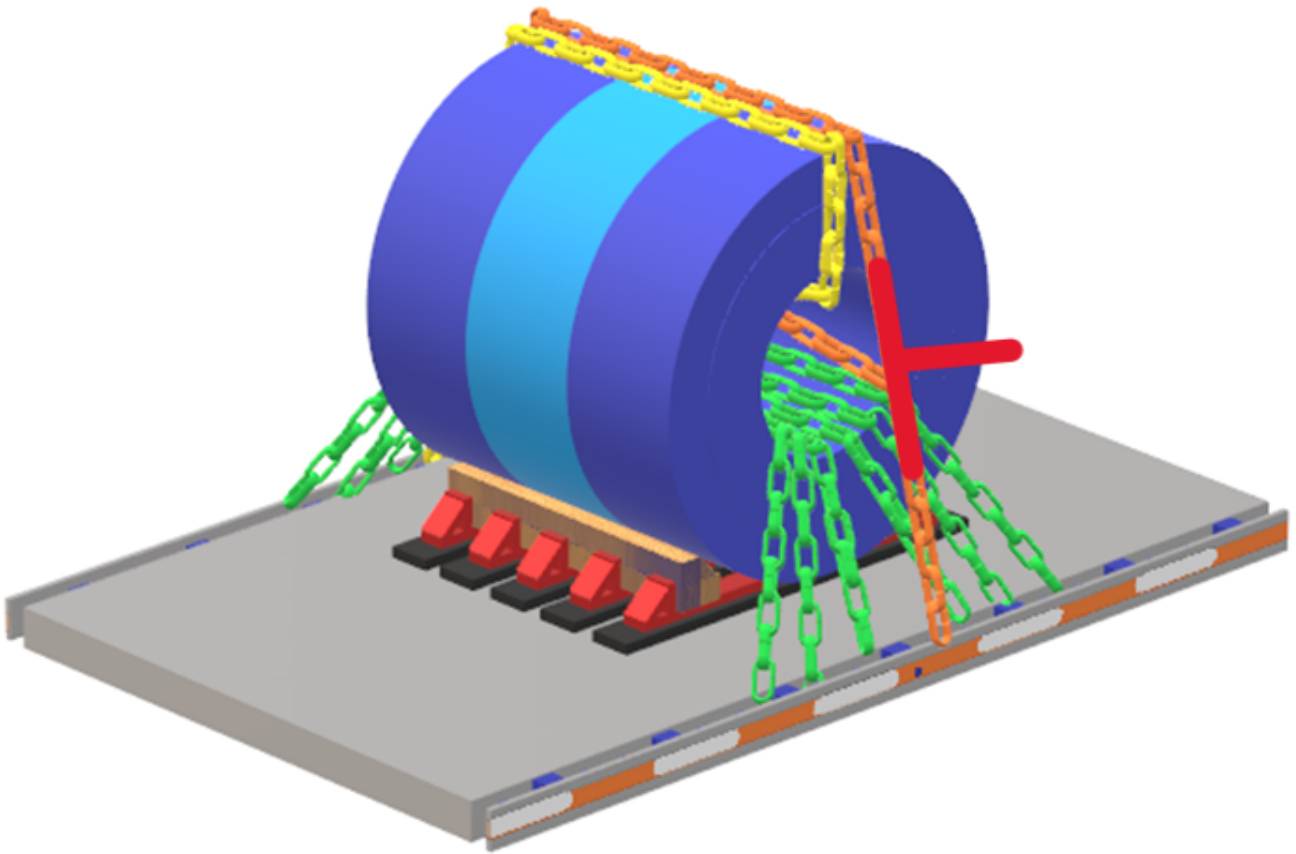
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## **Steel Coil Securement- Banded Slit Coils Eye Crosswise (Suicide). Hogtie.**

1. Set up friction mats and coil racks according to weight.   
  
  

2. Take a chain (yellow below) over the top center of the coil, loop it through the eye and hook it back into itself.
3. Take a second chain (Orange below) and repeat step 2 from the opposite side.
4. 
5. Secure the coil with FMCSA required chains plus 1 extra as described in section \*\*\*.

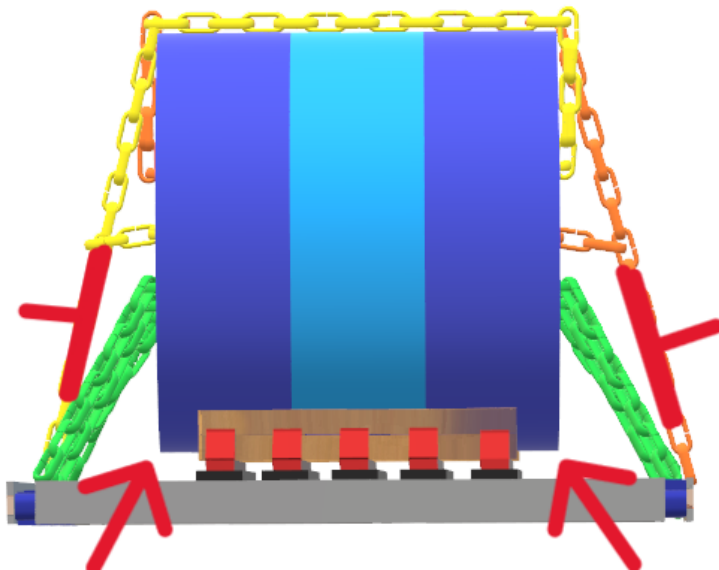
### **Points to Remember:**

- Edge Protectors must be used anywhere the chain touches the coil.
- Do not count the hogtie chains towards your total aggregate working load limit of you tie-downs.



**Figure 1:**

45,000lb slit coil secured with six chains (green) and hogtied with two additional chains (yellow and orange) and binders for a total of 8 chains.



**Figure 2:**

Front view of the coil in figure 1. This shows the configuration of the hogtie chains (yellow and orange).

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## Aluminum Coil Securement- Eye Forward (Shotgun)

1. Set up friction mats and coil racks according to weight.
2. Once loaded, secure the coil with two 4-inch straps (orange below) before moving to the securement area. **(Never throw straps across aluminum coils.)**
3. Add one additional strap over the coil (yellow below).
4. Add two chains in an "X" configuration. **(Do not throw chains through the eye of the coil, place chains by reaching through the eye to avoid damage.)**

### Points to remember:

- Straps over the coil do count toward total aggregate working load limit but do very little to prevent forward motion during hard braking. Crossed chains are required.
- Ratchet binders must be used on the chain. Snap binders are not allowed.
- Felt padding must be used under metal edge protectors on the chain.
- Chain can never touch the front face or outside edge of the coil.



Figure 1: 24,000lb shotgun loaded aluminum coil with two x- chains and 3 4-inch straps. Total working load limit of tie-downs is 25,600lbs. This would be legal securement for a coil weighing up to 51,200lbs.

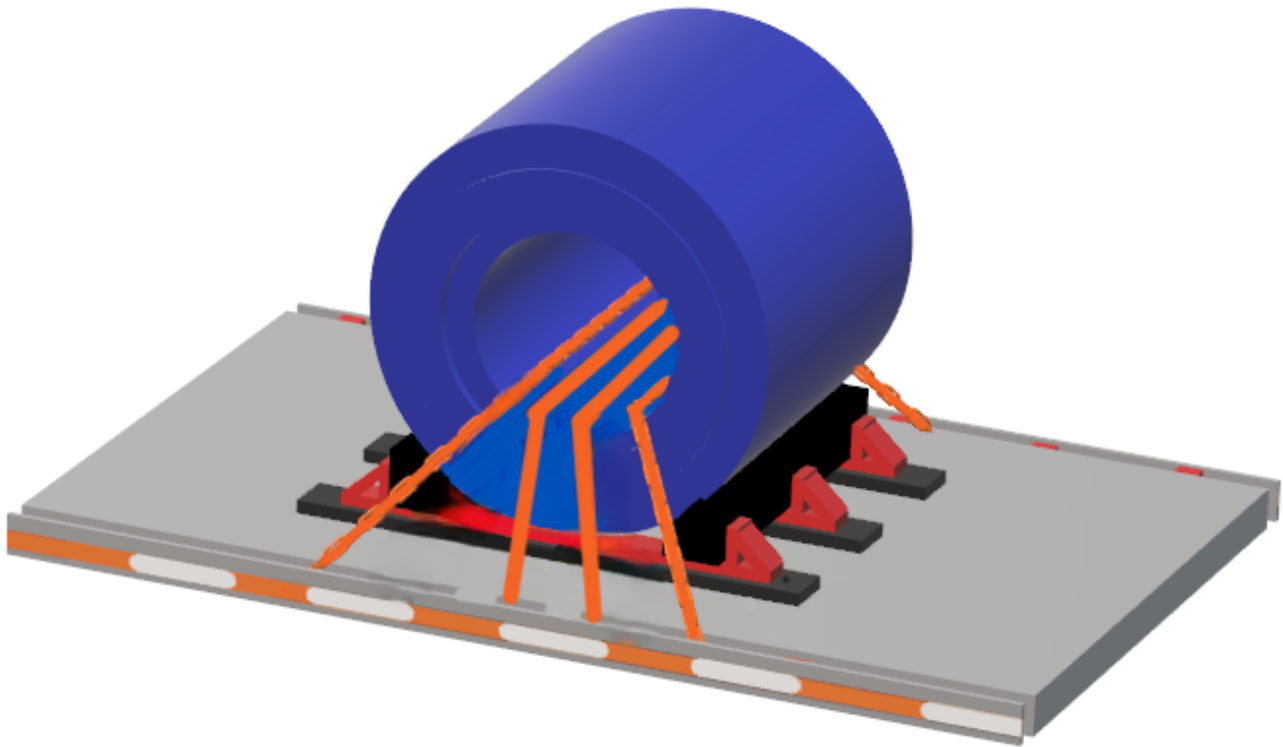
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## Aluminum Coil securement- Eye-crosswise (Suicide)

1. Set up friction mats and coil racks according to weight.
2. Secure each coil 2 chains before moving out of the loading area. **(Do not throw chains through the eye of the coil, place chains by reaching through the eye to avoid damage.)**
3. Once in the securement and tarping area finish chaining before departing the shipper.

### Points to remember:

- Coils usually weigh between 22,000 to 24,000 lbs but can be heavier. They are often hauled in pairs.
- **(Do not throw chains through the eye of the coil, place chains by reaching through the eye to avoid damage.)**
- Felt padding must be placed under the metal edge protectors used under the chains.
- Only ratchet binders can be used on chains. Snap binders are not allowed.
- The chains must be at a 45o angle or less from the deck of the trailer.



**Figure 1:** 24,000lb aluminum coil secure 4 chains (orange). The aggregate working load limit for all four tie-downs is 18,800 lbs. This is legal securement for a coil weighing up to 36,600 lbs.

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## Aluminum Coil Securement- Eye Vertical (Eye-to-sky)

1. 4-inch straps must be used for securement. **Straps must never be thrown over the coils.**
2. Place two crossed straps over the center of each coil before moving from the loading area. (Orange straps in Figure 1)
3. Place two more crossed straps over each coil. These straps should be hooked to the trailer 12 to 18 inches forward of the front edge of the coil to help prevent forward motion.
4. A trip strap (red strap in Figure 1) should be added along the base of the coil to further assist in preventing forward motion.
5. Shipper provided edge protection should be used under every strap and across the front face of the coil for the trip strap.

### Points to remember

- The trip strap does not count for DOT required aggregate working load limit.
- Trip straps should not touch the pockets on the sides of the trailer. The pockets are sharp enough to cut straps when under tension.
- The straps on the front side of the coil should be attached 12-18 inches forward of the front edge of the coil.



**Figure 1: Two 24,000lb eye-to-the-sky aluminum coils secured with 4 4-inch straps each and a single trip strap (red).**

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# Concrete Pipe

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## Introduction to Concrete Pipe

Securement regulations for concrete pipe are different from other types of commodities. Concrete pipes have their own regulations, which can be found in the Federal Motor Carrier Safety Administration Regulations Handbook (FMCSR) in section 393.124. These special regulations apply to all concrete pipe except those loaded eyes vertical and those loaded eyes forward (or lengthwise). Securing concrete pipe requires high level cooperation between the shipper and the driver in order to be compliant and secured. Concrete pipe is subject to all general cargo securement requirements for the number and placement of tiedowns.

### Shipper's Role

It is important that shippers understand the unique regulations regarding concrete pipe. Shippers should educate their loaders and operators on the correct securement and also proper loading techniques for concrete pipes.

### Driver's Role

The driver must be able to spot any loading issues and report them back to the shipper. These issues must be corrected prior to departure. The driver is responsible for safely and legally securing the load before departing. If the load cannot be safely and legally secured, drivers are to report it to the shipper and their driver manager.

### Pipe Sizes

Securement regulations divide concrete pipe into two different categories:

- Medium Pipe- Inside diameter of 45 inches or less.
- Large Pipe- Inside diameter of more than 45 inches.

### Wood Blocking

Wooden blocking at the front and rear of sections must meet the following criteria: A single block must be at least half the width of the pipe it is holding. A full 8ft timber is preferred.

Blocking must not be smaller than 4 inches by 6 inches (4×6) timber. This is a regulation that can be found 393.124(c)(4)

### Edge Protection

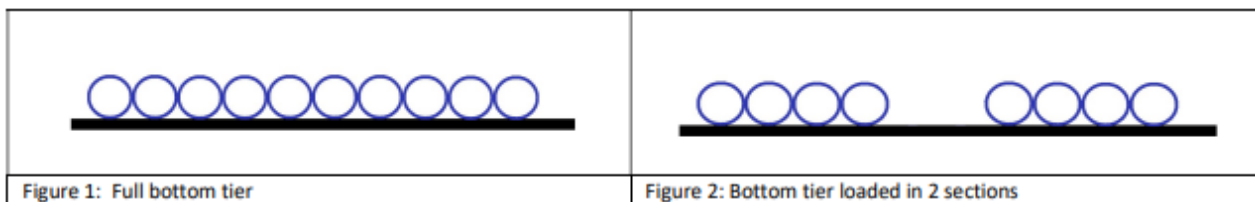
Proper edge protection is a must when hauling concrete pipe. Concrete pipe is very abrasive and will quickly damage webbing straps. Chain can chip and damage concrete edges. Edge protection must be used anywhere the tiedown contacts the freight.

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## Loading Concrete Pipe

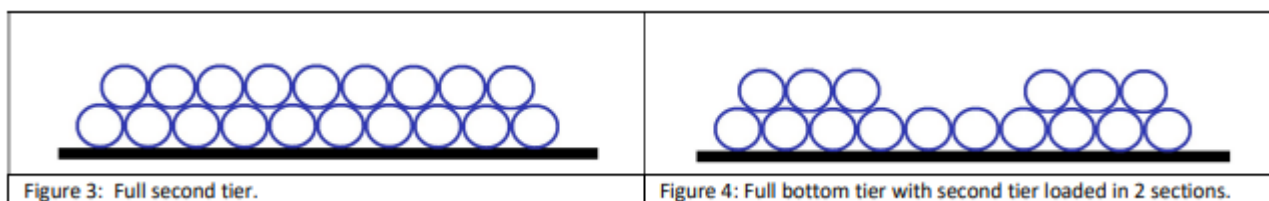
### Bottom Tier / Single tier loads

- Bottom tier must be loaded down the full length of the trailer or as a partial tier in one or two sections. 3 separate sections are not allowed per FMCSA regulation.
- The front and rear pieces of pipe must be immobilized by blocking, vehicle structure, stakes, or locked pipe unloader.
- Each pipe in the bottom layer must be held firmly in contact with the pipe directly to front and rear of that piece.



### Second Tier

- Pipe in the second layer can only be placed in the wells or grooves formed by the pipe in the first layer.
- Pipe in the second tier can be loaded in one section or two. 3 separate sections are not allowed by FMSCA regulations.



### Third Tier

- A third or higher layer can only be started if all the wells on the lower layers are filled.

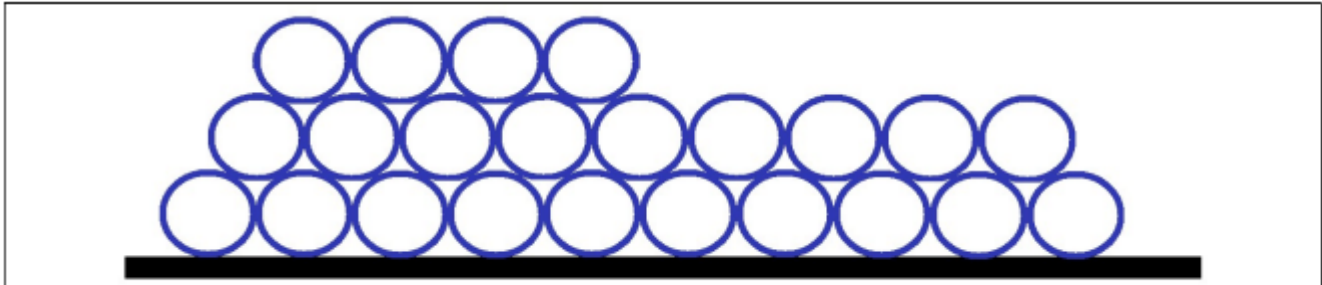


Figure 5: Top layer on top of two full layers.

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## Bell Pipe

Bell pipe must follow the same set up as shown on the previous page in addition to the following requirements.

- All bell pipe must be loaded on wood spacers tall enough to prevent the bell from touching the deck of the trailer.

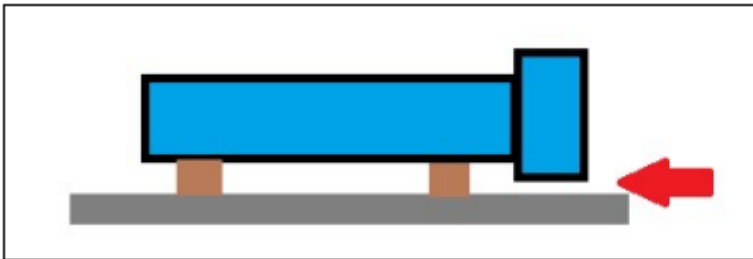


Figure 6: Bell pipe sitting on dunnage (brown) to keep the bell off the trailer deck. The red arrow showing the spacing between the bell and deck.

### Single Layer Bell Pipe

- Single layer bell pipe must be loaded so that the bells are on alternating sides of the trailer.
- This can be done by loading the pipe ends even on the trailer or by overlapping the bells on each side.

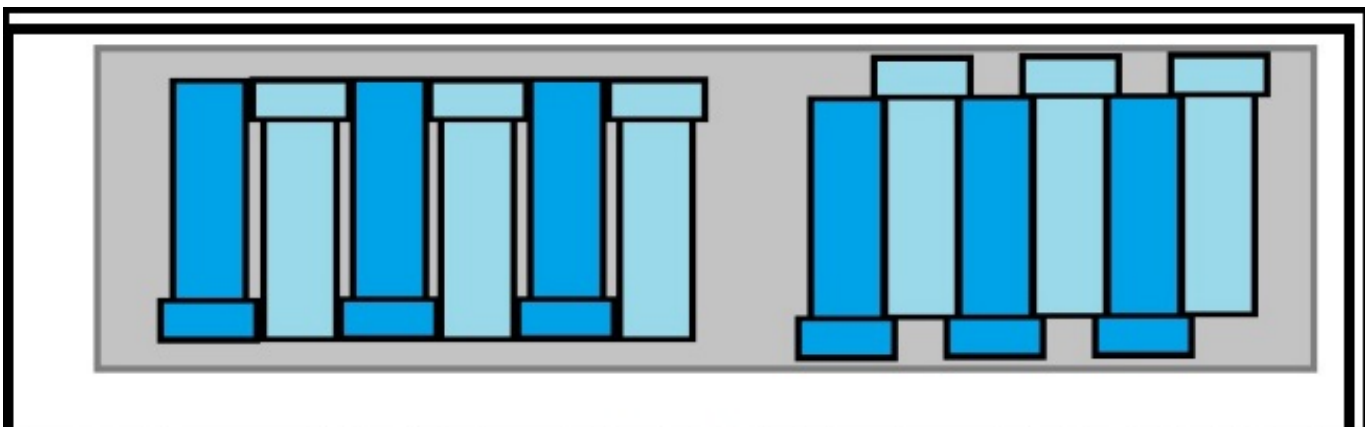


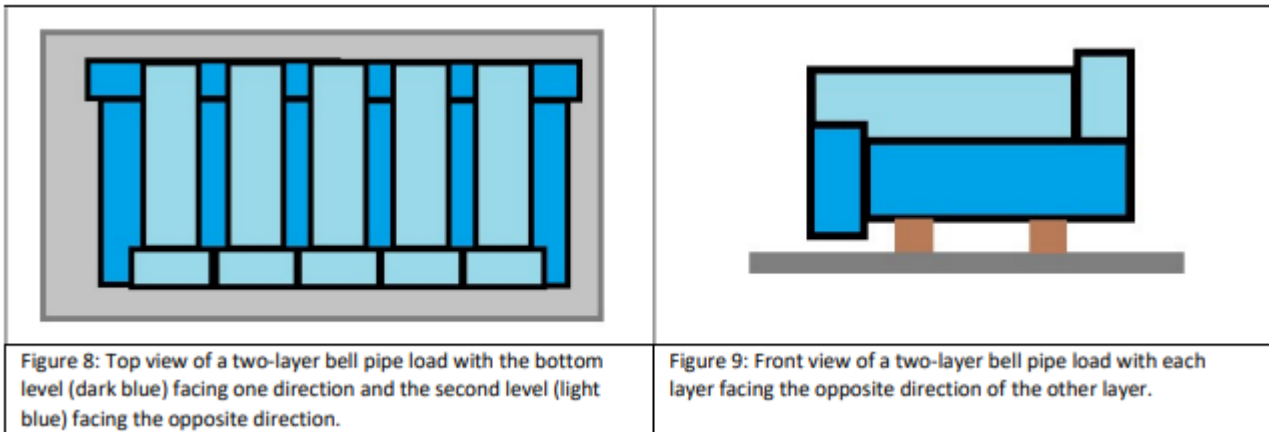
Figure 7: Single layer concrete bell pipe. The 6 pieces on the left are loaded with the pipe ends even on both sides. The right side shows 6 pieces loaded with the bells overlapping on each side.

### Multiple layer bell pipe

- Bottom level of pipe must be loaded with all the bells facing the same direction on the trailer.
- Second level of pipe must be loaded with all the bells facing the opposite direction of the

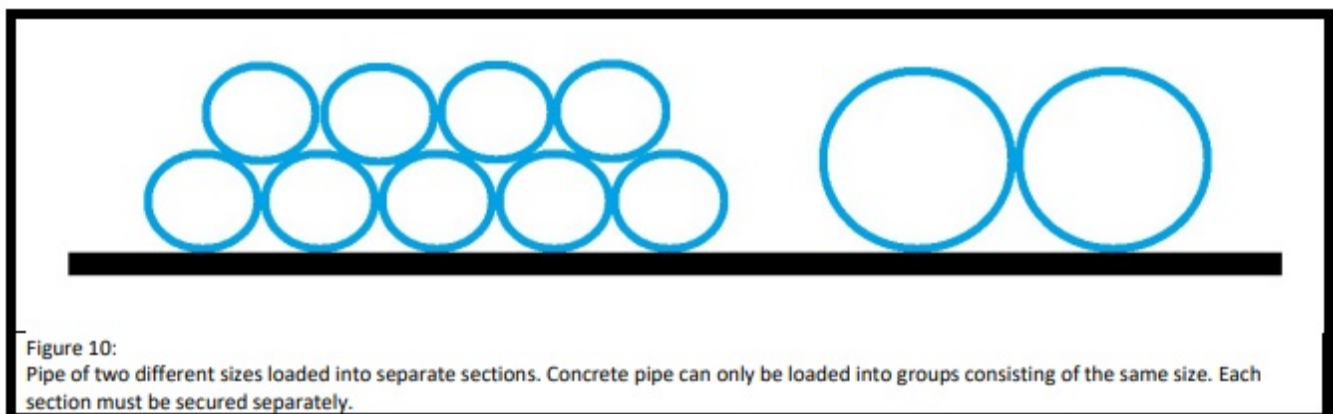
bottom layer.

- If a third level is used, the bells must be loaded in the opposite direction from the second level.



### Multiple Sizes of Concrete Pipe

- If pipe of more than one diameter are loaded on the trailer, groups must be formed that have only one size of pipe.
- These groups must be secured separately from each other.



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## Concrete Pipe (Inside diameter 45 inches or less) with longitudinal cable system

1. The front of the bottom layer must be immobilized with a wooden blocking to prevent rolling. This blocking must be no smaller than a 4-inch by 6-inch (4×6) timber. If using a step deck trailer this can be skipped if the pipe is loaded against the front the step of the trailer
2. The rear of the bottom layer must be immobilized with wooden blocking to prevent rolling. This blocking can be no smaller than a 4×6 timber.
3. The front pipe on each additional tier must be secured with a tiedown that pulls towards the rear of the trailer at a 45° angle or less. This must be done to both sections if multiple sections are loaded.
4. The rear pipe on each additional tier must be secured with a tiedown that pulls toward the front of the trailer at a 45° angle or less. This must be done on both sections if multiple sections are loaded.
5. Two cables should be placed over the length of the load.

6. If the upper layer is not full or if the upper level is two sections, tiedowns should be placed over the cable behind the last pipe to keep the cable tight against the pipe.
7. Tiedowns should be placed over the load down its length with no more than 10 ft between tiedowns. These can go through the pipe on the top layer or over the top of the load over the longitudinal (lengthwise) cable.

## **Points to Remember:**

- Edge protection must be used every place a tiedown touches the pipe.
- Every pipe must have downward pressure from the cables, another piece of pipe, or a tiedown through it.

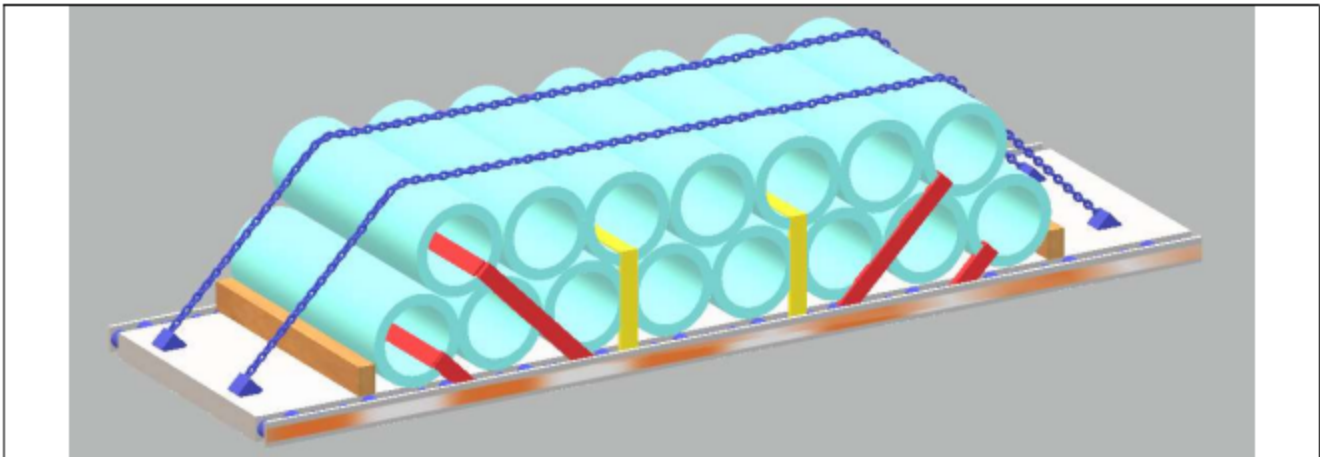


Figure 1: Concrete pipe load with full upper tier. The front and rear are blocked by 4x6 timbers. Each end pipe in both layers is secured with a tiedown that pulls at a 45° angle towards the center of the trailer (red straps). Straps are placed through the load every 8 ft back through the center of the load (yellow straps).

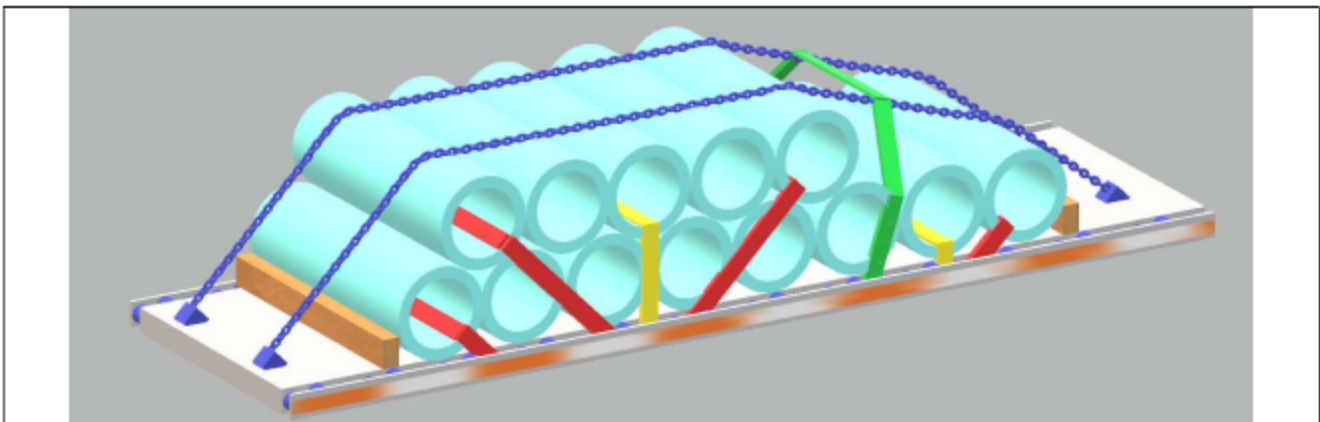


Figure 2: Concrete pipe load with partial upper tier. The front and rear are blocked by 4x6 timbers. Each in pipe on both tiers is secured with a tiedown that pulls at a 45° angle towards the center of the trailer (red straps). A tiedown is placed across the longitudinal tiedowns behind the rear pipe on the top section to keep the cable system tight (green strap). A strap must be placed every 8 ft back through the center of the load (yellow straps). The pipe second from the rear requires a yellow strap because it has not other source of downward pressure.

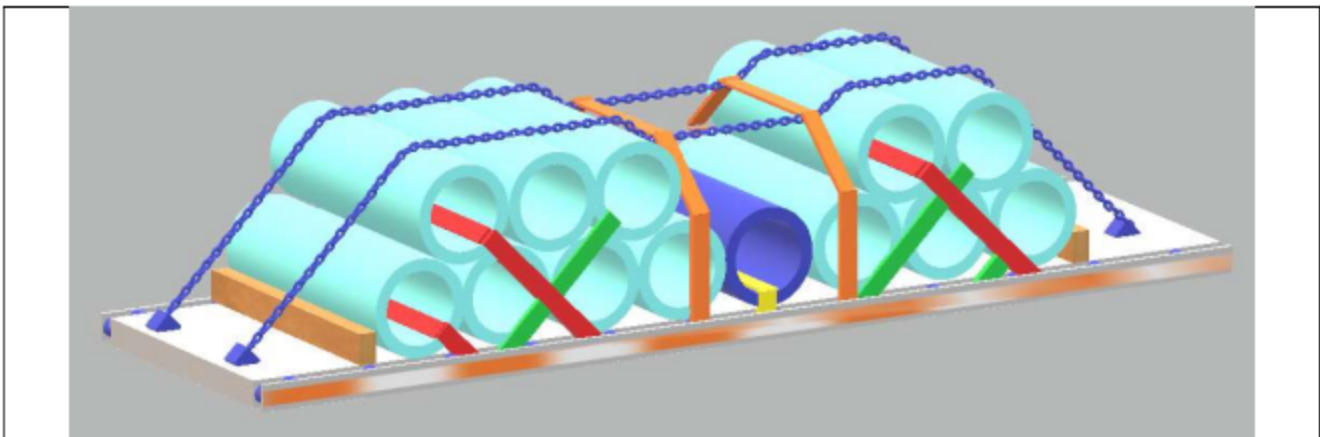


Figure 3: Concrete pipe load with 2 section upper tier. Front and rear are blocked by 4x6 timbers. Both pipe on the front and the first pipe in the second section have a tiedown pulling at a 45° angle towards the rear of the trailer (red straps). Both the pipe on the rear of the load and the rear pipe in the first section have a strap pulling at a 45° angle toward the front of the trailer (green straps). Straps are placed over the longitudinal tiedowns behind the first section and in front of the second section to help keep the tiedown tight and in contact with the pipe (orange strap). The dark blue pipe in the middle must have a tiedown (yellow strap) because it has no other source of down pressure.

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## Concrete Pipe (Inside diameter 45 inches or less) with no longitudinal cable system

1. The front of the bottom layer must be immobilized with a wooden blocking to prevent rolling. This blocking must be no smaller than a 4-inch by 6-inch (4×6) timber. If using a step deck trailer this can be skipped if the pipe is loaded against the front the step of the trailer.
2. The rear of the bottom layer must be immobilized with wooden blocking to prevent rolling. This blocking can be no smaller than a 4×6 timber.
3. The front pipe on each tier must be secured with a tiedown that pulls towards the rear of the trailer at a 45° angle or less. This must be done to both sections if multiple sections are loaded.
4. The rear pipe on each tier must be secured with a tiedown that pulls toward the front of the trailer at a 45° angle or less.
5. Every pipe on the trailer must have a tiedown through the pipe.

### Points to Remember:

- Edge protection must be used every place a tiedown touches the pipe.

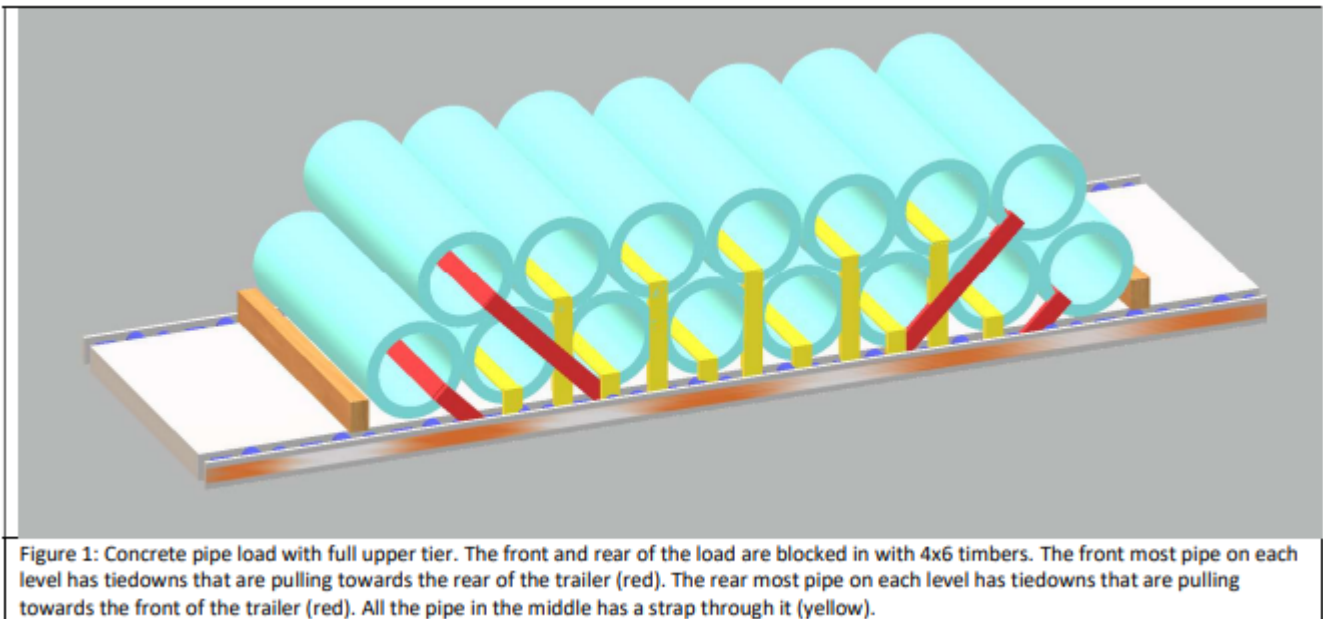


Figure 1: Concrete pipe load with full upper tier. The front and rear of the load are blocked in with 4x6 timbers. The front most pipe on each level has tiedowns that are pulling towards the rear of the trailer (red). The rear most pipe on each level has tiedowns that are pulling towards the front of the trailer (red). All the pipe in the middle has a strap through it (yellow).

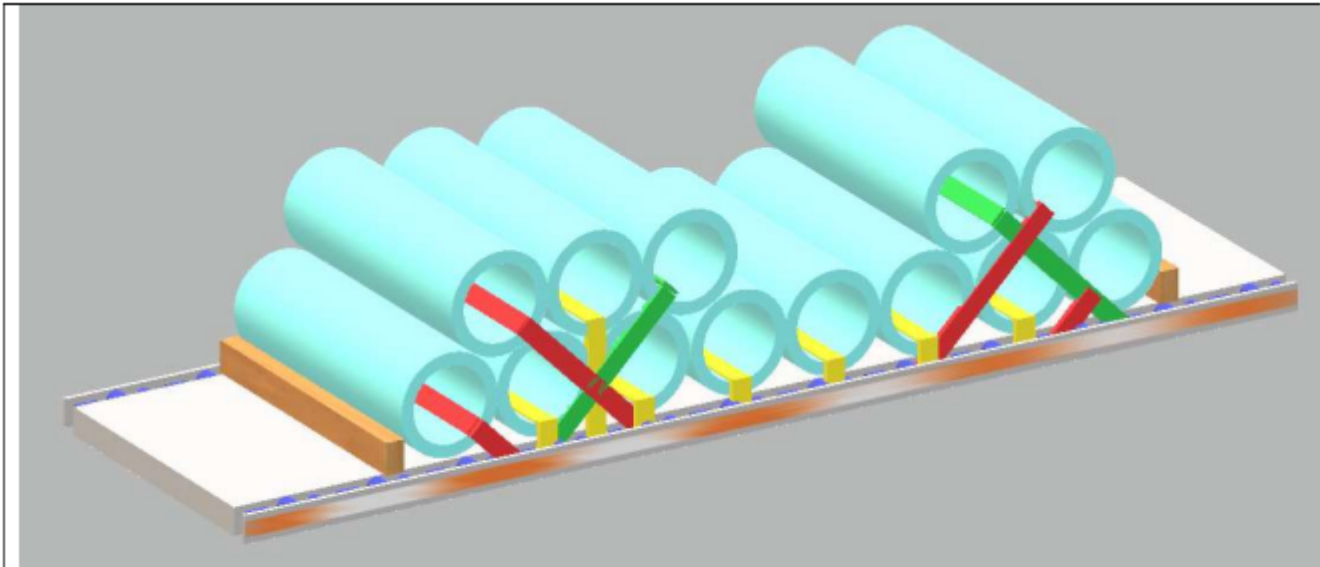


Figure 2: Concrete pipe load with a two-section upper tier. The front and rear of the load are blocked in with 4x6 timbers. The front pipe on each tier has a tiedown pulling toward the rear of the trailer (red strap on first section). The pipe 3<sup>rd</sup> from the front has a tiedown pulling toward the front of the trailer (green strap on first section). The rear most pipe on both sections has a tiedown pulling towards the front of the trailer (red straps on rear section). The first pipe in the section upper section has a tiedown pulling towards the rear of the trailer to prevent motion (green strap on section section).

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## Concrete Pipe (Inside diameter more than 45 inches) In Groups

- 1.) The front pipe must be immobilized with wooden blocking to prevent rolling. This blocking must be no smaller than a 4-inch by 6-inch (4×6) timber. If using a step deck trailer this can be skipped if the pipe is loaded against the front step of the trailer.
- 2.) The rear of the pipe must be immobilized with wooden blocking to prevent rolling. This blocking can be no smaller than a 4×6 timber.
- 3.) Tiedowns must pass through each pipe.
- 4.) If the front most pipe is not against a vehicle structure it requires 2 tiedowns pulling towards the rear of the trailer. These should be 45° or less.
- 5.) The rear most pipe requires two tiedowns pulling towards the front of the trailer.
- 6.) On the front half of the load at least one tiedown must pull toward the rear of the truck on each pipe. If there are an odd number of pipe the middle pipe is included. These should be 45° or less.
- 7.) One the rear half of the load at least one tiedown through each pipe must pull towards the front of the truck. If there is an odd number of pipe, the middle pipe is included. These should be 45° or less.

### Points to Remember:

- Edge protection must be used every place a tiedown touches the pipe.
- Aggregate working load limits for the tiedowns used must be equal or greater than one half the weight of the pipe it is holding.

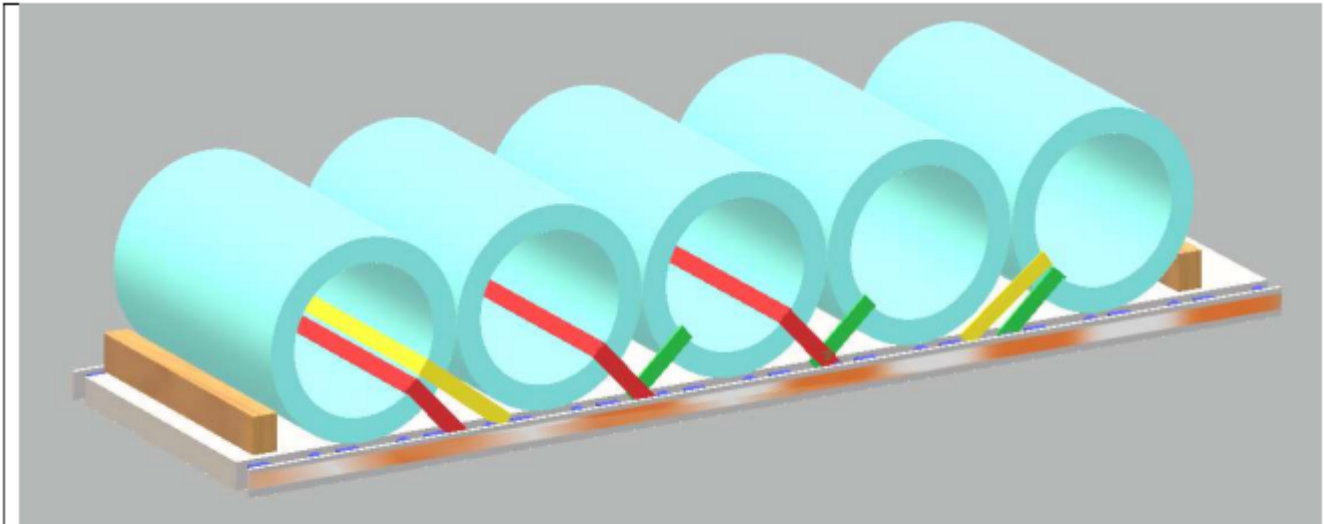


Figure 1: Five pieces of concrete pipe with an inside diameter of more than 45 inches. Notice the 4x6 timbers on the front and rear to prevent rolling. Straps are used to pull towards the rear of the trailer on the front half of the load (red straps). Straps on the rear half of the load pull forward (green straps). If there is an odd number of pipe, as shown above, the middle pipe must have straps pulling to the front and to the rear. An additional strap is added on the front most and rear most pipe (yellow straps).

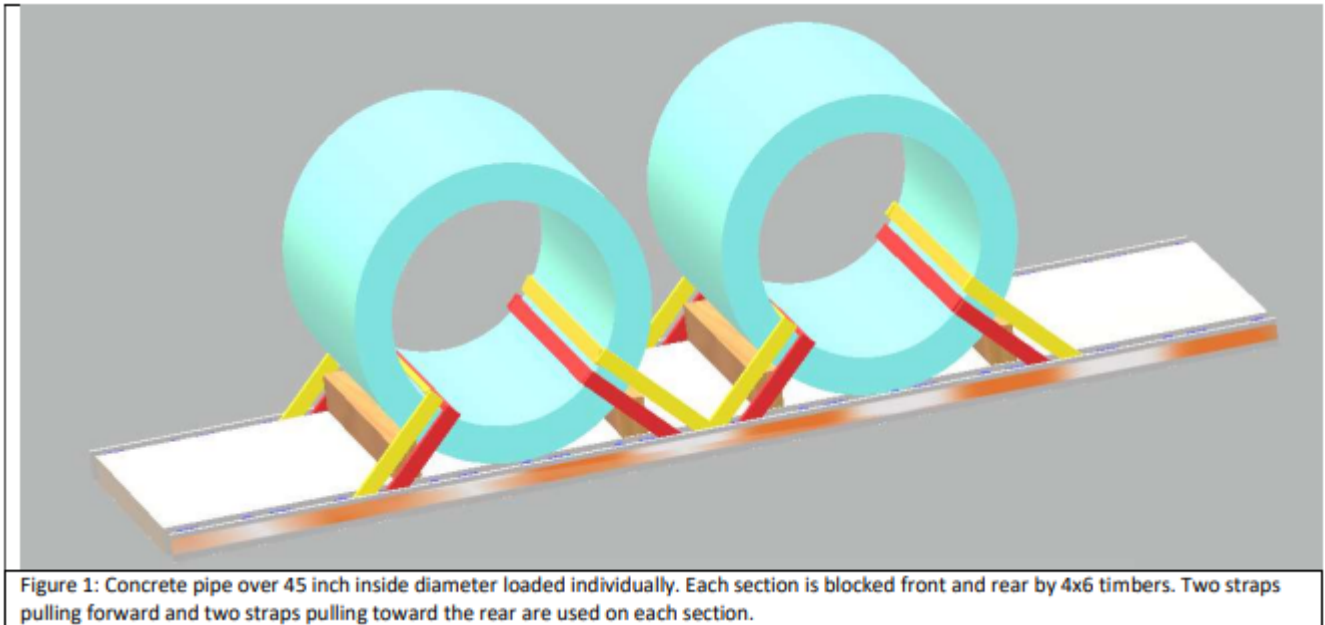
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## Concrete Pipe (Inside diameter more than 45 inches) Singles

- 1.) Each pipe must be immobilized front and rear on the front and rear of the pipe to prevent rolling. Wooden blocking used for this must be no smaller than a 4-inch by 6-inch timber.
- 2.) Tiedowns must pass through the pipe.
- 3.) Two tiedowns must pull towards the rear of the trailer. If the front most pipe is not against a vehicle structure it requires 2 tiedowns pulling towards the rear of the trailer. These should be 45° or less.
- 4.) The rear most pipe requires two tiedowns pulling towards the front of the trailer. These should be at a 45° or less.

### Points to Remember:

- Edge protection must be used every place a strap touches the pipe.
- Aggregate working load limits for the tiedowns used must be equal or greater than one half the weight of the pipe it is holding.



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## Concrete Pipe- Round, Eye Vertical

- 1.) Each piece should be loaded on wood timbers to keep the material off the deck of the trailer.
- 2.) Tiedowns should be placed across the top of the material in an X pattern. Each piece must have a minimum of 2 tiedowns across the top.
- 3.) Tiedowns should be anchored to the trailer 12 to 18 inches in front of the piece it is holding.
- 4.) Tiedowns should be anchored to the trailer 12 to 18 inches behind the pieces that it is holding.
- 5.) A trip strap should be placed around the base of each piece to prevent forward motion in the event of hard braking.

## How many tiedowns?

Weight (lbs)	0-9,000	9,000-18,000	18,000-27,000
# of tiedowns	2	3	4

## Points to Remember:

- Edge protection must be used every place a strap touches the product.
- These loads have a higher center of gravity than other precast loads. Care must be taken in turns and around corners to avoid shifting and/or falling.

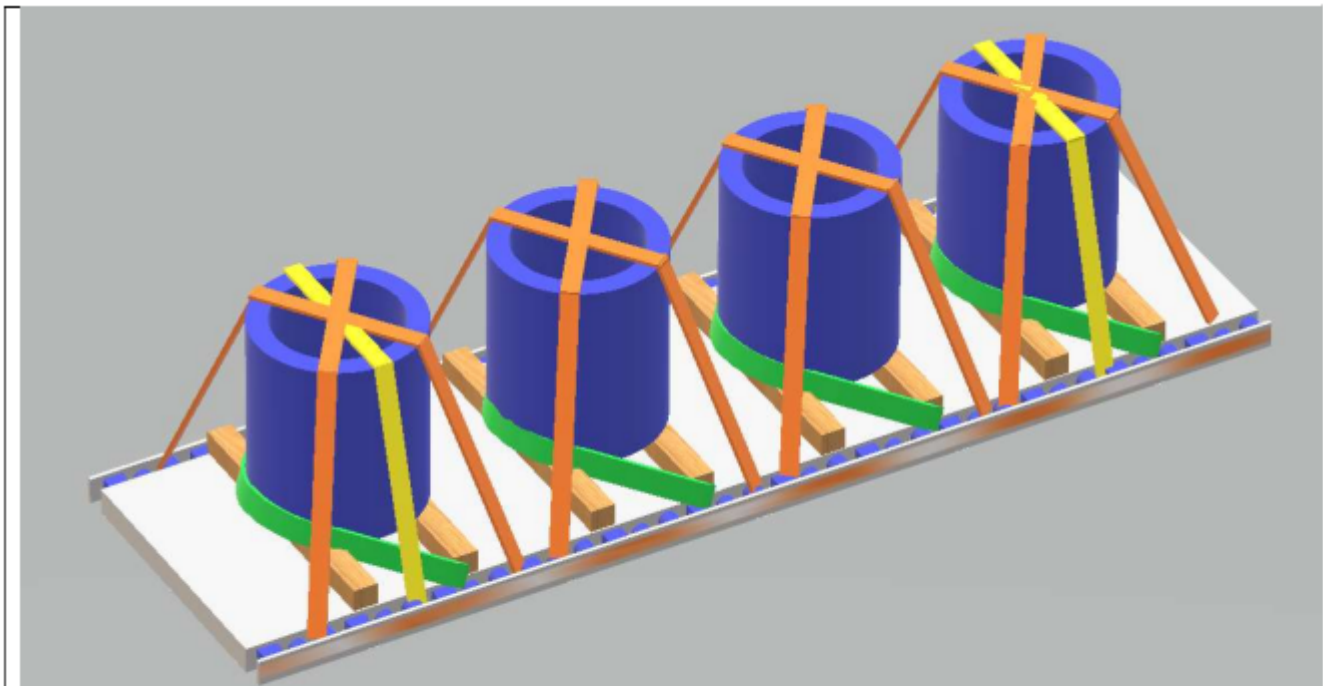


Figure 1: Precast round concrete loaded with the eye vertical. A minimum of 2 straps should be placed over each piece (orange straps). A strap should wrap around the front of the base to prevent forward motion (green straps). When possible a 3<sup>rd</sup> strap should be placed on the front most and rear most piece on the load (yellow straps).

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## Regulations- FMCSR 393.124

### § 393.124 What are the rules for securing concrete pipe?

#### (a) Applicability.

- (1) The rules in this section apply to the transportation of concrete pipe on flatbed trailers and vehicles, and lowboy trailers.
- (2) Concrete pipe bundled tightly together into a single rigid article that has no tendency to roll, and concrete pipe loaded in a sided vehicle or container must be secured in accordance with the provisions of §§ 393.100 through 393.114.

#### (b) General specifications for tiedowns.

- (1) The aggregate working load limit of all tiedowns on any group of pipes must not be less than half the total weight of all the pipes in the group.
- (2) A transverse tiedown through a pipe on an upper tier or over longitudinal tiedowns is considered to secure all those pipes beneath on which that tiedown causes pressure.

#### (c) Blocking.

- (1) Blocking may be one or more pieces placed symmetrically about the center of a pipe.
- (2) One piece must extend at least half the distance from the center to each end of the pipe, and two pieces must be placed on the opposite side, one at each end of the pipe.
- (3) Blocking must be placed firmly against the pipe, and must be secured to prevent it moving out from under the pipe.
- (4) Timber blocking must have minimum dimensions of at least 10 × 15 cm (4 × 6 in).

#### **(d) Arranging the load -**

- (1)** Pipe of different diameter. If pipe of more than one diameter are loaded on a vehicle, groups must be formed that consist of pipe of only one size, and each group must be separately secured.
- (2)** Arranging a bottom tier. The bottom tier must be arranged to cover the full length of the vehicle, or as a partial tier in one group or two groups.
- (3)** Arranging an upper tier. Pipe must be placed only in the wells formed by adjacent pipes in the tier beneath. A third or higher tier must not be started unless all wells in the tier beneath are filled.
- (4)** Arranging the top tier. The top tier must be arranged as a complete tier, a partial tier in one group, or a partial tier in two groups.
- (5)** Arranging bell pipe.
  - (i)** Bell pipe must be loaded on at least two longitudinal spacers of sufficient height to ensure that the bell is clear of the deck.
  - (ii)** Bell pipe loaded in one tier must have the bells alternating on opposite sides of the vehicle.
  - (iii)** The ends of consecutive pipe must be staggered, if possible, within the allowable width, otherwise they must be aligned.
  - (iv)** Bell pipe loaded in more than one tier must have the bells of the bottom tier all on the same side of the vehicle.
  - (v)** Pipe in every upper tier must be loaded with bells on the opposite side of the vehicle to the bells of the tier below.
  - (vi)** If the second tier is not complete, pipe in the bottom tier which do not support a pipe above must have their bells alternating on opposite sides of the vehicle.
- (e)** Securing pipe with an inside diameter up to 1,143 mm (45 in). In addition to the requirements of paragraphs (b), (c) and (d) of this section, the following rules must be satisfied:
  - (1)** Stabilizing the bottom tier.
    - (i)** The bottom tier must be immobilized longitudinally at each end by blocking, vehicle end structure, stakes, a locked pipe unloader, or other equivalent means.
    - (ii)** Other pipe in the bottom tier may also be held in place by blocks and/or wedges; and
    - (iii)** Every pipe in the bottom tier must also be held firmly in contact with the adjacent pipe by tiedowns through the front and rear pipes:
      - (A)** At least one tiedown through the front pipe of the bottom tier must run aft at an angle not more than 45 degrees with the horizontal, whenever practicable.
      - (B)** At least one tiedown through the rear pipe of the bottom tier must run forward at an angle not more than 45 degrees with the horizontal, whenever practicable.
  - (2)** Use of tiedowns.
    - (i)** Each pipe may be secured individually with tiedowns through the pipe.
    - (ii)** If each pipe is not secured individually with a tiedown, then:
      - (A)** Either one 1/2-inch diameter chain or wire rope, or two 3/8-inch diameter chain or wire rope, must be placed longitudinally over the group of pipes;
      - (B)** One transverse tiedown must be used for every 3.04 m (10 ft) of load length. The transverse tiedowns may be placed through a pipe, or over both longitudinal tiedowns between two pipes on the top tier;
      - (C)** If the first pipe of a group in the top tier is not placed in the first well formed by pipes at the front of the tier beneath, it must be secured by an additional tiedown that runs rearward at an angle not more than 45 degrees to the horizontal, whenever practicable. This tiedown must pass either through the front pipe of the upper tier, or outside it and over both longitudinal tiedowns; and
      - (D)** If the last pipe of a group in the top tier is not placed in the last well formed by pipes

at the rear of the tier beneath, it must be secured by an additional tiedown that runs forward at an angle not more than 45 degrees to the horizontal, whenever practicable. This tiedown must pass either through the rear pipe of the upper tier or outside it and over both longitudinal tiedowns.

**(f)** Securing large pipe, with an inside diameter over 1143 mm (45 in). In addition to the requirements of paragraphs (b), (c) and (d) of this section, the following rules must be satisfied:

**(1)** The front pipe and the rear pipe must be immobilized by blocking, wedges, vehicle end structure, stakes, locked pipe unloader, or other equivalent means.

**(2)** Each pipe must be secured by tiedowns through the pipe:

**(i)** At least one tiedown through each pipe in the front half of the load, which includes the middle one if there is an odd number, and must run rearward at an angle not more than 45 degrees with the horizontal, whenever practicable;

**(ii)** At least one tiedown through each pipe in the rear half of the load, and must run forward at an angle not more than 45 degrees with the horizontal, whenever practicable, to hold each pipe firmly in contact with adjacent pipe; and

**(iii)** If the front or rear pipe is not also in contact with vehicle end structure, stakes, a locked pipe unloader, or other equivalent means, at least two tiedowns positioned as described in paragraphs (f)(2)(i) and (ii) of this section, must be used through that pipe.

**(3)** If only one pipe is transported, or if several pipes are transported without contact between other pipes, the requirements in this paragraph apply to each pipe as a single front and rear article.

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## Oversize Loads

Each state has laws that define legal dimensions for loads. Any load greater than these state set limits makes the load oversized. These oversize loads must be permitted to be legally transported. There are five basic types of oversize loads:

**1.)** Over Height Loads - Loads higher than the legal limit. For most states this is 13 feet 6 inches but could be more depending on the states in which you are running.

**2.)** Over Width Loads - These loads are wider than legally allowed. For most states this is 102 inches. PS Logistic trailers are 102 inches wide, so anything load that is wider than the rub rails on the trailer makes the load oversize.

**3.)** Over Length Loads - The rules for legal load length vary greatly from state-to-state. Any load longer than 53 feet could be oversize depending on the states in which you are driving.

**4.)** Overhanging Loads - Many states have limits on how far a load can hang over the front and rear of the trailer. This varies from state to state. The most common regulation is up to 4 feet off the rear of the trailer (some states are less).

**5.)** Overweight Loads - If the combined weight of the truck, trailer, and load is greater than 80,000 pounds the load is oversized.

### Additional Equipment

Hauling an oversize load will require additional equipment. What is needed will vary depending on the dimensions of the load and the state it is being transported through. Required additional equipment will be listed on the load permits issued by the state. This includes but is not limited to

the following:

- **Oversize Load Banner-** 7ft x 1.5ft yellow banner with 10-inch black letters reading "OVERSIZE LOAD". "WIDE LOAD" banners are not legal in many states. Be sure to have the proper banner.
- **Safety Flags-** These are 18-inch square red flags. These may be required on the front corners of the tractor, on the corners of the load, or at the rear of the load depending on permit requirements. These can be mounted to the tractor or load in different ways.
- **Beacon Lights-** Rotating or strobing yellow lights that may need to be mounted on both the top of the tractor and the load.

## Pilot Cars

Some loads that exceed certain dimensions may require the use of pilot cars or escort vehicles. These cars, typically passenger vehicles, assist the driver in moving down the highway. These cars help a driver spot problem, obstacles, interferences, and communicate them back to the driver. Escorts also can assist the driver by blocking traffic for safe lane changes and tight turns. Working with pilot services requires a CB radio and good communication skills to coordinate movement.

## Permits

Oversize load permits will be obtained by operations before the load moves. The driver must keep a copy of this permit in his truck while hauling the load. Always read your permits carefully to ensure compliance with state laws for oversize loads. This includes the following:

- Requirements for additional equipment and placement of these devices.
- Legal moving hours - Many loads will be restricted to daylight hours only. A driver will need to plan his or her trip with this in mind.
- Routing- Some loads will require you to take exact routes to get to your destination.

These routes are planned to avoid heavy traffic, narrow roads, narrow and weight restricted bridges, low clearance obstacles, and other problems that may not be obvious.

### On The Road

Each type of oversize load presents different challenges to truck drivers. Here are few things to consider.

- All oversize loads must stop at ALL open weight stations and present the permits for the loads. This will increase the chance of inspection by DOT officers.
- Wide loads will hang into adjacent lanes and over the shoulder of the road. A driver must watch traffic, as well as roadside hazards such as parked vehicles, utility poles, and mailboxes that are close to the edge of the road.
- Long loads take much more room to turn than legal sized loads. This will require more space to swing wide. This swing can create situations in which traffic moves in beside the trailer during the turn. A driver must have a good circle of awareness and keep his or her eyes moving to see developing problems.
- Overhanging loads create tail swing. Tail swing is a side-to-side motion that can be outside the path of the wheel while the trailer is turning. Drivers must compensate for this when turning and backing, particularly in tight areas and during backing.

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# Decked Trailers

1. Landing gear of all trailers should be raised all the way up before stacking. This will keep load height under legal limits (13 feet 6 inches).
2. Straps should be placed over the load. Two straps should be placed within the first five feet of the trailer then one additional strap every 8 feet back.

## Points to Remember:

- If the landing gear is not raised all the way up on the stacked trailers the load will be over legal height.
- Inspect the brake chambers on each stacked unit to be sure that the brakes have not been caged. A caged brake chamber will have a bolt coming out of the center hole. Caged brakes will allow the trailer to roll.
- Airbags and tires can lose pressure during transit causing the straps to loosen. Load checks will guard against this.
- Straps on the stacked trailers do not have to pass under the rub rails.

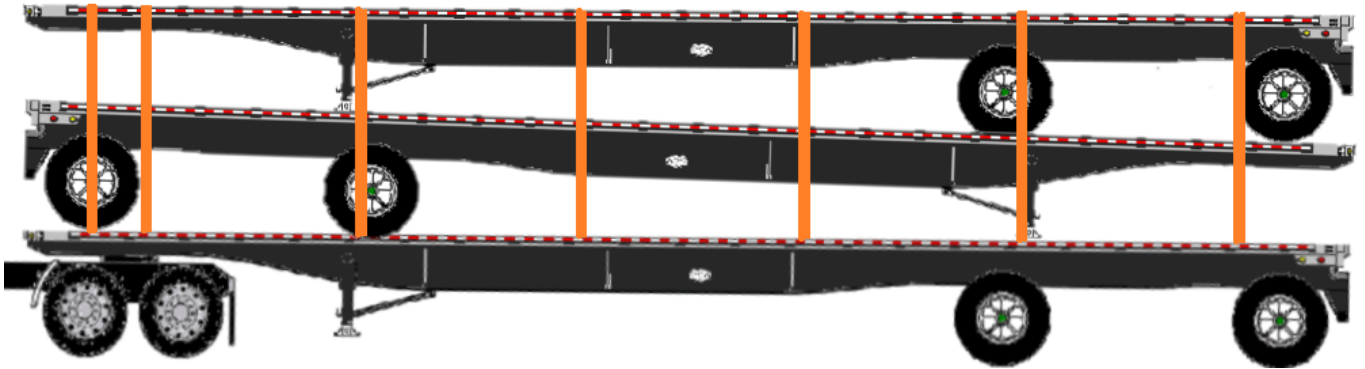


Figure 1: Properly secured 48ft. decked trailers. 2 straps (orange) in the first 5ft, then an additional strap every 8ft. back for a total of 7 straps over the load. 53 ft trailers will require an additional strap. Notice the middle trailer slopes backwards because of the raised landing gear.

# Foam Insulation Board

1. Each bundle should be secured with two 4-inch straps.
2. Two additional straps should be used in a X pattern over the front and rear face of the load (Orange straps in Figure 1)

## Points to Remember:

- Foam insulation board is tall but very light. Failure to X strap the front and rear of the load can result in damage to product and cargo shifts.
- Edge protection must be used to avoid damage to the product caused by straps.
- Be mindful that over tightening straps can cause damage to product.

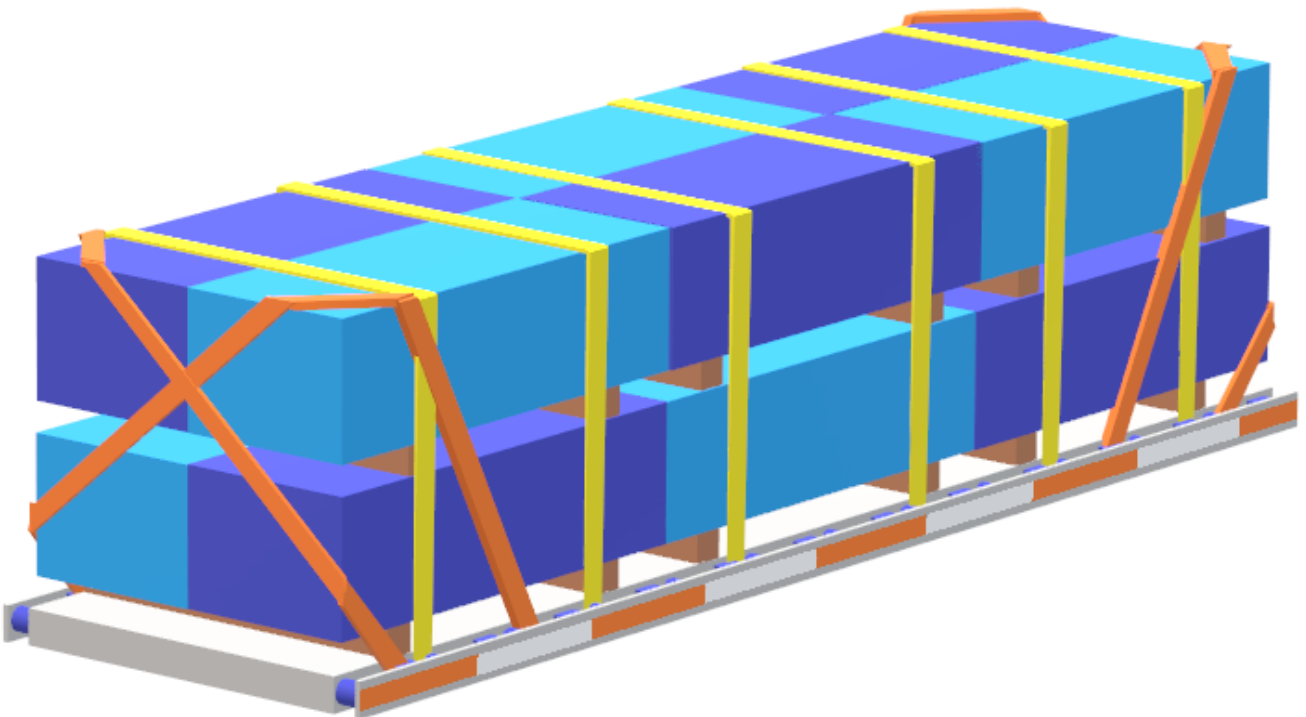
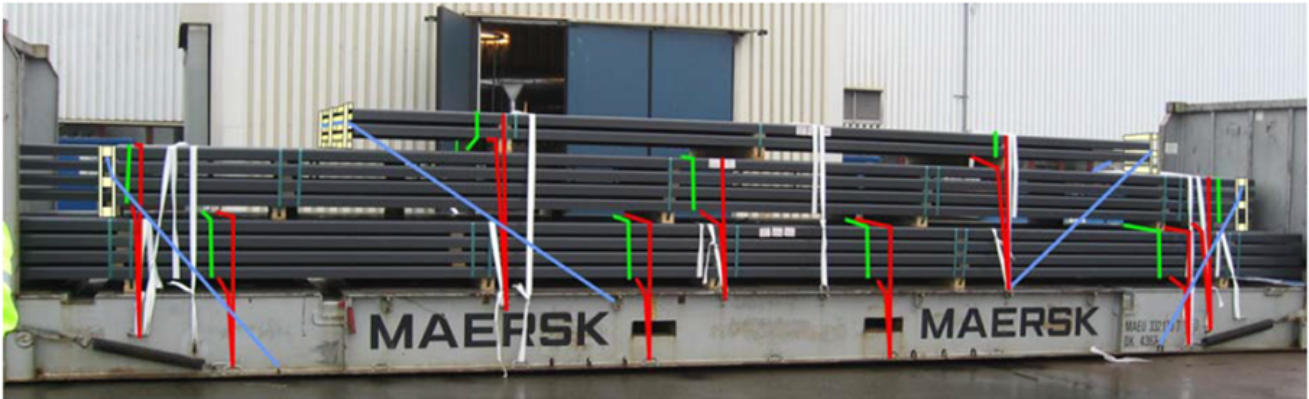


Figure 1: Foam board load secured with two straps over each stack (yellow) and X straps across the front and rear (orange).

# Half Loop Strapping / Lashing

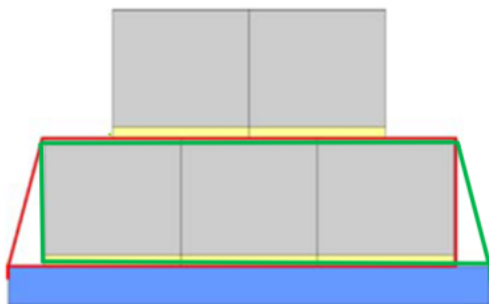
The typical situation in which you will be asked to use this type of securement is when picking up a load at certain ports. Below are some examples of how to use this securement style.



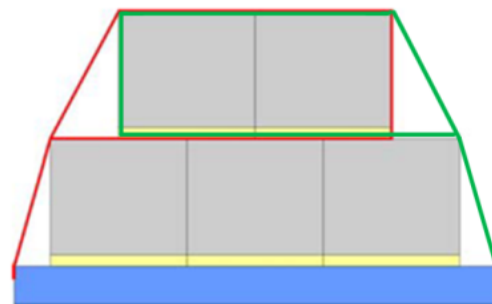
*The cargo securing arrangement; the lower layer are secured with **4 pairs of half loop lashings**, the middle layer by **3 pairs of half loop lashings** and the upper layer by **2 pairs of half loop lashings**.*

- [REDACTED]
- [REDACTED]

The bundles of frames should be secured sideways by half loop lashings with a breaking strength of at least 4 tons. Half loop lashings are always applied in pairs and each lashing is applied with both ends at the same side of the flat rack.



*Sketch of half loop lashing of **lower** layer.*



*Sketch of half loop lashing of **upper** layer.*

# Lift Gates

If the lift gates are loaded vertical, then chains should be used as shown below.



If the lift gates are loaded stacked horizontally then straps with some type of edge protection may be used as shown below, using two straps on the front and rear stacks and one on the center ones.



# Linear Loads - (Pipe, Beam, Angle Iron, Steel, Metal Utility Poles)

## Applies to any cargo over 10ft long

1. Two tie-downs must be placed over the first 5ft of the load.
2. Place two tie-downs over the rear 5 ft of the load.
3. Place one tie-down every eight feet between the front and rear sets of tie-downs.
4. If a load is 3 tiers high or more, belly straps must be used to secure the second layer (green straps on figure 1.)

## Points to Remember:

- When hauling pipe remember that it must be blocked to prevent rolling during transit. This is generally done with the use of wooden or plastic chocks (see the red chocks in figure 1). A driver may have to provide his own chocks at certain locations. If you don't have them, be sure to ask.
- Remember proper securement means every piece must have direct downward pressure from a tie-down, a block of dunnage, or another piece of cargo.

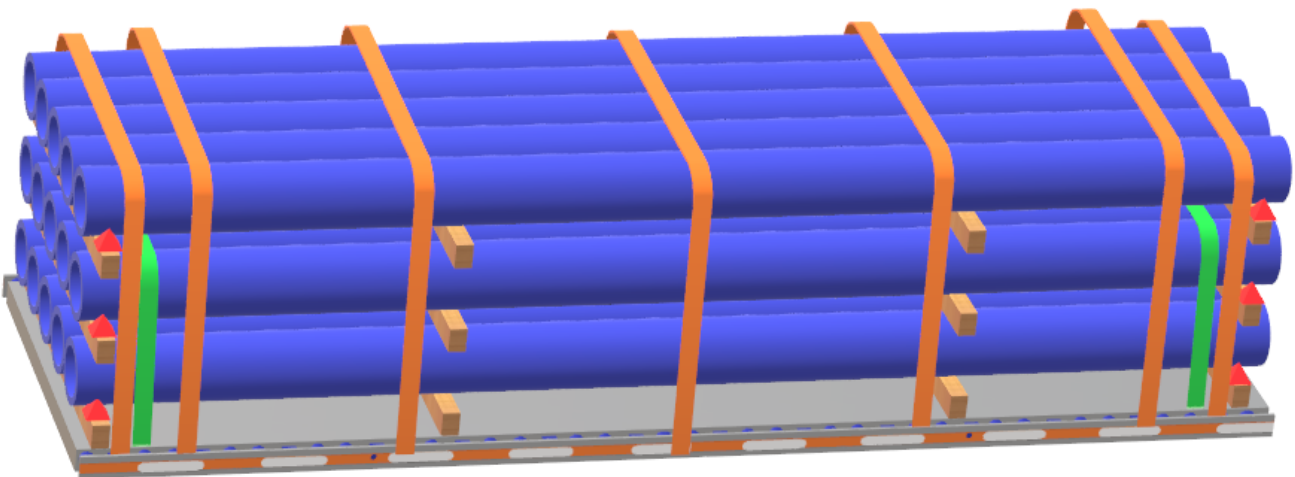


Figure 1:

A load of stacked and stripped pipe secured with 4-inch straps. Notice the chocks (red) on the front and rear dunnage. There is also a belly strap (green) over the second tier of the load. Over the top there are two straps over the front and rear five feet of the load. Then other straps every eight foot in between.

- **When hauling Steel beam, angle, etc....** we need to prevent forward movement by means of x-chains, header board, or building a bulkhead. Chains should be utilized at a minimum on the front, center, and rear these loads unless stated otherwise. Any straps must have edge protection.



# Lumber & Like Materials

This includes rough and finished lumber, structural panels made of wood, plywood and OSB, as well as drywall (Sheetrock).

## Bundles 2 tiers high:

1. Place a 4×4 timber under the front of the front bundle when loading. (red in figure 1)
2. Place a 4×4 timber under the rear of the rear bundle. (red in figure 1)
3. Secure each bundle with two 4-inch straps.
4. X- Strap the front and rear to prevent shifting. X strap can be over or under the tarp.

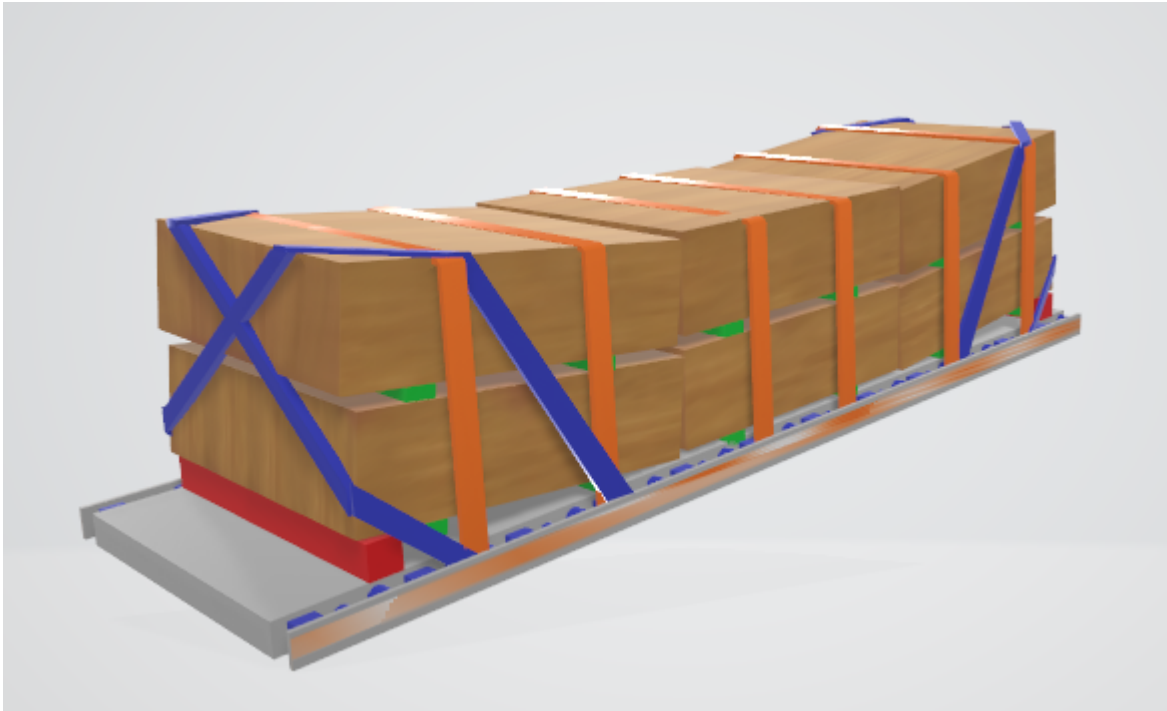


Figure 1: Bundles of lumber secured with two straps over each stack of bundles. Note the red 4×4 timbers under the front and rear bundles. This elevation prevents finished lumber from sliding forward during transit and helps prevent shifting forward during emergency braking. X-strap to prevent motion are shown in blue.

## Points to Remember:

- All straps should have edge protectors under them at the contact points.
- The elevation of the front and rear bundles keeps finished lumber from “walking” out of the center of the bundles during transit. The elevation also aids in preventing forward motion of the entire load.
- Blocking used as spacing between tiers cannot be taller than it is wide. If this spacing is taller than it is wide it creates an unstable situation and can cause the load to shift forward during a hard braking event.

## Bundles 3 or more tiers high:

1. Place a 4×4 timber under the front of the front bundle when loading. (red in figure 2)
2. Place a 4×4 timber under the rear of the rear bundle. (red in figure 2)
3. Secure each bundle on the second tier with two 4-inch straps. (orange in figure 2)
4. Secure each bundle on the third tier with two 4-inch straps.
5. X-Straps should be added to the front and rear to prevent shifting.

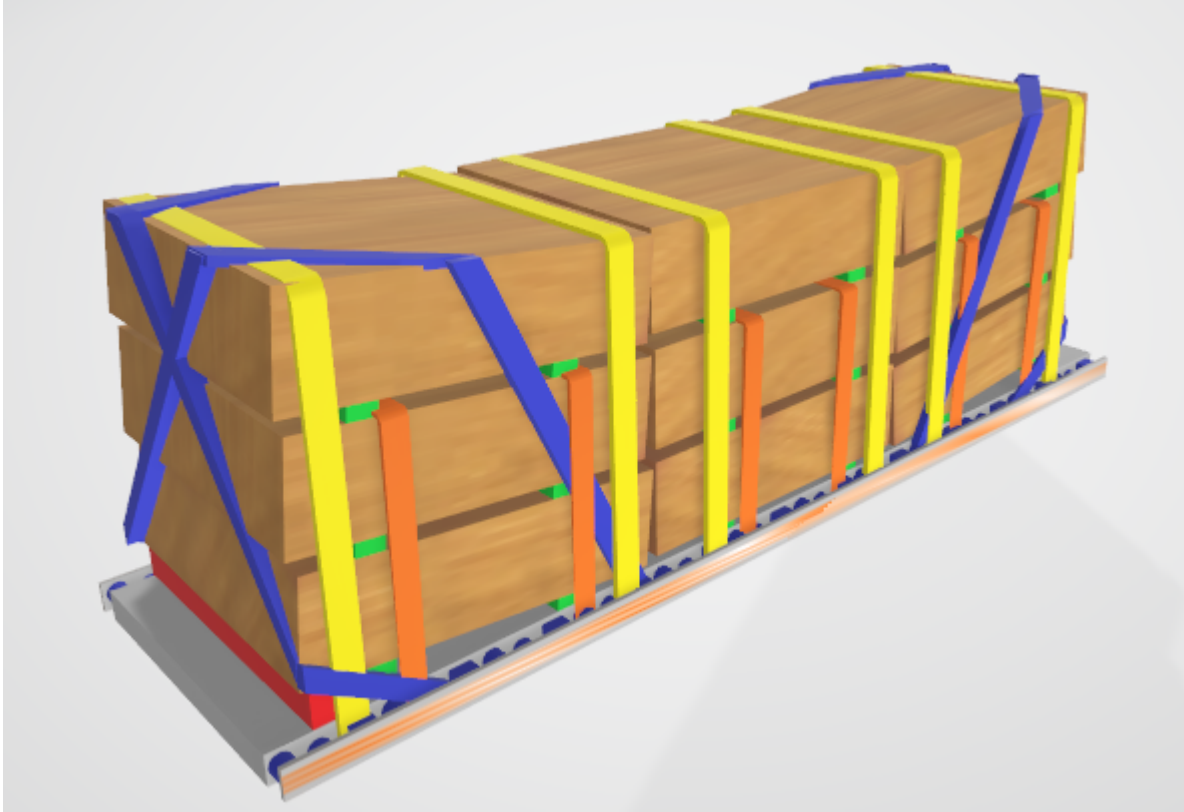


Figure 2: 3 tier lumber load. Notice the orange belly straps over the second layer. Without the orange straps, this load is not legal. X-straps to prevent shifts are seen in blue.

## Points to Remember:

- All straps used on the load should have edge protectors in place.
- Blocking or spacing between layers cannot be taller than it is wide. This creates unstable layers that will roll forward during hard braking and cause any tie-downs on the load to become loose.
- If there are more than 3 tiers a belly strap must be used on one of the lower levels no more than 6 feet off the deck of the trailer.
- X-straps can be over or under the tarp.

# Machinery and Heavy Equipment



## Points to Remember

- If under 10,000 lbs. FMCSA requires a minimum of 2 chains and 2 binders per machine
- If over 10,000 lbs. FMCSA requires a minimum of 4 chains and binders per machine ( one on each corner )
  - The illustration below is an example of how to use 1 chain as 2, they have to be hooked so that they work independently of each other.
- Chains on the front of the machine must pull in an opposite direction from the chains on the back of the machine
- Many machines have attachment points for chain built into their frames.
- Used machinery should have all loose dirt and debris cleaned off of them before loading.
- Take care of the paint. Painted surfaces on new equipment must be protected. Do not drag straps or chains across surfaces. Do not let your tie-downs touch painted surfaces.
- Never place straps or chains over the following:
  - Hydraulic cylinders
  - Control levers
  - Thin plastic or metal parts that can crack or break
  - Glass
  - Electrical boxes or control modules

## Example of using 1 chain as two independent securements



- Hydraulic lift or buckets must always be lowered to the trailer and a strap must be utilized to secure
  - The illustration below shows where **either a timber or friction mat** should be placed under the knuckle to prevent damage to the aluminum trailer deck.



Here is an example of securing a **Telehandler Cat. TH0842**, this machine measures 8' 2" from the roof to the ground so it can be loaded on a standard flatbed trailer. These are being picked up out of the Clayton, NC location.



## Securing Caterpillar Tracks

- Each Track should have 3 Chains
  - One chain over the center
  - Two chains Diagonal (X'ED) over the tracks
- Use proper edge protection to avoid scratching the paint.





Click [Here](#) for Instructional Video

# Mill Rolls

## Mill Roll-Singles

1. Place 2 to 3 pieces of 4"x4" hardwood timbers on the deck of the trailer. Some shippers will provide notched wooden cradles for these loads to sit on.
2. If notched cradles are not provided, blocking must be nailed to the dunnage used to keep the cargo from rolling during transit.
3. Collar the roll with chain on the smaller section of the roll (shown in green below). These chains go over the roll first then are looped around the bottom side.
4. Secure the roll with a minimum of 5 straps.
5. A bulkhead or header board should be chained on the front of the load to help prevent forward motion.

### Points to Remember:

- Some shippers will prohibit the use of chains. In this case the collar should be done with 4-inch straps.
- If bearings are on the end shafts of the roll, chains or straps should not be placed over the bearings.
- When using flat dunnage, always use chocks to prevent rolling during transit.

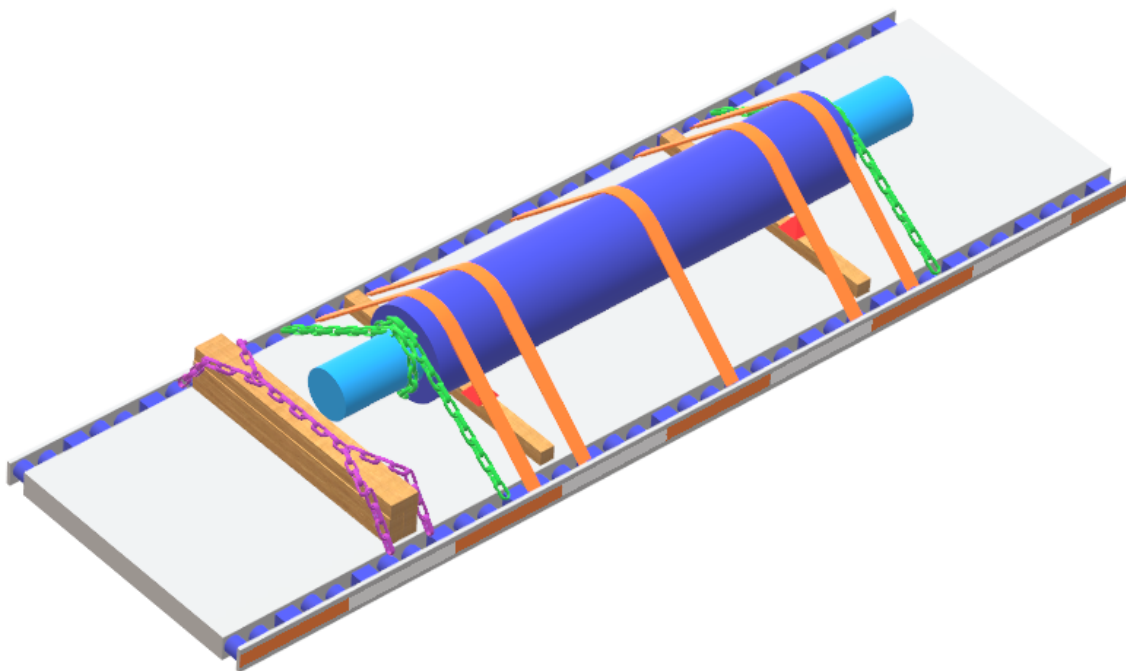


Figure 1:  
Single steel mill roll secured with 2 collar chains (green), 5 4-inch straps (orange), and a header board. Note the red chocks on the dunnage to prevent lateral movement during transit.

# Mill Roll-Multiple

1. Place 2 pieces of 4"x4" hardwood timbers on the deck of the trailer for each section. Some shippers will provide notched wooden cradles for these loads to sit on.
2. If notched cradles are not provided, blocking must be nailed to the dunnage used to keep the cargo from rolling during transit.
3. Collar the rolls with chain on the smaller section of the roll (shown in green below). These chains go over the rolls first then are looped around the bottom side.
4. Secure the roll with a minimum of 2 straps.
5. A bulkhead or header board should be chained on the front of the load to help prevent forward motion.

## Points to Remember:

- Some shippers will prohibit the use of chains. In this case the collar should be done with 4-inch straps.
- If bearings are on the end shafts of the roll, chains or straps should not be placed over the bearings.
- When using flat dunnage, always use chocks to prevent rolling during transit.

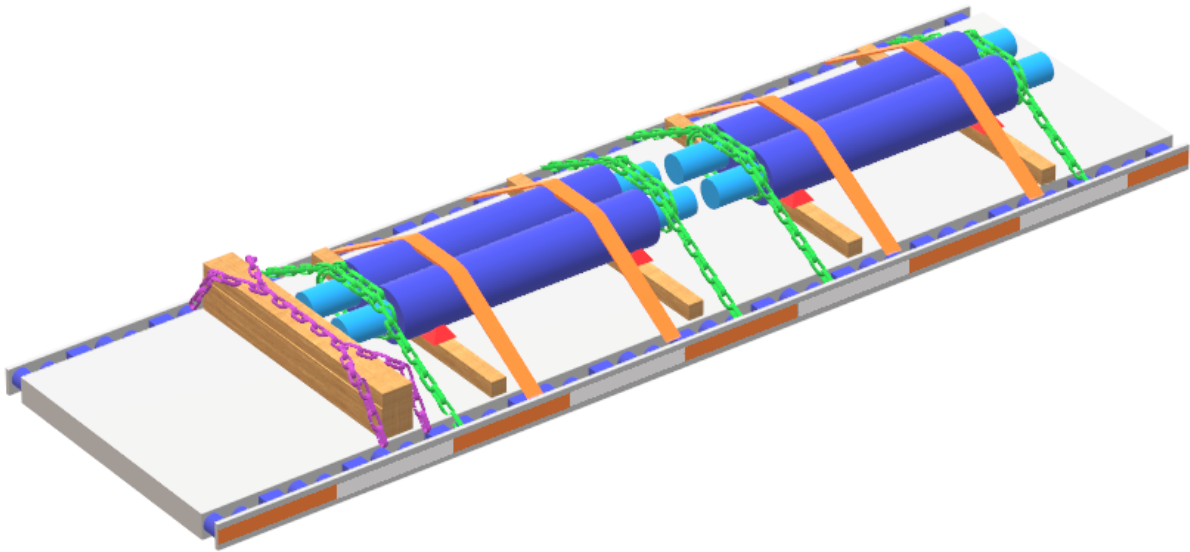


Figure 1: Multiple mill rolls secured with collar chains front and rear on each section (green), 2 4-inch straps over each section (orange), and a header board on the front of the load to assist in preventing forward motion. Note the red blocks on each piece of dunnage to keep the cargo from rolling in transit.

# Palletized Freight and Super Sacks

1. Secure the front row of pallets with two 4-inch straps.
2. Secure the rear row of pallets with two 4-inch straps.
3. All pallets between the front and rear pallets are then secured with a single 4-inch strap.
4. Use two additional straps in an X pattern over the front of the load and in the rear of the load to prevent shifting.

## Points to Remember:

- Any pallet that is unblocked (not touching something in on the front side of the pallet) needs to be secured with 2 straps.
- Pallets that are not wrapped in plastic, such as shingles, must be checked to ensure that every piece on the pallet has downward pressure from a strap, blocking, or another piece of cargo. Sometimes the top layer on pallets must be moved to get down pressure on each piece.

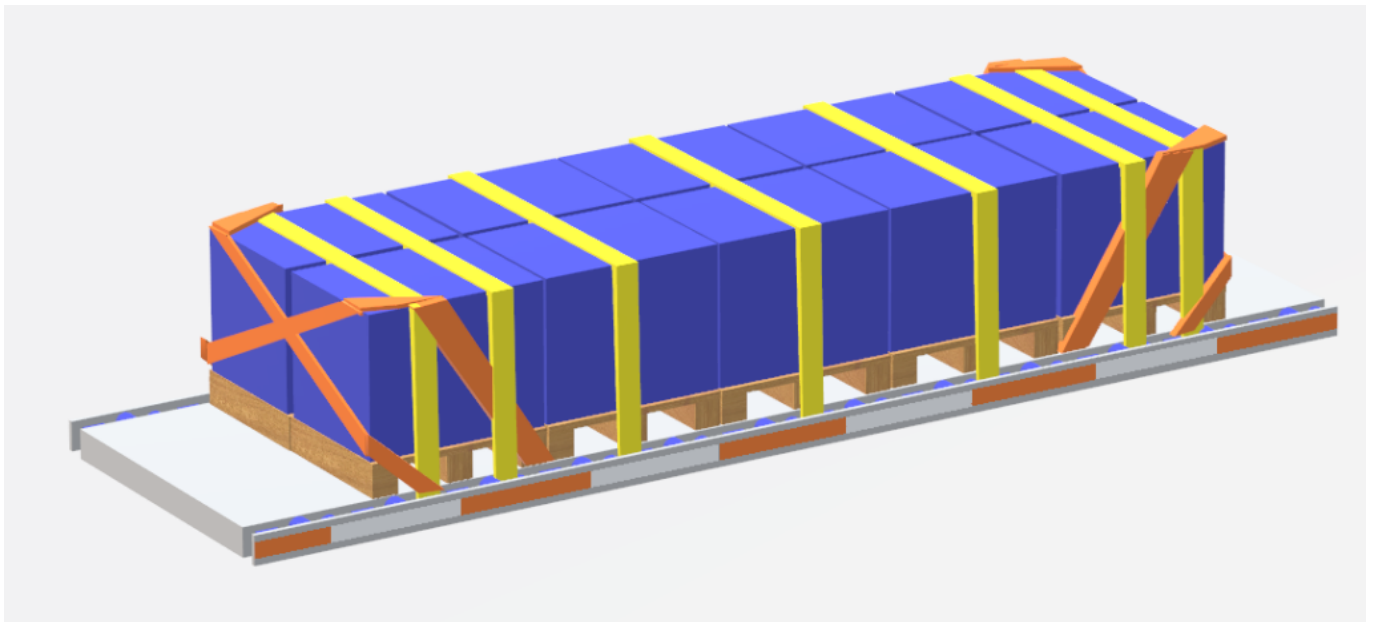


Figure 1: Load of 10 pallets secured with two straps over the front and rear bundles, then one strap over the center bundles (yellow). Cross straps to prevent shifting are shown in orange.

# Pipe Loads

- [Ductile / Cast Iron Pipe](#)
- [Plastic / PVC Pipe](#)
- [Pyramid Pipe](#)
- [Steel Pipe](#)

## Ductile Iron / Cast Iron Pipe

Posted on June 21, 2024

- These loads are commonly loaded in two sections.
- Each section of pipe must have a minimum of 4 straps.
  - Placing straps next the dunnage will create more stability.
  - Placing Belly straps on the load is recommended.



- Gaskets and lube may accompany load. Gaskets must be in secure packaging and strapped down to the trailer. The Lube can be placed in side box for secure transportation.



- Note: When strapping and unstrapping load, always check for unsecure chocks. If packaging is not sufficient, notify shipper / loader. If additional assistance is needed, contact Safety Department.

## ” Tips for Stuck Straps at Delivery “

On a hot sunny day when the pipe paint/coating gets hot and sticky, it can be an issue causing the straps to stick to the pipe coating. Most of the time a good wallop against the strap with the binder bar between the pipe layers breaks it loose but not always. Sliding an edge protector pole upward between the strap and the pipe is another thing to try but if it is stuck to the center pipe also, then that won't always get it loose either. In that situation the best option is to take the strap loose and off of the winch, tie one of your portables or an extra 4" strap to it, and then throw that strap back across the top of the load, then you can pull both straps across the pipe peeling the stuck strap off of the pipe, always avoid climbing down the sides of the trailer or on top of the pipe trying to get it loose.

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## Steel Pipe

### Applies to any cargo over 10ft long

1. Two tie-downs must be placed over the first 5ft of the load.
2. Place two tie-downs over the rear 5 ft of the load.
3. Place one tie-down every eight feet between the front and rear sets of tie-downs.
4. If a load is 3 tiers high or more, belly straps must be used to secure the second layer (green straps on figure 1.)

## Points to Remember:

- When hauling pipe remember that it must be blocked to prevent rolling during transit. This is generally done with the use of wooden or plastic chocks (see the red chocks in figure 1). A driver may have to provide his own chocks at certain locations. If you don't have them, be sure to ask.
- Remember proper securement means every piece must have direct downward pressure from a tie-down, a block of dunnage, or another piece of cargo.

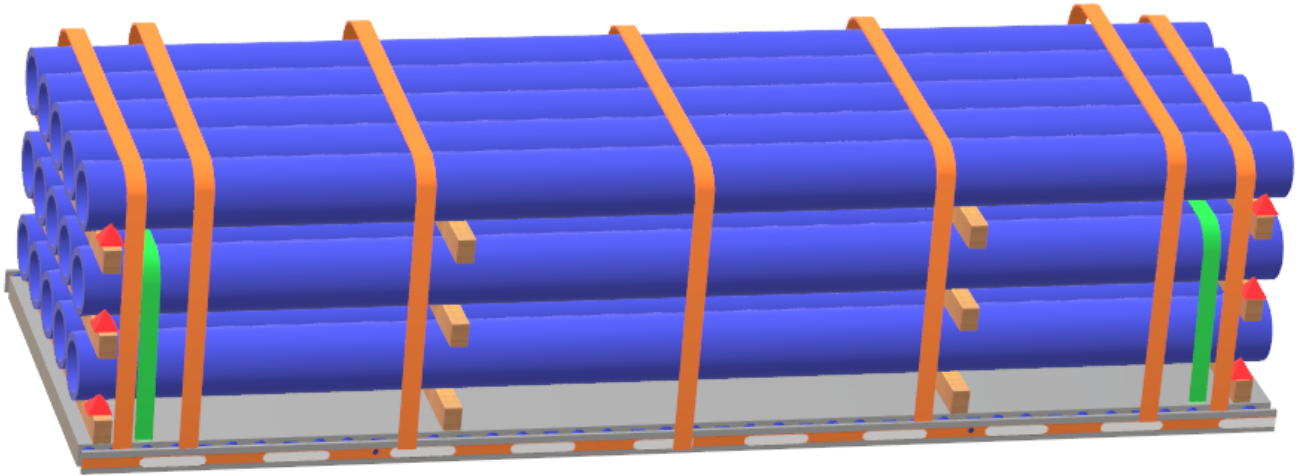


Figure 1:

A load of stacked and stripped pipe secured with 4-inch straps. Notice the chocks (red) on the front and rear dunnage. There is also a belly strap (green) over the second tier of the load. Over the top there are two straps over the front and rear five feet of the load. Then other straps every eight foot in between.

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# Pipe- Pyramid Configuration

Posted on November 13, 2023

1. Pipe stakes must be placed on the trailer and chained at the base. (Green in Figure 1)
2. Dunnage at the base of the load must have blocking to prevent rolling.
3. Once the pipe is loaded the load should be choked with two 2-inch portable straps. One on each end. (yellow strap in Figure 1).
4. Load is then secured with two tiedowns in the first 5 feet of the load, then one strap every 8 foot for the remainder of the load.
5. An additional strap should be placed at the rear of the load within the last five feet of the load.

## Points to Remember:

- Pipe stakes are required and must be chained at the base.
- Be sure the blocking on the dunnage is nailed in properly.
- Pipe can roll when the straps are released. Be sure to watch the load when taking the straps off before unloading. Release the strap to the forward most or rearward most part of the load last so that you can get away from falling cargo.
- Remember proper securement means every piece must have direct downward pressure from a tie-down, a block of dunnage, or another piece of cargo.

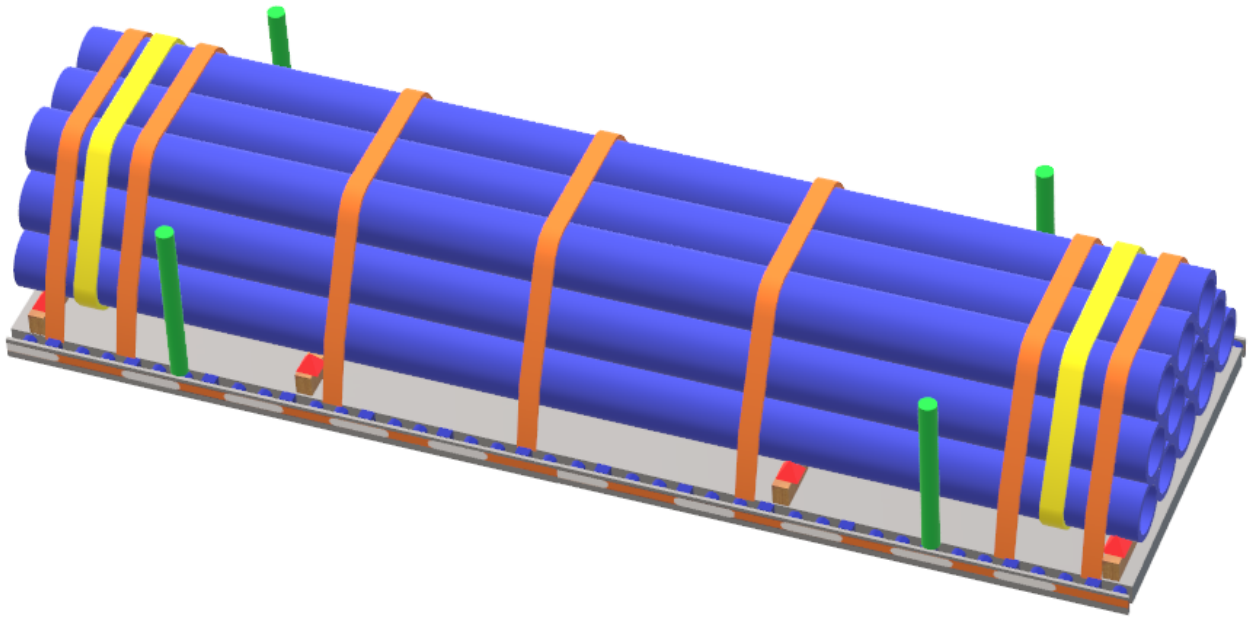


Figure 1: Pyramid pipe load showing the chocks (red) pipe stakes (green), choke strap (yellow), and securement (orange) over the load.

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# Pipe Stake Securement

- Pipe stakes should be chained around the bottom before being loaded.
- If the pipe is stacked lower than the top of the pipe stakes, it is a good idea to chain around the top also.
- If your load is preloaded, a 2" portable strap may be used around the bottom of the pipe stakes in place of the chain since you will not be able to bind the chain a with ratchet binder





# Plate Steel

1. 2 chains should be crossed over the front of the steel and tightened to prevent forward motion. (Red chains in figure 1)
2. 2 chains should be crossed over the rear of the steel to prevent motion. (Red chains in figure 1)
3. Two straps should be secured over the freight within the first 5 feet of the load.
4. Two straps should be secured over the load within the last 5 feet of the load.
5. Additional straps should be secured over the middle of the load so that there is a tie-down less than every 8 feet of the load.

## Points to Remember:

- Edge protectors must be used under all 4-inch straps and under chains of any material that may be damaged by the chain.
- Both the front and the rear of the load need to be cross chained to prevent motion.
- Binder placement is usually on the top of the load.
- Straps over the load cannot be more than 8 ft apart.

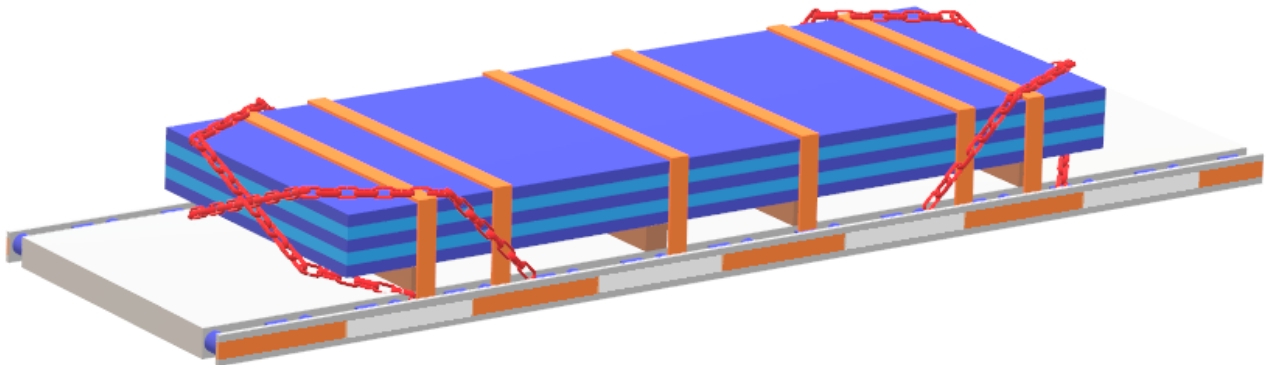


Figure 1: Steel plate load secured with cross chains on the front and rear (red chains) and 4-inch straps (orange). Straps are placed with 2 straps within the first 5ft of the load and 2 on the load 5ft of the load with two additional straps over the middle

# Precast Concrete Structures

1. [Stadium Stairs](#)
2. [Double Tees](#)
3. [Wall Panels](#)
4. [Columns](#)
5. [Bridge Decking](#)
6. [Culvert Boxes](#)
7. [Barrier Rail](#)
8. [Bridge Arches](#)
9. [Oversize Loads](#)

## Precast Concrete - Stadium Stairs

- Chains should only be placed over dunnage supporting the load.
- Total amount of chains needed shall be at least one more chain that required per FMCSA guidelines.

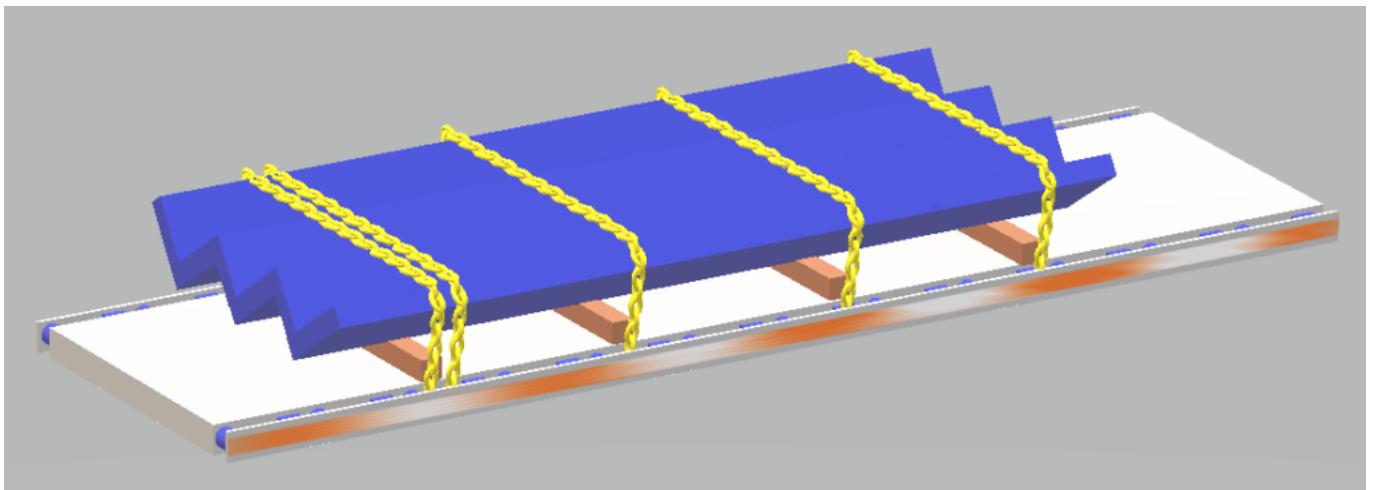


Figure 1: Stadium stairs secured with 5 chains. Notice how each chain is thrown over the steps over the supporting dunnage.

### Points to Remember

- Edge protection must be used anywhere the chain comes into direct contact with the concrete.
- If the load is oversized be sure all required oversized signage and equipment is properly installed. This may include but is not limited to flags, banners, and strobe lights.

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## Precast Concrete - Double Tees

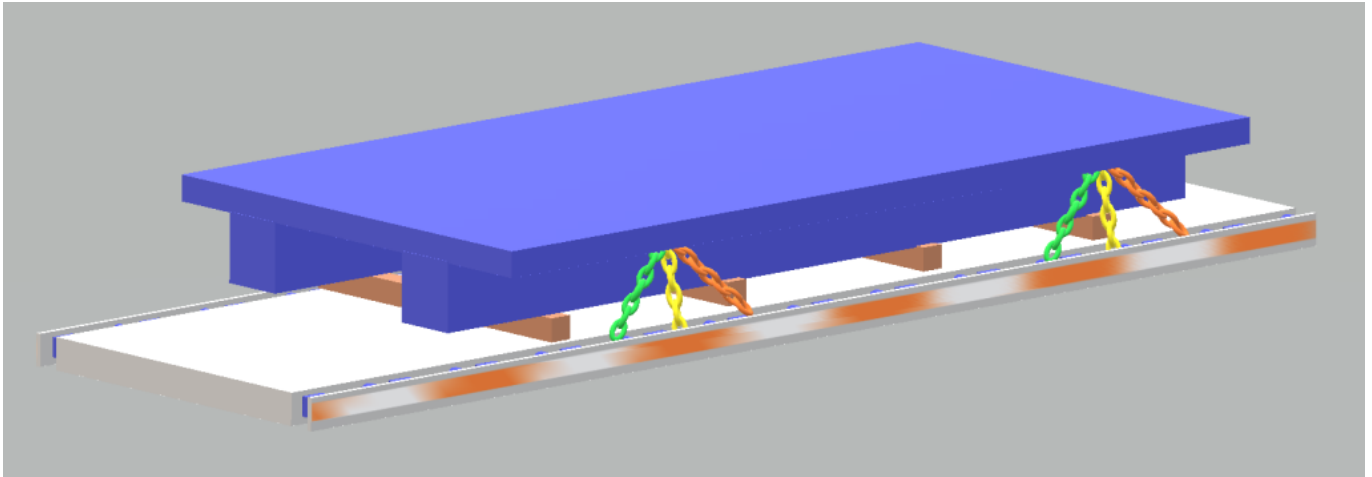


Figure 1: 45,000lb Double T secured with six chains. Notice how the green chains pull forward while the orange chains pull backwards to prevent motion. All six chains pass through the conduit pockets on the vertical faces of the t's. Use only conduit pockets located directly above supporting dunnage.

### Points to Remember:

- Chain over the whole piece should be avoided if possible. If a driver must go over the whole piece care must be taken not to over tighten that chain. The outer wings of the double T will NOT support a great deal of weight and can easily be damaged.
- Edge protection must be used anywhere the chain comes into direct contact with the concrete.
- Any load wider than 102 inches will require oversize load permits. Requirements for these loads can vary from state to state depending on dimensions and weight.
- Be sure all required oversized signage and equipment is properly installed. This may include but is not limited to flags, banners, and strobe lights.

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## Precast Concrete Wall Panels- Flat on Deck

1. The number of chains used to secure the load shall be one more chain than is required by standard FMCSA standards for cargo securement.
2. Chains should only be placed over the product where there is dunnage underneath the load. Placement of chain anywhere else over the product can result in damage.

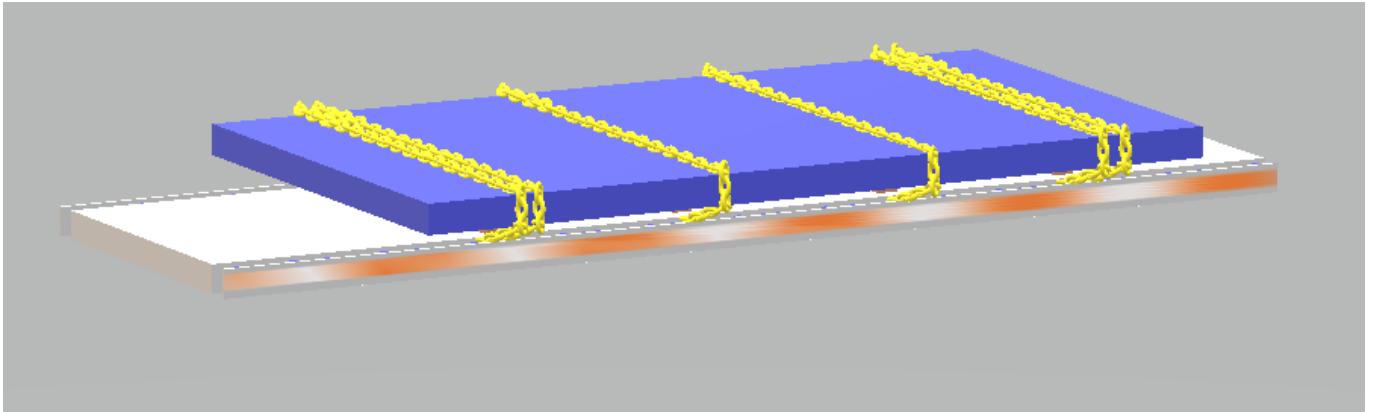


Figure 1: 42,000lbs wall panel secured with six chains. Each chain over a block of dunnage to

### Points to Remember:

- All chain must have edge protection where it touches the panel.
- Front most chain on the load should not be forward of the first block of dunnage.
- Rear most chain on the load should not be further back that the last block of dunnage.
- Any load wider that 102 inches will require oversize load permits. Requirements for these loads can vary from state-to-state depending on dimensions and weight.

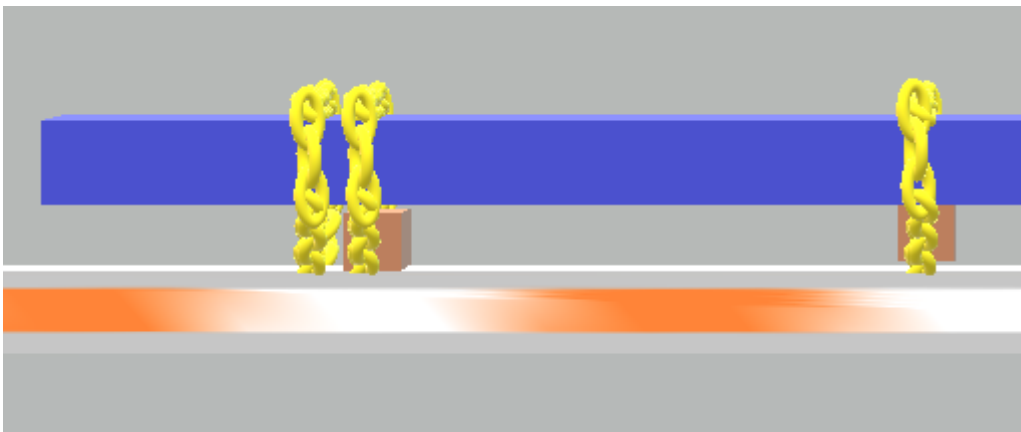


Figure 2: Side view showing chains over the blocking.

- Be sure all required oversized signage and equipment is properly installed. This may include but is not limited to flags, banners, and strobe lights.

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## Precast Concrete - Columns

1. 2 chains should be placed over the first 5ft of the load, then one additional chain every 8ft back down the remainder of the load.

2. When possible, a chain should be placed around the front of the load to help prevent forward motion.

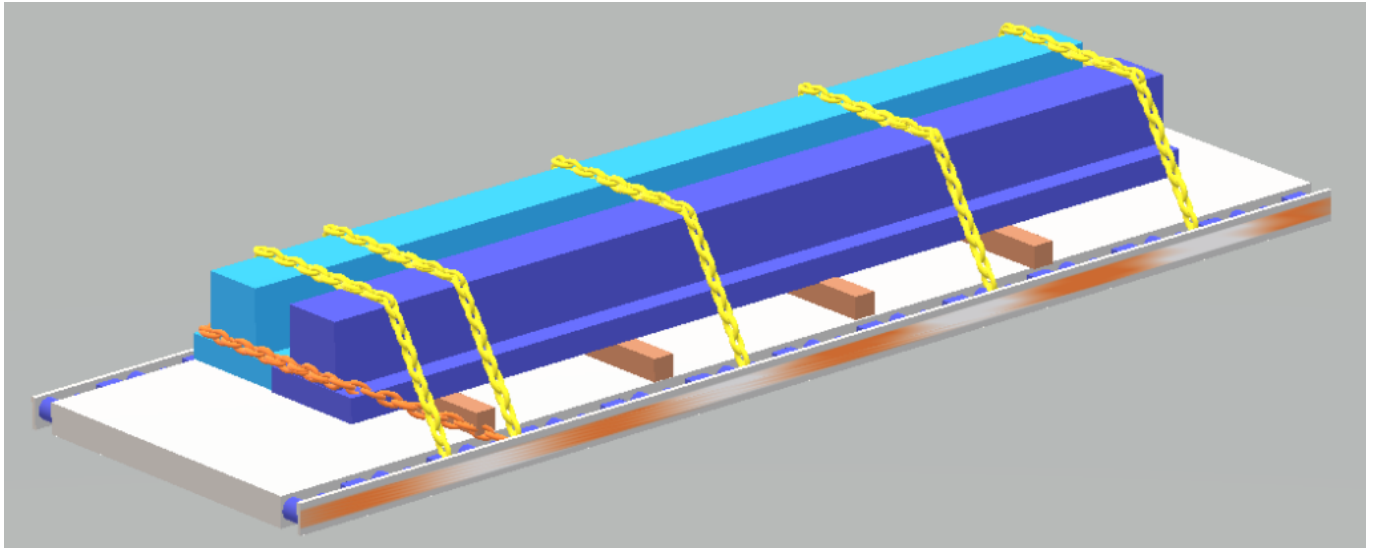


Figure 1: Two precast columns loaded side-by-side. Note the two chains in the first 5ft than an additional chain every 8ft back (shown in yellow). An additional chain (orange) is added to prevent forward motion.

### Points to Remember:

- Edge protection must be used anywhere the chain comes into direct contact with the concrete.
- If the load is oversized be sure all required oversized signage and equipment is properly installed. This may include but is not limited to flags, banners, and strobe lights.

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## Rinker Precast Concrete - Bridge Decking

- 1.) A decking load can be one piece or multiple pieces.
- 2.) Two tie-downs must be placed over the first 5ft of the load.
- 3.) Place two tie-downs over the rear 5 ft of the load.
- 4.) Place one tie-down every eight feet between the front and rear sets of tie-downs.

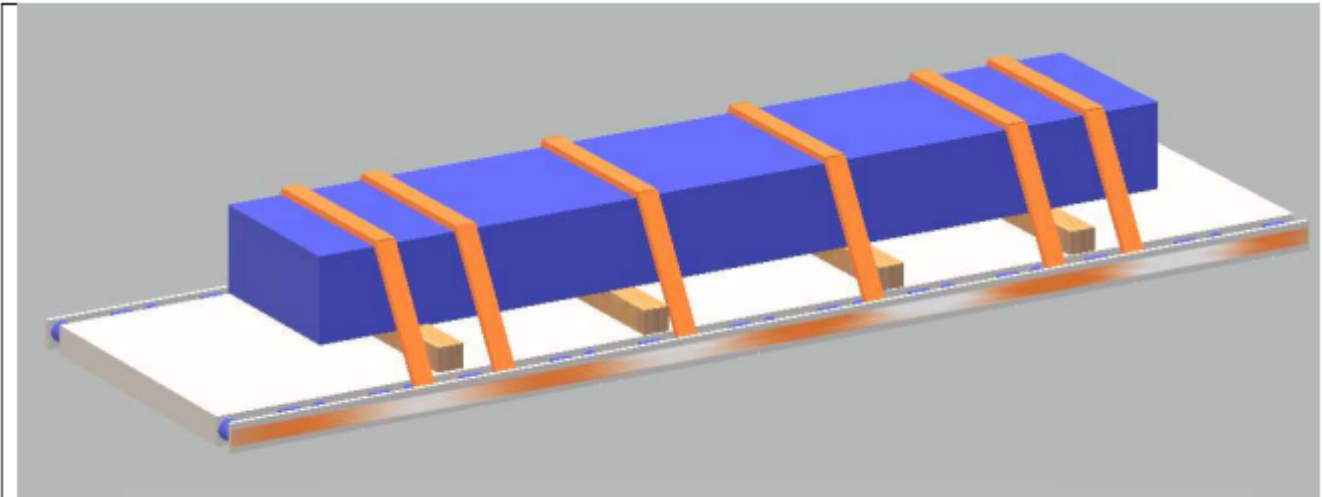


Figure 1: Bridge decking secured with straps. The front 2 and back 2 straps are within the first and last 5 ft of the load. No strap should be more than 8 ft from the next strap.

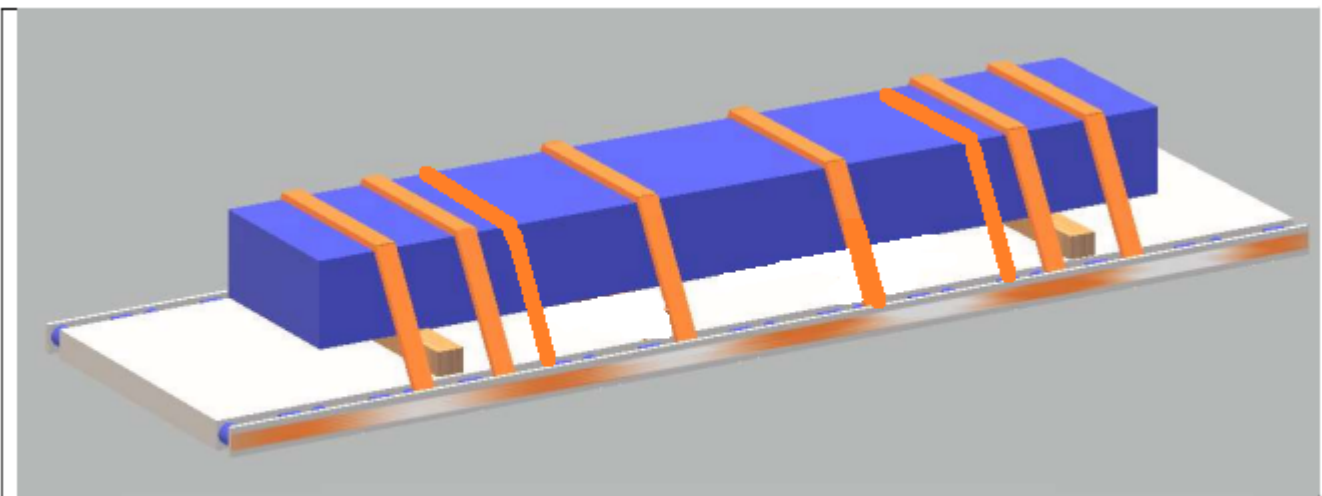


Figure 2: If the shipper loads with 2 pieces of dunnage add another strap on front and rear shown as above, do not overtighten the center straps.

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### Rinker Precast Concrete - Culvert Boxes (Square)

- 1.) Each box must be secured individually.
- 2.) For enclosed boxes, tiedowns should be placed over the top of the box.
- 3.) For open boxes, tiedowns should be placed through the open sides.
- 4.) A minimum of 2 tiedowns is required for each piece.
- 5.) For the correct number of tiedowns per piece, see the chart below.

Weight (lbs.)	0-9000	9000-18000	18000-27000	27000-36000	36000-45000	45000-54000
Of tiedowns	2	3	4	5	6	7

## Points to Remember:

- Edge protection must be used every place a strap touches the product.
- If a box is wider than the rub rails of the trailer it is considered oversize and will require permits to be hauled.

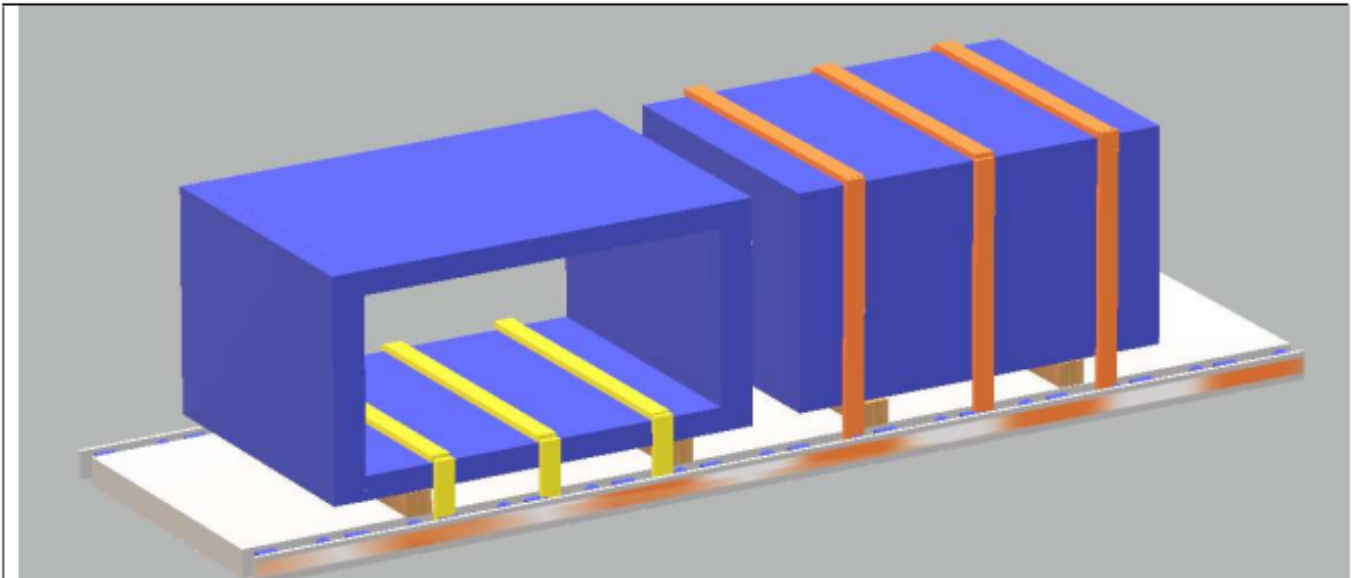


Figure 1: Two precast concrete boxes secured with three straps each. The open box has the tiedowns placed through the openings (yellow straps). The enclosed box has tiedowns over the top of the whole piece (orange straps).

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## Rinker Precast Concrete- Barrier Rail

- 1.) Barrier rail is to be loaded with the shortest sides facing each other. This keeps the center of gravity toward the center of the trailer to prevent tipping.
- 2.) Blocking may be placed between the two pieces to help stabilize the load.
- 3.) Place two tiedowns in the first five foot of each section.
- 4.) Place two tiedowns in the last five foot of each section.
- 5.) No more than 8 ft should be between tiedowns.

## Points to Remember:

- Edge protection must be used every place a strap touches the pieces.
- A minimum of 4 tiedowns should be used on each section.

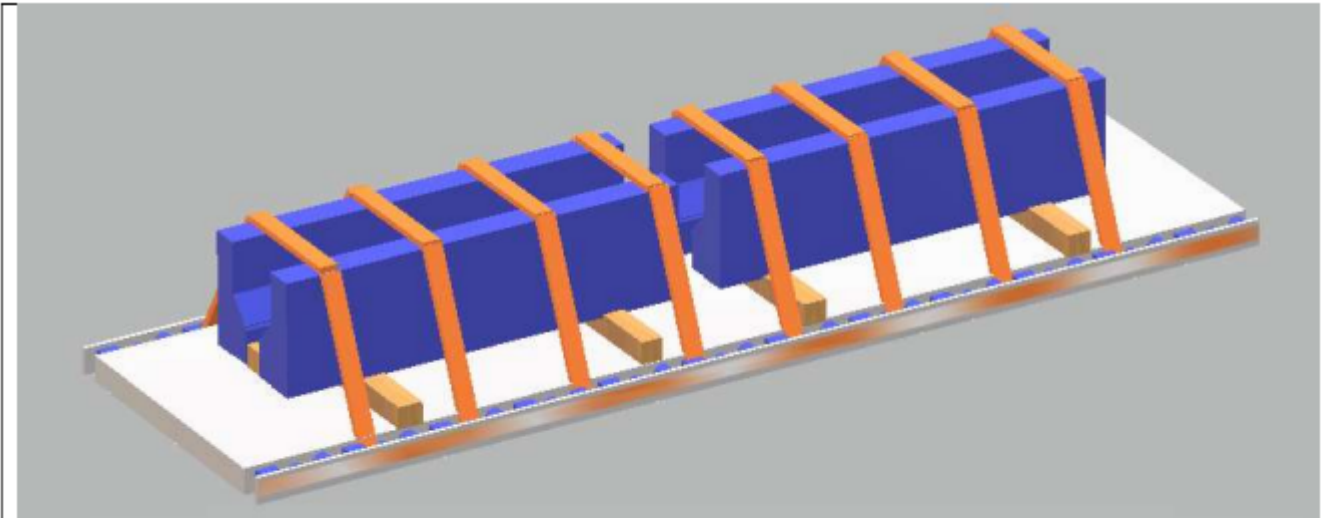


Figure 1: Two sections of bridge barrier rail. Each section with two straps in the front 5ft and rear 5ft of each section. Each section should have a minimum of 4 straps.

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## Rinker Precast Concrete - Bridge Arches

- 1.) Two tie-downs must be placed over the first 5ft of the load from where the arch crosses the rub rail.
- 2.) Place two tie-downs over the rear 5 ft of the load from where the arch crosses the rub rail of the trailer.
- 3.) Place one tie-down every eight feet between the front and rear sets of tie-downs.

### Points to Remember:

- Edge protection must be used every place a tiedown touches the freight.
- These loads will be oversize and will have to be permitted to be hauled. Please see the oversize section of this manual.
- Because of the shape and size of this load chain is required.

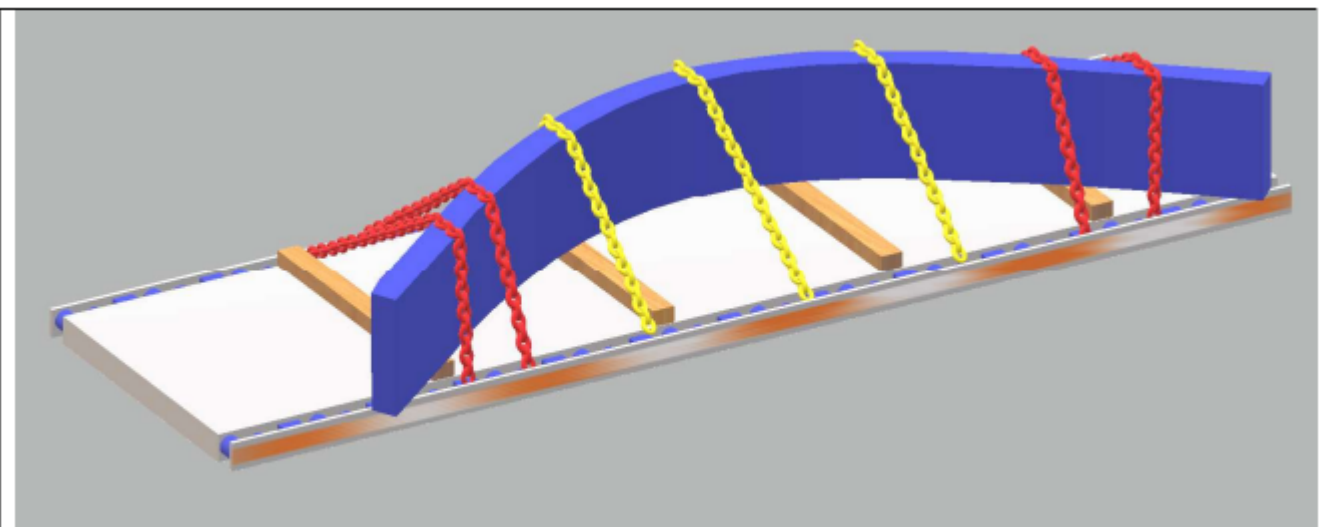


Figure 1: Concrete Bridge arch load secured with chain. Two chains are placed within the first 5 ft of the front and rear of the load (red chain). An additional chain is added every 8 ft back in the centers (yellow chain).

## Oversize Loads

Each state has laws that that define legal dimensions for loads. Any load greater than these state set limits makes the load oversized. These oversize loads must be permitted to be legally transported. There are five basic types of oversize loads:

- 1.) Over Height Loads - Loads higher than the legal limit. For most states this is 13 feet 6 inches but could be more depending on the states in which you are running.
- 2.) Over Width Loads - These loads are wider than legally allowed. For most states this is 102 inches. PS Logistic trailers are 102 inches wide, so anything load that is wider than the rub rails on the trailer makes the load oversize.
- 3.) Over Length Loads - The rules for legal load length vary greatly from state-to-state. Any load longer than 53 feet could be oversize depending on the states in which you are driving.
- 4.) Overhanging Loads - Many states have limits on how far a load can hang over the front and rear of the trailer. This varies from state to state. The most common regulation is up to 4 feet off the rear of the trailer (some states are less).
- 5.) Overweight Loads - If the combined weight of the truck, trailer, and load is greater than 80,000 pounds the load is oversized.

### Additional Equipment

Hauling an oversize load will require additional equipment. What is needed will vary depending on the dimensions of the load and the state it is being transported through. Required additional equipment will be listed on the load permits issued by the state. This includes but is not limited to the following:

- **Oversize Load Banner-** 7ft x 1.5ft yellow banner with 10-inch black letters reading "OVERSIZE LOAD". "WIDE LOAD" banners are not legal in many states. Be sure to have the proper banner.
- **Safety Flags-** These are 18-inch square red flags. These may be required on the front corners of the tractor, on the corners of the load, or at the rear of the load depending on permit requirements. These can be mounted to the tractor or load in different ways.
- **Beacon Lights-** Rotating or strobing yellow lights that may need to be mounted on both the top of the tractor and the load.

### Pilot Cars

Some loads that exceed certain dimensions may require the use of pilot cars or escort vehicles. These cars, typically passenger vehicles, assist the driver in moving down the highway. These cars help a driver spot problem, obstacles, interferences, and communicate them back to the driver. Escorts also can assist the driver by blocking traffic for safe lane changes and tight turns. Working with pilot services requires a CB radio and good communication skills to coordinate movement.

### Permits

Oversize load permits will be obtained by operations before the load moves. The driver must keep a copy of this permit in his truck while hauling the load. Always read your permits carefully

to ensure compliance with state laws for oversize loads. This includes the following:

- Requirements for additional equipment and placement of these devices.
- Legal moving hours - Many loads will be restricted to daylight hours only. A driver will need to plan his or her trip with this in mind.
- Routing- Some loads will require you to take exact routes to get to your destination.

These routes are planned to avoid heavy traffic, narrow roads, narrow and weight restricted bridges, low clearance obstacles, and other problems that may not be obvious.

#### On The Road

Each type of oversize load presents different challenges to truck drivers. Here are few things to consider.

- All oversize loads must stop at ALL open weight stations and present the permits for the loads. This will increase the chance of inspection by DOT officers.
- Wide loads will hang into adjacent lanes and over the shoulder of the road. A driver must watch traffic, as well as roadside hazards such as parked vehicles, utility poles, and mailboxes that are close to the edge of the road.
- Long loads take much more room to turn than legal sized loads. This will require more space to swing wide. This swing can create situations in which traffic moves in beside the trailer during the turn. A driver must have a good circle of awareness and keep his or her eyes moving to see developing problems.
- Overhanging loads create tail swing. Tail swing is a side-to-side motion that can be outside the path of the wheel while the trailer is turning. Drivers must compensate for this when turning and backing, particularly in tight areas and during backing.

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# Rebar Securement

- Place dunnage on trailer, space dunnage.
- Double dunnage in the front and rear of trailer
- If material is next to each other, you should have 3 choke straps (front, center, and rear of the load) in addition to the normal strapping.
- If material has vertical spacing, 6 weave straps should be used, 2 alternating over/under and under/over on the front, middle, and rear of the load, in addition strap over the top between the weave straps.
- Place 2 straps within the first 5' and at least every 8' thereafter or portion thereof.
- Tighten straps for securement
- If oversized, add banners to front and rear
- Add flags and light on rear of oversize load.

## See Examples Below



# Shingles

1. Two straps must be placed on the pallets in the first and last positions.
2. Cross straps must be placed on pallets that are in the first and last position.

Note:

- All packages must have downward pressure.
- Corner protectors must be utilized
  - Note: Avoid overtightening – this may cause damage to the product.
- Check each pallet's top layer for loose packaging.
  - Packet of roofing may have to be positioned in different way to comply.







### **Tarping Requirements:**

Load must always be tarped when picking up before the weekend and delivering after the weekend. This is mandatory to deter any theft of the product.

# Transformer Securement.

- When loading the grey cylinder-shaped transformers, timbers (2×4's or 4×8's) may be placed on the pallets as illustrated below to get down pressure on more than one pallet at a time.
- The front and rear pallets must have two straps
  - One behind the transformers and one in front of the transformers on the front of the trailer to prevent the center pallet from sliding out and off the trailer during braking
  - We must do the same on the rear of the trailer to keep the center pallet from walking out backwards.





- When loading the green (square shaped) transformers, we should use two straps over the front and rear transformer.
- One strap may be used over the center ones.
- Trip straps should be used on the front and rear transformers also.





# Wire Mesh

Wire mesh can either be loaded on blocking or directly onto the deck of the trailer. It is generally stacked high with no spacers in between bundles.

1. 2 belly chains should be placed through the center of each stack on the load and tightened. This will need to be done during the middle of the loading process
2. Once the loading is complete, straps should be used over the top of the entire load for securement.

## Points to remember:

- Belly chains should be used instead of 4-inch straps. This creates a more rigid tie-down and helps prevent shifting to the sides during transit.
- Having the loader press downward on the load can help get the material more compact and get the straps over the top of the load tighter.

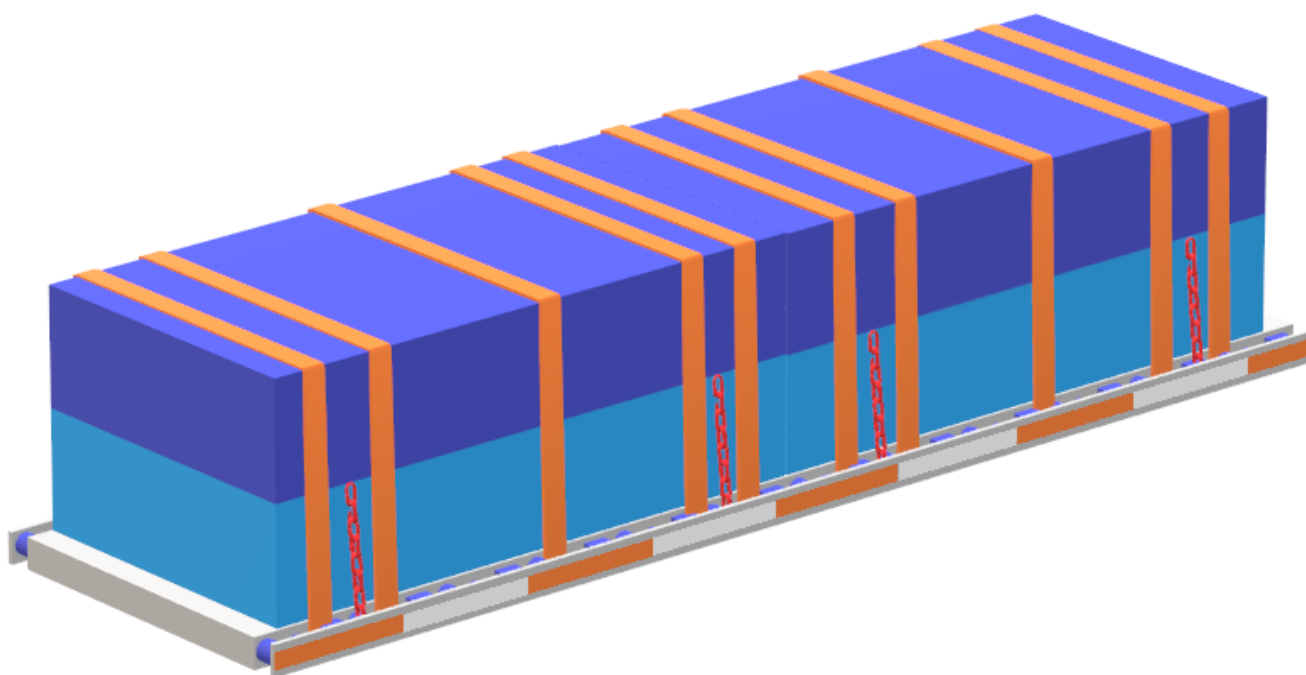


Figure 1: Load of steel mesh secured between the light and dark blue layers with chain (red) then straps over the top. Notice each section has two straps (orange) in the first and last 5 feet of the section, then a strap in between so that there is no more than 8 feet between tie-downs.

