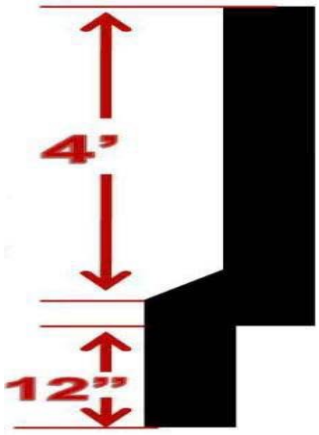
All trailers hauling Tubular goods, must be equipped with a minimum of four (4) Samson posts/Stanchions integrated into and adequately secured to the side rails of the trailer and/or Pipe Bunks similar to those pictured below:

Figure 1 – Pipe bunk

-Pipe stakes must be made of 3.5 in. heavy wall pipe or square tubing, extending above the deck of the trailer. Pipe stakes must not be constructed of channel iron, as channel iron is not reliable and may bend under a pipe load, allowing pipe to fall off the trailer. The pipe stakes must be covered in PVC to prevent metal to metal contact.



Figures 2a and 2b – Recommended pipe stakes

Figure 2c - NOT PERMITTED
Channel iron used as pipe stakes, bent under loaded weight and rolled off trailer

-Articles of cargo placed beside each other and secured by transverse tie-downs must either be

placed in direct contact with each other or prevented from shifting towards each other while in transit. It is strongly recommended that all vehicles transporting cargo for Hess have a Headerboard attached to the cab of the vehicle to prevent articles of cargo impacting and/or penetrating the cab of the vehicle.

- If straps used to secure cargo are subject to abrasion, edge protection resistant to abrasion, cutting, and crushing must be used (edge protection composed of paper is prohibited)

Rubber mat as edge protection

Improper edge protection causing cut in tie-down strap.

Figure 3a

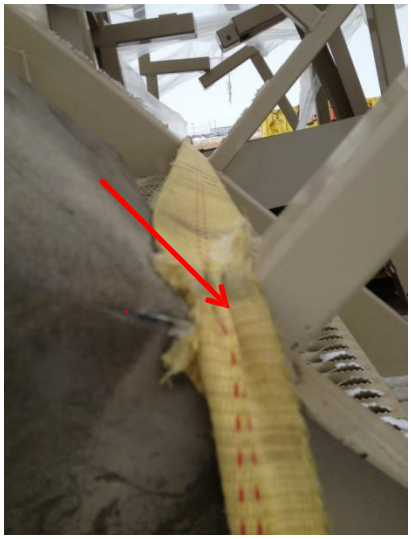


Figure 3b

- Hoses used by carriers must be securely stowed in their hose racks and/or hose troughs before moving. This includes while moving within the lease.

4.2 Center of Gravity

. The cargo must be secured to the performance criteria from this standard, with particular attention to the Center of Gravity (CG).

. If the location of the CG is unknown or not obvious, an engineering representative must determine securement before request for transport. If the item to be transported is deemed an exceptional load, reference Section 4.3 Exceptional Loads for further guidance.

. If the height of the object is greater than its base, the CG must be properly derived before request for transport.

4.3 Exceptional Loads

Any load may be designated as an exceptional load by Hess PIC. Typically, a load will be designated as exceptional if the equipment requires special handling due to:

. the load not likely being tied down adequately by commonly available truck drivers,
. size,
. weight, or
. awkward or bulky shape (e.g. with a high center of gravity), making proper securement difficult.

. loss or damage would result in:

. substantial economic loss or
. major time delays to the project.

For example, a hydraulic power unit is not particularly heavy or bulky, but would be difficult to replace in a timely manner.

4.4 Loading Height

The top layer of pipe must not extend more than half its diameter above the Samson post/pipe stanchions, Pipe Bunks, dock racks, or headache rack.

It is the truck driver's responsibility to ensure that the highest point of the load/trailer/vehicle has sufficient overhead clearance along the entire route, including the pickup and drop off locations (e.g. entrance gates).

4.5 Safety Zone

. Personnel not conducting loading/unloading operations shall not be within 20' of the truck, forklift or crane while all cargo is being loaded or unloaded.

. The Person In Charge (PIC) of the location must clearly mark all safety zones. If the PIC deems it necessary during loading/unloading operations, he shall direct the driver to remain outside the designated Safety Zone, at a designated Safety Position. The Drivers Safety Position will be marked with a Green Traffic Cone.

. If a forklift is used to install or remove chocks on a trailer, the forklift must be in position, stationary, and have its park brake set before personnel approach.

. A minimum 20' safe zone should also be clearly marked when working around vacuum or pump truck hoses. **NEVER WALK OVER A HIGH PRESSURE HOSE.**

5.0 Restraint Requirements

5.1 Working Load Limit

. The working load limit (WLL) or safe working limit (SWL) is the maximum load that may be placed on any component of a cargo securement system during normal service. All devices must be clearly marked as such with a WLL marking.

. The total WLL of a cargo securement system must be at least 100% of the weight of the article being secure.

NOTE: The total WLL is the sum of the WLL of each chain and/or strap used to secure the article. For example, a 20,000-lb article of cargo must be secured using chains and/or straps with a combined working load limit of 20,000 lbs or more. A typical 4 in. Nylon strap has a WLL of 5400 lbs.

. The working load limit of any restraining device used to secure cargo must not be exceeded. Any restraining device not marked by the manufacturer with its working load limit will be considered to have a working load limit of the lowest grade or classification for the type and size of the component being used. **(See Table in Appendix A.)**

5.2 Chains and Devices

. Chains must at a minimum be 5/16", Grade 70 transport chain meeting The National Association of Chain Manufacturers (NACM) specifications.

. If securing with chains, use at minimum 2 chains in a cross bind pattern (this pattern restrains movement in any direction). Additional restraining devices must be used if necessary. Chains must be applied to a load such that the angle is more than 45° from horizontal or vertical as demonstrated in Figure 4 on page 9.

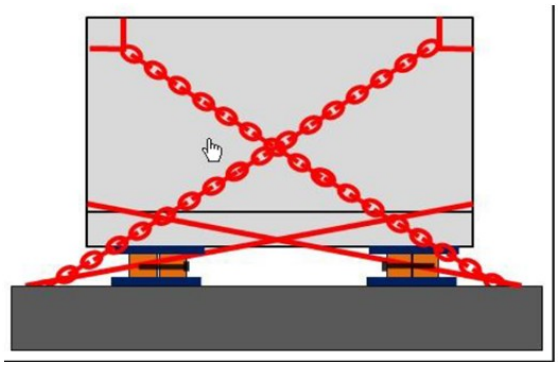


Figure 4a-Cross Bind Pattern

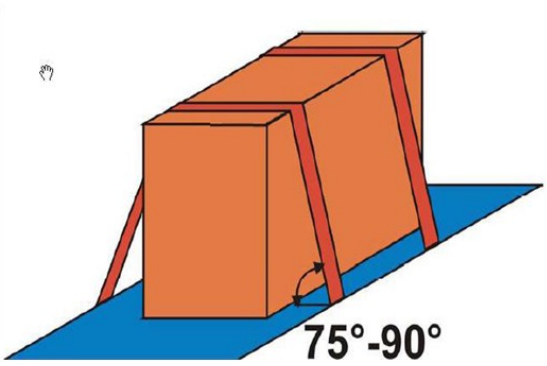


Figure 4b –Top-Over Lashing

NOTES:

. The full WLL of a chain/strap is achieved only when the chain/strap is in a straight pull (or straight line). Attaching chains/straps to a load with less than a 45° angle greatly reduces their WLL.

. Cross binding a load on the front and rear offers restraint from movement in all directions.

. The ratchet-style load binder is the Hess approved securement device when chain configurations are used to secure cargo.

. The use of lever-style load binders to secure cargo is prohibited. The stored energy of these devices introduces the potential for serious injury to the driver when breaking or releasing the handle of the lever binder. These hazards are compounded when cheater pipes are applied to aid drivers in providing leverage on the binder.

. Figure 5 depicts the two (2) types of binder devices:

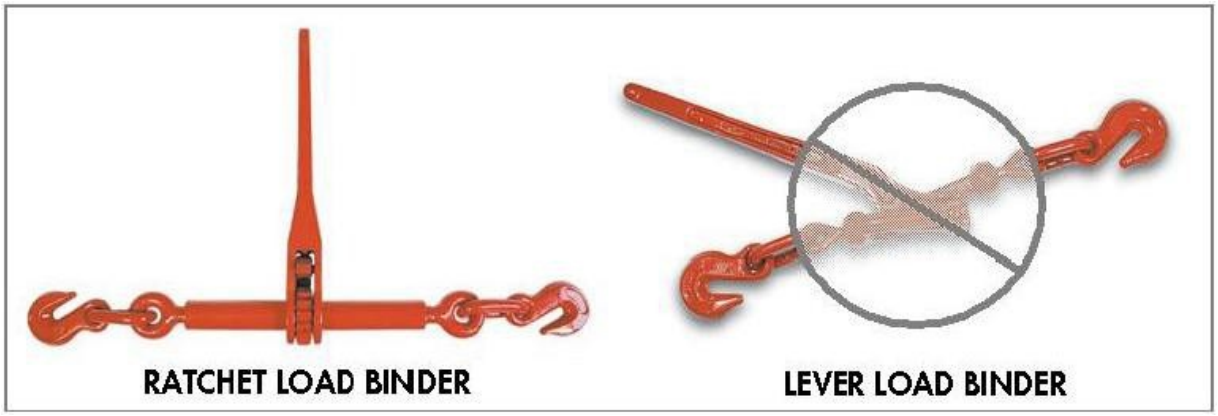


Figure 5 – Ratchet Binders (Approved Standard) Lever Binder **(Prohibited)**

5.3 Nylon Straps
. Straps must be nylon and a minimum of 4" wide to secure items on trailer decks. . The driver may use 2" straps to secure items inside of baskets, containers, motor vehicle beds and moving parts of equipment. (This may be in addition to any securement the shipper has provided.)

. Nylon straps used to secure the load must be placed in the immediate proximity of each support point.
. Whenever possible, straps should be run between the rub rail and the trailer for add protection.
. For loads with tubular goods greater than 5" in diameter there must be at least 2 straps per loaded layer for all goods:

Figure 7 - Two (2) 4” straps across each layer of tubulars, and a minimum of 6 straps over the entire load. NOTE use of recommended pipe stakes.

. For loads with tubular goods 5" or less in diameter there must be at least 1 strap per loaded layer in a staggered sequence from layer to layer.

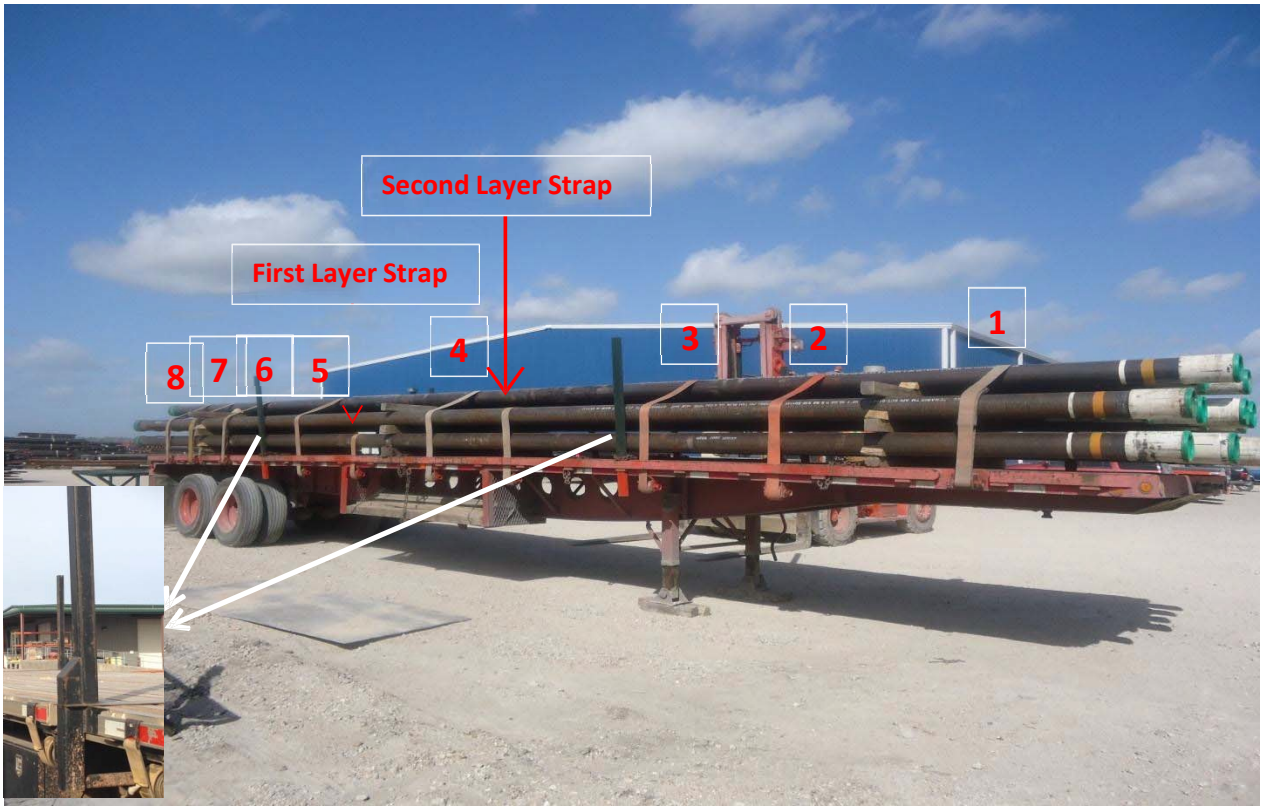


Figure 7 – Two (2) 4" straps across each layer of tubulars, and a minimum of 6 straps over the entire load. NOTE use of recommended pipe stakes.

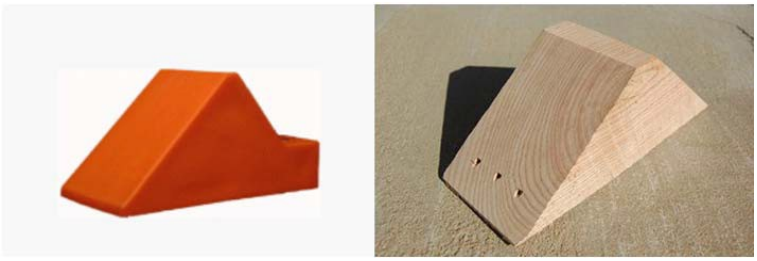
. To complete the securement of the tubular load, a *minimum of 6 straps* must be applied over the entire properly stripped and chocked load.
. For all other goods a minimum of 2 straps must be used.

5.4 Mixing Restraints
When mixing restraints on a single article of cargo it is the driver's responsibility to ensure that 100% of the WLL is secured.

6.0 Chocks and Other Transport Materials Requirements

6.1 Chocks & Dunnage
At least 2 hardwood (pre-drilled) or plastic chocks suitable for securing each layer of loaded tubular goods must:
. be placed on the first and last boards of each layer (for a minimum total of 4 chocks per layer), and
. prevent side-to-side movement of the material during:
. transport,
. loading, or
. unloading.

Figure 8a – Chocks applied to stripping on trailer loaded with tubular goods



Figures 8b and 8c - Plastic chock & pre-drilled hardwood chock

All chocks must have at least two (2) double headed nails. Dunnage will consist of Hardwood 4 x 4's (10 pieces ea) or Hardwood 2 x4 's (20 pieces ea). No Landscaping Timbers are authorized for use.

6.2 Chock Sizes
The following table lists chock size requirements.

Diameter of Tubular Good	Required Chock
Up to 6"	2" – 4" Chocks Required
6-1/8" – 11"	4" Chocks Required
11" – 20"	8" Chocks Required
Greater than 20"	Hardwood/Pre-Drilled properly installed and adequate to restrain load from side to side movement.

6.3 Crates
No crated material may be loaded or transported on top of pipe.

6.4 Palletized Cargo and Drums
. All materials being transported on pallets must be evenly distributed and bundled by means of plastic/poly/steel banding, or cargo straps. . Drums must contain a properly secured pallet on the top and bottom of the barrels to complete the load.

. Palletized sack material must contain a properly secured pallet on the top and bottom of the barrels to complete the load.
. Palletized drums and/or buckets must be secured using strapping applied horizontally to prevent shifting during transit, as follows:
. When using steel or plastic banding, a minimum of two (2) straps shall be applied for each palletized load and banding shall be a minimum of 1" in diameter. . If cargo straps are being used, a minimum of two 2" or two 4" straps shall be applied.

. Stretch film is not permitted as a primary means of securing drums or other equipment to a pallet.
. As a best practice, containment pallets should be considered for use when available.
. Palletized units must be secured to the vehicle or transport platform in accordance with restraint requirements outlined in this document.
. The layering or stacking of palletized drums for flatbed transport is strictly prohibited.
. All pallets must be inspected to ensure proper serviceability by the driver/shipper prior to each use.
. The use of pallets (especially wood pallets) is highly discouraged due to risk of pallet collapse from structural faults and/or over use.

6.5 Gas Cylinders (Transporting/Moving)
Compressed Gas Cylinders shall be secured in an upright/vertical position at all times, except, if necessary when the cylinders are being hoisted or carried. Unless the Cylinders are firmly secured on a special carrier intended for this purpose, regulators should be removed and valve protection caps put in place before cylinders are moved and/or transported, per 29 CFR 1926.350(a)(4)

6.6 Pyramid Loading of Tubulars
The pyramid loading of OCTG, Fusion-Bonded Epoxy (FBE) coated pipe, or any tubular goods will be conducted by a Competent, Qualified Person, utilizing equipment that has been certified, inspected and designed for that specific purpose.

7.0 Truck Driver Responsibilities

7.1 General
The truck driver shall refuse to transport tanks, equipment, and containers that are not properly prepared in accordance with U.S. Department of Transportation 49 CFR requirements.

7.1.1 Load Examination
Drivers are required to stop and check the securement of the load (straps, chains, chocks, dunnage, etc.) within the first 50 miles of travel and every 150 miles or every 3 hours thereafter.

7.2 Before Vehicle Operation
Truck drivers are responsible for ensuring that the following requirements are met before equipment or material is transported for Hess:

. The provisions of the Hess Load Securement Standard as well as any and all local, State, and Federal regulations are met.
. The driver will use the GSC Load Securement Checklist as a guideline to secure the load, assisted by the Person In Charge (PIC) of that Hess operated location/facility.
. The driver must complete a Job Safety Analysis (JSA) prior to commencing any loading/unloading activities.
. Truck drivers have Stop Work Authority and should challenge the shipper's preparation of the load for transport. If problems arise from vendor adherence to this requirement, truck drivers must immediately report to the safety directorate who will contact the Hess road transport focal person.
. The vehicle's tailgate, tailboard, headerboard, doors, tarpaulins, spare tire, and other equipment used in its operation are secured.
. The cargo or any other object does not do any of the following:

1. . Obscure the truck driver's view ahead or to the right or left sides
2. . Prevent his/her free and ready access to accessories required for emergencies
3. . Prevent the free and ready exit of any person from the cab or truck driver's compartment.

7.2.1 Load Height & Width Requirements
Drivers will ensure that the load is within in height and weight restrictions for the route being travelled. Proper markings for wider than normal loads (exceeding 4 inches to either side or 48 inches to the rear) must be followed IAW 49 CFR §393.87(a) & (b)

7.3 Special Requirements for Tubulars
For the transportation of unbolstered tubular goods, refer to GSC D&C MATL-001 Material Handling, Maintenance & Preservation (Unbolstered Tubular Requirements).

7.4 Solid Barrier Restraint
Truck Drivers should consider the restraint offered by placing an article of cargo against a solid barrier such as the drop-slope of a drop deck trailer.

7.5 Loose Items
. For items placed inside open top transport containers, the truck drivers must verify that small items, loose material, or pipe do not become projectiles in the event of sudden deceleration and/or roll-over situations.
. For items that cannot be visually inspected, reference Stop Work Authority under Section 7.2.

7.6 Personal Protective Equipment (PPE) Requirements
-IAW Hess EHS&SR Operating Practice SAF-01:
Each truck/driver shall have the following equipment upon arrival at the assigned work location:
. Hard hat meeting or exceeding the current American National Standards Institute (ANSI) standards (or recognized equivalent standard per country)
. Impact-resistant safety glasses with side shields that meet or exceed the current ANSI standards
. Steel-toe safety shoes or boots that meet or exceed current ANSI standards
. Work gloves (Refer to MSDS for site-specific requirements.)

. Safety Vests must be worn at all times when performing work at Hess locations. (Refer to Hess area orientation for site-specific requirements.)

7.7 Wearing Safety Equipment

The required safety equipment must be worn at all times while:

. loading,

. unloading, and

. securing any type of load.

Sharing safety equipment between truck drivers is expressly prohibited. The loading or unloading facility will not furnish PPE or tubular loading materials (Dunnage) to trucks/drivers.

7.8 Non-Compliant Trucks/Drivers

Trucks/drivers arriving at the work location to load without the proper safety equipment or materials will not be loaded, and will be asked to leave the work location immediately, but are allowed to leave, obtain the required equipment, and return for loading.

Any truck driver acting in an unsafe manner will be requested and required to leave the work location immediately. The truck driver's dispatcher and safety director will be informed of this action.

At Hess's discretion, trucks/drivers arriving at a location to unload without a properly secured load will not be unloaded. The vehicle will be asked to leave the work location immediately, but may return to the location once properly secured.

NOTE: All costs incurred by non-compliance are the responsibility of the trucking contractor.

APPENDIX A. WORKING LOAD LIMITS (WLL)

Working Load Limit (**WLL**) is determined by Design Factor(**DF**) and Minimum Breaking Strength (**MBS**) of specific tie downs. **MBS** divided by **DF** is the **WLL** of the tie downs:

WLL = MBS/DF

WORKING LOAD LIMIT (CHAIN)

Size cm (inches)	Grade 30 proof coil	Grade 43 high test	Grade 70 transport	Grade 80 alloy	Grade 100 alloy
7 (1/4)	580 (1,300)	1,180 (2,600)	1,430 (3,150)	1,570 (3,500)	1,950 (4,300)
8 (5/16)	860 (1,900)	1,770 (3,900)	2,130 (4,700)	2,000 (4,500)	2,600 (5,700)
10 (3/8)	1,200 (2,650)	2,450 (5,400)	2,990 (6,600)	3,200 (7,100)	4,000 (8,800)
11 (7/16)	1,680 (3,700)	3,270 (7,200)	3,970 (8,750)		
13 (1/2)	2,030 (4,500)	4,170 (9,200)	5,130 (11,300)	5,400 (12,000)	6,800 (15,000)
16 (5/8)	3,130 (6,900)	5,910 (13,000)	7,170 (15,800)	8,200 (18,100)	10,300 (22,600)
		Chain Mark Examples:			
Example 1	3	4	7	8	10
Example 2	30	43	70	80	100
Example 3	300	430	700	800	1000

SYNTHETIC WEBBING (Straps)

Width mm (inches)	WLL kg (pounds)
45 (1 3/4)	790 (1,750)
50 (2)	910 (2,000)
75 (3)	1,360 (3,000)
100 (4)	1,810 (4,000)