

Workplace Health and Safety Bulletin



Securing Pipe and Other Cargo on Vehicles

Fatalities involving pipe that falls on workers during loading and unloading activities occur. Consider the following two examples:

- On November 1, 2000, two workers were fatally injured by falling pipe while preparing to unload a transport trailer. The workers were in the process of unstrapping the load when two lengths of high-density polyethylene pipe each weighing approximately 500 kg rolled off the top tier. The load of pipe was resting on dunnage – it was not blocked to contain or restrain the load once the strapping was removed.
- On September 19, 2001, workers were removing tarpaulins covering a load of 300 mm diameter steel pipe from a flat deck trailer. Several lengths of pipe, each weighing approximately 900 kg, broke free and rolled off the trailer. Two workers were fatally injured when pinned between the pipe and a stockpile of pipe on the ground. The pipes had been arranged as a triangular or pyramid-shaped load. The bottom row of pipe had not been adequately secured to prevent it from rolling off the trailer.

Employer and worker responsibilities

Section 189 of the Occupational Health and Safety (OHS) Code places obligations on the employer and worker when equipment and materials are secured. Where there is a potential danger to workers because of equipment or materials becoming dislodged or moving, both the employer and worker need to take all reasonable steps to eliminate the danger. This means that the equipment or materials must be contained or restrained.

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Workers must understand the employer's policies and procedures, supplier's load patterns, and methods of preventing equipment and materials from moving during transport. Loading and unloading may also involve the use of additional equipment such as forklifts or cranes. Drivers should not operate this lifting equipment or rig loads unless they are competent to do so based on their qualifications, training and experience.

Recommended practices for loads of pipe

The following recommended practices are based on information provided by the Alberta Motor Transport Association:

Preparing to load pipe

- (1) Supplier load patterns must be followed. If a mixed load will be handled, the driver and supplier must determine the pattern and method that will contain or restrain the load.
- (2) All strapping, dunnage (the material placed between portions of the load to prevent damage), contour bunks and blocking materials must be in good condition. Blocking materials must be secured in place by nailing or by other acceptable fastening methods.
- (3) The driver, supplier, and receiver must be aware of environmental conditions and the hazards associated with them. Rain, ice and snow present unique challenges as does working at height. Fall protection methods must be used if a worker is working at a height of more than 3.0 metres above the ground.
- (4) Appropriate personal protective equipment must be used. The driver must wear a hard hat, safety glasses, safety boots and a high visibility traffic vest while loading and unloading.

Considerations when loading pipe

- (1) The receiver's representative should instruct the driver as to where to position the trailer. The trailer must be positioned on a level surface.
- (2) Once positioned, the driver needs to examine the entire load and make sure that it is safe to remove the strapping.

- (3) If it is unsafe to remove the strapping e.g. the load has shifted, the blocking is damaged, the blocking is inadequate, etc., the driver must inform the receiver's representative. Before removing the strapping, the driver and receiver's representative must develop a plan to remove the load safely. The driver and receiver's representative have a responsibility to refuse to unload the load if the load cannot be unloaded safely at the truck's present location.
- (4) If it is safe to remove the strapping, a forklift or crane can be used as an extra precaution to contain or restrain the load while the strapping is being removed. Once the strapping has been removed, the driver should tell the receiver's representative that the pipe can be unloaded. The driver must then move to a safe location while loads are lifted and removed from the truck.

Other requirements

Under the Alberta *Commercial Vehicle Safety Regulation*, the National Safety Code for Motor Carriers Standard 10 (Cargo Securement), referred to as NSC Standard 10, made by the Canadian Council of Motor Transport Administrators and dated September 23, 2004, has been adopted and applies to Alberta motor carriers. Section 17 of that Regulation also establishes responsibilities of cargo securement.

NSC Standard 10 requires that cargo transported by a vehicle shall be contained, immobilized or secured so that it cannot

- (a) leak, spill, blow off, fall from, fall through or otherwise be dislodged from the vehicle, or
- (b) shift upon or within the vehicle to such an extent that the vehicle's stability or maneuverability is adversely affected.

The standard is based on objective requirements related to the capabilities of commercial vehicles within the confines of the highway system. It provides prescriptive means for securement of a significant number of categories of cargo, each meeting or deemed to meet the performance requirements. In addition, it provides general processes for securement of other types of cargo.

An Interpretation Guide is also available.

For more information



http://employment.alberta.ca/documents/WHS/WHS-PUB_li015.pdf

Due Diligence



http://employment.alberta.ca/documents/WHS/WHS-LEG_ohsc_2009.pdf

Occupational Health and Safety Code 2009



<http://www.ccmta.ca/english/pdf/Standard%2010.pdf>

NSC Standard 10- Cargo Securement





<http://www.ccmta.ca/english/committees/cra/cargo/pdf/interpretationguide.pdf>

NSC Standard 10 Interpretation Guide

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