

STEEL COILS IN FREIGHT CONTAINERS

by

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Steel Coils have always been difficult to ship. They are extremely heavy in weight, cylindrical in shape, difficult to move, hard to secure, but easy to damage. Traditionally, they have been shipped in a breakbulk fashion.

A steel coil is actually nothing more than a sheet of steel which has been rolled up. The steel can be of numerous grades or qualities, size and thicknesses or weight. The most common coil might weight 10 tons but could weigh as much as 20 tons. Depending on the quality of the metal, the coil may be covered with a protective cover which is frequently a thin steel sheet. The coil is held together with four to eight steel bands, depending on the size, fastened with clips which have been crimped.

As the U.S. Steel industry has traditionally been based in the middle of the country, railroads used to offer specially heavily built rail cars having built up cradles to transport the coils to seaports for export. The ships in this trade were of the traditional general cargo or breakbulk design.

More recently however, the economics of the container trades has changed the method of shipping coils. At present, there are more cargoes imported to the center of the U.S. than

exports leaving. For the shipping companies this means empty containers in the center of the U.S. with no cargo available for a backhaul. Only two commodities of sufficient volume are generally available for transport to the Far East from this region: bulk grain and steel coils. As grain is much cheaper to ship in the bulk mode, this leaves steel coils to be the primary cargo available in quantities necessary to lessen the impact of this unbalanced trade route by filling up the empty containers.

While it is readily obvious, the construction of a freight container does not lend itself for the transport of such a dense package as a steel coil, the economics dictate it must be done. A number of our surveyors in the National Cargo Bureau recall instances when they were sailing of steel coils falling through the sides of containers while the ship was rolling in a seaway. However, now we have a different problem, and I am sorry to say it is far more serious than damaged or lost cargo.

In the past 14 months there have been four major derailments on U.S. railroads attributed to steel coils falling through the bottom of intermodal containers while the train was in transit. In each of the above cases, the rail car carrying the coils was not the only car damaged, but a number of following cars were severely damaged, or destroyed along with their cargoes.

It is believed that the heavy concentrated weight of the coils will experience high frequency vibrations due to the fast moving trains. This situation results in overloading of the crossmembers supporting the floor of the container. The coil then falls between the undercarriage of the rail car and gets jammed between the ties, tracks and carriage (or trucks)

of the rail car. This jamming of the coil will force the following cars off the tracks. It is important to note that in each derailment the weight of the coil was understated and the floor of the container was overloaded. One can only wonder; if the weight of the coil exceeds the allowable floor weight, and a forklift weighs about the same or more as the coil it is lifting, there will certainly be stresses, far exceeding the intended design of the container when the container is being loaded or discharged.

Shippers, and in particular Non-Vessel Operating Common Carriers (NVO's) have been pressuring carriers to take the coils. This pressure takes the form of the threat of withholding other more innocuous and lucrative cargoes. As containers must be repositioned, and cargoes to the Far East are scarce, containers of steel coils move regularly on double stack trains to the West Coast ports where they are loaded aboard ships.

Due to the number of derailments and the accompanying severe losses, each railroad has established specific criteria for carrying steel coils. The American Associates of Railroads (the AAR) at present has no specific regulations, but work is in progress to establish uniform standards. Most railroads have adopted somewhat similar procedures and requirements limiting the age of a container, the maximum weight of the coils, and specifics addressing the distribution of the weight and an acceptable method of securing. Of particular interest to you, the insurer, is a shipper of coils must also have liability insurance in the event there is an accident that results in a derailment of a train. One of the major railroads maintaining double stack container trains demands 5 million dollar liability coverage, and this amount could be raised. At present we have been fairly lucky as no one was killed, and the damage has been limited to the trains and cargoes, however, imagine if a derailment occurs in a populated area

and one of the following rail cars is carrying hazardous cargo such explosives or toxic chemicals.

Each railroad maintains a website and has published detailed information about the carriage of steel coils. If we are in the business of insuring the shipment of steel coils, we must understand all the potential risks.