

Protect your products and prevent damage in transit

Signode loading and bracing systems protect your products while in transit on railcars, trailers and overseas containers. Developed for shipping a broad range of commercial and industrial products, most of the following systems can be used with any mode of transportation likely to carry your product.

Your Signode sales representative can help you select the best method for your particular needs.

Proven closed car loading methods

Free-floating load

The free-floating load consists of one or more strapped units that are free to move when subjected to longitudinal shocks. This movement dissipates damage-causing shock energy that would normally be transmitted to your product.

The free floating method is used primarily for extremely heavy products, such as sheet steel, ingots or filled drums. The weight of the unitized load provides extra friction which helps reduce the "float" distance.

Controlled-floating load

The controlled-floating method allows loads of dense and heavy products to "ride with the punch", but minimizes the amount of shift by producing additional friction through retarding devices, like Signode load cushioners and combination Anchor/Brakeman® plates.

The load straps move through the retarding devices, which allow a limited amount of shift under impact. In boxcars, the controlled-floating load helps keep the doorway area clear for mechanical unloading at the destination.

The cushioners or plates are also used as "snubbers" to prevent the lading from moving within the unitizing straps.

Wall-anchored load

In this method, the lading is stowed as tightly as possible in each end of a boxcar, or in the nose of a trailer or overseas container. The load is secured with steel strapping. The strap ends are fastened to the side walls or floor of the vehicle using permanent anchors, if available, or nailed to the car wall with anchor plates. If the boxcar, trailer, or container is equipped with belt rails, Signode load anchors can be used.

After loading, an appropriately designed bulkhead is placed in front of the load, and the loose strap ends are tensioned and sealed across the bulkhead. With some products, bulkheads may not be required.

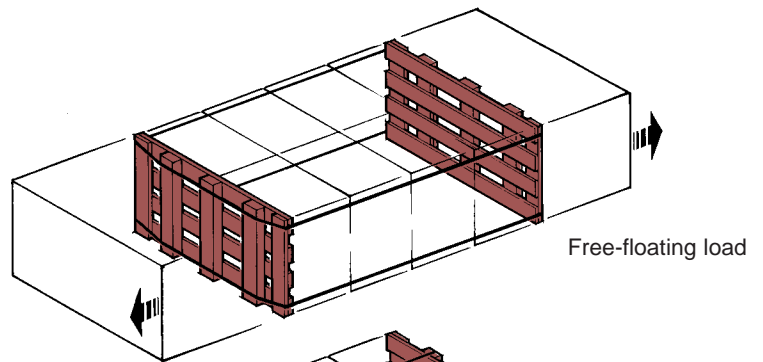
Pneumatic load control system

Air bags are a fast, easy way to brace or cushion loads. Placed in the voids between load units, they restrain movement. They also absorb shock, which helps reduce impact damage in boxcars.

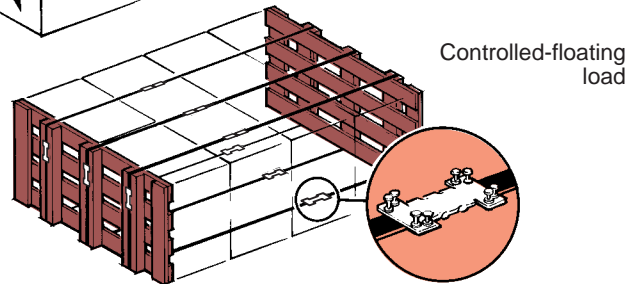
When the bag is inflated, it pushes the lading toward the end walls, creating a single tight load that can withstand typical impacts.

Special methods for open-top railcars

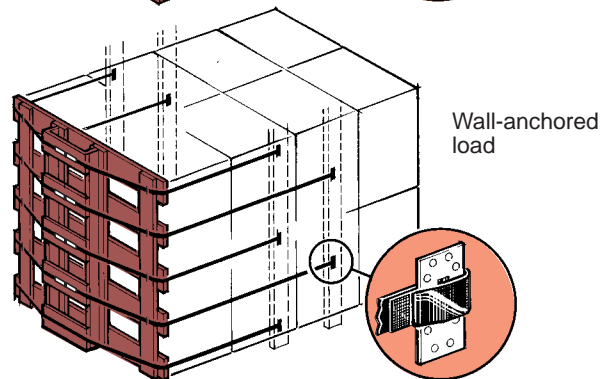
Approved methods of loading and bracing open-top railcars, such as flatcars, gondolas, and bulkheaded flatcars, are detailed in "AAR Open Top Loading Rules Manual." The manual is published annually by the Association of American Railroads for the safety of personnel and equipment. Each commodity has a specific loading figure that must be followed exactly.



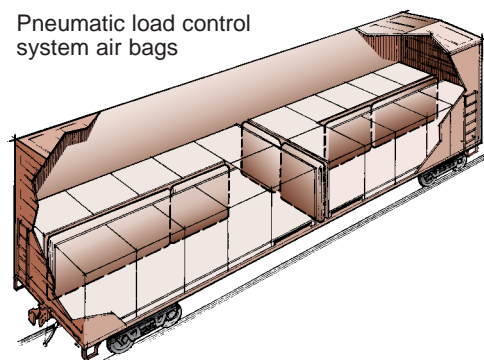
Free-floating load



Controlled-floating load



Wall-anchored load



Pneumatic load control system air bags



Open-top railcar

Materials, tools and accessories

3610 W. Lake Ave. • Glenview IL 60025
1-800-323-2464

Using the right products

The products used in loading and bracing must withstand the impacts and high stresses that commonly occur in transit.

Contact your Signode sales representative to help you select the right products for your particular needs.

STRAPPING



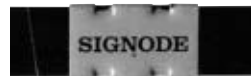
Magnus® steel strapping

Signode recommends using Magnus® steel strapping because of its high strength and excellent shock resistance qualities. It is available in a range of thicknesses and finishes to meet application needs. Generally, 1-1/4" (31.8mm) and 2" (50.8mm) strapping are used.*

SEAL JOINTS



Double crimp joint



Double down notch joint

For car loading and other applications where shock loads occur, Signode recommends the crimp-joint. Using dry grit seals, the crimp joint can absorb 5-10 times as much energy as the double down notch joint.

STRAP DISPENSERS



DTR-3 dispenser



DT-1-10RW dispenser



DH-1-114 dispenser



DC-1A dispenser

Mobile and stationary dispensers are available for strap sizes 1-1/4" and 2".

LOAD RETARDERS



NSP plate



Load cushioner

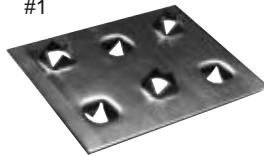


No. 225 Microlock nails for load cushioners and anchor plates.

Signode NSP plates and load cushioners help reduce load shift during impact on controlled-floating loads. Strapping is allowed to slip through just enough to keep it from breaking, but not enough to lose control of the load. Load cushioners are used in boxcars with wood floors. NSP plates are used with either wood or nailable steel floors.

ACCESSORIES

#1



Anti-skid plates

#2



Anchor plate



Adjustable edge protector

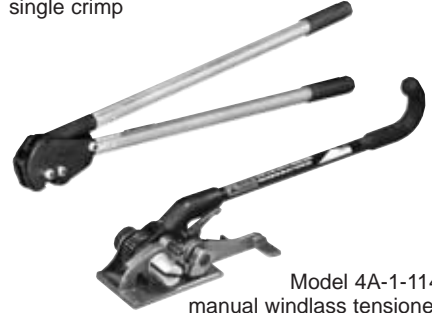


#1 Stake pocket protector

Signode offers anchor plates to secure strap ends to car studs, anti-skid plates to retard product shifting, and edge protectors to prevent product or strap damage from sharp edges on the railcar or lading.

MANUAL HAND TOOLS

Model B-1431 manual side-action sealer, single crimp

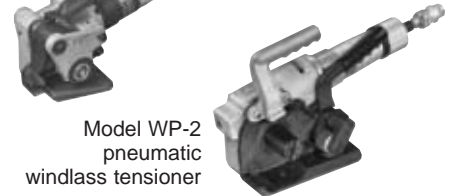


Model 4A-1-114 manual windlass tensioner

Parallel-action and side-action manual sealers are an effective system for securing a specific commodity.

PNEUMATIC HAND TOOLS

Model HN-1-114 pneumatic feedwheel tensioner



Model WP-2 pneumatic windlass tensioner



Model N-1444-50LSH pneumatic sealer, double crimp



Model NSP-1435 pneumatic sealer, single crimp

Pneumatic hand tools for varying strap sizes and seal joint types are available to tension, seal and cut strapping.

STRAP CUTTERS

Model CU-25 for strapping up to 2" wide



Model CU-30 lightweight cutter

* Magnus strapping meets or exceeds the requirements of ASTM D-3953 and Association of American Railroads Open Top Loading Rules.