

CARGO SECURING

During transport, the cargo is exposed to various forces which can cause the cargo to move if it is not adequately secured. If the cargo moves during transport, this may lead to product or vehicle damage or personal injury. A shifting load may also affect the handling of the vehicle and lead to a traffic accident. In the event of an accident, a shifting load may cause even further damage.

During transport, the cargo is exposed to sliding forces in forward, backward, sideways, and vertical directions. Sliding forces in the forward direction are usually great in magnitude, especially during braking. Lateral (horizontal) forces are generated in sharp turns and on uneven roads. Backward forces usually arise from acceleration or when driving up a steep hill. These forces are usually much smaller in magnitude than forces that push the cargo forward. When driving on uneven roads, the cargo is subjected to vertical forces due to the vibration of the vehicle. This can lead to the loosening of straps, and eventually, this may allow the cargo to move.

In sea and rail transport, cargo is subjected to different forces than in road transport. In rail transport, significant forward and backward forces are generated when carriages are connected together. In sea transport, the cargo may be exposed to great forces in all directions due to bad weather conditions.

There are several ways to secure cargo. The cargo can be tied to the vehicle using lashing straps. In addition, the cargo can be secured by placing it firmly against the vehicle body or by blocking it with empty pallets.

Lashing is the most common cargo securing method in road transport. Ratchet straps and lashing chains are the most common equipment used for lashing.

Blocking cargo is often easier than lashing, and it is often used in addition to lashing. The cargo should be blocked to the front end of the cargo compartment whenever possible. If the cargo cannot be blocked to the front end, it can be supported using a suitable support material, such as empty pallets. The cargo can also be secured by the proper placement of items, for example, by placing durable pallets or trolleys so that they support lighter and less stable items.

The properties of the goods affect the practical implementation of securing the cargo, and sometimes the most appropriate solution requires using imagination and many different techniques and tools.

Separate publication:

EUROPEAN BEST PRACTICES GUIDELINES ON CARGO SECURING FOR ROAD TRANSPORT, EU publication 2014 (General guidelines, pages 9-15; Securing equipment, pages 31-38; Securing methods, pages 39-44; Quick lashing guide, pages 71-88)



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Instructional videos on cargo securing:

<https://www.haklift.com/en>

<https://www.youtube.com/watch?v=gvHbfX5vZoE>

<https://www.youtube.com/watch?v=HXVQxn24kiw>

How to use ratchet straps <https://www.youtube.com/watch?v=VeqMlgrkroE>