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SECURING CARGO

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Securing cargo

Cargo that is not secured adequately can be a danger to others - and to you.

Inadequately secured cargo could fall off the vehicle, cause traffic congestion, and injure or even kill people. It could cause injury or death in the event of heavy braking or a crash. The steering of a vehicle can be affected by how the cargo is distributed and/or secured on the vehicle, making it more difficult to control the vehicle.

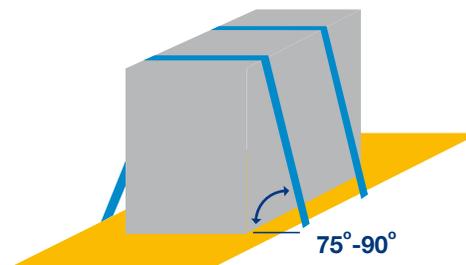
Some advice

- Before the vehicle is loaded, check that its load platform, bodywork and any load securing equipment are in sound and serviceable condition
- Secure the cargo in such a way that it cannot shove away, roll-over, wander because of vibrations, fall off the vehicle or make the vehicle tip over
- Determine the securing method(s) best adapted to the characteristics of the cargo (locking, blocking, direct lashing, top-over lashing or combinations of these)
- Check that the recommendations of the vehicle and blocking equipment manufacturers are adhered to
- Check the cargo securing equipment is commensurate with the constraints it will encounter during the transport. Emergency braking, strong cornering to avoid an obstacle, bad road or weather conditions have to be considered as normal circumstances likely to happen during a transport. The securing equipment must be able to withstand these conditions
- Each time cargo has been (un)loaded or redistributed, inspect the cargo and check for overload and/or poorly balanced weight distribution before starting. Ensure that the cargo is distributed in such a way that the centre of gravity of the total cargo lies as close as possible to the longitudinal axis and is kept as low as possible: heavier goods under, lighter goods above
- Check the cargo securing regularly, wherever possible, during the transport. The first check should preferably be done after a few kilometres drive at a safe place to stop. In addition the securing should also be checked after heavy braking or another abnormal situation during the transport
- Wherever possible, use equipment which supports the cargo securing such friction mats, walking boards, straps, edge beams, etc.
- Ensure that the securing arrangements do not damage the goods transported
- Drive smoothly, i.e. adapt your speed to the circumstances so as to avoid brisk change of direction and heavy breaking. If you follow this advice, the forces exerted by the cargo will remain low and you should not encounter any problems

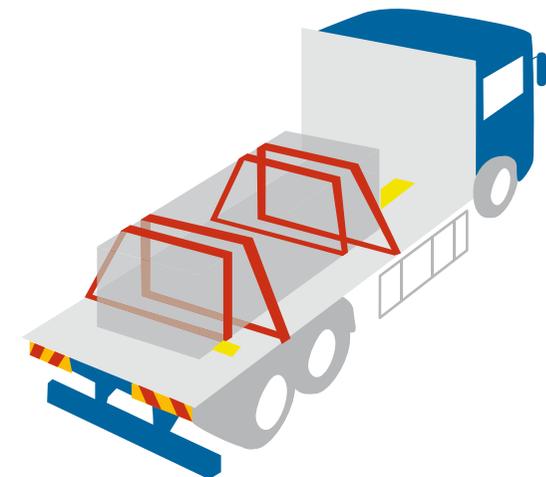
Lashing

A lashing is a restraint device such as webbing, chain or wire rope that either ties cargo together or keeps cargo in contact with the load platform or any blocking device. Lashings should be positioned so that they are in contact only with the cargo to be secured and/or the securing points. They should not be bent over flexible items, side gates etc.

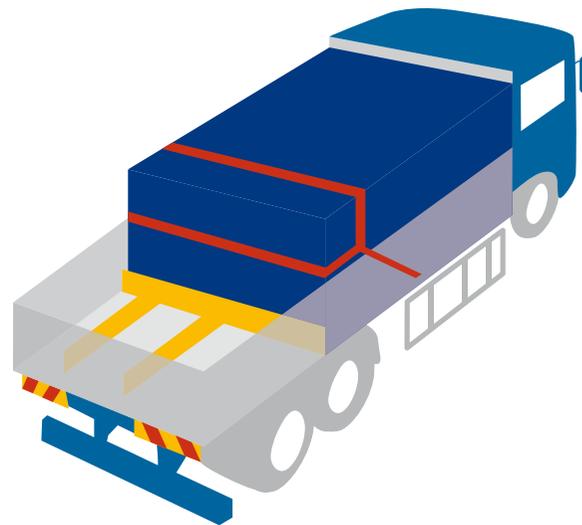
- **Top-over lashing** is a method of securing where lashings are positioned over the top of the goods in order to prevent the cargo section from tipping or sliding. If there is no side blocking at the bottom, for example, top-over lashing can be used to press the cargo section towards the platform bed. Contrary to blocking, top-over lashing forces the cargo against the load platform. Even if friction prevents the cargo from sliding, vibrations and shocks during transportation can make the cargo wander. This makes top-over lashing necessary even if the friction is high.



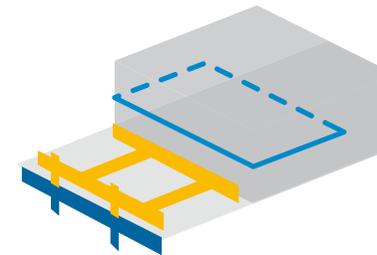
- **Loop lashing** is a form of sling lashing cargo to one side of the vehicle body, thereby preventing the cargo from sliding towards the opposite side. To achieve double-action lashing, loop lashings must be used in pairs, which will also prevent the cargo from tipping over. Two pairs of loop lashings will be required to prevent the cargo from twisting longitudinally. The loop lashing ability to sustain the required traction depends upon the strength of the lashing points, among other things. To prevent the cargo from moving in a longitudinal direction, loop lashing must be combined with base blocking. The loop is only providing lateral restraint, i.e. in a sideways direction.



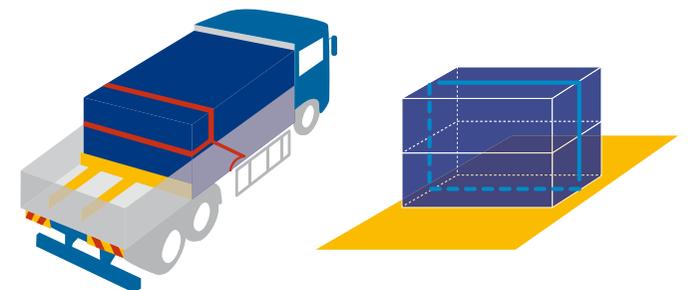
- **Spring lashing** can be used to prevent tipping and/or sliding forwards or backwards. Spring lashing in combination with base blocking forwards or backwards is a restraining method consisting of a sling (bridle) across the corner of the cargo layer and two diagonal lashings, the purpose of which is to prevent a cargo layer from tipping or sliding. Spring lashing may also be in the form of a single closed round-sling, placed across the edge of the cargo layer and lashed by means of a diagonal lashing on each side. The angle to the cargo surface is measured in the longitudinal direction, and it is recommended that the angle is not more than 45°.



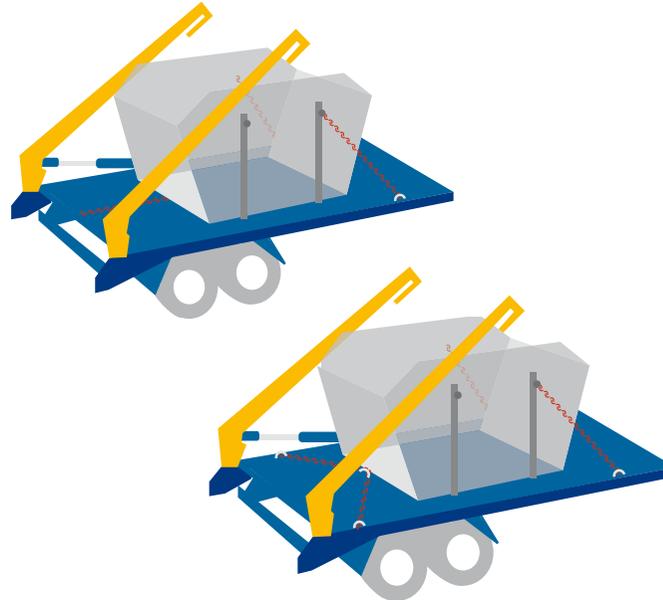
- **Round turn lashing** is, in combination with other forms of securing, a method to bind a number of packages together. Horizontal round turn cargo lashing is applied by binding a number of packages together in cargo sections and therefore reduces to some extent the risk of the cargo tipping over.



Vertical round turn cargo lashing is used to bind a number of cargo items together to stabilise the cargo section and to increase vertical pressure between the layers. Risks of internal sliding are thus reduced.



- If the cargo is equipped with lashing eyes compatible with the strength of the lashing, it is possible to **lash directly** between the lashing eyes and the lashing points on the vehicle.



- Web lashings are often used for top-over (frictional) lashing, but may also be used for direct lashing (especially when the larger sizes of lashing are used).
- For goods with sharp edges and heavy goods such as machinery, steel, concrete, military hardware etc., lashing chains should be used. Chains should normally be used for direct lashing.
- Wire rope lashings are suitable for cargo such as wire mesh that is used for concrete reinforcing and certain types of timber loads, such as round logs stacked longitudinally.

Toolbox

- For more information, download the [“European Best Practice Guidelines”](#) and the leaflet entitled [“Securing loads”](#).

Did you know?

- The choice of the best means of securing a load to a vehicle will depend on the type and composition of the load to be carried. Operators should equip the vehicle with the securing equipment appropriate for the types of load usually carried. If general cargoes are carried various types of securing equipment should be available.

Sources: [accident insurance association](#) (Association d'assurance accident), [European Commission](#), [SpanSet AG](#)