Issued:	Date of entry into force:	In force: Until further notice

Legal basis:
Vehicles Act (82/2021), section 13(8), paragraphs 3 and 4; section 81(3), section 139(5), section 144(2)
Road Traffic Act (729/2018), section 109(5)
Act on Transport Services (320/2017), 221(2)

Penalties for non-compliance with the regulation are laid down in:
Vehicles Act (82/2021), sections 189, 191, 193–195, 198
Road Traffic Act (729/2018), section 168(1), paragraph 1.
Criminal Code (39/1889), chapter 23(1) and (2), chapter 34(2), chapter 34a(1)(1), paragraph 3.

Implementing EU legislation:
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Amendment information:
Repeals the Regulation of the Finnish Transport and Communications Agency of 21 December 2020 on bodyworks and securing a load (TRAFICOM/149639/03.04.03.00/2019) and the Regulation of the Finnish Transport and Communications Agency of 30 December 2021 amending section 9 of the Regulation on bodyworks and securing a load (TRAFICOM/605158/03.04.03.00/2021)

Bodyworks and securing a load

CONTENTS

1 General

This regulation lays down the provisions set forth in the Vehicles Act (82/2021) concerning the approval of vehicles:

1) for vehicle bodyworks and cargo spaces in vehicles used for the transport of goods in terms of vehicle approvals;
2) on the fixing points and protective structures used to secure the cargo;
3) on the load securing devices permanently installed in vehicles.

This provision also lays down the provisions on the use of a vehicle set forth in the Vehicles Act (82/2021) and the Road Traffic Act (729/2018):

1) on the equipment used for tying and securing a load;
2) on the methods used for securing the cargo and on the threshold values of the decelerations related to driving situations.

1.1 Scope

This regulation shall be applied to vehicles subject to the Act on Transport of Dangerous Goods (541/2023) and the provisions and regulations under this Act to the extent to which the above-mentioned provisions and regulations do not contain requirements deviating from this regulation.

This regulation does not apply to historic vehicles or military vehicles.

A derogation may be made from the requirements of the regulation in terms of emergency vehicles, police vehicles, Finnish Border Guard vehicles and Finnish Customs vehicles if this is necessary due to purposes associated with the duties of the authorities.

1.1.1 Approval of vehicles (chapters 2–7 of the regulation)

The regulation shall be applied to the national type approval for small production runs, individual approvals, modification inspections and to the registration inspection for category N_2 and N_3 vehicles (lorries) and O_3 and O_4 vehicles (trailers over 3.5 tonnes) intended for the transport of goods and to the registration inspection for vehicles other than EU or EC type-approved category N_2, N_3, O_3 and O_4 vehicles intended for the transport of goods.

1.1.2 Use of vehicles (chapter 8 of the regulation)

The regulation shall be applied to the use of category N_2, N_3, O_3 and O_4 vehicles in Finland, on roads referred to in the Road Traffic Act (lorry and coupled trailer over 3.5 tonnes).

1.2 Definitions

For the purposes of this regulation:

1) *manufacturer* shall refer to the entity responsible for the conformity of the vehicle in terms of the manufacturing phase in question; it also means a representative of the manufacturer as referred to in section 2 of the Vehicles Act;
2) *G* shall refer to the gravitational constant, 9.81 m/s^2;
3) *approval* shall refer to vehicle approvals in national type-approval for small production runs, individual approvals, modification inspections or in the registration inspection for vehicles other than EU or EC type-approved vehicles;

4) *fixed bodyworks* shall refer to bodyworks permanently installed to the vehicle platform;
5) *bodyworks* shall refer to open load platforms which are permanently installed in the vehicle or replaceable, or to closed-type bodyworks, tanks or containers or other similar chassis in which the goods to be transported are placed;
6) *a load fixation point* shall refer to a load securing point on the vehicle or on the bodywork, such as a link, hook or attaching rail, to which fixation equipment can be attached;
7) *the cargo space* shall refer to the part of the bodyworks used to store the load;
8) *the LC value* shall refer to the lashing capacity under the SFS-EN 12195:2000 standard or a more recent version;
9) *the L code* shall refer to the requirements of the L performance code under standard SFS-EN 12642:2016 or a more recent version thereof;
10) *shipping container* shall refer to an ISO freight container under the ISO 1496 standard;
11) *base vehicle* shall refer to a vehicle that is used during the first stage of a multi-stage type-approval procedure;
12) *fixation equipment* shall refer to straps, chains, steel wires or other equipment used for securing the load;
13) *swap bodies* shall refer to containers or other bodyworks serving as a separate transport and storage unit and intended to be replaced by means of the devices in the vehicle;
14) *the XL code* shall refer to the requirements of the XL performance code under standard SFS-EN 12642:2016 or a more recent version thereof.

In addition to the above, the definitions in section 2 of the Vehicles Act (82/2021), sections 2 and 88 of the Road Traffic Act (729/2018), and Article 3 of the Framework Regulation for motor vehicles and their trailers (EU 2018/858) apply.

2 Securing bodyworks to vehicles

2.1 Fixed bodyworks

The fixed bodyworks to be attached to lorries shall be attached according to the instructions provided by the manufacturer of the base vehicle. Approval applicants shall submit a certificate of an installation carried out according to the manufacturer's instructions, signed by the party in charge of installing the bodywork. The certificate shall specify the instructions applied and shall be presented upon request with the approval application of the vehicle.

It is possible to approve the attachment of the bodywork to a vehicle commissioned before 1 January 2005 in connection with registration and modification inspections based on a certificate issued by the party in charge of the installation of the bodywork. The certificate shall indicate the testing method used and the results, or a summary of the computational analysis according to which bodywork attachments, with the maximum permitted load, shall be resistant to a forward deceleration of 14 m/s^2 and a backward and lateral deceleration of 7 m/s^2.

The bodywork structure of a trailer manufactured in multiple stages shall be carried out in cooperation between the manufacturer of the base vehicle and the manufacturer of the upper structure, both involved in the manufacturing or modification process; a report on this shall be submitted in connection with the approval of the vehicle.

The attachment of the bodyworks of a used lorry or trailer imported from another EEA state may also be approved based on the previous registration if the masses permitted for the vehicle on the road are not larger compared to the previous registration.

2.2 Swap body devices

The swap body devices intended for loading and attaching the swap body shall be attached to the vehicle according to the instructions of the manufacturers of the base vehicle and the swap body devices. Approval applicants shall submit a certificate of an installation carried out according to the manufacturers' instructions, signed by the party in charge of installing the swap body devices. The certificate shall specify the instructions applied and shall be presented upon request with the approval application of the vehicle.

When attaching swap body devices to a vehicle commissioned before 1 January 2005, it is possible to approve the attachment of the bodywork in connection with registration and modification inspections based on a certificate issued by the party in charge of the installation. The certificate shall indicate the testing method used and the results, or a summary of the computational analysis according to which swap body device attachments, with the maximum permitted load, shall be resistant to a forward deceleration of 14 m/s^2 and a backward and lateral deceleration of 7 m/s^2.

The attachment of the swap body devices of a used lorry or trailer imported from another EEA state may also be approved based on the previous registration if the masses permitted for the vehicle on the road are not larger compared to the previous registration.

3 Swap body locking devices

The locking devices intended for attaching the swap body devices shall keep the swap body device in place in the vehicle when forces equivalent to a forward deceleration of 8 m/s^2 and a backward and lateral deceleration of 5 m/s^2 are directed to the centre of gravity of the swap body with the maximum permitted load.

In the locking devices or in connection with their operating switches, it shall be described how the swap body locking is carried out. The locking force of the locking devices shall be maintained regardless of individual pneumatic leaks.

In connection with the operating switches of the locking devices, there shall be a visual indicator of the correct locking of all locking devices. Locking devices may also be approved without a visual indicator if the locking devices can withstand the forces required above if any one individual locking device remains open.

A sign shall be attached to swap body devices that indicates the following:

1) the standard or other data according to which the swap body devices are compliant with the locking devices; and

2) the mass for which the locking devices have been fitted, and the maximum height of the centre of gravity if the manufacturer has restricted the centre of gravity to a height under 160 cm.

If the vehicle has space for more than one swap body devices, the largest permitted swap bodywork mass and the height of the centre of gravity shall be indicated separately for each swap body device.

When applying for an approval, a certificate of the masses permitted for the locking devices, provided by the manufacturer of the locking devices, shall be submitted. The certificate shall indicate the applied test method and its results or a summary of the computational analysis.

3.1 Testing swap body locking devices

The test shall be performed computationally by means of suitable software, or using a physical loading device. In connection with the test, the largest mass permitted by the manufacturer for the locking equipment concerned shall be used as the

mass of the bodywork. In the test, a point in the middle of the swap body device in the longitudinal direction and at the height of 160 cm in the vertical direction, measured from the lowest point of the bodywork, shall be used as the centre of gravity of the bodywork, unless the manufacturer restricts the permitted centre of gravity to a lower value.

In a computational test, the vehicle platform and the bodywork may be assumed to be entirely rigid pieces. In a computational test, the vehicle platform is tightly attached to the ground. Any falling or tilting of the vehicle platform, due to the forces in the test, will not be taken into account. In a computational test, the locking devices shall be resistant to forces due to deceleration required above in paragraph 3, multiplied by at least 1.25, without permanent deformations that may compromise the planned use of the structure.

For physical loading, forces due to deceleration required above in paragraph 3, multiplied by at least 1.25 shall be used. The lateral forces shall be focused at the height of the centre of gravity of the swap body. The longitudinal forces may also be focused at another height in the loading test. The test shall not create permanent deformations that may compromise the intended use of the structure.

3.2 Shipping container locking devices

This paragraph also applies to other cargo spaces whose bottom fixation points are equivalent to the fixation points in shipping containers.

Shipping container locking devices may be approved on the basis of their strength or the maximum permitted container weight as reported by the manufacturer. The locking devices shall be attached directly to the vehicle in accordance with the instructions of the manufacturers of the locking devices and the vehicle, or to the auxiliary body in accordance with the instructions of the manufacturer of the locking devices, in which case the auxiliary body shall be attached to the vehicle in accordance with the instructions of the vehicle manufacturer.

Testing under paragraph 3.1 shall not be required of shipping container locking devices, if the locking devices have been attached to the vehicle according to the manufacturer’s instructions, and if the maximum permitted load indicated by the manufacturer of the locking devices is indicated on the locks. The load shall be indicated as that maximum permitted mass of the container.

Regardless of the capacity of the vehicle, locks intended for attaching a single container shall not be required to withstand a load in excess of 34 tonnes.

4 Strength of bodyworks manufactured for the transport of general cargo

The regulations on strength in this section apply to closed-type fixed bodyworks and swap bodies manufactured for the transport of general cargo.

The strength of the front wall and lateral walls of the closed-type fixed bodywork and swap body shall meet at least the L or XL code strength requirements if the bodywork was manufactured for the transport of general cargo in which securing the load is based on supporting it against the walls.

In terms of bodyworks other than those tested according to the standards, the manufacturer may determine the strength of the walls, applying the test procedures or computational tests under the standard. If the strengths of the walls are not proportionate under the standard, the P value shall be determined separately for each wall. The L or XL symbols may not be used on labels if the vehicle is not a bodywork that has been tested under the SFS-EN 12642:2016 standard or a newer version thereof.

When applying for approval of a vehicle, the following must be submitted:

1) for a fixed bodywork compliant with the L or XL code, a certificate of the strength of the structures in accordance with Annex C of the standard;

2) for non-standard bodyworks, the manufacturer’s certificate of maximum permissible masses and wall strengths for the bodyworks.

The information referred to above in paragraphs 1 and 2 shall be attached to the cargo space of the vehicle where it is readily visible to the operator.

If the load-supporting strength has not been determined for the walls of the bodywork, this must be indicated on the closed-type fixed bodywork and in the vehicle registration documents.

5 Load fixation points

A bodywork made for the transport of general cargo shall be equipped with load fixation points to which it is possible to secure a load equal to the load capacity of the cargo space. The load fixation points shall meet the requirements of the SFS 12640:2019 standard or a more recent version thereof.

For bodyworks manufactured for the carriage of other goods than general cargo, in which the securing of the load is based on fixing the load, the strength of the fixing points shall be marked on the fixing points, and a certificate of their strength issued by the manufacturer of the bodywork must be submitted.

Alternatively, for lorries with a total mass not exceeding 7,500 kilograms, fixing points conforming to the ISO 27956:2009 standard or a more recent version thereof may be accepted.

A derogation may be made from the requirements of the SFS-EN 12640:2019 standard or a more recent version thereof in terms of the number and strength of the load fixation points if the capacity of the bodywork is no more than 2,000 kg, or if, due to the purpose of the bodywork:

1) there are fewer fixation points, but their strength is greater than required in the standard; or

2) a system with multiple fixation points under the standard definition 3.6.2 may be used exclusively to secure the load for the purpose concerned.

When applying for approval of a vehicle, the following must be submitted:

1) a certificate on the strength of the load fixation points in accordance with Annex A of standard SFS-EN 12640:2019 or a more recent version thereof; or

2) where exceptions under paragraph 5 are applied, other proof of the strength of the load fixation points.

The compliance of fixation points in used imported vehicles may be verified in the registration inspection based on standard markings only.

Information on the strengths of load fixation points in accordance with standard SFS-EN 12640:2019 or a newer version thereof shall be affixed to the cargo space of the vehicle with an easily visible marking in accordance with paragraph 7 of the standard. Where the exceptions in paragraph 5 above are applied, the strengths of the load fixation points shall be fixed to the cargo space to be easily visible to the user.

6 Vehicles manufactured for the transport of raw wood and raw wood fixation equipment

6.1 Cabin protection

Vehicles equipped with wood platforms shall be equipped with cabin protection also serving as the front wall of the cargo space. It shall withstand an evenly distributed forward force of 60 kN. The width of the cabin protection shall at least correspond to that of the cabin and to the height of the platforms; however, the height shall not exceed 420 cm. The cabin protection shall be an enclosure or a net with a mesh size of no more than 5 × 5 cm and a twine thickness of no less than 4 mm.

The manufacturer of the vehicle's upper structure shall test the strength of the structure or have it tested. In testing, the protection shall withstand an evenly distributed forward force of 60 kN. In addition, it shall withstand a forward force of 5 kN focused on the upper corner of the protection in an area of 0.25 m^2. There shall be no permanent deformation of the structures during the test which impairs its intended use, such as tearing of the weld seams or permanent deformation of the structures deeper than 20 mm.

Alternatively, it is possible to accept a test carried out in accordance with standard SS 2563:1978. If the same cabin protection structure is available in several heights, testing the highest structure shall be sufficient.

In the approval, compliance will be verified based on the manufacturer's certificate. This certificate shall detail the manner in which the protection is attached to the vehicle body or auxiliary body.

6.2 Number and strength of wood platforms

There shall be so many wood platforms, and their side poles shall be so strong that no permanent deformation occurs in the poles when a force corresponding to a quarter of the weight of the permissible load directed toward the pole is focused laterally to a height which is at least two thirds of the height measured from the lower surface of the crossbeam of the wood platform structure.

In the loading test referred to above, the wood platform may, with a force corresponding to 1/8 of the permissible load, laterally flex on each side no more than 50 millimetres over the nominal width of the wood platform.

The maximum permissible load shall be indicated on the wood platform.

The vehicle structure or equipment shall be such that a load on top of two consecutive wood platforms may be strapped to the vehicle. If the distance between consecutive wood platforms is in excess of 2.5 metres, it must be possible to carry out the strapping procedure using two separate straps.

The crossbeam of the wood platform shall be equipped with an upward edge at least 10 millimetres in height which prevents the wood from sliding in the longitudinal direction.

6.3 Attachment of wood platforms to the vehicle

The attachment of wood platforms to vehicles shall, without permanent deformation or damage, withstand forces directed at the midpoint of the height of the wood platform pole in the lateral direction of the vehicle; these forces shall be equivalent to one half of the load permissible for the wood platform.

6.4 Raw wood fixation equipment

The LC value and the tensioning force produced by the raw wood fixation equipment permanently installed in the vehicle shall be indicated on said fixation equip-

ment. The LC value of strength-marked shackles used for fixing chains and straps shall be at least equal to that of the chain or strap.

Permanently installed raw wood fixation equipment shall be attached to the vehicle in accordance with the instructions of the manufacturer of the upper structure.

7 Alternative means of demonstration

As a demonstration of the requirements in paragraphs 2–6 of this regulation, the demonstration method under Annex 1 to the regulation on the technical requirements for cars and their trailers, which meets and exceeds the requirements of this regulation, shall also be approved.

8 Securing loads

The load shall be secured so that it stays in place with a forward deceleration of 0.8 G and a backward and lateral deceleration of 0.5 G.

In transportation of soil material, wood pulp and other similar types of goods, the load shall be supported with sufficiently high edges and, when necessary, covers so that minor movements do not cause a risk of the load falling off the vehicle when the decelerations mentioned above last for at least three seconds.

The shifting of liquid substances must be prevented in a way that does not interfere with safe road use. The dangerous shifting of a liquid is considered to have been prevented if the filling rate is not more than 30 per cent or more than 70 per cent, or if containers of more than 8 cubic metres in volume are divided into sections with splash plates.

8.1 Securing general cargo loads

Fixed objects shall be kept in place pursuant to SFS-EN 12195-1:2010 or a more recent version thereof. The load shall remain in place during acceleration under the standard, and the load must be prevented from falling as determined in the standard.

For supports compliant with the standard (SFS-EN 12195, paragraph 5.3), a load is considered to be supported when the distance between the load and the cargo space or other pieces does not exceed 5 cm and, in the case of several sequential or parallel pieces, the total distance between the load and the cargo space or pieces does not exceed 15 cm either lengthwise or laterally.

For the combination of standard-compliant friction binding and harness binding (SFS-EN 12195, paragraphs 5.4.2 and 5.5.5), the friction coefficient of friction binding may be used to secure the entire load.

For friction binding (SFS-EN 12195, paragraph 5.4.2), the Stf value of multi-part fixation equipment is determined by the tensioner. For other parts of the fixation equipment, the LC value shall be considered.

If the vehicle was commissioned before 1 January 2022, the front end strength under section 6 and the strength of fixation points under section 8 of the Ministry of Transport and Communications decision on the bodyworks of vehicles, loading and securing loads (940/1982) may be used when calculating the load securing forces.

If the vehicle is approved with load fixing points according to ISO 27956:2009, the fixing forces shall be calculated from the declared strengths.

The following friction coefficients shall be applied to the friction which keeps the load in place.

Contact surface material combinations	**Friction coefficient μ**

Sawn wood	
Sawn wood – laminated veneer lumber/ply-wood	0.45
Sawn wood – rifled aluminium	0.4
Sawn wood – shrink film	0.3
Sawn wood – stainless steel sheet	0.3
Wrought timber	
Wrought timber – laminated veneer lumber/ plywood	0.3
Wrought timber – rifled aluminium	0.25
Wrought timber – stainless steel sheet	0.2
Plastic pallet	
Plastic pallet – laminated veneer lumber/ply-wood	0.2
Plastic pallet – rifled aluminium	0.15
Plastic pallet – stainless steel sheet	0.15
Steel and metal	
Steel cage, steel chest – laminated veneer lumber/plywood	0.45
Steel packaging – rifled aluminium	0.3
Steel packaging – stainless steel sheet	0.2
Concrete	
Rough concrete – sawtimber wood base	0.7
Smooth concrete – sawtimber wood base	0.55
Anti-skid carpet	
Rubber	0.6
Paper/cardboard roll	
Paper/cardboard roll – laminated veneer lum-ber/plywood	0.45 0.45
Paper/cardboard roll – rifled aluminium	0.5
Paper/cardboard roll – paper/cardboard roll	
Cellulose bale (unpackaged domestic unit)	0.45
Cellulose bale – laminated veneer lumber/ply-wood	0.45
Cellulose bale – rifled aluminium	0.3
Cellulose bale (packaged export unit)	0.4
Cellulose bale – laminated veneer lumber/ply-wood	
Cellulose bale – rifled aluminium	

If the contact surfaces are not clean of oil, grease, snow, ice and other similar dirt, it is not permitted to use a friction coefficient in excess of 0.2. A friction coefficient greater than 0.6 may only be used if it has been verified with a test certificate compliant with standard SFS-EN 12195-1:2010 or a more recent version thereof.

The friction coefficient of a friction mat may be used if the mass of the whole body is transferred to the friction mat. The entire base of a piece does not need supported by the friction mat if the mass of the piece is not otherwise supported by the platform.

8.2 Securing loads of raw wood

When strapping loads of raw wood, the combined LC value of the wood bundle bonds shall be at least 0.2 times the mass of the wood bundle, and the tensioning force shall be at least 0.05 times the mass of the wood bundle. If a screen or another bundle is not placed front of the timber bundle, the LC value and tensioning force of the binding of the timber bundle shall be 1.5 times the above requirements.

8.3 Securing swap bodies and shipping containers

Swap bodies shall be secured with locking devices compatible with the swap body in question. The locks must be fixed in the closed position; in this case, the open lock

warning lamp must not be lit. Manual locks and pins shall be attached in accordance with the manufacturer's instructions. The fitting of the locks shall be done in accordance with the instructions of the manufacturer. In the event of partial incompatibility between the locking devices and the swap body, supplemental bindings may be used to secure the body longitudinally.

Sea containers shall be secured with four container locks that allow a load equal to the mass of the container. The attachment of the container to the locks shall be secured according to the instructions for use of the locks.

Alternatively, the attachment of a shipping container or swap body may also be secured with straps and supports compliant with SFS-EN 12195-1:2010 or a more recent version thereof.

In accordance with section 109(1) of the Road Traffic Act and section 3(1) of the Vehicles Act, devices intended for securing loads and handling swap bodies, such as a crane hook for a hooked pallet, must be of a structure or external shape that does not pose a risk, and the load of the vehicle must not shift in such a way that it may impair the safe use of the vehicle. The equipment for handling swap bodies shall be in the transport position intended by the manufacturer while driving, within the maximum dimensions of the vehicle.

8.4 Fixation equipment

The load fixation equipment shall comply with standard SFS-EN 12195:2000 or a more recent version thereof.

In the case of low lashing capacity, an intact, unmarked fixation equipment may also be accepted as follows:

Load straps:

Width	LC value
25 mm	300 daN
35 mm	500 daN
50 mm	800 daN

8.5 Load fixation covers and load support equipment

Pillars installed on the floor, bars installed between the floor and the ceiling, and various stands keeping objects in place may be used to support the load. These instruments shall be marked with the maximum permissible load.

The LC value shall be indicated on the covers used to secure the load.