Bodyworks and securing a load

Regulation background and legal basis

On 21 December 2020, the Finnish Transport and Communications Agency issued the Regulation Bodyworks and securing a load (TRAFICOM/149639/03.04.03.00/2019), which entered into force on 1 April 2021.

The order was amended before its entry into force on 31 March 2021 regarding terminology and the requirement concerning CE marking. In addition, the transitional rules for securing loads of raw wood have been amended by the Regulation of 30 December 2021 (TRAFICOM/605158/03.04.03.00/2021), which entered into force on 1 January 2022. The amendment to the transitional provision in Section 9, subsection 4 of the Regulation has been amended so that the requirements of Section 8.2 for securing loads of raw wood have only been applied from 1 July 2022 instead of 1 January 2022.

The current regulation provides provisions on vehicle bodywork, load securing equipment, and more detailed requirements for securing a load.

The regulation has taken into account guidelines on best European practices for ensuring loads in road traffic, published by the European Commission in 2014,[1] and the international standards mentioned in these guidelines, particularly the standards on the strength and durability of the body structure, the strapping arrangements and the materials used for strapping.

The regulation shall apply to the national type-approval for small series, individual approvals, modification inspections and registration inspections of vehicles in categories N_2, N_3, O_3 and O_4 (lorry and trailer exceeding 3.5 t) intended for the transport of goods. In addition, the regulation applies to the use on the road of vehicles of categories N_2, N_3, O_3 and O_4 intended for the transport of goods (rules for securing a load).

The aim of this project is to distinguish more clearly between the scope of vehicle approval and vehicle use. In addition, the existing regulation needs to be updated due to changes in the legislative framework since its adoption. The Regulation project will also take into account other updating needs identified in the application practice of the Regulation.

Regulatory powers are based on the Vehicles Act (82/2021), the Road Traffic Act (729/2018) and the Transport Services Act (320/2017).

Under § 13(8)(3) of the Vehicles Act, the Finnish Transport and Communications Agency shall issue more detailed regulations on the requirements for the cargo chassis and cargo spaces of vehicles used for the transport of goods, on the fixing points and protective structures used to secure the load, and under subsection 8(4) of the section, the Finnish Transport and Communications Agency shall issue more detailed regulations on the strapping and fixing devices used to bind and secure the load.

§ 81 of the Vehicles Act lays down the provisions on the demonstration of conformity in an individual approval. Under subsection 3 of the Section, the Finnish Transport and Communications Agency may issue more further regulations on the content of the reports referred to in paragraph 2 [means of demonstrating compliance], as well as on the circumstances under which compliance may be demonstrated by the means referred to in paragraph 2.

[1] See the European Commission: Directorate-General for Mobility and Transport, *Cargo securing for road transport – 2014 European best practices guidelines*, Publications Office, 2014, https://data.europa.eu/doi/10.2832/80373

§ 139 of the Vehicles Act lays down the provisions on the demonstration of conformity in a registration inspection. Under subsection 5 of the section, The Finnish Transport and Communications Agency may issue further regulations on the content of the proofs used in demonstrating conformity and the means by which conformity may be demonstrated in each situation. § 109 of the Road Traffic Act provides for the securing of a load. Under subsection 5 of the section, the Finnish Transport and Communications Agency may, where necessary, issue further regulations on the methods used to ensure the load and on the threshold values of decelerations related to driving situations referred to in paragraph 1. The Finnish Transport and Communications Agency may also issue regulations on exemptions from the requirements laid down in subsection 1 due to the quality of the load, provided that this does not pose a risk to road safety.

§ 144 of the Vehicles Act lays down the provisions on the demonstration of conformity in a modification inspection. Under subsection 2 of the Section, the Finnish Transport and Communications Agency may issue further regulations on the content of the reports referred to in subsection 1 and on where conformity may be demonstrated by the means referred to subsection 1.

Pursuant to § 221(2), the Finnish Transport and Communications Agency may issue further regulations on the data of a technical nature to be stored concerning a conveyance.

Drafting of the regulation

The regulation was drafted by the Finnish Transport and Communications Agency. A notification of the start of the project to draft the regulation was posted on the Finnish Transport and Communications Agency’s website and also sent by email to subscribers to the mailing list for the drafting of new road transport regulations.

Written statements on the draft Regulation have been requested between 16 June and 15 August 2025. The request for opinions was published on the lausuntopalvelu.fi website and on the website of the Finnish Transport and Communications Agency. In addition, the request for opinions was sent by email to subscribers to the mailing list for the drafting of new road transport regulations. Stakeholders and citizens have also had the opportunity to comment on the project as the preparation progresses.

In addition, planned amendments to the Regulation have been presented during the preparation in the Cooperation group for individual approval on 23 April 2025, Individual approval of heavy vehicles in the cooperation group on 7 May 2025, the Cargo Safety Working Group on 8 May 2025 and 23 May 2025, and in the Heavy Duty Cooperation Group on 3 June 2025.

The finalised Regulation will be published in Finlex and on the website of the Finnish Transport and Communications Agency. Notification of the issuance of the regulation will be posted on the Finnish Transport and Communications Agency’s website and also sent by email to subscribers to the mailing list for the drafting of new road transport regulations.

The draft regulation was notified according to the notification procedure for technical regulations (Directive (EU) 2015/1535 of the European Parliament and of the Council).

Feedback

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Assessment of the impact of the regulation

Issuing the regulation would support the objectives of ensuring that the legislation is up to date and precise. In addition, issuing the Regulation would clarify the legal situ-

ation and support the practical application of the legislation when the Regulation refers to up-to-date legislation.

Issuing the Regulation would clarify the operating environment by making the provisions on the approval and use of vehicles more clearly identifiable and by making other necessary clarifications to the Regulation, which were found in the same context in application practice.

Detailed rationale

1. General

Chapter 1 of the Regulation is amended to distinguish more clearly between the technical requirements of the vehicle and the powers to issue regulations on its use referred to in the section. In addition, the regulatory powers are updated to correspond to the existing regulation by taking into account the entry into force of the new Vehicles Act (82/2021). The substance of the paragraph remains unchanged.

1.1 Scope

Paragraph 1.1 on the scope of the regulation is amended to reflect the changes in the legislative basis. In addition, the paragraph is subject to formatting and linguistic revisions that support the readability and clarity of the regulation, without affecting its substantive content.

An obsolete legal reference is updated to refer to the new Act on the Transport of Dangerous Goods (541/2023) in the future. The amendment has no direct substantive effects. The Finnish Transport and Communications Agency has issued the Regulation on the Transport of Dangerous Goods on the Road (TRAFICOM/473662/03.04.03.00/2022), which provides more detailed regulations on the technical details of the transport and temporary storage of dangerous goods. The regulation issues national regulations equivalent to the ADR, pursuant to the Act on the Transport of Dangerous Goods, as required by the Dangerous Goods Directive. The Regulation on vehicle bodywork and on securing a load will continue to apply to vehicles intended for the transport of dangerous goods only to the extent that the Act on the Transport of Dangerous Goods and the provisions and regulations adopted pursuant to it do not contain any derogating provisions. For instance, separate regulations exist on the requirements for containers used to transport dangerous goods on the road. Separate provisions have also been laid down for the attachment of these containers to the vehicle.

Museum vehicles will not be subject to the Regulation in the future either, since they will be used very little for transporting goods, but their central role will be to preserve the original vehicle as closely as possible.

In the future, the Regulation will also not apply to military vehicles. The Military Vehicles Act (332/2023) has mainly entered into force on 1 July 2023. As a result of the adoption of the Act, the provisions previously laid down in the Vehicles Act concerning military vehicles have been transferred mainly to the Military Vehicles Act and to be laid down pursuant to it. The authority to issue regulations of the Finnish Transport and Communications Agency does not cover the imposition of regulations on the approval or use in traffic of a military vehicle as defined in the new Military Vehicles Act. In so far as it concerns the approval of a vehicle of the Finnish Defence Forces as defined in the former Vehicles Act, the authority to issue regulations on minor technical exceptions to the vehicles of the Finnish Defence Forces has been laid down in accordance with section 7a, subsection 7 of the Vehicles Act for the Technical Inspection Division of the Defence Command of the Finnish Defence Forces. In other respects, vehicles shall comply with the general conditions laid down in the Vehicles

Act and pursuant to it, in which case this regulation may be applicable to military vehicles, depending on the date of the vehicle's procurement contract and the appropriate legal basis to be distributed according to it. In principle, before an entry in the Transport Register is made, all vehicles must meet the general technical requirements applicable to them, unless otherwise provided for or prescribed.

Pursuant to § 2(1)(18) of the Military Vehicles Act, a military vehicle is a vehicle intended, manufactured or equipped for the performance of the duties provided for in § 2 of the Act on the Armed Forces (551/2007) and entered in the military vehicle register. For this reason, this regulation does not, in principle, apply to military vehicles. However, this Regulation shall apply to other vehicles of the Finnish Defence Forces, unless otherwise provided for or prescribed for them. However, so far, there is no provision to the contrary for vehicles of the Finnish Defence Forces.

The regulation is not, and will not in the future be, intended to be applied as such, for instance in connection with the periodical inspections of vehicles, since a separate regulation by the Finnish Transport and Communications Agency has provided for inspection subjects, inspection methods and the grounds for assessing faults and deficiencies in connection with periodical inspections.

In addition, the requirements of the Regulation do not need to be applied to police, customs and border guard vehicles, nor to rescue vehicles, in line with the current situation. The heavy vehicles of the authorities have been equipped for various specialised tasks. The general requirements for the transport of goods are not always appropriate in all respects for these vehicles, which is why they may be derogated from. As a rule, emergency vehicles are constructed according to the industry's own standards, which take into account, on a case-by-case basis, the safety of all movable property in a stationary place during a high-speed emergency period.

1.2 Definitions The definitions of base vehicle, vehicle manufacturer and acceleration due to gravity G shall be added to the definitions of the Regulation.

Manufacturer of the vehicle means the entity responsible for the conformity of the vehicle in terms of the manufacturing phase in question; il also means a representative of the manufacturer as referred to in section 2 of the Vehicles Act.

A base vehicle is a vehicle used during the first stage of a multi-stage type-approval procedure in accordance with Article 3(1)(24) of Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC (so-called Framework Regulation (EU) 2018/858 on motor vehicles and their trailers).

'G' refers to the acceleration of gravity of 9.81 m/s^2.

In addition, a reference to the definitions applicable in accordance with 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 (EU) 2018/858 for motor vehicles and their trailers, which are applied in addition to the definitions in the regulation, is added to the chapter.

The numbering of the definitions in the section is updated in the alphabetical order and some linguistic amendments are made to the section, which do not affect the substance of the Regulation.

The definition of bodywork given in point 5 is clarified by changing the wording so that the definition of swap bodies referred to in point 13 is more clearly identified in the section. Bodywork shall refer to open load platforms which are permanently in-

stalled in the vehicle or easily interchangeable, or to closed-type bodyworks, tanks or containers or other similar chassis, in which the goods to be transported are placed.

The definition of a load securing point given in point 6 will be supplemented by taking into account, in the future, in addition to the load securing point attached to the vehicle, the load securing point in the bodywork. The definition of the LC value in point 8 is corrected by specifying the number of the standard currently in force referred to in this paragraph, or a later version.

2. Securing bodyworks to vehicles

No substantive changes are made to this section. However, some linguistic amendments are made to this section.

2.1 Fixed bodywork

Section 1.2 concerns the attachment of fixed bodyworks to vehicles. Pursuant to the regulation, in connection with the approval of the attachment of the bodywork, a certificate by the party in charge of the installation of the bodywork shall be submitted, indicating that the attachment has been made according to the instructions of the manufacturer of the base vehicle. The certificate should detail the instructions followed. Vehicle structures are increasingly more spohisticated, and any modifications or new structural components can only be made with careful consideration of the original frame's characteristics. The person carrying out the installation does not refer to the natural person who carried out the work, but to the company responsible for the work. Certificates such as this are typically carried out by the supervisor.

When attaching a fixed bodywork to the vehicle commissioned before 2005, it is also be 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 of the bodywork. In terms of installation, installation in accordance with the vehicle manufacturer’s instructions is not required as the only option. Sufficient attachment could be demonstrated using the requirements set out in the previous bodywork regulation. The certificate shall indicate the test method used and the results or a summary of the computational analysis. The 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, which would mainly correspond to the requirements in § 3(1)(1–2) of the former Ministry of Transport’s decision (940/1982) on vehicle bodyworks, loading, and load securing regarding the resistance of bodywork attachments to forward, backward and lateral forces. For vehicles older than 15 years, it is not always possible to obtain manufacturer instructions, which is why the procedure laid down in this Decision (940/1982) can be applied to them. The current Regulation has specified the conditions under which a certificate on the attachment of bodywork may be issued, since there have been many ambiguities regarding this matter.

Pursuant to the fourth paragraph of this section, the attachment of the bodywork of a used vehicle imported from another EEA State may be approved based on the registration of the previous State of registration if the generally permissible masses of the vehicle unit in question on the road in Finland are not greater than what has been entered in the register for the vehicle in the previous State of registration. If the road traffic mass of the vehicle remains the same, it shall not be necessary to reinspect the attachment of the bodywork in connection with the registration in Finland. According to the basic provision of Section 18 of the Vehicle Act, a vehicle imported as a used vehicle that is registered for the first time in Finland or is entered into service otherwise in Finland, shall meet the requirements laid down in section 7, subsection 1, or section 7a, subsection 1. An EU or EC type-approved vehicle that has been registered in another EEA State and meets the requirements of section 7a and that has no restrictions on its use indicated on the registration certificate, shall be deemed to meet the requirements of this subsection. Therefore, it is also permitted to apply the

requirements in force at the time of the first entry into service of the vehicle to the approval of the bodywork attachment.

In the approval of the fixed bodywork structure of a trailer, a report shall be submitted that the structure of the bodywork has been carried out in cooperation with the manufacturer of the base vehicle and the manufacturer of the upper structure. In practice, the assessment of the adequacy of the report would be left to the approval authority. No alternative requirement is stipulated for older vehicles in respect of this requirement. In practice, this means that the requirement would also apply when approving a new upper structure for the platform of an old trailer. There is no need for certificates of cooperation if one manufacturer has been responsible for the entire manufacture of the trailer.

2.2 Swap body devices

Section 2.2 applies to swap body devices. No changes are made to this section which would have a substantive impact. The requirements made and the reports required for the installation of swap body devices would be similar to those for attaching fixed bodyworks.

3. Swap body locking devices

No amendments are made to the general regulations on swap body locking devices, but some linguistic amendments that have no impact on the content are made to the section.

Also in the future, 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 also be maintained regardless of individual pneumatic leaks.

In connection with the operating switches of the locking devices, there shall be a visual indicator indicating the correct locking of all locking devices. Locking devices may also be approved without a visual tell-tale if the locking devices withstand the forces required of the locking devices when any individual locking device remains open. The warning light and locking claw have previously been referred to in the section. The wording of this section will be changed to be more technologically neutral. In the future, instead of a warning light, the regulations will apply to the visual indicator and the locking device instead of a locking threshold. The amendment does not have an impact on application practice, but the new wording of the regulations corresponds to the current state of affairs more clearly.

A plate indicating the standard or other information according to which the swap body devices are compatible with the locking devices, as well as the mass for which the locking devices are dimensioned and the height of the centre of gravity shall be attached to the swap body devices, if the manufacturer has restricted the centre of gravity to a height of less than 160 cm. If the vehicle has space for two swap body devices, the largest permitted swap bodywork mass and the height of the centre of gravity shall be indicated separately for both swap body devices.

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 test method used and the results or a summary of the computational analysis.

3.1 Testing swap body locking devices

This section lays down provisions on the test procedure for swap body locking devices. No substantive changes are made to this section. However, individual linguistic amendments are made to this paragraph.

3.2 Shipping container locking devices

This point lays down provisions on the locking devices of a shipping container. A few linguistic amendments are made to the point, but the substance of the point remains unchanged.

A shipping container is different from other cargo spaces to be replaced due to precise international standardisation. As a rule, the shipping ea container is lifted into the vehicle by an external crane and not by the vehicle's own loading equipment, so this is not an swap body and the requirements for swap body locking devices do not apply to it.

Shipping container locking devices are relatively simple mechanical devices that are the same in the world. For these, there is no need to set requirements on a national level. The dimensioning of container locks is generally based on the masses permitted for shipping containers. Vehicles need not be required to have locking devices which would be dimensioned for heavier containers, as is allowed in maritime traffic.

The container is always fixed to four locking devices. In addition to shipping containers, a swap cargo space in accordance with standard SFS-EN 284 or SFS-EN 283 may be attached to the locking devices of shipping containers. The bottom of these cargo spaces corresponds to the bottom of a shipping container of 20 feet or 40 feet, but other structures correspond to the normal loading space of a vehicle.

4. Strength of bodyworks manufactured for the transport of general cargo

This section applies to closed-type bodyworks manufactured for the transport of general cargo. This section is specified to refer to fixed or swap bodyworks. The requirements of this section would therefore not apply, for example, to open platforms or to sealed bodyworks other than to be manufactured for the transport of general cargo, such as bodyworks or closed-type vehicle transportation bodyworks.

For fixed front and lateral walls of bodyworks manufactured for the transport of general cargo, this section requires compliance with at least the strength requirements in the XL or L code requirements of standard SFS-EN 12642 if securing the load is based on supporting it against the walls. This requirement applies to normal bodyworks used to transport goods packed in rolls or on pallets. The requirement would not in all respects be a procedure in accordance with the standard, as it would require an unreasonable number of tests to be carried out between the various height and length options of cargo spaces.

The manufacturer of the cargo spaces may also determine the strength of the walls by other suitable methods. In this case, the cargo space would be marked with the strength values, but the cargo space would not be marked to comply with the standard. Provisions will be added to the section to the effect that, in a situation where the strength of the walls are not proportional to each other in accordance with the standard, the P value should be determined separately for all. The use of L or XL symbols is not permitted on the labelling if the bodywork is not tested in accordance with Standard SFS-EN 12642. The regulation is necessary because the P value clearly indicates for which load subsidy with this coefficient of friction is sufficient. For this reason, the P value should be clearly visible.

Enclosed cargo spaces, where the role of the walls and roof is mainly to provide weather protection, are a special feature used only in the Nordic countries. These transport, for example, sensitive products from the wood processing industry. Securing an load is based entirely on binding and, in some cases, on supporting the front

wall. The production of such cargo spaces will continue to be permitted. In these cases, the manufacturer would determine the strength of the walls based on the strength of the structures and would indicate this information on the cargo space. In some cases, strength would be “no strength to load support, only weather protection”. Provisions will be added to the section to state that, in addition to the markings to the cargo space, the information that the strength of the load support has not been specified on the walls of the bodywork should in future be entered in the vehicle’s registration information in the transport register. The purpose of the Regulation is to support the performance of inspections when, in addition to the cargo space, the data is directly available from the data reported to the vehicle register.

Linguistic amendments are made to the provisions on the approval of a vehicle in support of readability. In the future, the distinction between standard and other body works will be more clearly taken into account in the section. In the future, a certificate on the strength of the structures in accordance with Annex C to the standard should be presented for a fixed installed load basket compliant with the L or XL code when applying for approval of the vehicle. For bodyworks other than standard bodyworks, a manufacturer’s certificate on the maximum permissible masses and wall strength must be presented for the bodyworks. A sign attached to the cargo space of the vehicle in a visible spot, compliant with the standard, meets the requirement in the regulations, according to which the information indicated in the manufacturer’s certificate shall be attached to the cargo space of the vehicle where the operator can easily see it.

Provisions on the information to be entered in the transport register are added to this section in such a way that in the future, both the fixed-installed closed bodywork and the vehicle registration data shall indicate that if the strength for supporting the load is not specified on the walls of the bodywork.

5. Load Securing Points

The general requirement of a cargo space made for the transport of general cargo is that the combined strength of the fixation points is sufficient to secure a load equal to the load capacity of the cargo space. It should be noted that a cargo space primarily constructed for the transportation of vehicles or a towing vehicle cargo space is not constructed for the transportation of general cargo.

Securing general cargo loads is based mainly on their support, friction force and binding. The most common friction coefficient between floor and load is approximately 0.4. Longitudinal verification by tie and suspension must withstand a force equal to 4 times the mass of the load. I.e. the load of 1,000 kg must be permanently bonded and supported by a force of 4 kN if the friction is 0.4.

The requirement for the adequacy of the combined strength of the fixation points is, in principle, met when the vehicle is equipped with fixation points complying with the requirements of standard SFS-EN 12640:2019:en. The standard includes requirements for the number and strength of fixation points and for compliance testing and notification. In connection with approvals, compliance would be verified based on the markings in the cargo space and the manufacturer’s certificate. The standard also provides test procedures and methods of marking the strengths of load fixation points.

Provisions on the labelling and reports for the demonstration of conformity are added to this section, stating that in the case of bodyworks other than bodyworks manufactured for the transport of general cargo, where securing the load is based on strapping the load, the strength of the strapping points shall be indicated together with the strapping points and a certificate issued by the manufacturer of the bodywork on their strength shall be provided.

Provisions on the approval of vehicles are added to this section, stating that in terms of the strength of the load securing points, a certificate on the strength of the load securing points in accordance with standard SFS-EN 12640:2019 or a more recent version thereof must be submitted when applying for the approval of the vehicle, or, when applying for exemptions in accordance with paragraph 5, another certificate on the strength of the load securing points. In addition, provisions on displaying to the user of strength information for load securing points in accordance with both the standard and the exceptions in the Regulation are added to this section. In the future, information on the strength of the load fixation points set out in standard SFS-EN 12640:2019 or a more recent version thereof shall be affixed to the cargo space of the vehicle by means of a label in accordance with section 7 of the standard that is easily visible to the user. When applying the exemptions under Section 5, the strength of the load securing points must be attached to the cargo space in such a way as to be easily visible to the operator.

As an alternative, in addition to the aforementioned standard SFS-EN 12640:2019, attachment points according to ISO 27956:2009 are added to the section for lorries with a total mass not exceeding 7.500 kg. The standard ISO 27956:2009 is established in use as a classification criterion for N-category vehicles in accordance with Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC (the so-called Framework Regulation for motor vehicles and their trailers) (see Annex I, Part A, point 3.4).

A derogation may be made from the requirements of standard SFS-EN 12640:2019 on the number and strength of load fixation points if the load capacity of the bodywork does not exceed 2,000 kg or if, due to the intended use of the bodywork, there are fewer fixation points but their strength is greater than required by the standard or if a system of several fixation points under the definition 3.6.2 of the standard alone may be used to secure the load for the purpose in question. The requirement of the standard, simplified for heavy-duty vehicles, requires load fixation points with a nominal strength of 2 tonnes on both sides every 1.2 m. For vehicles of just over 3.5 t, a standard developed for heavier vehicles, which is, in principle, not a viable solution in all situations. Where the load-bearing capacity does not exceed 2,000 kg, the requirements of the standard may be derogated from.

However, a vehicle manufactured for the transport of general cargo must always have load fixation points in accordance with the basic requirement, so that it is possible to secure the load. In the transport of heavy machinery, the load fixation is generally made well over 2 t with nominal strengths, but the number of strapping points is not required for very many of the large cargo spaces. For roll cage transport, there is no need for tie points on the floor, but the load fixation rails on the walls with a dense division are required. These examples best describe exceptions, but do not limit their application to other similar criteria.

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

With regard to vehicles for the transport of raw wood, the Regulation sets out the requirements for the cabin protection to be installed in the vehicle, the number of wood platforms, the strength and attachment of wood platforms, and the marking of the lashing equipment mounted on a fixed base.

Verification of a load of raw wood will continue to require tensile forces proportional to the mass of the load and the strengths of the lashing equipment. This requirement requires knowledge of the characteristics of the equipment used for strapping the load.

6.1 Cabin protection

Section 6.1 contains regulations on the protection of the driver's cabin. Clarifying provisions are added to the section that no permanent deformations in the structures of the cabin protection may occur in the test that impair the planned use of the structure, such as rupture of welding joints or permanent deformations of the structures over 20 mm in depth.

Also in the future, protection compliant with strength requirements would be required of cabin protection in vehicles transporting wood, since wood loads always involve uncertainty regardless of their fixation. Front ends compliant with the requirements of the Regulation are sufficient protection for drivers if individual logs are detached in connection with abrupt braking or other similar situations. The height of the cargo space is also required for lower cabins, so that trees that might become detached from the load do not cross the cabin in traffic. Due to the numerous different combinations of chassis and stake heights, it is not possible to size the cabin protection at least to the height of the platforms in all cases. Therefore, a cabin protection at a height of at least 420 cm is also sufficient as a minimum requirement for timber trucks between 420 and 440 cm in height. The cabin protection may also be implemented on the network. Experience has shown that mesh size of up to 5 x 5 cm can provide sufficient strength for point loads from individual trees on a 4 mm wire mesh. The strength requirements mainly follow the old requirements of the bodywork decision. Producing an evenly distributed load for a shield with different shapes is always approximate, which is why a separate load test is required for the upper corners. From the point of view of the strength of the structure, the forces exerted on the upper corners are the most difficult to control. As an alternative test method, the long-standing test method in Sweden is accepted. This will reduce the administrative burden for manufacturers operating on both markets.

6.2 Number and strength of bunks

In the future, the strength requirements of a stake will continue to be based on the load permitted for an individual stake. The load height is based on the height of the pole of the stake measured from the lower surface of the horizontal beam (height of the poles). For the highest stakes now on the market, the load would be approximately 10% higher. In addition to permanent deformations, there are limits on how much the stake may flex over the nominal width. The test load is higher than the load resulting from a normal load, which is why in the test the stake is allowed to vary 50 mm more than the maximum width of the vehicle. This procedure limits flexible structures with the purpose of increasing the cargo space by exceeding the maximum permissible width of the vehicle.

6.3 Securing stakes in vehicles

The requirements for the resistance of lateral forces are the same as for other bodyworks, i.e. a force equivalent to a lateral acceleration of 5 m/s^2 is applied to the height of the middle of the centre of gravity.

6.4 Raw wood fixation equipment

In Section 6.4, the tools for strapping raw wood will be supplemented with regulations that the LC value of chains with strength marks and shackles used for attaching slings should be at least equal to the LC value in the chain or the line. The aim is to reduce the risk of possible hidden links that are too weak. In addition, provisions will be added to the section that the raw wood fixation equipment to be permanently installed must be attached to the vehicle in accordance with the instructions of the manufacturer of the upper structure.

7. Alternative methods of demonstration

No changes are to be made to this section. The order of priority among the means of demonstrating conformity corresponds to an established premise that it is always

permitted to use higher-level means of demonstration to demonstrate the conformity of a vehicle. For example, a certificate issued by the manufacturer may always be replaced by a report by an approved expert. As regards the indication methods, reference is made to the Finnish Transport and Communications Agency's Regulation on the technical requirements for motor vehicles and their trailers (see Technical requirements for motor vehicles and their trailers (TRAFICOM/ 422611/03.04.03.00/2020), Chapter 3, paragraph 1 and Annex 1) in force at any given time.

8. Securing loads

According to section 109, subsection 1 of the Road Traffic Act, the load of a vehicle may not move in such a way as to be detrimental to the safe use of the vehicle in traffic. The load shall remain in place on the bodywork and on the vehicle for all possible accelerations and braking, as well as when driving in curves. Under paragraph 5 of the section, the Finnish Transport and Communications Agency has been authorised to issue more detailed regulations on the limiting values of decelerations related to driving situations referred to in § 109(1). The requirements for securing loads laid down in the regulation are based on the European Commission's "Guideline on guidelines for securing loads in road traffic". As regards the rules for securing loads, the requirements of Directive 2014/47/EU governing the roadworthiness requirements for commercial vehicles circulating in the Union have also been taken into account. Annex III to that Directive sets out the applicable standards and methods for the assessment of defects.

The load must be secured so that it does not move significantly when the vehicle is decelerating by 8 m/s2 due to deceleration, or when the vehicle curves at 5 m/s2 due to lateral acceleration. Linguistic amendments are made to this section by changing the values of 8 m/s2 and 5 m/s2 to 0.8 G and 0.5 G, as the values are expressed in the standards as G forces indicating acceleration. The intention is to support the readability of the Regulation with section 8.2 and to eliminate a minor contradiction with the more specific requirements of section 8.1, which explicitly refers to values given as G force.

In addition, provisions on the transport of liquid substances are added to this section. In the future, the movement of liquid substances must be prevented in such a way that it cannot interfere with the safe use on the road. Dangerous movement of a liquid is considered to be prevented if the level of filling is no more than 30%, or no more than 70%, or if the containers of more than 8 m3 are sectioned by parasitic plates. The Regulation corresponds to the Transport of Dangerous Goods Regulations on the Transport of Liquid Goods. The Regulation is necessary because the same risks of loss of control or overturning of the vehicle also apply to unclassified liquids.

8.1 Securing general cargo loads

In accordance with section 8.1, the load must be ensured that it will not move significantly when the vehicle is braked by 8 m/s^2 by deceleration or by 5 m/s^2 by lateral acceleration. Linguistic amendments are made to this section by changing the values of 8 m/s2 and 5 m/s2 to 0.8 G and 0.5 G, as the values are expressed in the standards as G forces indicating acceleration. The intention is to support the legibility of the Regulation in conjunction with section 8.2, which explicitly refers to the values given as G force.

Fixed objects shall be kept in place in accordance with standard SFS-EN 12195-1:2010 or a newer 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. This standard is widely used in Europe and provides formulas for combining various friction forces, suspension and bond to typical cases. On the basis of this standard, materials have been made freely available, which makes the application of the basic principles possible for everyone.

The point is supplemented with detailed provisions on load support and the combination of standard-compliant frictional lashing and direct lashing. For a support in accordance with Section 5.3 of the standard, the load is considered to be supported if the distance between the load and the bodywork or pieces is no more than 5 cm and in the case of several consecutive or parallel pieces, the spacing is a total of 15 cm in length or in the lateral direction. In the case of connection of friction binding and harness (sections 5.4.2 and 5.5.5 of the standard), the friction coefficient according to friction may be used to ensure the full load. Interpretations relating to load support are a typical challenge in border cases in assessing the case and the issue was raised by several stakeholders during the drafting of the regulation The solution to facilitate interpretations is to have clear numerical tolerances. For heavy loads, combining direct lashing and frictional lashing is a common practice. The standard applies static friction for frictional lashing and dynamic friction for direct lashing. When these two lashing methods are combined, the higher coefficient of static friction is used for both.

The point is supplemented with a clarifying provision regarding the standard, stating that in frictional lashing (SFS-EN 12195, point 5.4.2), the Stf value produced by a multi-part lashing device is determined by the tensioner. Muiden sidontavälineen osien osalta huomioidaan LC-arvo. The provision is necessary because there are solutions in use in traffic where the strap, chain, or wire rope has been acquired separately from the tensioner, and they may therefore be marked with different Stf values. In frictional lashing, the relevant factor is the force generated by the tensioner, i.e. the Stf value marked on the tensioner.

The point incorporates a provision previously in force as a transitional rule, stating that when calculating the load securing forces of a vehicle taken into use before 1 January 2022, the strength of the front wall in accordance with Section 6 and the strength of the securing points in accordance with Section 8 of the Ministry of Transport’s decision on vehicle bodyworks, loading, and load securing may be used.

Provisions are added to this section stating that, if the vehicle has been approved with load securing points in accordance with ISO 27956:2009, the securing forces will be used when calculating the strengths indicated for them. This ISO 27956:2009 standard is consistently used as a criterion for the classification of a vehicle of category N in accordance with the Framework Regulation for motor vehicles and their trailers (see Annex 1A, Part 3.4).

The table on friction coefficients is supplemented with friction coefficients for paper and cardboard rolls.

Additionally, provisions are added to the point stating that the coefficient of friction of the friction mat may be applied if the entire mass of the load rests on the friction mat. The entire base area of the load does not need to rest on the friction mat if the load’s mass is otherwise not supported by the underlying surface.

8.2 Securing loads of raw wood

For the transport of raw wood, the retention of the load is based to a significant extent on the friction between the load and the wood platforms and the trees. In addition to the nominal strength of the bonds, the tightness of the bonds is essential, and they are therefore regulated separately. On the basis of domestic accidents and international practices, the lashing of the first bundle of a trailer without a frontal barrier will be subject to stricter requirements.

In the future as well, the minimum strength and the minimum tensioning force of the lashings used to secure the load of raw wood shall be determined based on the mass of the wood bundle. The combined LC value of the lashings shall be at least 0.2 times the mass of the timber bundle, and the tensioning force shall be at least 0.05 times the mass of the timber bundle. If there is no bulkhead or another bundle in front of

the timber bundle, the LC value of the timber bundle's lashings and the tensioning force must be 1.5 times the aforementioned requirements. Despite good lashing, there is a risk of individual logs sliding during sudden braking in raw timber bundles. This does not pose a significant risk if there is another bundle or a bulkhead in front of the timber bundle to stop any individual logs that may start to move.

8.3 Securing swap bodies and shipping containers

The provisions on securing swap bodies and shipping containers are supplemented in this section. In the future, the swap body must be secured with suitable locking devices for the swap body in question. The locks must be used in accordance with the manufacturer's instructions. In addition, locks must secure into the closed position, and the visual indicator warning of unlocked locks must not be illuminated or otherwise indicate an open status when the locks are properly secured. Manual locks and pins must be secured in accordance with the manufacturer's instructions. When the compatibility between the locking devices and the swap body is partially insufficient, longitudinal securing may be supplemented with lashing.

Additionally, the point is supplemented with an informative reference regarding load securing and equipment intended for handling swap bodies, such as the in-service installation of the lifting hook for hook-lift containers. The reference is necessary to ensure road safety. Devices intended for load securing and handling of swap bodies, particularly the lifting hook of a hook-lift container, must, in accordance with Section 109(1) of the Road Traffic Act and Section 3(1) of the Vehicle Act, be designed such that their structure or external shape does not pose a danger, and the vehicle's load must not shift in a way that could impair the safe operation of the vehicle in traffic. Devices intended for handling swap bodies must be in the transport position specified by the manufacturer during driving and remain within the vehicle's overall dimensions.

The falling of swap bodies is quite often caused by compatibility issues between the locking devices and the bodies. Therefore, compatibility is required with the use of locking devices. The swap bodies may also be attached to the vehicle by means other than locking devices. The most common solution is the use of chains intended for load fixation. A shipping container must, as a rule, be secured to the container locks, which shall be secured in accordance with their operating instructions. Container locks have various single- or multi-stage fastening, tightening, and securing functions, all of which must be properly performed. When transporting a shipping container on a vehicle not equipped with container locks, the container must be secured in place in a manner equivalent to that used for general cargo.

8.4 Lashing equipment

Some linguistic amendments that have no impact on the content are made to this section. Also in the future, load securing equipment will, as a rule, be required to have strength markings in accordance with SFS-EN 12195:2010. This ensures that the strength of the lashing equipment used for load securing is known. The higher the strength requirements, the more difficult it becomes to assess the durability of the lashing equipment without manufacturer-applied strength markings in accordance with the standard. In cases where a very small force is sufficient for load securing, unmarked lashing straps may also be used in accordance with the table in the regulation. The scope of the requirement applies to vehicles with a carrying capacity of approximately 1.5 tonnes, which are frequently used to transport small and light goods. Very lightweight solutions are sufficient for the attachment of such a good, the strength of which can be verified other than by labels in accordance with the standard.

8.5 Load securing covers and load support devices

No changes are to be made to this section. Also in the future, pillars installed on the floor, bars installed between the floor and the ceiling, and various stands used to support the load should contain an indication of the maximum permitted load. Bars used for load support generally prevent tall cargo from tipping over. Load support posts are short and very robust structures used to secure the load in the longitudinal direction. Safe use of both requires clear markings indicating the maximum designed loads for the structures. Load securing covers refer to tarpaulins or nets that have strength characteristics similar to those of lashing straps. No requirements for nominal strength would be made for the covers and support equipment used to secure the load, but pursuant to the regulation, they should contain an indication of their nominal strength.

9. Transitional provisions

Point 9 is removed because the existing transitional provisions expired when the regulation came into force. Additionally, the transitional provision regarding the allowable strength of securing points for calculating load securing forces of vehicles put into use before 1 January 2022 is moved to point 8.1, which concerns the securing of general cargo loads.

The regulation’s entry into force and transitional provisions

The Regulation is expected to be adopted by the end of 2025.

Annex(es)

- Comment summary