

Draft proposal for amendments to UNECE R107

In the proposal below, the proposed new text is in **bold** characters, and the text proposed for deletion is in ~~strike-through~~ characters.

A. PROPOSAL

2. Definitions

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2.41. **“Overnight locking system”** means a system designed to provide the possibility to secure the service and emergency doors of the vehicle against opening.

2.42. **“Emergency lighting system”** means a system that provides a minimum level of lighting necessary to enable occupants to safely egress from the vehicle, including the emergency exits.

2.43. **“Safety sign”** means a configuration of visual elements intended to convey a safety-related message.

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Insert new paragraphs 10.24 to 10.26 (transitional provisions), to read:

“10.21. As from the official date of entry into force of the 06 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approval under this Regulation as amended by the 06 series of amendments.

10.22. As from [XX months] after the date of entry into force of the 06 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by the 06 series of amendments.

10.23. As from [XX months] after the entry into force of the 06 series of amendments, Contracting Parties applying this Regulation may refuse to grant national/regional approvals and first national registration (first entry into service) of a vehicle which does not meet the requirements of the 06 series of amendments to this Regulation.”

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Annex 3

7.6. Exits

7.6.1. Number of exits

- 7.6.1.1 The minimum number of doors in a vehicle shall be two, either two service doors or one service door and one emergency door. Every double-deck vehicle shall have two doors on the lower deck (see also paragraph 7.6.2.2.). The minimum number of service doors required is as follows:

Number of passengers	Minimum Number of service doors		
	CLASS I & A	CLASS II	CLASS III & B
9 - 45	1	1	1
46 - 70	2	1	1
71 - 100	3	2	1
	(2 in the case of a double-deck vehicle)		
> 100	4	3	1

- 7.6.1.2. The minimum number of service doors in each rigid section of an articulated vehicle shall be one except that this minimum number shall be two in the case of front section of an articulated vehicle of Class I.
- 7.6.1.3. For the purpose of this requirement, service doors equipped with a power-operated control system shall not be deemed to be emergency doors unless they can be readily opened by hand, once the control prescribed in paragraph 7.6.5.1. has been actuated, if necessary.
- 7.6.1.4. The minimum number of emergency exits shall be such that the total number of exits in a separate compartment is as follows:

Number of passengers and crew to be accommodated in each compartment or deck	Minimum total number of exits
1 - 8	2
9 - 16	3
17 - 30	4
31 - 45	5
46 - 60	6
61 - 75	7
76 - 90	8
91 - 110	9
111 - 130	10
>130	11

The number of exits for each separate deck (in the case of a double-deck vehicle) and each separate compartment must be determined separately. Toilet compartments or galleys are not considered to be separate compartments for the purposes of defining the number of emergency exits. Escape hatches can only count as one of the above-mentioned number of emergency exits.

- 7.6.1.6. A double service door shall count as two doors and a double or multiple window as two emergency windows.

- 7.6.1.7. If the driver's compartment does not provide access to ~~the~~ a passenger compartment by means of a passageway **that permits** ~~complying with one of the conditions described in paragraph 7.7.5.1.1~~
- (a) **the front edge of the cylindrical gauge defined in paragraph 7.7.5.1. to reach at least the transverse vertical plane tangential to the foremost point of the driver's seat back in its rearmost longitudinal position, and**
 - (b) **from this plane, to move the panel shown in Annex 4, figure 7 forwards from the contact position, with the cylindrical gauge until it reaches at least the vertical plane tangential to the foremost point of the driver's seat cushion,**
- the following **requirements** ~~conditions~~ shall be met:

- 7.6.1.7.1. The driver's compartment shall have two exits, which shall not both be in the same lateral wall. When one of the exits is a window, **this window** ~~it shall comply with the requirements set out in paragraphs 7.6.3.1. and 7.6.8.~~ **have a minimum area of 400,000 mm², it shall be possible to inscribe in this area a rectangle measuring 500 mm x 700 mm and it shall comply with the requirements set out in paragraph 7.6.8.** for emergency windows.
- 7.6.1.7.2. One or two seats are permitted alongside the driver for additional people, in which case both of the exits referred to in paragraph 7.6.1.7.1. shall be doors.

The driver's door shall be accepted as the emergency door for the occupants of those seats, provided that it is possible to move a test gauge from the occupants' seats to the exterior of the vehicle through the driver's door (see Annex 4, figure 27).

Verification of the access to the driver's door shall be subject to the requirements of paragraph 7.7.3.2., by using the test gauge having a dimension of 600 x 400 mm, as described in paragraph 7.7.3.3.

The **service** door ~~provided for the passengers~~ shall be in the side of the vehicle opposite to that containing the driver's door and shall be accepted as the emergency door for the driver.

~~Up to five additional seats may be fitted in a compartment incorporating the driver's compartment, provided that the additional seats and the space for these seats comply with all requirements of this Regulation and at least one door giving access to the passenger compartment complies with the requirements of paragraph 7.6.3. for emergency doors.~~

- 7.6.1.7.3. ~~In the circumstances described in paragraphs 7.6.1.7.1. and 7.6.1.7.2., the exits provided for the driver's compartment shall not count as one of the doors required by paragraphs 7.6.1.1. to 7.6.1.2., nor as one of the exits required by paragraph 7.6.1.4., except in the case mentioned in paragraphs 7.6.1.7.1. and 7.6.1.7.2. Paragraphs from 7.6.3. to 7.6.7., 7.7.1., 7.7.2. and 7.7.7. shall not apply to such exits. Paragraphs 7.6.3. to 7.6.7., 7.7.1., 7.7.2. and 7.7.7. shall not apply to the exits provided for the driver's compartment as referred to in paragraphs 7.6.1.7.1. and 7.6.1.7.2.~~

- 7.6.1.7.4.** In the circumstances described in paragraphs 7.6.1.7.1. and 7.6.1.7.2., the exits provided in the driver's compartment and for the occupants of any seats alongside the driver shall not count as one of the doors required by paragraphs 7.6.1.1. to 7.6.1.2., nor as one of the emergency exits required by paragraph 7.6.1.4. for any other passenger compartment.
- 7.6.1.7.5.** Up to five additional seats may be fitted in a compartment incorporating the driver's compartment and any seats alongside the driver, provided that the additional seats and the space for these seats comply with all requirements of this Regulation and at least one of the emergency exits required by paragraph 7.6.1.4. is a door giving access to the passenger compartment complying with the requirements of paragraph 7.6.3.1.2. for emergency doors.
- 7.6.1.8.** If the driver's compartment is accessible from a passenger compartment by means of a passageway complying with the requirements of parts (a) and (b) of paragraph 7.6.1.7., and any seats adjacent to ~~it~~ **this driver's compartment**, are accessible from ~~the main~~ **that same** passenger compartment by means of a passageway complying with one of the conditions described in paragraph 7.7.5.1.1., no external exit is required from the driver's compartment.
- 7.6.1.9.** If a driver's door or other exit from the **driver's** compartment is provided in the circumstances described in paragraph 7.6.1.8. it may ~~only~~ count as **one of the required exits** ~~an exit~~ for passengers **in vehicles of Class A or B** provided:
- 7.6.1.9.1.** it satisfies the requirements relating to the dimensions of emergency door indicated in paragraph **7.6.3.1.2.** ~~7.6.3.1.;~~
- 7.6.1.9.2.** it fulfils the requirements ~~indicated in~~ **of** paragraph 7.6.1.7.2.;
- 7.6.1.9.3.** the space reserved for the driver's seat shall communicate with the main passengers' compartment through an appropriate passage; such requirement shall be deemed to be fulfilled if the test gauge described in paragraph 7.7.5.1. can move unobstructed from the gangway, until the front end of the gauge reaches the vertical plane tangential to the foremost point of the driver's seat back (this seat being situated in its rearmost longitudinal position) and, from this plane, the **test gauge panel** described in paragraph 7.6.1.7.2. ~~can~~ **could** be moved to the emergency door in the direction established by such paragraph (see Annex 4, figure 28) with seat and steering wheel adjustment in their mid position.
- 7.6.1.9.4.** **If there is a door opposite the driver's door, the provisions of paragraph 7.6.1.9. shall apply to it, provided that there is not more than one passenger's seat beside the driver.**
- 7.6.1.10.** Paragraphs 7.6.1.8. and 7.6.1.9. do not preclude there being a door or other barrier between the driver's seat and the passenger compartment provided that this barrier can be released quickly by the driver in an emergency. A driver's door in a compartment protected by such a barrier shall not be counted as an exit for passengers.

- 7.6.1.11 **Vehicles of Class II, III and B shall be fitted with** escape hatches, additional to the emergency doors and windows. ~~shall be fitted in vehicles of Class II, III and B (In the case of double-deck vehicles, these hatches shall be fitted in the upper deck roof only in the case of double-deck vehicles). Except as provided in paragraph 7.6.1.12., they may also be fitted in the case of Class I and A vehicles. There shall not be any escape hatches fitted in the roof of a trolleybus.~~ The minimum number of hatches shall be:

Number of passengers (in the upper deck in the case of double-deck vehicles)	Minimum n Number of hatches
not exceeding 50 30	1
exceeding 50 30	2

Except as provided in paragraph 7.6.1.12., they may also be fitted in the case of Class I and A vehicles. There shall not be any escape hatches fitted in the roof of a trolleybus.

- 7.6.1.12. ~~Vehicles of Class I and A shall not have escape hatches~~ Hatches shall not be fitted in positions where technical components are installed which present possible dangers to passengers using the escape hatches (e.g. high voltage systems, systems containing dangerous liquids and/or gas, etc.). **This may be verified in accordance with the technical requirements of Regulation N°100.**
- 7.6.1.13. Each intercommunication staircase shall be considered to be an exit from the upper deck of a double-deck vehicle.
- 7.6.1.14. All persons accommodated in the lower deck of a double-deck vehicle ~~must~~ **shall**, in an emergency situation, have access to the exterior of the vehicle without having to enter the upper deck.
- 7.6.1.15. The upper deck gangway of a double-deck vehicle shall be connected by one or more intercommunication staircases to the access passageway of a service door or to the lower deck gangway within 3 m of a service door:
- 7.6.1.15.1. ~~two, or at least one and-one-half staircases, shall be provided in the case of vehicles of Class I and Class II vehicles if more than 50 passengers are carried on the upper deck;~~
- 7.6.1.15.2. ~~Two, or at least one and-one-half, staircases are to~~ **shall** be provided in **the case of vehicles of Class II and Class III vehicles** if more than 30 passengers are carried on the upper deck.
- 7.6.1.16. In the case of a vehicle without a roof, the exits on the deck without a roof shall be such as to fulfil those prescriptions that are not incompatible with the absence of the roof.
- 7.6.2. ~~Siting~~ **Positioning** of exits
- 7.6.2.1. ~~Vehicles of Classes I, II and III having a capacity exceeding 22 passenger seats~~ shall meet the requirements shown below.

- ~~7.6.2.1.~~ **7.6.2.1.1.** The service door(s) shall be situated on the side of the vehicle that is nearer to the side of the road corresponding to the direction of traffic in the country in which the vehicle is to be ~~licensed for operation~~ **registered** and at least one of them shall be in the forward half of the vehicle. This does not preclude:
- ~~7.6.2.1.1.~~ **7.6.2.1.1.1.** the provision of a specially designed door in the rear or side faces of a vehicle for use in place of a service door by wheelchair passengers, or
 - ~~7.6.2.1.2.~~ **7.6.2.1.1.2.** the provision of an additional ~~service~~ door in the rear face of a vehicle principally for loading/unloading of goods or luggage, but which could be used by passengers where circumstances so require, or
 - ~~7.6.2.1.3.~~ **7.6.2.1.1.3.** the provision of one or more additional service door(s) on the opposite side of the ~~vehicles~~ **vehicle** in the case of vehicles designed for use in circumstances which require ~~loading/unloading~~ **boarding / alighting of passengers** on both sides **of the vehicle**. ~~Examples of such circumstances include vehicles for airside use at airports, vehicles for use on multimodal transport systems using island platforms, or vehicles which cross borders to countries which do not drive on the same side of the road as the country in which the vehicle is to be licensed for operation.~~ Vehicles so equipped shall be provided with control(s) which allow the driver to inhibit normal operation of the doors which are not currently in use.,~~or~~
 - ~~7.6.2.1.4.~~ **7.6.2.1.1.4.** the provision of a service door in the rear face of a Class A or B vehicle
- ~~7.6.2.2.~~ If the passenger's compartment has an area S_0 equal or greater than 10 m^2 , two of the doors referred to in paragraph 7.6.1.1 shall be separated such that the distance between transverse vertical planes through their centres of area is not less than:
- 7.6.2.2.** Vehicles of Classes A and B having a capacity not exceeding 22 passengers may ~~shall~~ meet either the **following** requirements ~~shown below or those contained in Annex 7, paragraph 1.2.~~
- 7.6.2.2.1.** The service door(s) shall be situated on the side of the vehicle that is nearer to the side of the road corresponding to the direction of the traffic in the country in which the vehicle is to be registered, or in the rear face of the vehicle.
 - 7.6.2.2.2.** The exits shall be placed in such a way that there is at least one exit on each side of the vehicle.
 - 7.6.2.2.3.** The forward half and the rearward half of the passenger compartment shall each contain at least one exit.
 - 7.6.2.2.4.** At least one exit shall be situated either in the rear face or in the front face of the vehicle [~~unless an escape hatch is fitted~~].

~~7.6.2.1.4.~~ **7.6.2.2.5.** The provision of a service door **is also permitted** in the rear face of a ~~Class A or B~~ **the** vehicle.

~~7.6.2.2.~~ **7.6.2.3.** If the passenger's compartment has an area S_0 equal or greater than 10 m^2 , two of the doors referred to in paragraph 7.6.1.1 shall be separated such that the distance between transverse vertical planes through their centres of area is not less than:

~~7.6.2.2.1.~~ **7.6.2.3.1.** In the case of a single deck vehicle, 40 per cent of the overall length of the passenger compartment measured parallel to the longitudinal axis of the vehicle.

In the case of an articulated vehicle, this requirement shall be fulfilled if two doors of the different sections are separated such that the distance between the doors is not less than 40 per cent of the overall length of the combined passenger compartment (all sections).

If one of these two doors forms part of a double door this distance shall be measured between the two doors which are furthest apart.

~~7.6.2.2.2.~~ **7.6.2.3.2.** In the case of a double-deck vehicle, two of the doors referred to in paragraph 7.6.1.1. shall be separated such that the distance between transverse vertical planes through their centres of area is not less than either 25 per cent of the overall length of the vehicle or 40 per cent of the overall length of the passenger compartment on the lower deck; this shall not apply if the two doors are on different sides of the vehicle. If one of these two doors forms part of a double door, this distance shall be measured between the two doors which are furthest apart.

~~7.6.2.3.~~ **7.6.2.4.** The exits (on each deck in the case of a double-deck vehicle) shall be placed in such a way that their number on each of the two sides of the vehicle is substantially the same. (This shall not imply the need to provide additional exits over and above the number specified in paragraph 7.6.1.). Any exits in excess of the required minimum number need not be substantially balanced on each of the two sides.

~~7.6.2.4.~~ **7.6.2.5.** At least one exit shall be situated either in the rear face or in the front face of the vehicle respectively. ~~For~~ **This provision does not apply to single deck Class I and A vehicles and to the lower deck of double deck vehicles.** ~~and for vehicles with a rear part permanently closed off from the passenger compartment, this provision is fulfilled if an escape hatch is fitted.~~

~~7.6.2.5.~~ **7.6.2.6.** The exits on the same side of the vehicle shall be suitably ~~spaced out~~ **separated** along the length of the ~~passenger compartment-vehicle.~~ **passenger compartment**.

~~7.6.2.6.~~ **7.6.2.7.** A door shall, ~~provided that it is not a service door,~~ be permitted in the rear face of the vehicle.

~~7.6.2.7.~~ **7.6.2.8.** ~~If Required~~ **Required** escape hatches ~~are fitted, they~~ shall be positioned as follows: if there is only one hatch, it shall be situated in the middle third of the passenger compartment; if there are two hatches, they shall be separated by a

distance of at least 2 m measured between the nearest edges of the apertures in a line parallel to the longitudinal axis of the vehicle.

7.6.3. Minimum dimensions of exits

7.6.3.1. Vehicles of Class I, II or III shall meet the following requirements:

7.6.3.1.1. ~~A~~ Service doors shall have an aperture creating an access in accordance with the requirements shown in paragraph 7.7.1. of this annex.

7.6.3.1.2. ~~An~~ Emergency doors shall have ~~a door~~ an aperture with a minimum height of ~~1,250~~ **1450** mm and a minimum width of ~~550~~ **600** mm.

7.6.3.1.3. ~~An~~ Emergency windows shall have a minimum area of 400,000 mm². It shall be possible to inscribe in this area a rectangle measuring 500 mm x 700 mm.

7.6.3.1.4. In the case of an emergency window situated in the rear face of the vehicle, either it shall meet the requirements shown in paragraph 7.6.3.1.3., or it shall be possible to inscribe in the aperture of this emergency window a rectangle 350 mm high and 1,550 mm wide, the corners of which may be rounded to a radius of curvature not exceeding 250 mm.

7.6.3.1.5. ~~An~~ Escape hatches shall have ~~a hatch~~ an aperture with a minimum area of ~~400,000 mm²~~ **450,000 mm²**. It shall be possible to inscribe in this area a rectangle measuring ~~500 mm~~ **600 mm** x 700 mm.

7.6.3.2. Vehicles of Class A or B may meet either the requirements shown in paragraph 7.6.3.1. (Class A meeting Class I requirements and Class B meeting Class II and III requirements) or those contained in Annex 7, paragraph 1.1.

7.6.4. Technical requirements for all service doors

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7.6.4.11. If an overnight locking system is provided, the following shall apply:

7.6.4.11.1. the locking system shall have been automatically deactivated when the ignition is in the “ON” position, or

7.6.4.11.2. a warning shall be provided to the driver indicating that the overnight locking system remains in operation at one or more door(s) when the ignition is in the “ON” position. One signal may be used for more than one door.

7.6.5. Additional technical requirements for power-operated service doors

No provisions influencing emergency situations.

7.6.6. Additional technical requirements for automatically-operated service doors

No provisions influencing emergency situations.

7.6.7. Technical requirements for emergency doors

7.6.7.1. Emergency doors shall be capable of being easily opened from inside and from outside when the vehicle is stationary. However, this requirement shall not be construed as precluding the possibility of locking the door from the outside, provided that the door can always be opened from the inside by the use of the normal opening mechanism.

7.6.7.2. Emergency doors, during their use as such, shall not be of the power-operated type, unless once, **either a service door control prescribed in paragraph 7.6.5.1. or a control for a dedicated emergency door complying with the provisions of paragraph 7.6.5.1.** ~~one of the controls prescribed in paragraph 7.6.5.1.~~ has been actuated and returned to its normal position, the doors do not close again until the driver subsequently operates a closing control. Activation of one of the controls ...”

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7.6.7.7. If an overnight locking system is provided, the following shall apply:

7.6.7.7.1. the locking system shall have been automatically deactivated when the ignition is in the “ON” position, or

7.6.7.7.2. a warning shall be provided to the driver indicating that the overnight locking system remains in operation at one or more door(s) when the ignition is in the “ON” position. One signal may be used for more than one door.

7.6.8. Technical requirements for emergency windows.

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7.6.8.7. Any film (e.g. for advertising, anti-vandalism, etc.) laminated to the inside and/or outside of an emergency window shall not prevent or inhibit the function as emergency exit. Proof of the correct function shall be demonstrated to the satisfaction of the Technical Service.

7.6.11. Markings

7.6.11.1. Each emergency exit, and any other exit that meets the prescriptions for an emergency exit, shall be marked, inside and outside the vehicle ~~by an inscription reading "Emergency Exit" and supplemented, where appropriate, by one of the relevant pictograms described in ISO standard 7010:2003.~~ **with a safety sign complying with the requirements of paragraphs 7.19.1.1., 7.19.1.1.4., 7.19.1.2., 7.19.1.3., 7.19.1.4. and 7.19.1.5.**

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7.7. Interior arrangements

7.7.1. Access to service doors (see Annex 4, figure 1)

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7.7.2. Access to emergency doors (see Annex 4, figure 5)

The following requirements shall not apply to driver's doors used as emergency exits in vehicles having a capacity not exceeding 22 passengers.

- 7.7.2.1. Except as provided for in paragraph 7.7.2.4., the free space between the gangway and the emergency door aperture shall permit the free passage of a vertical cylinder 300 mm in diameter and 700 mm high from the floor and supporting a second vertical cylinder 550 mm in diameter, the aggregate height of the assembly being 1400 mm.

The diameter of the upper cylinder may be reduced at the top to 400 mm when a chamfer not exceeding 30 degrees from the horizontal is included.

- 7.7.2.2. The base of the first cylinder shall be within the projection of the second cylinder.

- 7.7.2.3. Where folding seats are installed alongside this passage, the free space for the cylinder shall be required to be determined when the seat is in the position for use.

- 7.7.2.4. As an alternative to the dual cylinder, the gauging device described in paragraph 7.7.5.1. may be used (see Annex 4, figure 6).

7.7.3. Access to emergency windows

- 7.7.3.1. It shall be possible to move a test gauge from the gangway to the exterior of the vehicle through every emergency window.

- 7.7.3.2. The direction of motion of the test gauge shall be in the direction in which a passenger evacuating the vehicle would be expected to move. The test gauge shall be kept perpendicular to that direction of motion.

In the case of an emergency window in the rear face of the vehicle, intrusion of headrests or other parts of seats shall be allowed provided they can be easily moved out of the way. The main action for moving the components from the escape path shall not be opposite to the direction of egress.

- 7.7.3.3. The test gauge shall be in the form of a thin plate having a size of 600 mm x 400 mm with corners radiused by 200 mm. However, in the case of an emergency window in the rear face of the vehicle, the test gauge may alternatively have a size of 1400 mm x 350 mm with corners radiused by 175 mm.

7.7.4. Access to escape hatches

~~7.7.4.1. Escape hatches in the roof~~

~~7.7.4.1.1. Except in the case of Class I and A vehicles, at least one escape hatch shall be located such that a four-sided truncated pyramid having a side angle of 20 degrees and a height of 1,600 mm touches part of a seat or equivalent support. The axis of the pyramid shall be vertical and its smaller section shall contact the aperture area of the escape hatch. Supports may be foldable or movable provided they can be locked in their position of use. This position shall be taken for verification.~~

~~7.7.4.1.2. When the structural thickness of the roof is more than 150 mm, the smaller section of the pyramid shall contact the aperture area of the escape hatch at the level of the outside surface of the roof.~~

~~7.7.4.2.~~ **7.7.4.1.** Escape hatches in the floor.

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7.8. Artificial interior lighting

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7.8.3. ~~(Reserved)~~ **Emergency lighting**

7.8.3.1. It shall be possible for the driver to activate the emergency lighting system from the driver's seating position.

7.8.3.2. The opening of any emergency door shall activate the emergency lighting system.

7.8.3.3. When a vehicle is fitted with an emergency switch [complying with the requirements of paragraphs 7.6.5.1.6., 7.6.11.2. and 7.6.11.3. of this Regulation], engagement of this emergency switch shall activate the emergency lighting system of the vehicle.

7.8.3.4. When a vehicle is equipped with a deceleration sensor, engagement of a switch related to the deceleration sensor signal shall activate the emergency lighting system of the vehicle. The manufacturer shall demonstrate by documentation to the Technical Service the relationship between the deceleration threshold and the activation of the emergency lighting system.

7.8.3.5. When a vehicle is equipped with a tilt angle sensor, engagement of a switch related to the tilt angle sensor signal shall activate the emergency lighting system of the vehicle. The manufacturer shall demonstrate by documentation to the Technical Service the relationship between the tilt angle threshold and the activation of the emergency lighting system.

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7.19. Safety signs

7.19.1. General requirements

- 7.19.1.1.** Each safety sign required by this Regulation shall be used to communicate only one safety message. The information provided shall be in the form of pictograms, however, words, letters and numbers may supplement the pictogram in combination on the same sign. It shall be located and orientated so as to be easily understood.
- 7.19.1.1.1.** Pictograms indicating a required action by the user shall show a person, or the relevant part of a person, operating the equipment or device.
- 7.19.1.1.2.** Pictograms indicating a required movement shall, where appropriate, show an arrow pointing in the direction of motion. Where a rotational movement is required, a curved arrow shall be used. Safety signs shall follow the principles shown in the example layouts below, i.e. a header section depicting the safety message accompanied by an instructional information section and a third, optional, footer section for non-critical text.



- 7.19.1.1.3. Where devices are to be operated, panels removed or doors opened, the pictogram shall indicate the action in progress.
- 7.19.1.1.4. The lower case letter(s) of supplementary words, single letters and numbers shall have a minimum height of 8 mm. Words shall not be in upper case letters only.
- 7.19.1.2. All safety signs shall be of photo-luminescent material having luminance decay characteristics conforming, as a minimum, to sub-classification C in Table 2 of ISO 17398: 2004, when measured in accordance with paragraph 7.11 of that standard and, in the case of signs for external use, after testing in accordance with paragraph 7.3 of the standard.
- 7.19.1.3. Safety signs shall not be located in positions where they may be obscured during operation of the vehicle. However, a curtain or blind may be positioned over an emergency window provided an additional safety sign indicates that the emergency window is located behind the curtain or blind.
- 7.19.1.4. All safety signs shall comprise a white pictogram on a green colour background.
- 7.19.1.5. All safety signs shall have a white border, having a width of at least 2 mm, irrespective of the size of the sign.
- 7.19.2. Positioning of safety signs
 - 7.19.2.1. Safety signs identifying the control or the device for breaking emergency windows shall be positioned adjacent to, or surround all internal and external emergency controls for all exits.
 - 7.19.2.2. No part of a safety sign shall obscure any misuse protection that may be present, e.g. a cover.

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Annex 4, Figure 8, footnote 1/:

- 1/ 700 mm in the case of an emergency door.
1,500 mm in the case of an emergency door in the upper deck of a double-deck vehicle.
850 mm maximum in the case of an emergency door in the lower deck of a double-deck vehicle.

Annex 4, Figure 20: replace “siting” with “positioning”

Annex 4, Figure 26: amend to read “**Reserved**”

Annex 7, paragraph 1.2.: replace “siting” with “positioning”

Annex 7, paragraph 1.1., amend to read:

1.1. Minimum dimensions for exits

The several kinds of exits shall have the following minimum dimensions:

Aperture	Minimum dimensions	Remarks
Service Door	<u>Entry height:</u> Class A 1,650 mm B 1,500 mm	The service door entry height shall be measured as the vertical distance measured on a vertical plane of the horizontal projections of the mid point of the door aperture and the top surface of the lowest step.
	<u>Aperture Height</u>	The vertical height of the service door aperture shall be such as to permit the free passage of the dual panel referred to in paragraph 7.7.1.1. of Annex 3. The upper corners may be reduced with round-offs, with a radius of not more than 150 mm.
	<u>Width:</u> Single door: 650 mm Double door: 1,200 mm	For Class B vehicles where the service door aperture height lies between 1,400 mm and 1,500 mm a minimum single door aperture width of 750 mm shall apply. For all the vehicles the width of any service door may be reduced by 100 mm when the measurement is made at the level of the handholds and by 250 mm in cases where intruding wheel arches or the actuating mechanism for automatic or remote-control doors or the rake of the windscreen so require.
Emergency door	<u>Height:</u> 1,250 mm <u>Width:</u> 550 mm	The width may be reduced to 300 mm in cases where intruding wheel arches so require, providing that the width of 550 mm is respected at the minimum height of 400 mm above the lowest part of the door aperture. The upper corners may be reduced with round-offs, with a radius of not more than 150 mm.
Emergency Window and Escape hatch	<u>Aperture area:</u> 400,000 mm ²	It shall be possible to inscribe in this area a rectangle of 500 mm x 700 mm.
Escape hatch	<u>Aperture area:</u> 450,000 mm ²	It shall be possible to inscribe in this area a rectangle of 600 mm x 700 mm

B. JUSTIFICATION

Paragraph 2.41.

Addition of a definition of “overnight locking system” to include the item in the Regulation, per paragraphs 7.6.4.11. (service doors) and 7.6.7.7. (emergency doors). According to IRU, centralized overnight unlocking would be appreciated by most European operators in order to facilitate some basic security features. The SDWEE informal group agreed to address this issue as centralized overnight locking system might interfere with the functioning of the emergency exits.

Paragraph 2.42.

Addition of a definition of “emergency lighting system”. The SDWEE informal group found opportune to add provisions for emergency lighting system as a practical way to help the occupants of a vehicle reaching access to the exits in case of emergency.

Paragraph 2.43.

The informal group found relevant to introduce new provisions for safety signs in order to improve the level of safety thanks to some harmonisation of the signage. The informal group agreed to introduce the provisions relating to the safety signs in a new paragraph 7.19. (markings).

Paragraph 7.6.1.7.

None of the conditions described in paragraph 7.7.5.1. are applicable to the driver’s compartment. Paragraph 7.7.5.1.1.1. is the most suited but in most vehicles it is impossible to move the panel forward by 660 mm as the dashboard in front of the driver is usually curved so that the controls are within the driver’s reach. The proposal is that the gangway test gauge is moved to coincide with the driver’s seat back (as for the forward facing passenger seat and for paragraph 7.6.1.9.3. describing how a driver’s door can be used as an exit for passengers) and then the panel is moved forward to the foremost point of the driver’s seat cushion. This is to ensure that the driver has sufficient free height and width when accessing or leaving his seat.

Paragraph 7.6.1.7.1.

The requirements for emergency windows are specified in paragraph 7.6.3.1.3. so it is more precise to copy the current text of 7.6.3.1.3. into paragraph 7.6.1.7.1.

Paragraph 7.6.1.7.2.

The minimum dimensions are applicable to service doors only.

It is clearer if this paragraph only deals with the driver’s seat and seats alongside (without a passageway to the passenger’s compartment) and the requirements for the five additional seats being transferred into a new paragraph (7.6.1.7.5.).

Paragraph 7.6.1.7.3.

Moving of the last sentence of paragraph 7.6.1.7.2., which helps to define the technical requirements for the exits defined in paragraphs 7.6.1.7.1. and 7.6.1.7.2., from that paragraph and putting it alone in a new paragraph 7.6.1.7.5.

Having prescribed when and where exits are required, it is better to fix their technical requirements immediately, rather than to “hide” them as the last sentence of a following paragraph.

Paragraph 7.6.1.7.3. renumbered as 7.6.1.7.4.

The text of existing paragraph 7.6.1.7.3. is difficult to comprehend. The intention is that when the driver’s compartment and any passenger seats alongside the driver do not have an acceptable passageway to a passenger compartment, then the driver’s door and the passengers’ door on the opposite side of the vehicle are not accessible to any other passengers and shall not be counted as exits for the passenger compartment. The passenger compartment

requires the exits as defined in paragraph 7.6.1. without using the driver's and front passenger's doors.

New Paragraph 7.6.1.7.5.

Moved from paragraph 7.6.1.7.2. and modified to make it clear that:

- a) the five additional seats are in addition to any passenger seats alongside the driver;
- b) as there is no passageway between the front seats (driver's and adjacent passenger's) and the five additional seats, these additional seats must be considered as being in a separate compartment with the required number of exits (two), one of which must be an emergency door giving access to the main passenger compartment.

Note: Paragraphs 7.6.1.8. & 7.6.1.9 are specific to vehicles in which there is an acceptable passageway from the driver's and adjacent passenger's seats to the passenger compartment. Paragraph 7.6.1.8. says that in such vehicles an external exit is not required from the driver's compartment, but paragraph 7.6.1.9. says that if an exit is provided it can be counted as an exit for the passengers with no limit on the number of passengers.

Paragraph 7.6.1.9.

Clarification that when there is an acceptable passageway between the passengers' compartment and the driver's compartment, the driver's door and/or the front passenger's door can only be used for passengers in vehicles of Class A or B. This possibility came from Regulation N° 52 and did not exist in Regulation N° 36.

Paragraph 7.6.1.9.1.

The requirements for emergency doors are specified in paragraph 7.6.3.1.2. so it is more precise to specify this paragraph rather than paragraph 7.6.3.1., which applies to all exits.

Paragraph 7.6.1.9.3.

Paragraph 7.6.1.7.2. refers to a test gauge and not to a panel. The word "can" is more appropriate than "could".

Paragraph 7.6.1.9.4.

Paragraph 7.6.1.9.4. is taken from paragraph 5.7.2.5. of Regulation N° 52 and is introduced to allow a door for 1 passenger seated alongside the driver to be used as an emergency door for the main passenger compartment.

Paragraph 7.6.1.11.

The threshold for an additional escape hatch is brought back from 50 to 30 for the sake of improved safety as roof hatches are usually the main emergency exit when the vehicle is on its side. The wording is improved for better clarity.

Paragraph 7.6.1.12.

This paragraph was last amended per document WP29/2011/36. The SDWEE informal group however believes that the new safety provisions should not be limited to the vehicles of January 2012 / SDWEE-02-07-Rev 5 (Secretariat)

Class I and A. In addition, some guideline for verification is appreciated via a reference to UNECE R100.

Paragraphs 7.6.1.15.1 and 7.6.1.15.2.

The experts in the informal group were keen to improve safety by switching the threshold number of passengers for vehicles of Class II from 50 to 30, in spite of the challenge this represents for some short Class II vehicles.

Wording and structure improved for better clarity:

- deletion of the option “two staircases” as included in the option “at least one and-one-half staircases”.
- “in the case of vehicles of Class XXX” offers a better language than the current text.
- “shall” is the custom wording in the UNECE framework.

Paragraph 7.6.2.1.

The informal group agreed to improve the clarity of the text by separating the provisions applying to the vehicles of Classes I, II and III (paragraph 7.6.2.1.) from the provisions applying to the vehicles of Classes A and B (paragraph 7.6.2.2.).

Paragraph 7.6.2.1.1.

Editorial improvement

Paragraph 7.6.2.1.1.2.

The informal group agreed to extend the allowance of an additional service door in the rear face of the vehicle, to doors intended for goods (food, luggage, skis, etc). This amendment is linked to the amendments proposed under paragraph 7.6.2.7.

Paragraph 7.6.2.1.1.3.

Already in the current text of the regulation, this paragraph addresses the case of vehicles crossing the Channel or operated in airports. Examples of such circumstances include vehicles for airside use at airports, vehicles for use on multimodal transport systems using island platforms, or vehicles which cross borders to countries which do not drive on the same side of the road as the country in which the vehicle is to be licensed for operation. The SDWEE informal group seeks clarification of the wording.

Paragraph 7.6.2.1.1.4.

The informal group considered opportune to extend to vehicles of Classes I, II and III the possibility of a service door in the rear face of the vehicle. The wording of the current text of paragraph 7.6.2.1.4. is transferred to a new paragraph 7.6.2.2.5. addressing the vehicles of Classes A and B.

Paragraph 7.6.2.2. (former)

The provision is not deleted, rather transferred to a new re-numbered paragraph 7.6.2.3.

Paragraph 7.6.2.2. (new)

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This paragraph and its sub-paragraphs are the consequence of the re-arrangement of the provisions as explained above (see justification to paragraph 7.6.2.1.) The proposed wording is based on the second part of the former paragraph 7.6.2.

Paragraphs 7.6.2.2.1. to 7.6.2.2.5.

These provisions are inspired from the provisions of current Annex 7, paragraph 1.2.

- Paragraph 7.6.2.2.3.: replaces “passenger space” (paragraph 1.2.3. of current Annex 7) by “passenger compartment”.
- Paragraph 7.6.2.2.4.: the informal group proposes to delete the wording “unless an escape hatch is fitted” (end of paragraph 1.2.4. of current Annex 7) because this provision only applies to vehicles of Class A (an escape hatch is mandatory on vehicles of Class B per paragraph 7.6.1.11.), yet vehicles of Class A are not expected to be subject to roll-over. As a consequence they do not need an escape hatch which is of no use when the vehicle stands on its wheels.
- Paragraph 7.6.2.2.5.: the wording comes from the current paragraph 7.6.2.1.4. the informal group proposes a clarification as the paragraph obviously applies to vehicles of Classes A and B.

Paragraph 7.6.2.5. (new)

- “Rear part permanently closed off from the passenger compartment” means that in current Class I vehicle constructions, one can expect the power train unit, CNG/LPG installation, A/C system, add-blue installation, etc. to be located in the rear of the vehicle, hence preventing the exit through the rear wall.
- The informal group agreed that no convenient solution currently exists for the lower deck of double deck vehicles.
- Class I single deck vehicles and Class A vehicles are not expected to roll over, hence do not need any roof hatch.

Paragraph 7.6.2.6. (new)

Self-explanatory wording improvement.

Paragraph 7.6.2.7. (new)

Extends to a service door the current allowance for an additional door in the rear of the vehicle.

Paragraph 7.6.3.1.2.

The informal group was keen to revise the minimum dimensions of the emergency doors in order to align them on the evolution of the technology and of the corpulence of average users (elderly people, etc.).

In this view, the experts found appropriate to take over the dimensions corresponding to the 50th %^{tile} male anthropologic dimensions per HFDS 2003 (amended Oct 2009) Chapter 14 “Anthropometry and biomechanics” (Human Factors Design Standard of the US Federal Aviation Association - <http://hf.tc.faa.gov/hfds/> - see also document SDWEE-07-06).

This choice was considered consistent with the height of the passenger compartment gauges which currently are stopped at the door (1400 mm height).

Paragraph 7.6.3.1.4.

EURO VI Class II and III vehicle rear end space demand makes it technically challenging to go beyond the current 350 x 1550 mm requirement; as a consequence the informal group proposes not to amend the provisions of paragraphs 7.6.3.1.3. & 4.

Paragraph 7.6.3.1.5.

Increasing the required dimensions of the escape hatches is considered an improvement of the level of safety. The proposal increases the surface of the hatch by 12.5% in order to take into account the situations in the real world, i.e. the occupants wearing winter clothes, elderly people etc. With the same attention given to safety, the minimum area of the rectangle to be inscribed in the hatch aperture is increased by 20%.

Paragraph 7.6.3.2.

This paragraph is kept unchanged. However the table in Annex 7 was amended.

Paragraph 7.6.4.

The technical requirements of the service doors are considered out of the scope of the SDWEE informal group, except for the addition of provisions relating to overnight locking systems (paragraph 7.6.4.11. and after).

Paragraph 7.6.4.11. to 7.6.4.11.2.

See justifications to the new paragraph 2.41. (definition of “overnight locking system”)

Paragraph 7.6.7.2.

Additional provisions for overnight locking systems. The current paragraph 7.6.7.2 permits that emergency doors are power-operated provided that they meet certain provisions. One of the provisions suggests that there must be an emergency device for opening the emergency door. However, the current wording refers to one of the devices prescribed in paragraph 7.6.5.1., being the emergency devices for the power operated service door. This could bring to the (wrong) conclusion that a power-operated emergency door can only be opened by the emergency device for service door(s). The proposed wording clarifies that either such a control or a control for the dedicated emergency door can be used to operate the door.

Paragraph 7.6.7.7.

See justifications to paragraph 2.41 (overnight locking system).

Paragraph 7.6.8.7.

Most manufacturers place anti-vandalism film inside the vehicle, even before type approval. This item is also checked at PTI, where the operator becomes responsible. Some Contracting

Parties require the manufacturer to show that the behaviour of the window is not negatively affected by the film, according to UN R107 and UN R43.

Paragraph 7.7.3.2.

This item addresses the case which originated the creation of the SDWEE informal group. It was found important for safety reasons that the way of egress through an emergency window situated in the rear face of the vehicle remains free of obstacle. Some improvement in the wording was considered important in order to avoid that this provision jeopardises the safety improvement provided by other components like seat belts, headrests, seatbacks, etc. In this view, the experts agreed that some movement of such features should be permitted under the condition that it does not make obstacle to the egress of the passengers in case of emergency.

Paragraph 7.7.3.3.

The informal group was keen to introduce requirements such that that the movement for removing the seats and their components not be an obstacle to the egress of the occupants in case of emergency., i.e. prohibiting that the components situated in an escape path be removable only per a movement in the direction opposite to the direction of egress.

Paragraph 7.7.4.1. (former)

Reports on bus accidents have shown that the emergency hatches in the roof are only used when the bus or coach has tipped. While the bus or coach is in the driving position the emergency hatches are not used by the passengers in the case of emergency. Therefore it is justifiable that no exit support is required. The figure N° 26 to which these paragraphs refer should be deleted as well.

Paragraph 7.8.3.

The informal group agreed at its 4th meeting that some safety improvement could be achieved in the medium term by regulating emergency lighting. Requirements for emergency lighting are derived from the UK application of EN 13272 (Railway applications - Electrical lighting for rolling stock in public transport systems).

Paragraph 7.19.

Requirements for safety signs are derived from [SOURCE].

Paragraph 7.19.1.1.

The informal group agreed to favour pictograms in all cases, with supplementary explanatory wording when necessary.

Paragraph 7.19.1.1.2.

The informal group supported the mandatory indication of a movement where appropriate, including rotational movement which is required elsewhere for emergency exits. The experts well investigated the possible side-effect of the quantity of self-illuminated signage and of the reflection of such signage on the internal side of the windows (in particular the windscreen).

Paragraph 7.19.1.1.4.

Upper case words are more difficult to read than lower case words.

Paragraph 7.19.1.2.

While the proposed requirement for “photo-luminescent” signs could preclude other systems, the informal group found the benefits in terms of safety more important.

Paragraph 7.19.1.3.

The informal group proposes this wording as a solution to the challenge offered to the operators to make the safety signs visible while in the same time equipping the vehicles with blinds and curtains.

Paragraph 7.19.1.4.

The informal group believes that such harmonisation is the correct approach for safety. This amendment however makes necessary appropriate transitional provisions.

Paragraph 7.19.1.5.

The informal group believes that such harmonisation is the correct approach for safety. This amendment however makes necessary appropriate transitional provisions.

Annex 4, Figure 8, footnote 1/:

Current text remains unchanged. The informal group decided to keep the current text of the regulation unchanged because a maximum value of 850 mm permits the manufacturer to design vehicles with lower steps when necessary.

Annex 4, Figure 26:

Figure N°26 is deleted as a consequence of the deletion of paragraph 7.7.4.1.2.: emergency hatches in the roof are only used when the bus or coach has tipped.

Annex 7, paragraph 1.1.

Increasing the escape hatches dimensions improves the capacity of the occupants to egress in case of emergency. See also justifications to paragraph 7.6.3.1.5.
