

2nd edition, November 2004

Translation

O R

General provisions for coaches

Dispositions générales régissant les voitures
Allgemeine Bestimmungen für Reisezugwagen



UNION INTERNATIONALE DES CHEMINS DE FER
INTERNATIONALER EISENBAHNVERBAND
INTERNATIONAL UNION OF RAILWAYS

Leaflet to be classified in Volumes :

IV - Operating

V - Transport Stock

Application :

With effect from 1 January 1991, except as regards:

- point 1.5.5 (1.7.92)
- point 2.1.2.2 for newly built vehicles (1.1.94)
- point 2.3 (1.7.94)

CFF, CD, DSB, JZ and ZSR have been granted exemption from point 1.5.5 until 31.12.1999, insofar as national legislation permits.

NS has been granted exemption from point 1.5.5 until 1.6.1994 for buffer coaches numbered 51 84 88 80 001-3, 51 84 88 80 002-1, 51 84 88 80 004-7 and 51 84 88 80 006-2, provided this was not contrary to national legislation.

SNCB has been granted exemption from point 1.5.5 until 31.12.1999, provided this was not contrary to national legislation.

All members of the International Union of Railways

Record of updates

1st edition, January 1991

First issue with amendments No. 1 to 5 (no. 1 of 1.7.91, no. 2 of 1.7.92, no. 3 of 1.1.94, no. 4 of 1.7.94, no. 5 of 1.7.95 and erratum of 1.7.97)

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Retyped in FrameMaker and update of points 1.4, 1.5.5, 2.1.2.2, 2.1.2.5, 2.12.2, 2.13 following the decisions of SC 15 between 1997 and 1999

The person responsible for this leaflet is named in the UIC Code

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Summary

This leaflet describes the basic provisions applicable to the construction and fitting-out of coaches for use in international traffic. The other UIC provisions applicable to coaching stock must also be observed.

1 - General

o 1.1 - Validity of other UIC leaflets

1.1.1 - In addition to the provisions set out below, coaches intended for international traffic must comply with the other UIC Code regulations applicable to coaches.

1.1.2 - Unless exceptions are required for technical reasons, the interchangeable parts as defined by the UIC Code and components complying with UIC standards on quality and dimensions (Volume VIII) must be used for their construction.

1.2 - General operating provisions

o 1.2.1 - The coaches must be capable for running coupled, empty or loaded, through a 150 m-radius curve and empty, not coupled, through a 80 m-radius curve without any component having to be removed.

R 1.2.2 - The permissible axle loads, the metric loads and the distances between axles are specified for the lines of each country in the compendium "Gauges for trailing vehicles, loading gauges, axle loads, metric loads and wheel-bases of trailing stock approved for international railway traffic (TU lines and standards); see also *RIV Appendix II*.

1.3 - General marketing requirements concerning interior fittings

o 1.3.1 - The interior equipment must create a feeling of well-being and roominess.

o 1.3.2 - The interior of future vehicles must:

- offer a suitably modern and welcoming image. As far as possible, therefore, individual fittings should be designed for easy exchange (modular design),
- be designed to cater for the specific product. Comfort differences for certain products should be obvious and immediately perceptible.

R 1.3.3 - It is recommended that the interior of new coaches be designed so that, in addition to the present basic train comfort, further comfort improvements can later be introduced during major overhauls as well as a modification of the seat arrangement.

o 1.4 - Pressure tightness

Coaches used on certain line sections with many tunnels, as per *RIC, Appendix II*, must be pressure sealed. Railways are advised to list their respective line sections in *RIC, Appendix II*. Pressure tightness must comply with the conditions of *UIC Leaflet 566, point 1.5*.

The toilets must be of the retention type.

o 1.5 - General provisions to be applied to the coach body

1.5.1 - The coach design must ensure easy access from the end of one coach to the next.

1.5.2 - The coaches must comply with the conditions of *UIC Leaflet 569* (see Bibliography - page 27) for the vertical elbow angle of 2°30' formed by the movable gangway.

1.5.3 - The body underframe and frame must be of metal.

1.5.4 - The materials used for noise and thermal insulation, the internal partitions and linings must conform with *UIC Leaflet 564-2* (see Bibliography - page 27).

1.5.5 - Asbestos-containing materials are no longer authorised for use in the construction of new coaching stock.

Existing coaches worked in international traffic must not incorporate asbestos-containing materials, with the exception of bound asbestos.

Materials incorporating bound asbestos are only permitted until 1.1.2015.

1.6 - General provisions for individual components

o 1.6.1 - Equipment subject to regular inspection and maintenance must be easily accessible.

If necessary, inspection traps or doors must be provided.

o 1.6.2 - The trap doors, which are normally closed, and the cabinet doors, which only the train crew must be able to open, must be provided with locks, which can only be operated with the RIC square socket key.

R 1.6.3 - It is recommended that these locks be provided with a spring lock.

o 1.6.4 - Each entrance door must be provided with a gutter pipe above. This pipe must be longer than the clearance width of the door.

o 1.6.5 - Components of heating couplings or other connections likely to hang to a level lower than 140 mm above rail top must be capable of being screwed down or fastened so that they do not come down below this height.

2 - Constructional characteristics

2.1 - Body

○ 2.1.1 - Strength

Point 1 of *UIC Leaflet 566* (see Bibliography - page 27) shall apply.

2.1.2 - Noise and thermal body insulation

○ 2.1.2.1 - Surfaces surrounding passenger areas must be designed so that the comfort conditions laid down in *UIC Leaflet 553* (see Bibliography - page 27) are observed.

○ 2.1.2.2 - The following values for the thermal transmission coefficient (k) should not be exceeded by stationary vehicles, bearing in mind the climatic zone for which the vehicle is designed (see *UIC Leaflet 553*)

Climate zone	Vehicle type	
Winter	single-level (W/m ² .k)	bi-level (W/m ² .k)
I	2	2,5
II	1,6	2,5
III	1,2	-

- coefficient k for vestibules must not exceed these values by more than 1 w/m².
- when running, these values of k can be exceeded by 0,4 W/m² at the maximum. Measurement conditions shall comply with the provisions of *UIC Leaflet 553-1, point 7.2.4*.

R 2.1.2.3 - It is recommended that the noise level in passenger areas should not exceed the values indicated below, irrespective of the coach type (i.e. coaches with or without compartments), or in the case of compartment coaches, irrespective of whether the compartments are located in the middle or at the ends of the coach:

- 1st class coaches: 65 dB (A),
- 2nd class coaches: 68 dB (A).

These values should not be exceeded on track in a good state of repair, with the coach running at 160 km/h.

○ 2.1.2.4 - Permissible noise level when the coaches are stationary. See *UIC Leaflet 553*.

2.1.2.5 - The transmission factor (τ) for windows must not exceed 60%.

R 2.1.3 - Heights of windows above rail top, of the bottom of the roof curve and the paintwork.

2.1.3.1 - In order to give passenger trains as uniform an exterior image as possible, height dimensions b, c and d (see Appendix A - page 14) should be observed.

2.1.3.2 - It is recommended that dimensions f, g and h (see Appendix B - page 15) be observed for coaches painted in two colours and with decorative bands and skirting.

O 2.1.4 - The underframe must be equipped with:

- rings for coach tie-down on train ferry in accordance with *UIC Leaflet 569*.
- 4 body-lifting points level with the load cross-members.

Furthermore, non-combustible materials must be used in the area around the brakes where heat is released.

O 2.1.5 - Coaches running on track with overhead lines must be designed so that there is no need to climb on the roof or to climb steps or ladders located at a high level, in order to carry out work arising regularly during operations, such as installing facilities, filling water reservoirs, etc.

Coaches on which the steps or ladders exceed a height of 2 000 mm above rail top, must be provided with the sign  or  immediately adjacent to this equipment in accordance with *RIC, point 36.2 (Appendix V/7)*.

O 2.1.6 - In accordance with *UIC Leaflet 580* (see Bibliography - page 27), fasteners for route and number plates shall be placed on each side of the coach. If possible, these plates must be flush with the outer side-wall and remain completely visible, even when the entrance door is open.

It must be possible for these plates to be put in position from outside.

O 2.1.7 - On coaches intended for speeds above 160 km/h, the plates must not protrude from the surface of the outer coach wall. They must be held by fixing devices, which ensure with certainty that the plates will not become detached.

O 2.2 - Buffing and draw gear

2.2.1 - The buffing gear must conform with *UIC Leaflet 527-1 and 528* (see Bibliography - page 27).

2.2.2 - The couplers must conform with *UIC Leaflet 520* (see Bibliography - page 27).

2.2.3 - The conditions for coupler clearance as set out in *UIC Leaflet 521* (see Bibliography - page 27) must be observed.

2.2.4 - When new, and with the vehicle empty, the centre line of the side buffers must lie $1\,060 \pm 5$ mm above rail top.

2.2.5 - Coaches intended for fitting with the automatic coupler must conform with the provisions of *UIC Leaflet 567-3* (see Bibliography - page 27).

2.3 - Running gear

- 2.3.1 - Coaches must be equipped with bogies conforming with *UIC Leaflet 515-0* (see Bibliography - page 27).
- R 2.3.2 - Coach running gear must be constructed to conform with the ride qualities, maximum-speed and travelling-comfort conditions stipulated in *UIC Leaflet 515-0*.
- R 2.3.3 - Bogies shall be equipped with standard wheelsets conforming with *UIC Leaflet 515-1* (see Bibliography - page 27).

○ 2.4 - Braking system, 2nd brake pipe

2.4.1 - Coaches must observe the UIC conditions for brake equipment (*Sub-section 54, UIC Code*).

2.4.2 - Coaches must be equipped with a second brake pipe.

2.5 - Interconnecting gangways and end doors

- 2.5.1 - Coaches shall be provided with interconnecting gangways in accordance with *UIC Leaflet 561* (see Bibliography - page 27).
- R 2.5.2 - It is desirable that the design of future interconnecting gangways should incorporate the improved comfort standards as defined in *UIC Leaflet 561* (i.e. watertight, draught-free, low noise, snow-proof, bright and easy-to-maintain gangways).
- 2.5.3 - The end doors must conform with *UIC Leaflet 560*.

○ 2.6 - Entrance steps

See *UIC Leaflet 560* (see Bibliography - page 27).

○ 2.7 - Handrails and steps

See *UIC Leaflet 560*.

○ 2.8 - Entrance doors, compartment doors, side-corridor doors, WC doors, compartment and side corridor windows, WC and vestibule windows

In accordance with *UIC Leaflet 560 and 564-1* (see Bibliography - page 27).

2.9 - Layout of passenger areas

2.9.1 - General passenger areas

2.9.1.1 - Division into smoking and non-smoking areas

- O** 2.9.1.1.1 - The division of accommodation into "smoker" and "non-smoker" areas is to be made in accordance with RIC provisions.
- R** 2.9.1.1.2 - It is recommended that "smoker" and "non-smoker" areas are separated by doors or glass partitions.

R 2.9.1.2 - General principles applicable to seats

Appendix **C - page 16** contains the basic principles and requirements that should be observed.

R 2.9.1.3 - Seats and their fittings

2.9.1.3.1 - As a rule, fixed seats shall be used.

Mobile seats shall be allowed in special coaches (dining-cars, for example) providing they comply with the provisions of *UIC Leaflet 566*.

2.9.1.3.2 - Appendix **C - page 16** sets out the arrangements recommended for fixed seats.

Appendix **D - page 18** contains the basic principles and requirements that should be observed.

2.9.1.4 - Tables

- R** 2.9.1.4.1 - If seats are in face-to-face arrangement, it is recommended that each seat be provided with a (folding) table measuring at least 225 x 320 mm.
- R** 2.9.1.4.2 - If seats are not in a face-to-face arrangement, it is recommended that (folding) tables measuring at least 400 x 340 mm be provided.
- R** 2.9.1.4.3 - When seats are arranged in rows, it is recommended that the folding tables - together with a hold-back facility - be fixed to the back of each seat (for use by the passenger occupying the seat behind).
- O** 2.9.1.4.4 - When folded back, the tables must not obstruct seat access.

O 2.9.1.5 - Curtains

2.9.1.5.1 - The outside windows of compartments and lounges must be provided with curtains of one of the following types:

- 2 sliding curtains with sufficient overlap to exclude the light, when closed,
- blinds,
- Venetian blinds or similar.