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Fittings provided in coaches
in the interests of hygiene
and cleanliness



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Leaflet to be classified in volumes:

IV - Operating

V - Traction stock

Amendments

1	1.1.91	
2	1.7.91	
3	1.1.93	
4	1.1.96	

Preliminary remarks:

Obligatory provisions are preceded by an asterisk: *

A double vertical line (||) in the margin denotes amendments introduced at the date shown at the foot of the page.

Enforcement of this leaflet is governed by the provisions given under "Application" at the end of this document.

Note

This leaflet is part of a set which also includes :

- Leaflet 413 : Measures to facilitate travel by rail.
- Leaflet 505-2 : Kinematic gauge for coaches and vans used on international services.
- Leaflet 508-1 : Interaction between passenger rolling stock and fixed installations.
- Leaflet 550 : Power supply installations for passenger stock.
- Leaflet 553 : Ventilation, heating and air-conditioning in coaches.
- Leaflet 560 : Doors, entrance platforms, windows, steps, handles and handrails of coaches and luggage vans.
- Leaflet 566 : Loadings of coach bodies and their components.
- Leaflet 567-1 : Standard X- and Y-type coaches accepted for running in international traffic - Characteristics
- Leaflet 567-2 : Standard Z-type coaches accepted for running in international traffic - Characteristics.
- Leaflet 580 : Inscriptions and markings, route indicators and number plates to be affixed on coaching stock used in international traffic.
- Leaflet 890 : Technical specification for the supply of paper hand towels.
- Leaflet 891 : Technical specification for the supply of toilet soap in cake form for use in dispensers.

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1 - General conditions

* 1.1 - Any vehicle intended to be used for the conveyance of passengers must be provided with at least one toilet. Coaches with room for more than 40 seated passengers must be provided with two toilets. A wash-basin must be installed in each toilet.

* The ambient temperature must be at least 20° C. The necessary precautions to this end must be taken by thermally insulating the toilets against the range of outside temperatures stipulated in Leaflet 553 for passenger-dedicated areas.

* 1.2 - All necessary measures should be taken to ensure that the conditions provided for both the users and maintenance staff are fully hygienic.

* 1.2.1 - The toilet must be designed aesthetically and ergonomically.

1.3 - It is recommended that, at each end of the coaches, an extra toilet should be provided, separate from and in addition to a lavatory with wash-basin.

* 1.3.1 - The basic equipment must include the fittings usually provided in toilets (wash-basin, sink fittings, flushing device, etc.).

* 1.4 - The water tanks and pipes must be so designed that continuous use of coach amenities is guaranteed down to temperatures of - 20°C. Furthermore, it must be possible for coaches to remain stationary in the open air with the heating system turned off for a continuous period of 12 hours at an external temperature of - 10°C, without any harmful formation of ice or water-supply breakdown when the coach is replaced in service, assuming that the internal temperature of coaches was approximately + 20°C before the heating system was turned off.

* The water tanks must be housed in a protected area with adequate thermal insulation and if necessary in a temperate room.

* They must be compact and if possible cylindrical.

* The tanks must be bonded to avoid the formation of thermal bridges.

* 1.5 - Fittings must be as simple as possible in order to reduce repairs and maintenance work (checks, inspection, cleaning, etc.). The latter shall be included in regular overhauls. Components must be easily accessible and easy to maintain.

* 1.6 - Toilet bowls must be strong, easy to clean and designed to resist damage during cleaning.

* 1.7 - Sanitary fittings should be designed for ease of maintenance and cleaning :

- rounded shapes, all parts of which are easy to reach,
- resistant to corrosion, cleaning products, abrasion, etc.,
- stain-resistant surfaces.

1.8 - Retention toilets are accepted in international traffic.

* 1.8.1 - They must comply with the provisions in section 6.

* 1.8.2 - Their use should be governed by bilateral or multilateral agreements.

2 - Water supply

* 2.1 - All coaches must be fitted so that water can be provided for flushing the lavatories and for use in the wash-basins, and an inlet connection must be fitted in the lower part of the side walls, in accordance with Appendix 1 to this leaflet.

* 2.2 - The inlet pipes fitted to the water tanks must have a diameter equal to that of the bayonet joint.

All pipes should have a large diameter wherever possible and be set at a sufficient angle. They must be direct wherever possible.

They must be installed in a manner that precludes formation of water pockets and air trapping.

* 2.2.1 - Inlet connections in coaches built after 1 July 1989 must be fitted with a special dirt and snow shield.

2.2.1.1 - It is recommended that this shield cover the outside of the connection over a minimum length of 12 mm.

* 2.2.1.2 - It must be designed to allow condensation and overflow water to drain off freely, to ensure that the connection will not become frozen and to obviate the likelihood of excess pressure when filling the tanks.

2.2.1.3 - A practical example is given in Appendix 2.

2.3 - Fresh water supply

* 2.3.1 - For coaches built from 1 January 1977, the capacity of the water tanks must be at least 400 litres at each end of coaches with traditional toilets.

* 2.3.2 - In the case of retention toilets, the quantity of fresh water must be calculated to ensure that it is sufficient for a train journey of one day.

* 2.3.3 - The tanks and the filling and emptying pipes must be made of material that will not deteriorate and, in particular, is not corrosive or toxic. For this purpose, untinned (deoxidised) copper is a suitable material as when in contact with water it has a germ-killing effect.

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* 2.4 - The water supply must be installed so as to prevent the water from freezing in heated coaches, irrespective of the external temperature.

2.4.1 - In order to reduce the risk of freezing, it is recommended that hand valves be placed near water tanks on pipes supplying lavatories and wash-basins.

* 2.5 - Water tanks and pipes must be provided with a drainage system designed to ensure complete emptying and efficient rinsing.

This system must be designed to guarantee smooth operation of tanks and piping after prolonged exposure to low external temperatures once the coach is replaced in service.

Valves :

Provision must be made for the possibility of centralised discharge at an appropriate point on the water supply system. It must be possible to operate it using the Bern key.

This centralised discharge option may be supplemented by a thermostat-controlled discharge valve which is actuated automatically before the water in the supply circuit freezes.

It must be possible to empty the water supply system completely within 10 to 30 minutes. However, this limit may deliberately be exceeded in the case of thermostat-controlled graduated discharge, whenever there is a risk of parts of the system freezing up in critical areas.

* 2.5.1 - Coaches must possess water level indicators including gauges on the outside of the vehicle.

2.5.2 - On coaches built before 1 January 1989, water gauges may also be fitted inside the vehicle.

2.5.3 - Examples of external indicator design are to be found in Appendices 3, 4 and 5.

* **2.6** - In the case of coaches complying with point 2.4 above, the devices facilitating the drainage of the water system for the toilet compartments must be identified by means of a yellow ring placed in the immediate vicinity of the fitting controlling the operation of these devices. In addition, inlet connections at the bottom of the side walls must be marked by a painted yellow ring placed close to these connections.

* **2.7** - In the case of coaches complying with point 1.4 above, the same markings must take the form of a yellow disc.

* **2.8** - In the case of coaches not complying either with point 2.4 or with point 1.4 above, the same markings must take the form of a green ring.

* **2.9** - The external diameter of these coloured signs must not be less than 40 mm.

3 - Heating of water for wash-basins

3.1 - It is recommended that the water for wash-basins be moderately hot.

3.1.1 - When the water for wash-basins is heated in a separate small capacity tank, it is recommended that a system be provided so that water can circulate between this smaller tank and the main tank.

* **3.2** - The water for wash-basins should not be heated to a temperature of more than about 30°C. The installation must be protected against over-heating by another device also when the tank is empty.

* **3.3** - When the water for wash-basins is heated by means of immersion heaters, these shall have an approximate power of 750 W.

The data relating to electric power are shown in UIC Leaflet 550.

* **3.4** - It must be possible to control the water heater for wash-basins by means of a switch (see UIC Leaflet 550).

4 - Fittings in toilets and washrooms

4.1 - Provisions applicable to all coaches accepted for running in international traffic.

4.1.1 - Dimensions

4.1.1.1 - It is recommended that the following minimum floor spaces be provided:

- 1.20 m² for toilets with a wash-basin; minimum width 0.9 m;
- 0.60 m² for washrooms, minimum width 0.7 m.

4.1.1.2 - It is recommended that there be a distance of at least 500 mm between the toilet seat and the inner panel of the wall.

4.1.2 - Partition walls and linings.

4.1.2.1 - Materials used for the partition walls of toilets must be moisture resistant.

* **4.1.2.2** - Linings for walls, cupboard doors, ceilings and covers must meet the following requirements:

- antistatic,
- smooth shiny surfaces for areas in enamel or synthetic materials,
- a pattern which does not accentuate stains,
- resistance to cleaning products, disinfectants, and, in the toilet pan area, urine,
- resistance to impact and abrasion for the lower part of partition walls and doors.

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4.1.2.1 - A matt surface is recommended for metal areas.

4.1.2.2 - It is recommended that joints be avoided as much as possible.

* 4.1.2.3 - If it is impossible to avoid them, they must be designed to be watertight when washed, at least up to the top edge of the sink unit, with high-pressure water sprays (maximum 70 bars at nozzle outlet at a rate of 10 litres/minute).

This provision applies to coaches built after 1 July 1989.

* 4.1.2.3 - Jointing sleeves must project as little as possible in order to allow easy cleaning of surfaces.

* 4.1.2.4 - The floor must form a regular pan rounded off at the edges, made of a material impervious to high-pressure water sprays, and connected to the partition walls by a sealed joint. No rods are to be inserted into this floor.

* 4.1.2.4.1 - The floor material must be resistant to urine, cleaning products and disinfecting products, and, as far as possible, abrasion; its non-slip surface, even when wet, shall be of a colour which does not accentuate stains; any raised surface pattern should have a maximum height of 3 mm and be rounded to prevent retention of stains.

* 4.1.2.4.2 - A drain with a plug should be provided in the floor. The plug must be convenient and accessible and be made of non-corrosive material.

* 4.1.3 - Toilets and washrooms must be suitably ventilated.

4.1.3.1 - It is also recommended that the upper part of the toilet window should open.

4.1.3.2 - The existence of a window is not obligatory in :

- washrooms,
- toilets in air-conditioned coaches.

* 4.1.4 - When building coaches, the following conditions must be applied so as to obtain a uniform design of the toilet pan, seat cover and seal, the lower closing flap, the flushing system and fittings :

* 4.1.4.1 - The pan must be constructed from scratch-resistant, non-corrosive material; its inside shape and surface must facilitate disposal of faeces; its outside should have a smooth surface with as few protuberances as possible and must be easily accessible for cleaning.

* 4.1.4.2 - The bottom of the pan must be provided with a closing flap which opens when the flush is operated.

* 4.1.4.2.1 - The closing flap shall be of non-corrosive material; it must be freeze-resistant; it must remain shut when the flush is not in operation.

* 4.1.4.3 - The seat and seat cover must be made of non-brittle material, must not warp or discolour, must be resistant to cleaning products and disinfectants, and must have a smooth and resistant surface.

* 4.1.4.4 - The seat and seat cover must remain in place when raised, even when the vehicle is moving.

* 4.1.4.5 - When closed, the seat cover must completely cover the toilet seat.

This provision is obligatory for coaches delivered from 1 July 1989.

4.1.4.5.1 - It is recommended that point 4.1.4.5 should also apply to existing coaches.

* 4.1.5 - The down pipe and the aperture covered by the closing flap must have an unobstructed opening of at least 115 mm on traditional non-retention toilets.

* 4.1.5.1 - The pipe must be made of non-corrosive material.

OR

* 4.1.5.2 - In order to protect the down pipes against freezing and to ensure adequate hot air intake from the coach interior, the outlet pipe must be cut horizontally at the bottom end and be fitted with a suction nozzle.

4.1.5.3 - It is recommended that the down pipe be fitted vertically and have a cone-shaped design towards its bottom part, its smallest diameter being greater than that of the toilet bowl outflow pipe.

* 4.1.5.3.1 - The material used and the layout adopted must ensure the system can be easily unblocked, whilst also guaranteeing ease of access and replacement from the vehicle exterior.

* 4.1.5.4 - The waste water outlet must be fitted so that it does not interfere with the operation of equipment located under the coach body and in the bogies or, in particular, the operating safety of axle-boxes and the effectiveness of braking equipment. The formation of ice on these components must also be prevented as far as possible.

* 4.1.6 - Operation of the flush must leave the toilet bowl properly clean.

* 4.1.6.1 - To meet the requirements of maintenance departments, it must be possible to operate the flush for cleaning purposes when the coach is stationary.

* 4.1.6.2 - The flush should be controlled by a foot pedal or any other device (push-buttons, for example).

* 4.1.6.3 - Attachments must be of non-corrosive material.

* 4.1.6.4 - Operation of the equipment as a whole (flush, pumps, etc.) should not occasion aural discomfort either inside or outside the vehicle, whether the vehicle is stationary or in motion.

* 4.1.7 - The construction of wash-basins, wash-basin taps and their controls must comply with the following regulations :

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OR

* 4.1.7.1 - The wash-basin must be regular in shape and built of non-corrosive materials resistant to abrasion and discolouration (including the wash-basin base, to ensure easy evacuation of water).

* 4.1.7.2 - The drain hole must be situated at the lowest point of the bottom of the basin ; it must not be fitted with a plug, since dirty water must be able to drain away immediately.

* 4.1.7.3 - The drain hole must only be fitted with a perforated plate or similar device mounted level with the bottom of the wash-basin.

* 4.1.7.4 - The wash-basin tap shall be controlled by a foot pedal ; other devices may be used, especially push-buttons.

* 4.1.7.5 - The mouth of the wash-basin tap must be situated at least 100 mm above the rim of the wash-basin and its position must leave space for passengers to wash their hands under running water.

* 4.1.7.6 - The nature of water flow from the tap (quantity, pressure, etc.) must be such that passengers can wash their hands without splashing.

* 4.1.8 - Directions indicating the method of operating the various controls must comply with the pictograms in UIC Leaflet 413.

4.1.8.1 - The directions indicating how to operate the various controls may also be :

- either in 4 languages (English, French, German and Italian) ;
- or in the language of the owning railway and 2 of the above-mentioned 4 languages.

* 4.1.9 - The pictogram "Water unfit for drinking" in accordance with UIC Leaflet 413 must be placed close to the wash-basin taps.

4.1.10 - Lavatories and toilets in coaches must be provided with the following accessories :

* 4.1.10.1 - A dispenser for paper hand towels (an example is given in Figure 1 of Appendix 6).

* 4.1.10.1.1 - The maximum distance between the floor and the upper edge of the dispenser shall be 1750 mm.

* 4.1.10.1.2 - It shall be placed so as to be easily visible and accessible (possibly indicated by a pictogram).

* 4.1.10.1.3 - It shall be easy to refill.

* 4.1.10.1.4 - It shall be directly affixed to or set into the wall.

* 4.1.10.1.5 - If folded towels are used, the dispenser shall carry directions as to how it is to be filled.

4.1.10.1.6 - It is recommended that dispensers be designed so that the level of the stock is directly visible from outside.

4.1.10.1.7 - It is recommended that a lock with a retractable latch be fitted to this dispenser.

4.1.10.1.8 - Electric hand-dryers may be used, in which case paper hand-towel dispensers need not necessarily be provided.

* 4.1.10.2 - A receptacle for used towels.

* 4.1.10.2.1 - The receptacle must be convenient to empty, and it must be possible to do so without having to handle the towels themselves.

* 4.1.10.2.2 - The unobstructed opening shall be 100 × 200 mm minimum; the volume shall be at least 10 litres (16 litres recommended).

4.1.10.2.3 - It is recommended that it be fixed in wash-basin unit.

* 4.1.10.2.4 - It must be constructed of non-corrosive and fireproof material.

* 4.1.10.2.5 - If electric hand-dryers are provided, this receptacle should, nevertheless be retained.

4.1.10.3 - A holder for toilet paper rolls provided with a hinged cover plate and in accordance with the dimensions shown in figure 2 of Appendix 6.

4.1.10.3.1 - Any other arrangement with a greater capacity is recommended.

* 4.1.10.3.1.1 - Such an arrangement must meet the condition of being able to hold rolls of normal size.

4.1.10.3.2 - It is recommended that the holder should be locked in the position for use (an RIC carriage key should be used).

* 4.1.10.4 - A soap dispenser, for either solid soap (in accordance with Appendix 8), or liquid soap (see point 4.1.10.4.3).

* 4.1.10.4.1 - The dispenser must be easy to clean and refill.

* 4.1.10.4.2 - It shall be fitted above the wash-basin.

* 4.1.10.4.3 - If liquid soap is used, the volume of the dispenser shall be such that it is not necessary to refill it outside the owner railway.

* 4.1.10.5 - A hook.

* 4.1.10.6 - A sufficiently large level surface or surfaces with a rounded edge to prevent objects falling off.

* 4.1.10.6.1 - These surfaces must be positioned to avoid splashes from the wash-basin.

4.1.10.7 - A cigarette-tray is recommended.

* 4.1.10.7.1 - It must be of non-inflammable, burn-resistant material.

4.1.10.8 - It is recommended that a receptacle be provided to hold a deodorant.

* 4.1.10.9 - One or several mirrors as large as possible.

* 4.1.10.9.1 - They should cover the entire surface of the partition wall panel or not hinder its cleaning.

* 4.1.11 - The characteristics of paper hand towels are stipulated in UIC Leaflet 890.

4.1.11.1 - The recommended method of folding is that shown in Appendix 7, Figure 1.

Any other method of folding which facilitates dispensation of towels may be used.

* **4.1.11.2** - The method of folding must be shown on the back-plate of the hand-towel dispenser by a pictogram.

4.1.11.2.1 - The pictogram showing the recommended method of folding is illustrated in Appendix 7, Figure 2.

* **4.1.12** - Lavatories or washrooms shall be fitted with a current socket, providing a current supply of 220 V, 50 Hz for use with electric razors. The data relating to electric power are given in UIC Leaflet 550.

* **4.1.12.1** - This socket must be indicated by means of an illustration showing a razor with lead and plug in accordance with UIC Leaflet 413.

* **4.1.13** - Lavatories in coaches must be provided with handles.

* **4.1.13.1** - The handles must be arranged so that passengers using them are able to maintain a steady position.

* **4.1.13.2** - They must be fixed at a distance of 40 mm minimum from the surface of the partition wall.

4.1.13.3 - It is recommended that washrooms also be provided with handles.

* **4.1.14** - The width of the door must comply with the provisions of UIC Leaflet 560.

4.2 - Special provisions for Type Z standard coaches

4.2.1 - It is recommended that each toilet be provided with a three-leaf mirror positioned above the wash-basin.

* **4.2.2** - Water-pipes and valve controls must be fitted inside a cover.

* **4.2.3** - Non-return valves and stop cocks should be provided to make the inspection and maintenance of valves easier.

* **4.2.4** - It must be possible to dismantle the water tank through a roof-hatch or removable roof panels, so that it can be taken out through either the door or the window.

5 - Other fittings

* **5.1** - Litter bins and ashtrays must be provided in accordance with the current UIC Leaflets defining layout of standard coaches.

5.2 - Litter bins in compartment or open coaches.

* **5.2.1** - They shall be visible and accessible.

* **5.2.2** - They shall have a minimum capacity of 1 litre.

5.2.2.1 - A capacity of 3 litres is recommended.

* **5.2.2.1.1** - Litter bins must be able easily to accommodate standard drink cans and bottles.

* **5.2.3** - They shall be provided with a lid.

* **5.2.4** - Their shape must facilitate emptying of litter.

* **5.2.5** - They must be fitted in such a way that they may be emptied in one single movement, using one hand, the other holding the container belonging to the cleaning department.

* **5.2.6** - Litter bins must be of fireproof material.

* **5.2.7** - In coaches built from 1 July 1989, they must be watertight and resistant to corrosion.