UIC CODE 430-1

3rd edition, August 2006

Translation

OR

Conditions with which wagons must comply in order to be accepted for transit between standard gauge railways and the Spanish and Portuguese broad gauge railways

Conditions que doivent remplir les wagons à marchandises pour être admis à transiter entre réseaux à voie normale et les réseaux à voie large des chemins de fer espagnols et portugais
Technische Vorschriften für Güterwagen, die zwischen Normalspurbahnen und spanischen und portugiesischen Breitspurbahnen verkehren

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

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Leaflet to be classified in Volumes:

IV - Operating

V - Transport stock

Application:

With effect from 31 March 2005
All members of the International Union of Railways

Record of updates

1st edition, July 1973	Entitled: "Conditions with which freight wagons must comply in order to be accepted for transit between France and Spain with changing of axles at the frontier point" and 3 amendments
2nd edition, July 1981	New issue dated 1.7.97 and 3 amendments
3rd edition, August 2006	Removal of the plate entitled "Position of lifting jacks on work sites" and editorial changes. Overhaul of leaflet and new layout, adaptation to the editor's guide M1 and renumbering of the Appendices

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

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Summary

This leaflet describes the conditions and general descriptions with which axle wagons and bogie wagons must comply for transit between the Spanish and Portuguese broad-gauge railways and standard-gauge railways.

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1 - General provisions

1.1 - The provisions of the RIV Regulations, particularly those contained in Appendix V (see Bibliography - page 27), shall be applicable to wagons with interchangeable axles, whether they are 2-axle or bogie vehicles.

1.2 - All traffic in wagons with interchangeable axles worked between broad-gauge Spanish and Portuguese railways (gauge: 1 668 mm) and standard-gauge railways shall necessitate prior agreement with SNCF and RENFE, fixing in particular:

- the conditions for supplying wheel-sets conforming to standard and broad gauge, and the conditions for changing them when passing from standard gauge to broad gauge and vice versa;

- the procedure for billing the cost of hiring and changing these wheel-sets.

1.3 - Wagon approval applications shall be examined by the owner RU or coordinating RU, which shall be required to seek agreement from SNCF and RENFE, in compliance with the instructions laid down in RIV Appendix V.

As regards wagons to be registered by an RU other than SNCF and RENFE, the coordinating RU responsible for examining each request and notifying the decision, shall be:

- in the case of wagons to be registered by Portuguese Railways (CP): RENFE

- in the case of wagons to be registered by another RU: SNCF

NB : The addresses of the coordinating RUs may be found on the UIC Website:
http://www.uic.asso.fr/Technology&Research/Products

Where wagons to be approved by RENFE or SNCF are concerned, the relevant standard procedures shall apply, in other words the RU receiving an application shall examine it and systematically seek agreement from the other RU.

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2 - Technical provisions

2.1 - Provisions common to two-axle and bogie wagons

2.1.1 - The wagons must comply with the regulations stipulated in the Technical Unity of Railways, and in UIC Code leaflets, and must be fitted with the standard interchangeable parts defined in the UIC Code, with the exception of those parts the dimensions of which are stipulated in special regulations applicable to broad-gauge lines; interchangeable parts and the wagons to which they are fitted shall bear the inscriptions laid down in *UIC Leaflet 583* (see Bibliography - page 27).

2.1.2 - For running over broad-gauge lines, the following regulations, which differ from those of the Technical Unity, shall be observed. They concern:

1. the axles for broad-gauge track (1 668 mm);

2. the distance between buffers.

Technical Unity reference		Largest [a]	Smallest [a]
Article III § 13	Wheel gauge measured at rail level, between the inside surfaces of the tyres or parts equivalent thereto, the vehicles being empty or loaded, under normal conditions 1 593 ± 3	1 596	1 590
Article IV § 42	Outside gauge of wheel flanges measured at 10 millimetres below the tread circles near the rails, the vehicles being empty or loaded.....	1 659	1 643
Article III § 17	Distance between buffer centres, under normal conditions 1 850.....	1 860	1 840

a. Dimensions in millimetres

2.1.3 - All wagons to be built in the future shall also comply with the following design requirements.

1. The axles shall be capable of supporting the maximum load laid down for lines suitable for 20 t axle-loads (lines in category C) or for 22,5 t axle-loads (lines in category D). They must be fitted with roller-bearing axle boxes and be interchangeable with existing axles. The new axles must be designed in accordance with the provisions laid down in *UIC Leaflet 515-3* (see Bibliography - page 27) and must be approved respectively by RENFE for axles adapted to broad-gauge track and by SNCF for standard-gauge axles.
   In the case of axles designed for 22,5 t loads, use may be made of those shown in the drawings in Point B.1 - page 10 and which are derived from the ERRI standard axle design.

NB : Additional arrangements must be made in some cases so as to comply with the gauge of the active surfaces of the wheel flanges of the axle (*UIC Leaflet 432, point 2.5*)

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2. The wheelsets shall bear a serial number, a type number and the owner's mark.
These indications, together with the date (month and year) of the last overhaul of the wheelsets, the code index of the owning or registering RU, and the index of the location which has carried out the overhaul, shall be shown on a floating collar on the axle shaft.
The code no. of the owning or registering RU and the date (month and year) of the last overhaul shall be reproduced in white paint on the front of each axle box.

3. On the right-hand side of the side walls, in white on a black background the vehicles shall bear the special inscription: E, defined in the RIV Regulations.

4. In Spain, the wagons shall be worked in trains the speed of which shall not exceed that authorised for each of these vehicles.

Additional special inscriptions are set out in:

- Appendix A, Fig. 1 - page 8 for existing vacuum-braked vehicles;
- Appendix A, Fig. 2 - page 9 for existing vehicles only fitted with vacum-brake through-pipe.

The load figure to be inserted in the frame shown in Appendix A, Fig 1 shall be identical to the maximum load on rail (up to 45 t for 2-axle wagons or 90 t for bogie wagons), less the wagon tare.

2.2 - Two-axle wagons

O **2.2.1 -** The length, overhang and wheelbase characteristics of two-axle wagons must comply with the conditions defined in *UIC Leaflet 530-2* (see Bibliography - page 27)

O **2.2.2 -** The diameter of the running tread of new wheels shall be 1 000 mm maximum.

O **2.2.3 -** The axle boxes, axle guards and spring buckles shall be designed to enable the indications shown in Point B.2 - page 11 to be respected (the diameter of the hole in the upperside of the axle box shall allow for the use of a ring or stop for adjustment of the suspension, as shown in Plate 3 of *UIC Leaflet 510-1*) (see Bibliography - page 27).

As the wheels of the broad-gauge axle are quite close to the wagon underframe, a stirrup with 14 mm or 10 mm axle-guard (as opposed to the 32 mm axle-guard given in *UIC Leaflet 517, Appendix E*) (see Bibliography - page 27) must be used: see Appendix K - page 25.

O **2.2.4 -** A device shall be provided to limit the drop of the spring when the wagon is lifted.

It is recommended that the device shown in Appendix B, Fig. 7 - page 11 be adopted.

O **2.2.5 -** The underframes of vehicles shall have a completely unobstructed space, level with each wheel, as shown in Appendix B, Fig. 8 - page 12.

O **2.2.6 -** Brake shoes shall be assembled in accordance with the requirements indicated in Appendix B, Fig. 5 - page 11. The assembly in Appendix H, Fig. 18 - page 20 for bogie wagons may also be used.

2.2.7 - It is recommended to use axle-guard stays which can be removed and assembled quickly. They shall be fixed by means of 2 M-20 x 55 bolts fitted with Grower washers. On construction, the distance between hole centres shall be 483^{+1}_{0} mm.

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O **2.2.8 -** For wagons built up to 30.6.84, the minimum width of buffer plates shall be 475 mm.

NB : Existing wagons have 460 mm circular buffer heads for a distance between buffers of 1 860 mm. This value is accepted exceptionally.

For wagons to be built from 01.7.84, the width of buffer plates must conform to the provisions in *UIC Leaflet 527-1, point 1.2* (see Bibliography - page 27).

O **2.2.9 -** For lifting by jacks, each wagon shall be fitted with four base plates, two under each underframe sole-bar, if possible placed symmetrically in relation to the transverse axis of the wagon.

Base plates shall have the following dimensions:

- in the longitudinal direction of the wagon: 150 mm at the maximum,
- in the transverse direction of the wagon: 100 mm,
- thickness: 15 mm.

They shall be cross-grooved, with the slots parallel and perpendicular to the longitudinal axis of the wagon:

- groove depth: 5 to 7 mm approximately,
- groove width: 4 to 6 mm approximately.

The wagon infrastructure must provide for clearance of the wheelsets when the base plates, when in raised position (with normal lifting jack movement of 800 mm), reach a maximum height of 1 550 mm in relation to the rail level.

Fig.11 and 12 - page 14 show the clearance to be provided on wagons for engaging the lifting-jack heads.

O **2.2.10 -** Spark arrester shields must be constructed and arranged in accordance with Appendix J.1, Fig. 21 - page 23.

The external part of these shields must be directed downwards, and their upper part should be curved.

The width of their upper part must be 415^{+5}_{0} mm ; the distance between inside edges must be 1 120 mm.

The vertical part of these shields must be 115 mm in height, and the part pointing downwards 32 mm at 30°. The distance of these shields in relation to the floor shall be 20 mm, and the radius of the curved part 1 800 mm.

NB : Axle wagons accepted for transit between France and Spain, with dangerous goods in RID Classes 1a et 1b must have their brake isolated while running.

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2.3 - Bogie wagons

2.3.1 - The maximum wagon length excluding buffers may not exceed 24 486 mm. The underframe structure must be capable of bearing the weight of the bogie frames during lifting in the conditions defined in point 2.3.10 - page 7.

The length and overhang characteristics as well as the bogie pitch of bogie wagons, must comply with the provisions of *UIC Leaflet 530-2* (see Bibliography - page 27).

2.3.2 - Bogies with interchangeable axles are derived from the standard type. They must have a wheelbase of 1 800 mm and a distance between suspension planes of 2 170 mm.

The overall dimensions of the bogie with a 1 800 mm wheelbase are defined on the basis of those of the standard bogie (*UIC Leaflet 510-1*) (see Bibliography - page 27). The overall dimensions of the bogie with a 2 000 mm wheelbase are given in Appendix C, Fig. 13 - page 15.

NB : The overall dimensions thus defined apply to a bogie suitable for S braking conditions. The SNCF and RENFE must be consulted over application of SS braking conditions.

The height of the pivoting centre shall be 925 mm above rail level and the radius of the pivoting bearing shall be 190 mm as for standard bogies. The king pin shall comply with the drawing in Appendix D, Fig. 14 - page 16.

2.3.3 - The diameter of the running tread of new wheels shall be 920 mm.

2.3.4 - Axle boxes shall comply with the drawing shown in Appendix E, Fig. 15 - page 17.

2.3.5 - Bogies with interchangeable axles shall be fitted with a device to limit the descent of the springs on lifting the wagons with their bogies.

It is recommended that the device shown in Appendix F, Fig. 16 - page 18 be adopted.

2.3.6 - Axle boxes shall comprise a safety system enabling the axles to be secured to the bogie frame. Such a device, shown in Appendix G, Fig. 17 - page 19 must be retractable during axle changeover operations.

2.3.7 - Brake shoes shall be assembled in accordance with the provisions in Appendix C, Fig. 13 - page 15.

2.3.8 - Wagon underframes shall be designed on the basis of the overall dimensions defined in point 2.3.2 in order to comply with the following conditions:

- it shall be possible for flat wagons to run through 60 m radius curves and for other types, through 75 m curves on standard-gauge tracks and through 120 m radius curves on broad-gauge track;

- it shall be possible for bogies to negotiate an angle of elevation for access to ferry-boats, whose maximum link-span angle with the horizontal is 2°30' on a 120 m curve.

2.3.9 - For wagons built up to 30.6.84, the minimum width of buffer plates shall be 560 mm.

For wagons to be built from 1.7.84, the width of buffer plates shall conform to the provisions in *UIC Leaflet 527-1, point 1.2* (see Bibliography - page 27).

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