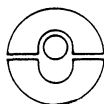


INTERNATIONAL



UNION OF RAILWAYS

U I C CODE
Leaflet to be classified in Volume :
V - TRACTION AND ROLLING STOCK

541-2

OR

1st edition, 1-7-81
(Reprint, 1-3-1991)

**DIMENSIONS OF HOSE CONNECTIONS (BRAKE HOSES)
AND ELECTRIC CABLES ;
TYPES OF PNEUMATIC AND ELECTRIC CONNECTIONS
AND THEIR POSITIONING ON WAGONS
AND COACHES EQUIPPED WITH AUTOMATIC COUPLERS
OF THE UIC AND OSJD
MEMBER RAILWAYS (1)**



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(1) Obligatory provisions are preceded by an asterisk : *

541-2

OR

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REVISIONS

Leaflet 541-2, 1st Edition, 1-7-1981			
Amendment		Amendment	
No.	Date	No.	Date
1	1-7-82		
2	1-1-86		

NOTE

This leaflet is part of a set which also includes :

541-1 : Brake - Regulations concerning the construction of the various brake components.

830-1 : Technical specification for the supply of hoses in reinforced elastomer for compressed air brake couplings.

This leaflet is published by the OSJD under number 536.

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1 - GENERAL INFORMATION

The present leaflet applies :

to European Member Railways of one or both of the two Railway Organisations, except for Soviet Railways which are governed by other regulations.

The leaflet applies to wagons and coaches fitted with UIC and OSJD type automatic couplers.

1-7-82 } All provisions of UIC Leaflet 541-1 which are inconsistent with those of this leaflet shall not apply. Special provisions shall be applicable regarding the electric heating connection.

All other provisions of UIC Leaflet 541-1 shall remain valid, without amendment, for vehicles fitted with automatic couplers.

* Amendments or additions to this leaflet must be covered by an agreement between the UIC and the OSJD.

2 - PNEUMATIC CONNECTIONS AND HOSE CONNECTIONS FOR THE

TRAIN PIPE AND MAIN AIR-SUPPLY PIPE

* **2.1** - The shape and dimensions of pneumatic connections on the vehicle side (sleeve and pipe end) and on the coupler side (sleeve and end of air line-connector insert) are given in Appendix 1.

* **2.2-** The shape and dimensions of the hose connection (hose and hose sleeve) are given in Appendix 1.

The Railways are free to choose the type of fastener they wish for fixing the hose to the hose sleeve.

***2.3** - The position of the pipe end must be chosen so that :

- taking account of the maximum possible angle and travel of the coupler body (until contact is made with fixed parts of the vehicle),
- but taking account, at least, of the conditions of Appendices 9 and 10 to Leaflet 530-1 (UIC) for wagons and/or of the conditions of Appendix 7 to Leaflet 567-3 (UIC) for coaches,

any deterioration of the hose connection is avoided.

Appendices 2 to 8 show practical examples.

* The hose connection must be arranged without presenting any low points (water pockets).

For special type coaches and wagons, every attempt must be made to ensure that the hose connection has no low points.

A hose support may be used to keep the hose connection in the required position.

2.4 - Pipe elbows may be inserted between the air line-connector insert and the stop cock in order to ensure effective clearance for the automatic coupler, including the corresponding traction and compression strokes, without damage to the hose connection, and/or avoid obstruction between the pipe end (connection on the vehicle side) and the stop cock.

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* The minimum curve radius permitted for pipe elbows is 100 mm (1) (2).

* In addition to the 100 mm - radius elbow (1) one extra elbow of 200 mm - radius (2) may be used. Exceptions will only be permitted if construction difficulties arise.

* If the elbow used is positioned on the coupler side, it must be arranged in accordance with Appendix 1.

3 - COUPLER ELECTRIC-LINE CONNECTOR

***3.1** - The coupler cable shall be joined to the train cable by a plug connection.

***3.2** - The position of the junction box for wagons must be chosen on the basis of examples given in Appendices 9 or 10, and for coaches on the basis of examples given in Appendices 11 or 12, so that, with the total length of the «electric connector insert with coupler cable and plug sub-assembly», defined in Appendix 13.2, and taking into account operating conditions stipulated in 3.4, any damage to the electric line connector of the automatic coupler is avoided.

On wagons with end unloading by tipping, the plugs must be carefully protected against mechanical damage during dumping of bulk goods.

(1) Exception : the elbow placed on the coupler side as in Appendix 1.

(2) Applies to train pipe only.

***3.3** - There should be no continuous friction between the coupler cable and other constituent parts (hose connections, operating shafts, bogies etc...).

***3.4** - The position of the coupler cable should vary as little as possible during horizontal and vertical coupler-head movements and also during simultaneous traction and compression strokes.

***3.5** - Technical conditions for electric connector inserts, plugs, junction boxes and conductors are given in Appendix 13.

APPENDICES

The dimensions given in the practical examples (Appendices 2 to 8) and the areas for the positioning of the junction box given in Appendices 9 to 12 were determined as optimum values during studies on the most common types of vehicle. Dimensions marked by an asterisk (*) must be regarded as notional values for the manufacturer, who is free to depart from them if this were to result in better connecting conditions ; all the same, the conditions given in the leaflet must be taken into consideration.