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Wagons for combined transport - Vertical transshipment - Characteristics



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2nd edition, April 2020	Update.
3rd edition, August 2021	Updating/amendments of the following appendices: B.1, B.2.
4th edition, December 2022	Deletion of point 3.4.10

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Foreword

An International Railway Solution (IRS) is a document drawn up by consensus and applied on a voluntary basis which aims to facilitate and harmonise railway operation.

IRSs are gradually replacing UIC leaflets.

Members of the International Union of Railways (UIC) participate in the creation of IRSs, of which they benefit in full. Furthermore, marketing to railway stakeholders contributes to the sharing and harmonisation of good practices, in accordance with UIC's primary goal.

While IRSs do not have the force of law, they are created and published in a professional manner and with technical approval on the basis of UIC procedures, and have full technical legitimacy in the railway sector.

The "General application" section constitutes the heart of the IRS and contains the working group's expertise applicable in the broadest manner. The addition of a "Specific application" aims to cover factors specific to a region, a type of service, etc.

Some provisions shall be implemented in all cases to ensure correct application and maintain the system's cohesiveness. Certain operational circumstances require that specific provisions be systematically applied by all users of the document.

For the purposes of understanding, the user acknowledges that the expression of:

- obligation indicates requirements to be respected in order to comply with the expertise expressed in the document (usually "shall");
- recommendation indicates options that are favourable but not essential (usually "should");
- permission indicates options that are recognised but without consequence (usually "may");
- capacity indicates possibilities from a technical standpoint and not permissions or probabilities (usually "can").

Obligation, recommendation and capacity can be expressed in the negative to indicate prohibiting, non-recommendation and incapacity.

If applicable, notably for the purposes of compliance with a UIC approval, passages that are recommended or mandatory for the cohesiveness of the system will be accompanied by the letters "R" and "MCS" respectively.

This IRS reflects the following UIC working group expertise:

Rolling stock sector, SET 03, "Freight related items"

The following IRSs constitute a complementary series:

- *IRS 50592, 50596-5, 50596-6 and 50596-7*

Executive summary

The safety requirements specific to combined transport in international traffic are fulfilled by the conveyance of intermodal loading units compatible with the wagons and with the permissible profile for combined transport lines.

When loaded with intermodal loading units or with semi-trailers that comply with the conditions set out in *IRS 50592* and in *IRS 50596-5* (see [Reference documents - page 5](#)), the wagons that comply with the conditions set out in this IRS are used with the coding system defined in *IRS 50596-6* (see [Reference documents](#)).

This IRS specifies the principal characteristics of the wagons for combined transport designed for vertical transshipment. It is part of a series of leaflets/IRS covering "Intermodal traffic transshipment techniques - Technical conditions for the use of wagons and load units in international traffic".

It describes wagons with compatibility code  ,  ,  and  in accordance with *IRS 50596-6*.

The wagon compatibility code indicates which loading units may be carried on the wagon:

- carrier wagons with compatibility code  are used to transport containers and swap bodies;
- carrier wagons with compatibility code  are used to transport ISO containers;
- recess wagons with compatibility code  or  are used to transport semi-trailers fitted with grab-handling grooves for vertical transshipment.

These are described, along with their principal features:

- Information on containers and swap bodies is contained in *IRS 50592*;
- Information on craneable semi-trailers is contained in *IRS 50596-5*;
- Information on wagon compatibility codes, the bases of codification and the execution of coding for CT routes is contained in *IRS 50596-6*.

Field of application

This IRS applies to wagons for combined transport designed for vertical transshipment.

Reference documents

The following documents are cited in this IRS or strongly support its requirements and recommendations:

1. International Railway Solution (IRS)

International Union of Railways (UIC)

- [1] *IRS 50592: Intermodal Loading Units (other than semi-trailers) for vertical transshipment and suitable for carriage on wagons - Minimum requirements*
- [2] *IRS 50596-5: Transport of road vehicles on wagons - Technical Organisation - Conveyance of semi-trailers with P coding or N coding on recess wagons*
- [3] *IRS 50596-6: Conditions for coding intermodal loading units in combined transport, combined transport lines and wagons*

2. UIC Leaflets

International Union of Railways (UIC)

- [4] *UIC Leaflet 530-1: Constructional conditions for wagons to be observed with a view to fitting the automatic coupler of the Member Railways of the UIC and OSJD respectively*
- [5] *UIC Leaflet 570: Wagons - Interchangeable parts*

3. Technical reports

International Union of Railways (UIC)

- [6] *B 12/RP 17: Wagons - Programme of tests to be carried out on wagons with steel underframe and body structure (suitable for being fitted with the automatic buffing and draw coupler) and on their cast steel frame bogies*

4. European Standards

European Committee for Standardization (CEN)

- [7] *EN 284: Swap bodies - Non-stackable swap bodies of class C - Dimensions and general requirements*
- [8] *EN 10293: Steel casting - Steel castings for general engineering uses*
- [9] *EN 12663-2: Railway applications - Structural requirements of railway vehicle bodies - Part 2: freight wagons*
- [10] *EN 15877-1: Railway applications - Marking on railway vehicles - Part 1: freight wagons*
- [11] *EN 16973: Road vehicles for combined goods transport - Semitrailer - Vertical transshipment*

5. Miscellaneous

European Union (EU)

- [12] *Regulation (EC) No. 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefore, 2009*

6. International Standards

International Organization for Standardization (ISO)

- [13] *ISO 668: Series 1 freight containers - Classification, dimensions and ratings*
- [14] *ISO 830: Freight containers - Vocabulary*