Unaccompanied Combined Transport

Guide on Coding and Certification

Index

<table>
<thead>
<tr>
<th>Index</th>
<th>Date</th>
<th>Index</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Published</td>
<td>G</td>
<td>Amended</td>
</tr>
<tr>
<td>B</td>
<td>Amended</td>
<td>H</td>
<td>Amended</td>
</tr>
<tr>
<td>C</td>
<td>Amended</td>
<td>I</td>
<td>Amended</td>
</tr>
<tr>
<td>D</td>
<td>Amended</td>
<td>J</td>
<td>Amended</td>
</tr>
<tr>
<td>E</td>
<td>Amended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Amended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

UIRR s.c.r.l  Rue Montoyer, 31 – bte 11 BE – 1000 BRUXELLES
UIC  Rue Jean Rey,16   F – 75015 PARIS
Combined transport

1. Preamble .............................................................................................................................................. 3
2. List of ITUs ............................................................................................................................................... 4
  2.1. Containers .......................................................................................................................................... 4
  2.2. Swap bodies ...................................................................................................................................... 5
  2.3. Hybrid units ....................................................................................................................................... 6
  2.4. Demountable bodies ......................................................................................................................... 7
  2.5. Semi-trailers ...................................................................................................................................... 8
  2.6. Flat units ......................................................................................................................................... 9
  2.7. Specialised units ............................................................................................................................... 9
    2.7.1. ARCUS systems ......................................................................................................................... 9
    2.7.2. Units with broad lower parts ................................................................................................... 10
3. List of wagons ....................................................................................................................................... 11
  3.1. Swap body, container and hybrid unit carrier .................................................................................. 11
  3.2. Demountable body carrier ............................................................................................................... 12
  3.3. Semi-trailer carrier .......................................................................................................................... 13
  3.4. Specialised unit carrier .................................................................................................................... 15
4. Lines ....................................................................................................................................................... 16
  4.1. Maximum line capacities ................................................................................................................ 16
  4.2. Restricted line capacities ................................................................................................................ 16
5. Procedures for identifying and accepting consignments ........................................................................ 17
6. Approval and coding procedure for ITUs ............................................................................................. 22
  6.1. Prototypes ........................................................................................................................................ 22
  6.2. Series units ....................................................................................................................................... 23
  6.3. List of national bodies authorised to deliver certification and coding ............................................... 24
  6.4. Addresses of national bodies authorised to deliver certification and coding .................................... 25
7. Procedures for checking the maintenance condition of the ITUs .......................................................... 26
8. List of standards .................................................................................................................................... 27
  8.1. ISO standards .................................................................................................................................. 27
  8.2. CEN standards ............................................................................................................................... 27
  8.3. UIC leaflets ...................................................................................................................................... 27
  8.4. Other ................................................................................................................................................ 27
  8.5. Bibliography ..................................................................................................................................... 27
1. Preamble

In combined transport, the higher sections of most ITUs (Intermodal Transport Units) foul the loading gauge in various European countries when the units are loaded on wagons or bogies. Their carriage must therefore be covered by the procedure for exceptional consignments as per UIC Leaflet 502 (International Union of Railways). The cumbersome nature of the procedure has made it necessary to make the rules less strict.

In order to facilitate and speed up transport in a reliable manner, a coding system for various elements of combined transport was established. The system ensures safe operation of ITUs, indicates their loading gauges and ensures the owner is identified. UIC Leaflet 596-6 sets out the prescriptions for this system regarding ITUs, carrier wagons and lines. The system, which ensures safe operations, has been applied for several decades by various companies in the combined transport chain. Those who do not wish to apply the UIC 596-6 procedure are obliged to take organisational measures which ensure the same level of reliability.

The present document is a reflection of the current situation.
2. List of ITUs

2.1. Containers

A container is a unit with standardised dimensions used in sea and land transport. Their marking and identification must comply with ISO 6346 (International Standard Organisation) for sea containers and UIC Leaflet 592 for land containers.

**Identification of loading gauge and approval - examples of markings**
2.2. **Swap bodies**

A swap body is a road vehicle structure with dimensions and certain devices that are **standardised**. These bodies, approved for international traffic, must include a coding plate on each side wall comprising black markings on a yellow background according to the templates presented below (source: UIC Leaflet 596-6 and EN13044).

**New plate format in force as of 1-7-2011**

![New plate format](image)

**Existing plate format expiring on 1-7-2019**

![Existing plate format](image)
2.3. Hybrid units

A hybrid unit is a structure with non-standardised dimensions (length, width and/or weight). These units are a hybrid between land containers and swap bodies, are approved for international traffic and must include a coding plate on each side wall comprising black markings on a yellow background according to the templates presented below (source: UIC Leaflet 596-6 et EN13044).

**New plate format in force as of 1-7-2011**

![New plate format](image)

**Existing plate format expiring on 1-7-2019**

![Existing plate format](image)

It is to be noted that certain older models are still not fitted with coding plates; however most of them bear markings according to the following table.

<table>
<thead>
<tr>
<th>X, XX</th>
<th>Y, YY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ 2550</td>
</tr>
<tr>
<td></td>
<td>C/S</td>
</tr>
<tr>
<td>2455</td>
<td>00</td>
</tr>
<tr>
<td>2555</td>
<td>10</td>
</tr>
<tr>
<td>2605</td>
<td>15</td>
</tr>
<tr>
<td>2625</td>
<td>17</td>
</tr>
<tr>
<td>2650</td>
<td>20</td>
</tr>
<tr>
<td>2675</td>
<td>22</td>
</tr>
<tr>
<td>2700</td>
<td>25</td>
</tr>
<tr>
<td>2740</td>
<td>29</td>
</tr>
<tr>
<td>2755</td>
<td>30</td>
</tr>
<tr>
<td>2905</td>
<td>45</td>
</tr>
<tr>
<td>2970</td>
<td>52</td>
</tr>
<tr>
<td>3005</td>
<td>55</td>
</tr>
<tr>
<td>3050</td>
<td>60</td>
</tr>
</tbody>
</table>
2.4. **Demountable bodies**

A demountable body for road transport has dimensions and certain devices that are standardised, and is loaded through horizontal transhipment. These bodies are approved as per UIC Leaflet 591, suitable for international traffic and must include a coding plate on each side wall comprising black markings on a yellow background according to the template presented below (source: UIC Leaflet 596-6).

![Coding Plate Template](image-url)
2.5. Semi-trailers

A semi-trailer may be transported separately from the tractor unit on suitable wagons if it is fitted with specific devices and a strengthened structure. These approved units, suitable for international traffic, must include on each side wall a coding plate comprising markings in black on a yellow background according to one of the templates presented below (source: UIC leaflets 596-5 and 596-6 and EN13044).

---

**New plate formats applicable as of 1-7-2011**

- **P technology** (seating device)
- **P technology with varying seating device heights**
- **N technology** (front supports)
- **Uncommon technologies**

---

**Existing plate format expiring on 1-7-2019**

- **S00 P001**
- **N001**

---

**or**

- **P000 000 00**

---

**+ ILU code**
2.6. Flat units

Flat units have the structure of a road vehicle and are uniform in terms of dimensions and certain devices. They may be fitted with collapsible end walls and transported in stacks when empty. These approved units, suitable for international traffic, must include on each side wall a coding plate comprising markings in black on a yellow background according to the templates presented below (source: UIC Leaflet 592).

**Units without end walls**

![Coding Plate for Units without End Walls]

**Units with end walls**

![Coding Plate for Units with End Walls]

2.7. Specialised units

2.7.1. ARCUS systems

Specialised units have the structure of a road vehicle with a design that makes the use of specialised wagons necessary. These approved bodies, suitable for international traffic, must include on each side wall a coding plate comprising markings in black on a yellow background according to the templates presented below (source: UIC Leaflet 592).

![Coding Plate for Type 1 ARCUS System]

![Coding Plate for Type 2 ARCUS System]
2.7.2. Units with broad lower parts

These specialised units, which are broader in the lower part of the loading gauge, have an identical structure to containers. They are approved and suitable for international traffic, and must include on each side wall a coding plate comprising markings in black on a yellow background according to the templates presented below (source: UIC Leaflet 592).

![Schüttgutbox Typ 1](image)
3. List of wagons

3.1. Swap body, container and hybrid unit carrier

Suitable wagons with specific fittings capable of being operated in international traffic must comply with the prescriptions of UIC Leaflet 571-4.

Each of their girders must include a marking in black on a yellow background according to the template below (source: UIC Leaflet 596-6 and the GCU – General Contract of Use for wagons, Appendix 11).

If necessary a corrective number takes into account any difference between the geometric characteristics of the carrier wagons and those of a standard wagon. It is determined as per UIC Leaflet 596-6.

**Standard wagon**

![Standard wagon diagram]

**Wagon with unfavourable characteristics**

<table>
<thead>
<tr>
<th>Wagon</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNCF</td>
<td>-3</td>
</tr>
<tr>
<td>FS</td>
<td>-2</td>
</tr>
<tr>
<td>ÖBB</td>
<td>0</td>
</tr>
</tbody>
</table>

**Wagon with favourable characteristics**

![Wagon with favourable characteristics diagram]
### 3.2. Demountable body carrier

Suitable wagons with specific fittings capable of being operated in international traffic must comply with the prescriptions of UIC Leaflet 571-4.

Each of their girders must include a marking in black on a yellow background according to the template below (source: UIC Leaflet 596-6 and Appendix 11 to the GCU).

If necessary a corrective number takes into account any difference between the geometric characteristics of the carrier wagons and those of a standard wagon. It is determined as per UIC Leaflet 596-6.

**Standard wagon**

![Standard wagon diagram]

**Wagon with unfavourable characteristics**

<table>
<thead>
<tr>
<th>Compatibility codes of different systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNCF - CFL</td>
</tr>
<tr>
<td>FS</td>
</tr>
</tbody>
</table>

**Wagon with favourable characteristics**

![Wagon with favourable characteristics diagram]
3.3. **Semi-trailer carrier**

Suitable wagons with specific fittings capable of being operated in international traffic must comply with the prescriptions of UIC Leaflet 571-4.

Each of their girders must include a marking in black on a yellow background according to the template below (source: UIC Leaflet 596-6).

The identification letter for pocket wagons with defined clearance envelopes (compatibility codes according to the height of the seating device) is determined according to the prescriptions of UIC Leaflet 596-5.

If necessary a corrective number takes into account any difference between the geometric characteristics of the carrier wagons and those of a standard wagon. It is determined as per UIC Leaflet 596-6.

**Standard wagon**

![Standard wagon diagram](image)

**Wagon with unfavourable characteristics**

<table>
<thead>
<tr>
<th>FS</th>
<th>DB - DSB - NS - NSB</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>0</td>
</tr>
</tbody>
</table>

**Wagon with favourable characteristics**

| P  | +5 |

---

Guide on Coding and Certification
### Wagon with a defined envelope

**Former marking**

<table>
<thead>
<tr>
<th>Wagon type</th>
<th>Seating device height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pocket wagon 1a, 1b</td>
<td>113 cm</td>
</tr>
<tr>
<td>Pocket wagon 4</td>
<td>113 / 98 cm</td>
</tr>
<tr>
<td>Pocket wagon 739 / 744</td>
<td>113 / 98 cm</td>
</tr>
<tr>
<td>Pocket wagon 2000</td>
<td>113 / 98 cm</td>
</tr>
<tr>
<td>Pocket wagon Mega 2</td>
<td>113 / 98 / 85 cm</td>
</tr>
<tr>
<td>Pocket wagon 5</td>
<td>113 / 98 / 88 cm</td>
</tr>
<tr>
<td>Pocket wagon 3000</td>
<td>113 / 98 / 88 cm</td>
</tr>
<tr>
<td>Pocket wagon Twin</td>
<td>113 / 98 / 88 cm</td>
</tr>
<tr>
<td>Pocket wagon 4.2</td>
<td>113 / 98 cm</td>
</tr>
</tbody>
</table>

**New marking**

- Pocket wagon 1a, 1b
- Pocket wagon 4
- Pocket wagon 739 / 744
- Pocket wagon 2000
- Pocket wagon Mega 2
- Pocket wagon 5
- Pocket wagon 3000
- Pocket wagon Twin
- Pocket wagon 4.2

- Pocket wagon 1a, 1b
- Pocket wagon 4
- Pocket wagon 739 / 744
- Pocket wagon 2000
- Pocket wagon Mega 2
- Pocket wagon 5
- Pocket wagon 3000
- Pocket wagon Twin
- Pocket wagon 4.2

**Symbols:**

- (P) for Pocket wagon types
- P for the new marking
- a, b, c, d, e, f, g, h for different variants
3.4. Specialised unit carrier

Suitable wagons with specific fittings capable of being operated in international traffic must comply with the prescriptions of UIC Leaflet 571-4.

Each of their girders must include a marking in black on a yellow background according to the templates below (source: UIC Leaflet 592).
4.Lines

4.1. **Maximum line capacities**

The coding of lines on the European network is drawn from the map published by the UIRR Interunit Technical Committee. The map is published on the following website: [www.uiirr.com](http://www.uiirr.com).

4.2. **Restricted line capacities**

The coding system for maximum admissible limits for ordinary consignments is set out in table 2, sheet 9.1 of Section 2 of the UIC Loading Guidelines currently in force. The sheet is available on the following website: [www.uic.org](http://www.uic.org).
5. Procedures for identifying and accepting consignments

Identifying and accepting standardised ISO containers (ic)

- Identification
  - Class I
  - Width: 2438 mm

- Compliance

- Markings
  - 2.9, 9 1/2, 2.6, 8 1/2

- ISO-6346 dimension code
  - Example:
    - Identification: 45G1
    - 4 = Ct 40'
    - 5 = Ct 96'
    - G1 = bulk container

- Dimension check

- Measurement by inspector
  - Conforme: compliant
  - Non-conforme: non-compliant

- Refused for combined transport

- Accepted for combined transport

To be allocated a code by the road-rail transport company as per UIC 596-6
Identifying and accepting land containers (it)

- **Identification**
  - Class II: 2500 x 2600
  - Class III: 2600 x 2600

- **Compliance**

- **Markings**

- **Dimension check**

---

**it**

- **CSC**
  - yes
  - Distinctive markings
    - yes
    - Measurement by inspector, compliant
  - no
    - Measurement by inspector, non-compliant
      - Refused for combined transport

- **Refused for combined transport**

- **To be allocated a code by the road-rail transport company as per UIC 596-6**

- **Accepted for combined transport**
Identifying and accepting hybrid units

These units are a hybrid between standardised containers and swap bodies for road transport and cannot be identified by means of an IC or IT due to their dimensions. They are not always fitted with a coding plate.

Compliance

Markings

1. Upper corner fittings
   - yes
   - no

2. Coding plate
   - no
   - yes

3. CSC
   - no
   - compliant

4. Distinctive markings
   - compliant
   - Non-compliant

Non-compliant

Refused for combined transport

Compliant

To be allocated a code by the road-rail transport company as per UIC 596-6

Allowed for combined transport

Refused for combined transport
Identifying and accepting non-stackable swap bodies and semi-trailers

- Compliance/Markings
  - Coding plate
    - yes
    - Refused for combined transport
    - no
- To be allocated a code by the road-rail transport company as per UIC 596-6
- OK
6. Approval and coding procedure for ITUs

6.1. Prototypes

Letter requesting UIC approval with:
- Description
- All diagrams, including:
  - General diagram
  - Diagram of body
  - Diagram of corner fittings
  - Diagram of grab handling grooves
  - Transverse cross-section of protrusions (loading gauge)
  - Markings diagram
  - Calculation sheet
  - Maintenance guidelines
  - Usage guide
  - Loading diagram

For prototype variants:
- Certificate of approval for base prototype
- Detail of modifications vis-à-vis base prototype
- Proof that the derivative prototype / base prototype are globally at least equivalent (e.g. calculation sheet)
- All documents concerning modifications

RID: Regulation concerning International transport of Dangerous goods
ADR: European Agreement on transport of Dangerous goods by Road
6.2. Series units

**Letter requesting UIC coding:**
Attestation of compliance / prototype or prototype variant (except tank ITUs)

**Railway accreditation department**
Check compliance with prototype

**Tank ITU?**

- **Yes**
  - Accredited body
  - Examination report concerning the tank inspection
  - RID/ADR series certificate
  - Initial Inspection Certificate for each ITU

- **No**
  - Coding as per UIC 596-6
  - Combined Transport Company
  - Plates issued
  - Copy to manufacturer or owner

**Manufacturer / Owner**

**Additional documents for tank ITU:**
- Diagram of body
- Diagram of corner fittings
- Diagram of grab handling grooves
- Markings diagram
- Calculation sheet
- Transverse cross-section of protrusions (loading gauge)
- Description
### 6.3. List of national bodies authorised to deliver certification and coding

<table>
<thead>
<tr>
<th>Country</th>
<th>Approval</th>
<th>Coding</th>
<th>Delivery of the plate</th>
<th>Wagon rectification coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>ÖBB-Produktion GmbH</td>
<td>ÖBB-Produktion GmbH</td>
<td>ÖBB-Produktion GmbH</td>
<td>ÖBB-Produktion GmbH</td>
</tr>
<tr>
<td>Belgium</td>
<td>Infrabel</td>
<td>Infrabel</td>
<td>Combined company</td>
<td>Infrabel</td>
</tr>
<tr>
<td>Croatia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Schiffsregister</td>
<td>Schiffsregister</td>
<td>Hersteller</td>
<td>Rail Authority</td>
</tr>
<tr>
<td>France</td>
<td>SAMC (3)</td>
<td>SAMC (3)</td>
<td>NOVATRANS</td>
<td>N S A</td>
</tr>
<tr>
<td>Germany</td>
<td>DB AG</td>
<td>DB AG</td>
<td>DB AG</td>
<td>Not yet decided</td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>VIS (1)</td>
<td>VIS (1)</td>
<td>CEMAT S.p.A.</td>
<td>ANSF (2)</td>
</tr>
<tr>
<td>Netherlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>Swedish Transport</td>
<td>Swedish Transport</td>
<td>Combined company</td>
<td>Not yet decided</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>-----</td>
<td>SBB/HUPAC</td>
<td>Combined company</td>
<td>SBB Infrastructure</td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. VIS = Independent Auditors of Safety - The VIS is a notified body similar to the ISA but responsible for compliance with national rules. 
   (currently: Burea Veritas Sciro S.p.A., Italcertifer, Rina S.p.A.)
2. ANSF = Italian NSA. The ANSF manages the database of UCIs codified in Italy.
3. SAMC = Service d’Agrément du Matériel Combiné (department for approval of combined transport equipment) at the Technicentre in Tergnier, Picardy, France.
6.4. Addresses of national bodies authorised to deliver certification and coding

<table>
<thead>
<tr>
<th>Country</th>
<th>Body</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>Infrabel</td>
<td>Rue Bara , 110 BE – 1070 BRUXELLES</td>
</tr>
<tr>
<td>France</td>
<td>S M A C</td>
<td>Technicentre Picardie Boulevard Stephenson F – 02700 TERGNIER</td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>HUPAC / SBB</td>
<td>Ufficio codifica Viale Manzoni, 6 CH – 6830 CHIASSO</td>
</tr>
</tbody>
</table>
7. Procedures for checking the maintenance condition of the ITUs

The owner or keeper is responsible for ensuring its ITUs are in good condition and are maintained in good condition in order to ensure safety during handling and carriage. Maintenance and checking procedures are identical to those described in the CSC (Convention on the Safety of Containers).

The owner or keeper may choose between a maintenance procedure based on periodic examination and one based on continuous examination. They may change the procedure at any time. The two procedures must ensure an equivalent level of safety.

The official reports on checks must clearly identify the ITU and the inspector, and state the date of the last examination. They must be kept by the owner or keeper, who must be able to make them available at any time at the request of the competent authority.
8. List of standards

8.1. ISO standards
- 668 Containers – classifications, dimensions and ratings
- 1496-1, 2, 3, 4, 5 Specification and testing for various types of containers
- 3874 Containers – handling and securing
- 6346 Coding, identification and marking of containers

8.2. CEN standards
- EN 283 Swap bodies – Testing
- EN 284 Swap bodies of class C
- EN 452 Swap bodies of class A
- EN 1432 Swap bodies – operating conditions
- EN 12406 Thermal swap bodies of class C
- EN 12410 Thermal swap bodies of class A
- EN 12641-1 Swap bodies – tarpaulins
- EN 12641-2 Swap bodies – minimum requirements for curtainsiders
- EN 12642 Swap bodies – minimum requirements for the body structure
- EN 13044 Coding, identification and marking of swap bodies
- EN 13853 Stackable swap bodies C7.45
- EN 14993 Stackable swap bodies A13.71
- EN 15877-1 Railway applications – marking on railway vehicles – wagons

8.3. UIC leaflets
- UIC Leaflet 571-4 Characteristics of standard wagons
- UIC Leaflet 591 Roller units for horizontal transhipment
- UIC Leaflet 592-2 Land and sea containers
- UIC Leaflet 592-3 Standard report on acceptance tests
- UIC Leaflet 592-4 Swap bodies for grab handling
- UIC Leaflet 596-5 Semi-trailers for grab handling
- UIC Leaflet 596-6 Coding of ITUs and lines
- UIC Leaflet 597 Semi-trailers on bogies
- GCU Appendix 11 Point 3.2 Signs for combined transport wagons
- Appendix II to RIV, Section 2, sheet 9.1, loading guidelines for swap bodies and containers

8.4. Other
- CSC: Convention on the Safety of Containers
- ACEP: Acceptance Continuous Examination Program

8.5. Bibliography