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Original

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Standard coding and data structures of general information required for international freight traffic

*Codifications et structures de données unifiées de diverses informations nécessaires en trafic fret
international*

*Einheitliche Codierungen und Datenstrukturen verschiedener im internationalen Güterverkehr
erforderlicher Informationen*



INTERNATIONAL UNION
OF RAILWAYS



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

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Summary

This leaflet defines the codes and principles governing the coding of important data that are used in various information exchange processes for international freight traffic and not already coded in other specialised leaflets.

The codes and coding principles for the different types of information are given in the following appendices.

1 - General

1.1 - Purpose of the leaflet

This leaflet defines the codes and principles governing the coding of important data that are used in various information exchange processes for international freight traffic and not already coded in other specialised leaflets.

1.2 - Use of standard codes

The UIC working groups responsible for each application shall list the data, which is compulsory, or optional in messages exchanged between railways.

It is compulsory to use the standard codes for data exchanged by means of data transmission or data processing systems.

1.3 - Management of codes

1.3.1 - The standard numerical codes for the items of data in this leaflet shall be managed by the UIC/OSJD Joint Group on "Coding and IT".

1.3.2 - For the UIC: Requests for new codes from UIC members or committees, shall be examined by the UIC manager or working group charged with managing the leaflet and incorporated in an amendment notice or a new edition and then submitted to the high-level UIC Member bodies for approval, which shall then place them on the agenda for the work of the UIC/OSJD Joint Group on "Coding and IT".

For the OSJD: Requests for new codes from OSJD members or committees shall be examined by the OSJD Committee, which shall then place them on the agenda for the work of the UIC/OSJD Joint Group on "Coding and IT".

2 - List of operational information

The information necessary for carrying out international freight transport is defined in *UIC Leaflet 404-2* (see [Bibliography - page 43](#)).

The following essential operating information has been coded in the appendices to this leaflet.

Appendix	Title
A.1 - page 6	Transport restrictions
A.2 - page 8	Type of electric heating pipes
A.3 - page 8	Type of hand brake on wagons
A.4 - page 9	Type of air brake on wagons
A.5 - page 14	Restrictions or prohibitions concerning re-use of wagons
A.6 - page 15	Removable accessories and special equipment on wagons
A.7 - page 18	Method of transport and traffic schedule
A.8 - page 19	Treatment to be given to the load or the wagon
A.9 - page 22	RID labels
A.10 - page 23	Loading gear
A.11 - page 24	Order in which wagons in a train are listed
A.12 - page 24	Operations to be carried out on the goods conveyed and operations already performed due to immobilisation of a laden wagon
A.13 - page 26	Customs clearing conditions
A.14 - page 28	Wagon load status
A.15 - page 28	Type of coupling
A.16 - page 29	Table of load limits
A.17 - page 30	Intermodal traffic

The coding principles for each of the items of information mentioned above are given in the relevant appendices.

3 - List of commercial information

The information necessary for the commercial operation of international freight transport is defined in various UIC leaflets.

The following essential information has been coded in the appendices to this leaflet.

Appendix	Title
B.1 - page 33	Type of contract
B.2 - page 34	Type of transport
B.3 - page 35	Consignor's declarations
B.4 - page 36	Container types
B.5 - page 37	Nature of the carrier = New
B.6 - page 38	Carrier's declarations
B.7 - page 39	Documents

The coding principles for each of the items of information mentioned above are given in the relevant appendices.

4 - List of information required by the Finance and Accounting Departments

Financial and Accounting Departments require the following information, which is coded in the appendices to this leaflet:

Appendix	Title
C.1 - page 41	Codes for charging errors

The coding principles for each of the items of information mentioned above are given in the relevant appendices.

Appendix A - Appendices to the list of operational information

A.1 - Coding of transport restrictions

A.1.1 - Purpose

This coding is designed to identify any special aspects or restrictions which might be relevant to wagon handling operations in train formation yards or in trains because of the technical features of the wagon, its load, or any damage. The number of transport restrictions pertaining to a wagon shall also be specified.

A.1.2 - Structure of the coding

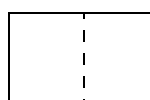
The codes must meet requirements whilst remaining as simple as possible to avoid unnecessary data collection and processing.

The coding structure is as follows:

Number of restrictions



Type of restrictions



These positions are repeated for each restriction; there are no positions given if the number of restrictions is 0.

The codes for the types of restriction are given in the table below.

Codes	Description
07	Shunt only when hand brake operable by ground staff
08	Tank wagon loaded with liquid
09	Wagon loaded with people
11	Wagon other than bogie wagon with wheelbase of more than 9 metres
12	Bogie wagon with distance between wheels of more than 14 metres and up to and including a distance of 17,50 metres
13	Bogie wagon with distance between wheels of more than 17,50 metres
14	Broad gauge wagon between 11,3 metres and up to 14,0 metres
15	Wagon not allowed over the hump
16	Do not fly shunt or gravity shunt (3 red triangles)
18	Must not use active braking equipment

Codes	Description
25	Gas carrying tank wagon with orange side stripe
41	Place this wagon at the front of the train
42	Place this wagon at the rear of the train
61	Wagon forming part of a consignment of several wagons
62	Wagon forming part of a group of wagons from which it must not be separated
63	Special consignment
68	First or last wagon of a wagon group from which it must not be separated
70	Shunt with care (1 red triangle)
71	Shunt with special care (2 red triangles)
94	Gas carrying wagon without orange side stripe

A.1.3 - Note

A.1.3.1 - Code 63

This code does not give any particulars on the nature of the special consignment, nor does it indicate that the special consignment characteristics are valid on all railways. However, once a consignment is qualified as a special consignment under the terms of *UIC Leaflet 502-1* (see [Bibliography - page 43](#)), it is given Code 63 from departure to destination station, with the exception of traffic that only needs to be treated as special by the departure station.

A.1.3.2 - Code 68

Example:

- Group composed of 3 wagons.
-> representation: 68 - 62 - 68
- Several groups composed of 2 wagons each:
1st group: 68 - 68
2nd group: 68 - 68
3rd group: 68 - 68
-> representation 68 - 68 - 68- 68 - 68 - 68

A.2 - Coding of the type of electrical heating pipes

A.2.1 - Purpose

This code is designed to identify the type of electric heating used in accordance with international regulations in order to determine whether the wagon can be incorporated into heated passenger trains.

A.2.2 - Structure of the coding

Only one position is required for this code as follows:

Codes	Description
0	no heating pipe
1	3000 V (DC) pipe
2	3000 V (50 Hz) pipe
3	1500 V (DC) pipe
4	1500 V (50 Hz) pipe
5	1000 V (16 2/3 Hz) pipe
6	1000 V (50 Hz) pipe
7-9	Free

A.3 - Coding of the type of hand brake on wagons

A.3.1 - Purpose

This code specifies the type of hand brake.

A.3.2 - Structure of the coding

Only one position is required for this code as follows:

Codes	Description
0	No hand brake
1	Ground-operated hand brake
2	Platform-operated hand brake
3	Ground-operated hand brake (screw)
4	Ground-operated hand brake (lever)

A.3.3 - Note

If required, code 3 will be used to indicate a hand brake (screw) which is inaccessible, e.g.: a hauled locomotive, a coach with the doors locked, etc.

A.4 - Coding of the type of air brake on wagons

A.4.1 - Purpose

Standard codes shall be used to specify the technical characteristics of wagon brake gear for the purpose of compiling and checking international train journals and international brake sheets by means of computerised freight traffic control systems.

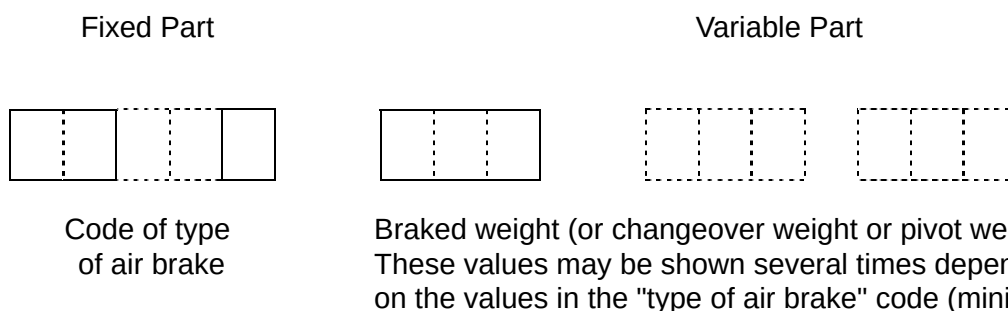
These codes shall be used for purposes of:

- calculating the actual braked weight of wagons;
- checking the plausibility of the actual braked weight if it has been recorded manually;
- checking compliance with certain train formation and train consist regulations stipulated in national regulations, e.g.:
 - restrictions concerning the number of wagons with a through pipe, and position of these wagons in a train,
 - acceptance of wagons braked under the P system only, in trains braked with the G system and vice versa,
 - information required concerning the additional braked weight available on wagons equipped with a discharge accelerator;
- to inform drivers of certain specific brake characteristics, such as:
 - graduated or non-graduated release,
 - level-gradient changeover device,
 - disc brakes,
 - composite brake blocks.

A.4.2 - Structure of the coding

The code is made up of a fixed part which identifies the type of air brake (5 positions) and a variable part which indicates either the braked weight or the changeover weight expressed in tonnes and given in groups of 3 positions. The number of groups in the variable part depends on the values of the fixed code which identifies the "type of brake".

The concepts coded below are based on the details which must be painted on wagons in accordance with the provisions of *UIC Leaflet 545* (see [Bibliography - page 43](#)).



A.4.2.1 - Coding of the fixed part

Each position contains the code of a particular technical function of the braking system.

1st position: Braking system

Codes	Description
0	Through pipe
1	G system only
2	P system only
3	G/P combined system
4-7	In reserve
8	No air brake or brake pipe
9	Non-coded system

The other possible systems (R, PR, GPR) are not included in this coding, since they are of little value for the management of wagons (see point [A.4.3 - page 12](#), 3rd paragraph).

2nd position: Devices for varying the braking power in relation to the load

Codes	Description
0	No device for varying the braked weight
1	Manual or automatic device with: 1 changeover weight and 2 positions
2	2 or 3 changeover weights and 2 or 3 positions
3-7	In reserve
8	Self-adjusting load-proportional brake system with indication of maximum braked weight
9	Non-coded device

The other possible systems with 4 or more positions, the old self-adjusting device with a 5-column table marked on the wagon, etc. are not included in this coding for the time being since they are of little value for the management of wagons (see point [A.4.3](#), 3rd paragraph).

3rd position: Emptying accelerator¹

Codes	Description
0	No emptying accelerator
1-8	In reserve
9	Non-coded accelerator

1. Proposal for use of a 5-position coding at a later date.

4th position: Additional characteristics not affecting the braked weight¹

Codes	Description
0	No engine braking facility
1-8	In reserve
9	Non-coded information

The 4th position is reserved to include a coding, if necessary, to distinguish between devices which can be graduated (distributor, triple valve + Rihosek-Leuchter valve) and those which cannot be graduated (triple valve) on release, and "level/gradient" changeover devices.

5th position: Special characteristics¹

Codes	Description
0	No special characteristic (graduated release brake with cast iron blocks)
1	Disc brake
2	Composite brake blocks
3	Single release brake
4	Single release brake with composite brake blocks
5-8	In reserve
9	Non-coded information

A.4.2.2 - Coding of the variable part

As mentioned above, this part of the coding can contain a minimum of 1 and a maximum of 6 (in the present state of the coding) group(s) of 3 positions, representing either braked weights or changeover weights. Depending on the combinations of the first 2 positions of the "type of air brake" code, the number of groups is as follows:

1 st position	2 nd position	0	1	2	8	9
0		1 ¹	-	-	-	-
1		1	3	6	1 ²	1 ³
2		1	3	6	1 ²	1 ³
3		2	5	6	1 ²	2 ³
8		1 ¹	-	-	-	-
9		1 ¹	1 ²	6	1 ²	1 ¹

1. value "000".
2. value of the maximum braked weight.
3. value of the braked weight corresponding to the tare ("empty" system).

1. Proposal for use of a 5-position coding at a later date.