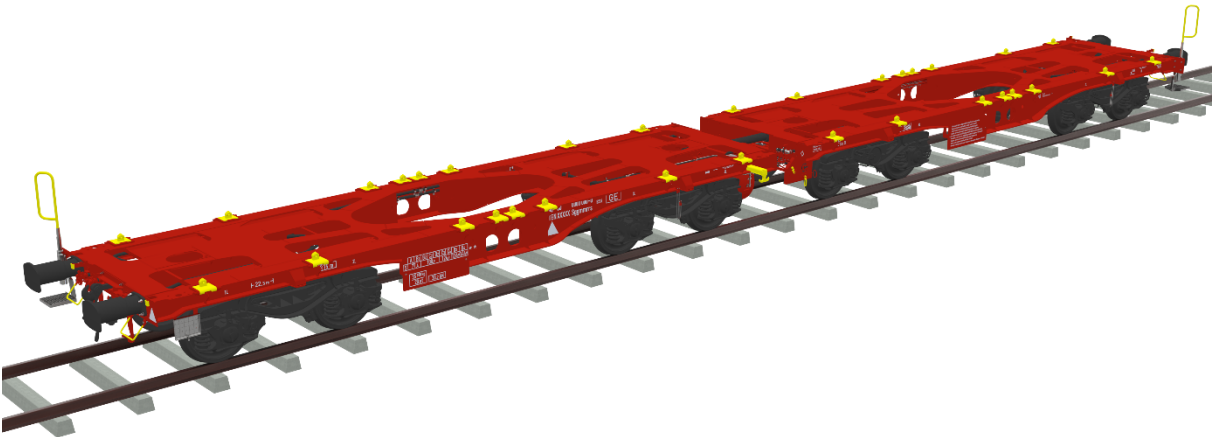



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**Operating Concept**  
**IW60ft 6500**  
Sggmmrrs



	Function	Name	Date	Result
Version erstellt	Modular Solutions	Lukas Geßelbauer	22.02.2023	

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## 1 LIST OF CHANGES

Revision-number	Changes	Performed by	Date of change
Rev 4.00	Typeplan changes	LGE	17.01.2022
Rev 5.00	Update – User Manual	LGE	27.04.2022
Rev 6.00	Typeplan changes – variant names updating	LGE	31.05.2022
Rev 7.00	Typeplan changes – Layout & Document name updating	LGE	14.07.2022
Rev 8.00	Update Point 3	LGE	29.12.2022

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## 2 LIST OF ABBREVIATIONS

Abbreviations	Long form
IW	InnoWaggon
UIC	Internationaler Eisenbahnverband
HLL	Main air pipe
HBL	Main air reservoir pipe
TEN	Transeuropean net
TSI	Technical specification interoperability
G1, GE, ...	Boundary lines according to TSI

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### 3 EXPLANATION OF ABBREVIATIONS

#### **InnoWagon**

Innovative freight wagon that can transport different goods with different loading structures. The loading frames are mounted on UIC container carrying pins or screwed to the wagon via a hole system (e.g., stanchion systems).

#### **ECM**

„Entity in Charge of Maintenance” – entity responsible for maintenance

#### **Own weight / Tare weight**

IF loading devices and intermodal loading units are always included in the tare weight of the wagon. (ISO containers are not included in the tare weight).

#### **Loose wagon parts:**

Components of the wagon, which are not a part of the wagon.

#### **Loading limits grid / Track limits grid:**

Grid for displaying the maximum possible load weight depending on route class and speed.

#### **Loading limits / Track limits:**

The load limits are labelled on the wagon. The relevant load limit is determined by the lowest route class on the transport route. It may not be exceeded.

#### **Combined transport (CT) (Kombinierter Ladungsverkehr (KV)):**

In CT, codified intermodal loading units (ILU) are carried on special carrying wagons over specially tested and approved routes in agreed trains with a max. profile number. All intermodal loading units are codified in accordance with UIC Leaflet 596-6. This codification ensures compatibility with the profiles permitted on the CT routes.

#### **TSI-License owner:**

InnoWaggon GmbH, Grazer Straße 11, 8600 Bruck an der Mur, Austria is the legal owner of the TSI license and all documents required for the license.

#### **Loaded wagon:**

The wagon is considered loaded as soon as an IF loading device or another intermodal loading unit is placed on the container pin, regardless of the loading status of the IF loading device or the intermodal loading unit.

#### **TVP:**

Tatravagonka Poprad

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## 4 SCOPE OF APPLICATION

The aim of this document is to regulate the safe use of the vehicle in combination with the containers and upper structures (configurations according to the type plan).

The operating concept applies to the operation of the vehicle in the TEN (Trans European Network) GE for all the following wagon units, which are noted on the currently valid type plan.

The operating concept applies to the operation of the InnoWaggon Sggmmrrs 60ft 6500 vehicle (XX XX 4658 XXX-X) in TEN.

## 5 MARKING OF THE LOADING DEVICES

Depending on the configuration variant, the loading devices are provided with yellow (internationally approved, UIC compliant), or red codification plates (nationally approved, not UIC compliant in all features, approval bi-/multilaterally agreed).

The following loading devices/variants do not require a codification plate:

- The loading devices of the whole class „A“ Variants
- The loading devices of the whole class „B“ Variants
- The Variant „F01“
- The Variant „D09 & D16“
- The Variant „D14“
- The Variant „E01 & E03“
- The Variant „F03“

Variants with red codification labels:

- may be transported as an exceptional delivery **or**
- the approved authorities/EVU are:
- listed next to the code license plate in the separate agreement grid, **or**
  - listed in the associated loading example, in which case its number is indicated in the code license plate.

The profile number specified in the codification plate (e.g., C45) indicates which KV profile is applied.

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## 6 OPERATIONAL SPECIFICATION

### 6.1 General

The wagon has an approval according to TSI with the address TEN GE or CW. The associated approval notice requires that the wagon must always be operated with at least one loose wagon component per wagon half.

In order to comply with this requirement, the loading devices are marked as loose wagon components with the international address for loose wagon components (Annex 2 – Additional wagon labels).

According to EN 16235, a minimum weight for 4-axle freight cars of 4 tons per axle is prescribed.

**Due to the empty weight of approx. 14 tons per wagon element, the wagon must always be transported with all loading devices (containers, bins, stanchion pallets) marked on the wagon.**

**If a loose wagon component marked on the wagon is missing, the missing loading equipment must be replaced; if this is not possible, the wagon must be suspended.**

**Point 6.1.7.7 of Annex 9 of the AVV must not be applied.**

6.1.7.7	Lose Wagenbestandteile fehlen, nicht vollständig	M	3
6.1.7.8	Lose Wagenbestandteile nicht gesichert	sichern	4

The exchange of the loading device from one variant to another is only allowed to be carried out by trained and authorized personal. The training and authorization must be carried out by the ECM, or the TSI license holder.

**The transport of new configuration variants which are not shown on the type plan or which deviate from the type plan is not permitted without the approval of the TSI license holder. The transport of ISO containers is excluded.**

The wagons are to be transported in accordance with the provisions of UIC loading guideline volume 1, section 1.1, the wagons of combined transport listed on the right half page and the resulting transport requirements in section 1.3.

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## **6.2 F1 qualification (acc. to EN12663-2) – summary from test report (Annex 6: Cover sheet of test report on single wagon qualification of loading devices)**

The rail vehicle in question is generally suitable for rolling or pushing in single wagon traffic.

Innofreight, as owner of the superstructures, authorizes the respective RU (EVU) to lift the rolling and pushing ban for wagons from this scope and the specified superstructures and assumes responsibility for the superstructures.

The following container / loading device variants in combination with the wagon are suitable for rolling off or pushing off in single wagon traffic:

- Types of Group „A“ – Pallets
- Types of Group „B“ – Stanchion systems
- Types of Group „C“ – Container with pneumatical functions (e.g., RockTainers)
- All superstructures where the longitudinal forces are transmitted to the stopper consoles during transport.

For the above-mentioned groups of loading devices, the wagon inscription (Annex 2 – Additional wagon labels) - signs for the prohibition of pushing off and running off - is not valid or, if necessary, must be covered (over stucked).

## **6.3 ISO-Container Transport**

Special rules for ISO containers are specified for the following variants:

- Variant "D14, BoxOnBox": Wagon halves that can be loaded with ISO containers are never allowed to be put into operation without ISO containers.
- Variant "E02, ISO Container": Wagon halves that can be loaded with ISO containers are only allowed to be put into operation without ISO containers if the specified ballast plates are mounted.

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## 7 WHAT TO DO IN THE EVENT OF DAMAGE TO THE WAGON OR THE LOADING DEVICE

### 7.1 Reporting and processing of the damage to the wagon

In case of any damage to the wagon during the operation of the vehicle, the wagon keeper marked on the wagon must be informed.

The respective contact addresses of the wagon keeper can be found on the website:

<http://www.gcubureau.org/welcome> (search for the contracting party).

All repairs to the wagon are allowed to be carried out only by authorized workshops. The decision on the form in which the repair is carried out is made by the keeper in agreement with the responsible ECM in accordance with the GCU.

For example:

1. DE_Details of GCU contact
Rail Cargo Wagon - Austria GmbH
Halter
Österreich
Am Hauptbahnhof 2
Wien
1100
Österreich
ATU51274106
01. 07. 2006.

*Figure 1 Example of contact data from the wagon which took damage*

### 7.2 Reporting and processing of damage to the Loading device (Upper structures)

If damage to the loading device is caused during operation of the vehicle, the Innofreight damage hotline must be informed immediately.

#### **Innofreight - Damage hotline (Schadenshotline)**

Email: [support@innofreight.com](mailto:support@innofreight.com)

Phone: +43 / 3862 8989 242

Fax: +43 / 3862 8989 241

All repairs to loose wagon components are only allowed to be carried out by authorized and trained workshops. The decision as to the form in which the repair is to be carried out is made by the Innofreight claims hotline.

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- Anlage 2 – Additional Wagon labels
- Anlage 3 – Examples of codification plates
- Anlage 4 – Stopper consoles
- Anlage 5 – User manual InnoWaggon IW60ft 6500 Sggmmrrs
- Anlage 6 – Test report on single-wagon qualification of loading devices

### **Annex 1 – Typeplan**

The type plan is kept as a separate document.

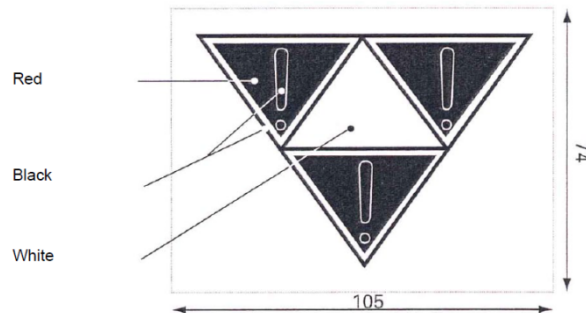
**Document name: Type plan IW60ft 6500 Sggmmrrs**

Reference is always made to the latest and valid version.

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## Annex 2 – Additional wagon labels

### 5.5 Sign for wagons that must not be fly- or gravity-shunted



**Position:** On the left of each solebar, or on parts covering the solebar or on special boards fitted at the same height as the solebars.

**Meaning:** Wagon

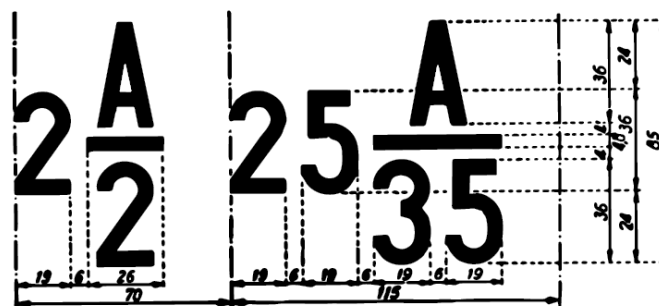
- must not be fly- or gravity-shunted,
- must be marshalled by a motive power unit,
- must not be loose-shunted and must be protected against buffing by other rolling stock.

**N.B.:** Point 5.3.4.1 of the RID states that in place of the shunting label (shown in model 15) the wagon may instead carry permanent shunting signs (wagon markings) providing they conform precisely to the prescribed example.

Figure 2 Appendix 11, 5.5 – Inscriptions and signs on wagons

### 2.13 Sign for removable wagon accessories

Removable wagon accessories

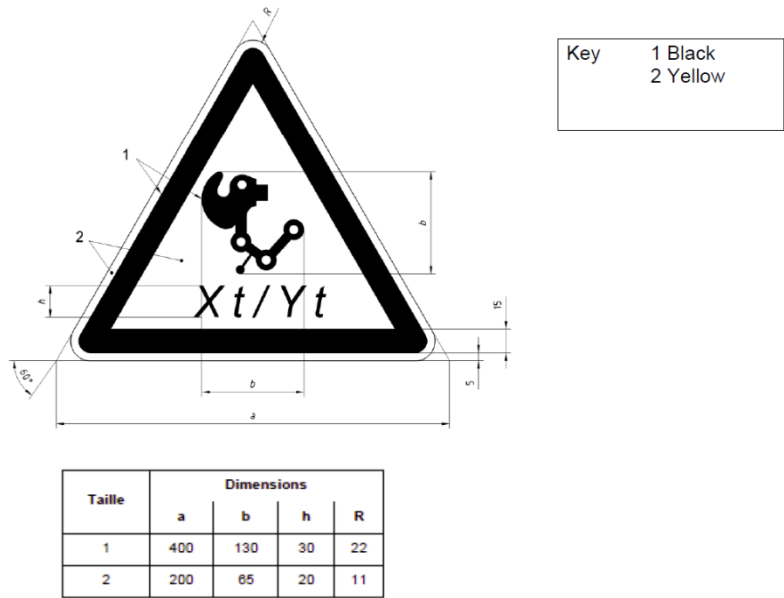


**Position:** On the right of each side wall.

**Meaning:** The number and type of removable accessories are to be indicated. In the case of carboy wagons and wagons with removable recipients, the number of such recipients should be indicated. The figure placed before the fraction indicates the number of removable accessories belonging to the wagon; the letter "A" indicates that the accessories are removable, and the denominator of the fraction gives the serial number assigned to the removable accessory in the list below. The names of the accessories may also be added in letters alongside these signs.

Figure 3 Appendix 11, 2.13 – Inscriptions and signs on wagons

**5.14 Sign for strengthened screw coupling**



**Position:** At each extremity of the side faces of the wagon or on frame girder. This marking must be chosen according to the reserved space for that purpose.

**Meaning:** Wagon with strengthened screw coupling – X t is related to coupling resistance, Y t to coupling hook. A strengthened screw coupling is described in EN 15566:2009, paragraph 4.1, table 1. System's recognition is over 1 MN.

Figure 5 Appendix 11, 5.14 – Inscriptions and signs on wagons

**4.4 Signs for wagons fitted with composite brake blocks**

**Position:** On both sides of the wagon, directly to the right of the marking indicating the type of brake.

**Meaning:** Marking for vehicles fitted with composite brake blocks with a

- high coefficient of friction ("K" type block)
- medium coefficient of friction ("L" type block)
- low coefficient of friction ("LL" type block)

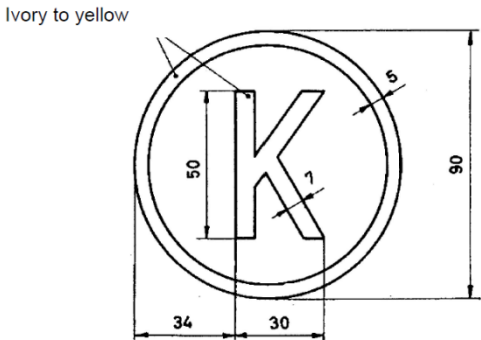


Figure 4 Appendix 11, 4.4 – Inscriptions and signs on wagons

**Annex 3 – Examples of codification plates**

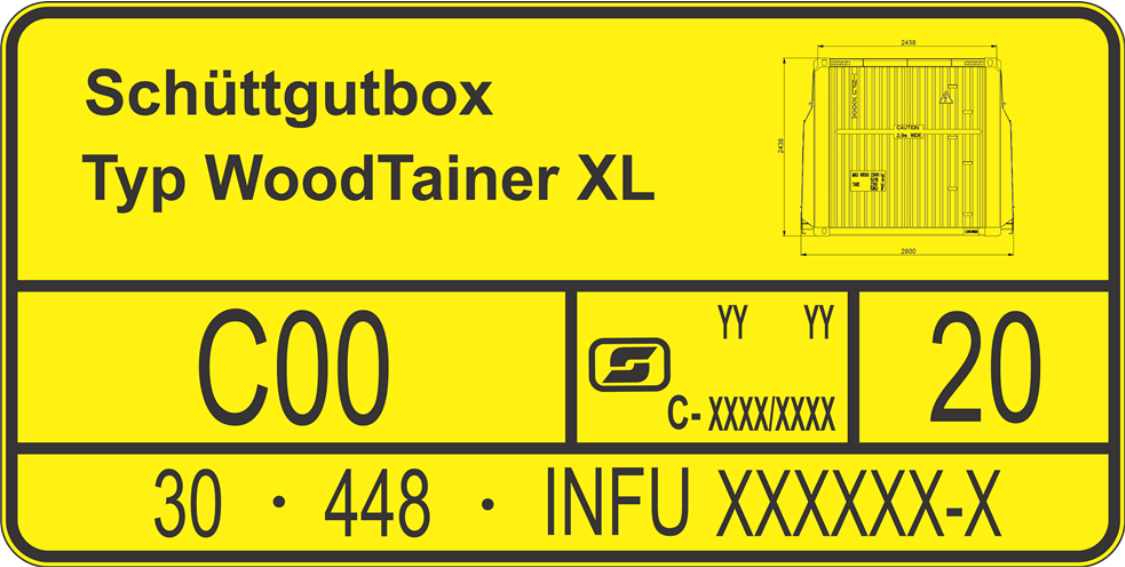


Figure 6 Example of yellow codification plate acc. UIC 596-6

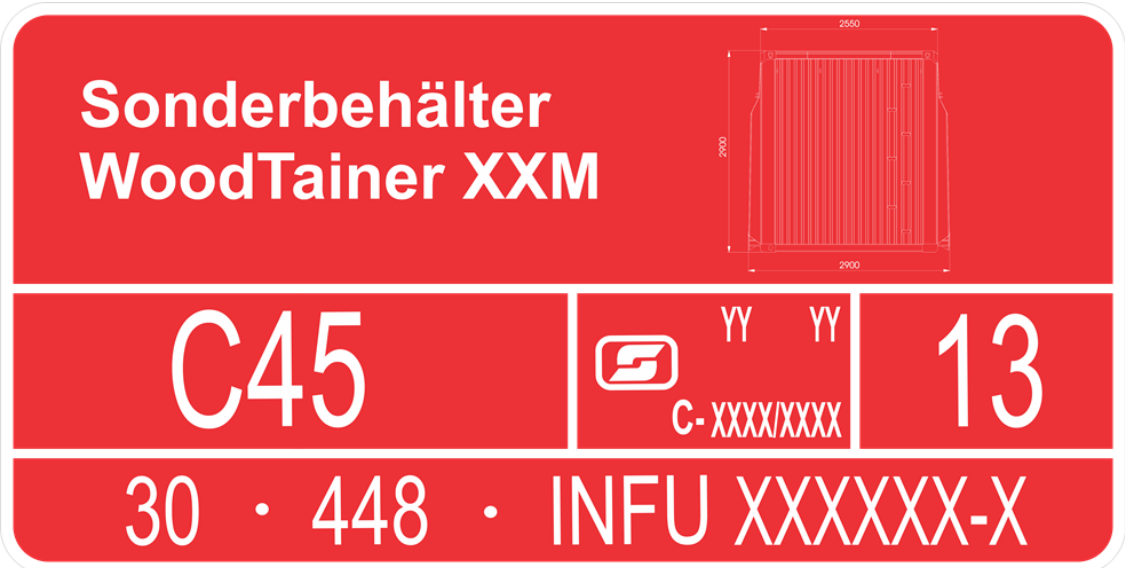



Figure 7 Example of red codification plate acc. UIC 596-6

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#### Annex 4 – Stopper consoles


The stopper console is used to transmit the longitudinal forces when transporting heavy-duty containers/loading devices.



Figure 8 Stopper consoles during operation



Figure 9 Stopper consoles – screw connection with the wagon frame

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### **Checking the stopper consoles**

The following must be checked as part of a vehicle inspection or when necessary:

#### **Stopper console**

The stopper console must be checked for plastic deformation and damage. A visual inspection is enough for this purpose.

#### **Screw connection**

The tightening torque (preload force) of the screw connection used for mounting the stopper consoles must be checked with a suitable measuring instrument (calibrated torque wrench)!

#### **Note:**

For the assembly of the stop brackets, screw connections of the type M20x80 8.8 with a tightening torque of 410Nm or M20x80 10.9 with a tightening torque of 580Nm, as well as self-locking nuts, are used.

### **Annex 5 – User Manual Basic Part IW60ft 6500 Sggmmrrs**

The user manual of the basic part and the respective specific appendices described in the type plan exist as separate documents.

#### **Document name: User Manual Basic Part IW60ft 6500 Sggmmrrs**

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## Annex 6 – Cover sheet of test report on single wagon qualification of loading devices

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Figure 10 Cover sheet – single wagon qualification