

*Written by: Henri Lagneau*

*Checked by: Nick Santos*

*Project: EC9932*

*Customer: VA-KO*

# FINAL ASSESSMENT REPORT

NoBo Mission

*TSI WAG*

DESIGN EXAMINATION (module CH1)

INTEROPERABILITY CONSTITUENT:

RUNNING GEAR

## Y25Lsdi(f)-KC1



*CONFIDENTIAL*

LIST OF SUCCESSIVE VERSIONS:

Version	Date	Changes
1	17/01/2022	Initial version
2	24/01/2022	Updates following Commission's comments (§1.3, §1.4, §1.6)

*The latest version supersedes the previous.*

VALIDATION:

	Signature
Name: Nick Santos Function: Project Manager	

*People who have written and checked this report (listed on the cover) approved it using secure electronic authorization, with CERTIFER's EDM software keeping a trace of it.*

## Table of Content

<b>1. CONTEXT OF THE PROJECT</b> .....	<b>4</b>
1.1. GENERAL.....	4
1.2. IDENTIFICATION OF THE PRODUCT SUBJECT TO CONFORMITY ASSESSMENT .....	4
1.3. IDENTIFICATION OF REFERENCE DOCUMENTS .....	4
1.4. IDENTIFICATION OF ASSESSMENT PLAN .....	4
1.5. IDENTIFICATION OF THE PRODUCT DESIGNER OR MANUFACTURER .....	4
1.6. NAME AND FUNCTION OF STAKEHOLDERS (INCLUDING SUBCONTRACTORS) IN CHARGE OF THE ASSESSMENT	4
1.7. SCOPE OF THE ASSESSMENT DESCRIBED IN THIS REPORT.....	5
1.8. RESTRAINTS AND ASSUMPTIONS RELATED TO THE COMPLIANCE ASSESSMENT .....	5
<b>2. DESCRIPTION OF THE ASSESSMENT WORK</b> .....	<b>5</b>
2.1. ASSESSMENT METHODS .....	5
2.2. MEASUREMENTS OR TESTS.....	5
2.2.1. <i>Measurements or tests performed by or on behalf of CERTIFER</i> .....	5
2.2.2. <i>Measurements or tests accepted as input data</i> .....	5
2.3. IDENTIFICATION OF THE DOCUMENTS OR PRODUCTS ASSESSED .....	5
2.4. DEVELOPMENT PROCESS OF THE ASSESSMENT TASK .....	5
<b>3. RESULTS</b> .....	<b>6</b>
3.1. EXCHANGE BETWEEN VA-KO AND CERTIFER.....	6
3.2. ASSESSMENT OF CONFORMITY WITH THE TECHNICAL SPECIFICATION FOR INTEROPERABILITY RELATING TO THE 'ROLLING STOCK — FREIGHT WAGONS' SUBSYSTEM .....	6
3.3. AREA OF USE OF THE RUNNING GEAR Y25LSDI(F)-KC1 .....	6
<b>4. CONCLUSION</b> .....	<b>7</b>

### List of attached documents

EC\_9932\_0002\_2 Clause-by-clause TSI-WAG-Running-Gear

# 1. Context of the Project

## 1.1. General

This CERTIFER project is part of a notified body (NoBo) assignment in the field of the technical regulations and specifications for interoperability.

## 1.2. Identification of the product subject to conformity assessment

The purpose is to submit interoperability constituent Running Gear Y25Lsdi(f)-KC1 to a Design Examination following module CH1. The constituent is designed and manufactured by VA-KO.

## 1.3. Identification of reference documents

- Directive (EU) 2016/797 of the European parliament and the council of 11 May 2016 on the interoperability of the rail system within the European Union as amended
- COMMISSION REGULATION (EU) No 321/2013 of 13 March 2013 concerning the technical specification for interoperability relating to the subsystem 'rolling stock — freight wagons' of the rail system in the European Union and repealing Decision 2006/861/EC  
Amended by:
  - Commission Regulation (EU) No 1236/2013 of 2 December 2013
  - Commission Regulation (EU) 2015/924 of 8 June 2015
  - Commission Implementing Regulation (EU) 2019/776 of 16 May 2019
  - Commission Implementing Regulation (EU) 2020/387 of 9 March 2020Addressing in particular:
  - 5.3. Interoperability constituent specifications
- Commission decision of 9 November 2010 on modules for the procedures for assessment of conformity, suitability for use and EC verification to be used in the technical specifications for interoperability
- Technical Document of ERA 000MRA1044 version 1.1 of June 2017
- NB-RAIL – Recommendation For Use : RFU-RST-097

## 1.4. Identification of Assessment Plan

EC\_9932\_0001 version 3 (24/01/2022)

## 1.5. Identification of the product designer or manufacturer

**VA-KO**

Fatih Sultan Mah. 2368 Sok. No:6  
Çamlıkpark , Etimesgut / Ankara

## 1.6. Name and function of stakeholders (including subcontractors) in charge of the assessment

<b>Project Manager</b>	<b>Nick Santos Olivera</b>
<b>Junior Project Manager</b>	<b>Ömer Şimşek</b>
<b>Lead Assessor</b>	Henri Lagneau
<b>Assessor</b>	Burak Koç
<b>Technical Experts</b>	Henri Lagneau, Burak Koç

### 1.7. Scope of the assessment described in this report

This assessment follows TSI § 6.1.1. *Table 8 Modules for conformity assessment of interoperability constituents*. VA-KO has decided for Module CH1, Conformity based on full quality management system plus design examination. This report describes the Design Examination.

The examination is a review of the design files of the constituent running gear Y25Lsdi(f)-KC1 under assessment. The applicable technical requirements are listed in TSI § 5.3. Interoperability constituent specification: § 5.3.1. Running gear.

### 1.8. Restraints and assumptions related to the compliance assessment

N/A

## 2. Description of the assessment work

### 2.1. Assessment methods

CERTIFER carries out the assessment with respect to its Quality Management System.

For NoBo mission CERTIFER is accredited under n°5-0572 by the “Industrial Products and service Certification” section of COFRAC (French Committee of Accreditation) according to NF EN ISO CEI 17065:2012. The scope is available on [www.cofrac.fr](http://www.cofrac.fr).

The assessment is carried out by an Assessor in the Technical Field who is appointed by one of the Section Committees of CERTIFER.

The final report is edited by the Assessor, under the supervision of the Project Manager.

### 2.2. Measurements or tests

#### 2.2.1. Measurements or tests performed by or on behalf of CERTIFER

NA

#### 2.2.2. Measurements or tests accepted as input data

The Test Centre for Railway Rolling Stock and Containers VÚKV a. s., Bucharova 1314/8, CZ-158 00 Praha 5, carried out the static strength test and the fatigue test on the Bogie Frame of the Y25 Bogie for Freight Wagon.

The tests were prepared and carried out by the staff of the Dynamic Testing Laboratory No. 1047, Výzkumný a zkušební ústav, s.r.o, Plzeň in cooperation with and under technical supervision of the Test Centre for Rail Vehicles and Containers VÚKV a.s., accredited Testing Laboratory No. 1085.

The test results are trustfully acceptable.
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### 2.3. Identification of the documents or products assessed

The constituent running gear Y25Lsdi(f)-KC1 under design examination is defined by the documents in the list “Documents” of workbook EC\_9932\_0002\_02 Clause-by-clause TSI-WAG-Running-Gear.

### 2.4. Development process of the assessment task

The development of the assessment took place from 22/12/2021 until now.

The assessment of constituent running gear Y25Lsdi(f)-KC1 is carried out following the Assessment Plan.

CERTIFER has not subcontracted any part of the work.

### 3. Results

#### 3.1. Exchange between VA-KO and CERTIFER

The exchanges between the applicant and CERTIFER were carried out by email. All of the questions and documents requests have been satisfactorily answered and are closed.

The point is completely satisfying.

#### 3.2. Assessment of conformity with the technical specification for interoperability relating to the 'rolling stock — freight wagons' subsystem

The assessment is recorded in the attached document (EC\_9932\_0002\_02 Clause-by-clause TSI-WAG-Running-Gear). According to the expert opinion, in view of the explanations given by the applicant and the results of the assessment of the design documents, the constituent running gear Y25Lsdi(f)-KC1 is compliant with:

- the Interoperability constituent specification clause 5.3.1. Running gear
- the clause 4.2.3.5.2. Running dynamic behaviour
- the clause 4.2.3.6.1. Structural design of bogie frame
- the demonstration of conformity 6.1.2.1. Running gear
- the Design Examination module CH1.

The demonstration of conformity of constituent running gear Y25Lsdi(f)-KC1 is acceptable.

#### 3.3. Area of use of the running gear Y25Lsdi(f)-KC1

Parameter	Running gear Y25Lsdi(f)-KC1
—Track gauge	1435 mm
— Maximum speed	120 km/h @ 20 t/axle 100 km/h @ 22,5 t/axle
—Maximum cant deficiency	130 mm
— Minimum tare of the unit	16 t
— Maximum axle load	22,5 t
— Range of distances between bogie pivots or range of wheelbase of 'two-axle units'	5,0 m ~ 20,0 m
— Maximum height of center of gravity of empty unit	1500 mm
— Coefficient of height of center of gravity of loaded unit	300
— Minimum torsional stiffness coefficient of car body	2040.10 <sup>10</sup> N.mm <sup>2</sup> /rad
— Maximum mass distribution coefficient for empty units	0,5
— Minimum nominal wheel diameter	Ø840 mm
— Rail inclination	1:40

The area of use of constituent is clearly defined.

Nota: these results relate exclusively to the elements of the service described in the paragraph 1 above.

## 4. Conclusion

The assessment process has concluded that:

- the Design Examination is carried out following module CH1
- the running gear Y25Lsdi(f)-KC1 under examination complies with the specification applicable to interoperability constituent running gear of TSI-WAG
- the area of use of this type of running gear is clearly defined

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**The assessment team is in agreement with the "EC" certification (module CH1) of the running gear Y25Lsdi(f)-KC1 following TSI N°321/2013 of 13 March 2013 amended by Regulation (EU) 1236/2013 of 2 December 2013, Regulation (EU) 2015/924 of 8 June 2015, Regulation (EU) 2019/776 of 16 May 2019 and Regulation (EU) 2020/387 of 9 March 2020.**

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