

Train Control ETCS sys

ETCS System Compatibility Borders

Document Management

	Name	Signature Date	Signature
Written	Thomas Destrée		
Checked	Valérie Chirez		
Approved	Yves Werner		

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History

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T. Destrée	1.1 draft 1	23/03/2020	/	Creation of the document
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T. Destrée	1.2 draft 1	7/12/2021	1.1 1.5 3.2.2	Correction of the link to TSI's. Minor adaptations L37 chapter completed.
	1.2 draft 2	29/03/2022	3.1.2, 3.1.3, 3.1.5, 4.1, 4.2, 4.3, 4.4.	Update according to ProRail remarks: <ul style="list-style-type: none"> Reference to Dutch ESC tests for L12 and L4. Detailed verifications added in ESC_BorderL40_1, ESC_BorderL40_2, ESC_BorderL40_3, New test case ESC_BorderL40_4.
	1.2 draft 3	13/04/2022		Review comments.
	1.2	3/05/2022		Review comments from ProRail on test cases of L40.
			§3.4.4, §4.5, §4.6, §4.7	ESC tests for L96
T. Destrée	1.3 draft 1	28/07/2022	All document	Test descriptions splitted in different annexes for each country.
T. Destrée	1.3	11/10/2022		Major version
T. Destrée	1.4	17/07/2023		References of the existing test cases added.

Abrogated documents

Name	Version	Date

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1. Introduction

1.1 Purpose of the document

The purpose of this document is to define the test scenarios to perform to prove the ETCS System Compatibility (ESC) between the On-board and the trackside at the Infrabel network borders.

The success of these test scenarios shall prove the technical compatibility between ETCS On-board and the Trackside part ETCS of the CCS subsystems within the ETCS area on Infrabel network.

The technical specification for interoperability used for the border depends on the type program:

- Level 1 LS lines: [3] and [4];
- Level 2 FS lines: [5], [6] and [7];
- Level 1 FS lines: [6] and [7].

These test scenarios for ETCS system compatibility do not cover all design rules used in an ETCS area. If required, Infrabel can provide additional operational test scenarios performed during the verification that the trackside subsystem complies with the requirement of the TSI.

In case of doubt concerning the ESC of the board with the trackside, the railway undertaking shall take the required action with his supplier and inform Infrabel.

1.2 Basic documents

Ref.	Title	Owner
[1]	PSI (TC,ETCSsys,z) ESC TST PLN 1.7	Infrabel
[2]	Masterplan ETCS and IL 1.1 - Visie 2025 - Situatie ETCS	Infrabel

1.3 Reference documents

Title	Owner
[3] Commission Regulation (EU) 2016/919 of 27 May 2016	EU
[4] Corrigendum to Commission Regulation (EU) 2016/919 of 27 May 2016	EU
[5] Commission Decision (EU) 2015/14 of 5 January 2015	EU
[6] Commission Decision (EU) 2012/88/EU of 25 January 2012	EU
[7] Commission Decision (EU) 2012/696/EU of 6 November 2012	EU
[8] TD/011REC1028	ERA

1.4 Annexes

Ref.	Owner
[9] PSI (TC,ETCSsys,z) Borders ESC TST DSC D	Infrabel
[10] PSI (TC,ETCSsys,z) Borders ESC TST DSC FR	Infrabel
[11] PSI (TC,ETCSsys,z) Borders ESC TST DSC L	Infrabel
[12] PSI (TC,ETCSsys,z) Borders ESC TST DSC NL	Infrabel

The latest available version of those documents shall be used.

1.5 Scope

This document is applicable for all trains that would run under the protection of ETCS on lines close to an external border of the Infrabel network.

1.6 Definitions, symbols and abbreviations

CCS	Control Command System
ESC	ETCS System Compatibility
ETCS	European Train Control System

FS	Full Supervision
LS	Limited Supervision
TSI	Technical Specification for Interoperability

1.7 Known imperfections

Only the test cases existing at the time of the redaction are listed.

2. On-board Equipment

Out of scope of railway manager Infrabel.

3. ESC test descriptions

The description of the tracks at the borders and the ESC tests required for each of those are described in an annexe of this document for each country.

3.1 Borders with Germany

The lines 24 and 37 have a border with Germany.
The borders on those lines are described in [9].

3.2 Borders with France

The lines 1, 75, 94, 96, 130A, 165/2 and 165/3 have a border with France.
The borders on those lines are described in [10].
The existing test cases at this time are: ESC_BorderL96_1, ESC_BorderL96_2, ESC_BorderL96_3

3.3 Borders with Luxembourg

The lines 42, 162, 165/1 and 167 have a border with Luxembourg. Those lines are equipped with ETCS 1 FS on both sides of the border without specific functions requiring ESC tests.
The borders with Luxemburg are described in [11].

3.4 Borders with The Netherlands

The lines 4, 12, 19, 40 and 55 have a border with The Netherlands.
The other borders on those lines are described in [12].
The existing test cases at this time are: ESC_BorderL40_1, ESC_BorderL40_2, ESC_BorderL40_3, ESC_BorderL40_4