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Railway applications - Braking - Wheel slide  
protection

## EESTI STANDARDI EESSÕNA

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| <p>See Eesti standard EVS-EN 15595:2018+A1:2023 sisaldab Euroopa standardi EN 15595:2018+A1:2023 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 11.10.2023.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p> | <p>This Estonian standard EVS-EN 15595:2018+A1:2023 consists of the English text of the European standard EN 15595:2018+A1:2023.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 11.10.2023.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p> |
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## Railway applications - Braking - Wheel slide protection

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This European Standard was approved by CEN on 3 August 2018 and includes the Corrigendum issued by CEN on 17 February 2021 and Amendment 1 approved by CEN on 23 July 2023.

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| <b>Contents</b>   | <b>Page</b> |
|---|-------------|
| European foreword.....  | 6           |
| Introduction .....  | 7           |
| 1 Scope.....  | 8           |
| 2 Normative references.....                                   | 8           |
| 3 Terms and definitions .....                                 | 9           |
| 4 Symbols and abbreviations .....                             | 12          |
| 5 Requirements.....   | 12          |
| 5.1 Functional requirements.....                              | 12          |
| 5.1.1 Objectives of wheel slide protection.....               | 12          |
| 5.1.2 General functional requirements.....                    | 13          |
| 5.1.3 Control of the brake force .....                        | 13          |
| 5.1.4 Wheel slide protection watchdog (safety timer).....     | 14          |
| 5.1.5 Air supply.....   | 14          |
| 5.1.6 Wheel diameter differences.....                         | 14          |
| 5.1.7 Wheel rotation monitoring (WRM) .....                   | 14          |
| 5.1.8 Diagnostics .....                                       | 15          |
| 5.2 Design requirements .....                                 | 16          |
| 5.2.1 Environmental specification.....                        | 16          |
| 5.2.2 Fire behaviour.....                                     | 16          |
| 5.2.3 RAMS.....   | 17          |
| 5.2.4 Mechanical construction .....                           | 17          |
| 5.2.5 Power management .....                                  | 17          |
| 5.2.6 Software.....   | 18          |
| 5.2.7 Electronic control unit Input/Output (I/O).....         | 18          |
| 5.2.8 Sensor - axle speed acquisition.....                    | 18          |
| 5.2.9 Actuator - modification of brake force .....            | 18          |
| 5.3 Installation recommendations.....                         | 19          |
| 5.3.1 General installation requirements .....                 | 19          |
| 5.3.2 Air system .....  | 19          |
| 5.3.3 Power supply and electrical system.....                 | 19          |
| 5.4 Performance requirements for WSP.....                     | 20          |
| 5.4.1 Performance .....                                       | 20          |
| 5.4.2 Stopping distance and adhesion improvement.....         | 21          |
| 5.4.3 Wheelset slide limits.....                              | 21          |
| 5.4.4 Track damage .....                                      | 22          |
| 5.4.5 Maximum deceleration .....                              | 22          |
| 5.4.6 Air consumption.....                                    | 23          |
| 5.4.7 Output based on speed information provided by WSP ..... | 23          |
| 6 Range of tests.....   | 24          |
| 6.1 General.....  | 24          |
| 6.1.1 Test classifications.....                               | 24          |
| 6.1.2 Assessor.....   | 24          |
| 6.2 Type Test.....  | 24          |
| 6.2.1 General.....  | 24          |

|         |   |    |
|---------|---|----|
| 6.2.2   | Test requirements.....  | 24 |
| 6.2.3   | Individual component Type Test.....   | 25 |
| 6.3     | Vehicle Implementation Test.....  | 25 |
| 6.3.1   | General.....  | 25 |
| 6.3.2   | Test requirements.....  | 26 |
| 6.3.3   | Conformity of previous vehicle tests.....   | 26 |
| 6.4     | List of tests.....  | 26 |
| 6.4.1   | Standard tests.....   | 26 |
| 6.4.2   | Drag tests.....   | 27 |
| 6.4.3   | Test methods for speeds from 160 up to 200 km/h.....  | 27 |
| 6.4.4   | Test methods for speeds > 200 km/h.....   | 27 |
| 6.4.5   | Supplementary higher deceleration tests.....  | 27 |
| 6.4.6   | Supplementary approval tests for WSP acting in vehicles with brakes that are independent of adhesion..... | 27 |
| 6.4.7   | Supplementary approval tests involving tractive units and trainsets having dynamic brakes.....            | 27 |
| 6.4.8   | Testing of wheel rotation monitoring (WRM).....   | 28 |
| 6.5     | Re-testing.....   | 34 |
| 6.5.1   | General.....  | 34 |
| 6.5.2   | Hardware.....   | 34 |
| 6.5.3   | Software.....   | 35 |
| 7       | Test methods.....   | 35 |
| 7.1     | General.....  | 35 |
| 7.2     | Measurement.....  | 36 |
| 7.3     | Tests on vehicle.....   | 37 |
| 7.3.1   | General.....  | 37 |
| 7.3.2   | Generation of degraded adhesion.....  | 38 |
| 7.3.3   | Environmental conditions.....   | 38 |
| 7.4     | Test in simulation environment.....   | 39 |
| 7.4.1   | General.....  | 39 |
| 7.4.2   | Tests on simulation rig.....  | 39 |
| 7.4.3   | Additional specific simulator tests.....  | 40 |
| 7.4.4   | Optional tests.....   | 40 |
| 8       | Evaluation of test.....   | 40 |
| 8.1     | Correcting the stopping distances.....  | 40 |
| 8.2     | Number and validity of dry tests.....   | 40 |
| 8.3     | Evaluation of slide test.....   | 40 |
| 8.3.1   | General.....  | 40 |
| 8.3.2   | Evaluation of stopping performance.....   | 41 |
| 8.3.3   | Evaluation of test validity.....  | 42 |
| 8.3.4   | Evaluation of relative air consumption.....   | 51 |
| 9       | Documentation of tests.....   | 52 |
| 9.1     | Test Specification.....   | 52 |
| 9.2     | Test report.....  | 53 |
| 10      | Routine test and inspection.....  | 54 |
| 11      | Designation, identification and marking.....  | 54 |
| Annex A | (normative) Tables linking the WSP / WRM Requirements to Tests and Test Criteria.....                     | 55 |
| Annex B | (normative) Minimum requirements for a WSP simulator.....   | 75 |
| B.1     | General.....  | 75 |

|                |   |            |
|----------------|---|------------|
| <b>B.1.1</b>   | <b>General</b> .....  | <b>75</b>  |
| <b>B.1.2</b>   | <b>Use of the simulator model</b> .....                                 | <b>75</b>  |
| <b>B.2</b>     | <b>Adhesion model</b> .....   | <b>80</b>  |
| <b>B.2.1</b>   | <b>General</b> .....  | <b>80</b>  |
| <b>B.2.2</b>   | <b>Constant adhesion condition</b> .....                                | <b>80</b>  |
| <b>B.2.3</b>   | <b>Variable adhesion condition</b> .....                                | <b>80</b>  |
| <b>B.2.4</b>   | <b>Adhesion conditioning factors</b> .....                              | <b>81</b>  |
| <b>B.3</b>     | <b>Test and performance model</b> .....                                 | <b>81</b>  |
| <b>B.3.1</b>   | <b>General</b> .....  | <b>81</b>  |
| <b>B.3.2</b>   | <b>Simulator performance</b> .....                                      | <b>81</b>  |
| <b>B.3.3</b>   | <b>Test requirements</b> .....  | <b>81</b>  |
| <b>B.3.4</b>   | <b>Stopping performance</b> .....                                       | <b>81</b>  |
| <b>B.3.5</b>   | <b>Wheel damage</b> .....   | <b>82</b>  |
| <b>B.3.6</b>   | <b>Air system</b> .....   | <b>82</b>  |
| <b>B.3.7</b>   | <b>Pass/fail limits</b> .....   | <b>82</b>  |
| <b>B.3.8</b>   | <b>Fault conditions</b> .....   | <b>82</b>  |
| <b>B.3.9</b>   | <b>WSP outputs</b> .....  | <b>83</b>  |
| <b>B.4</b>     | <b>Vehicle performance model</b> .....                                  | <b>83</b>  |
| <b>B.4.1</b>   | <b>General</b> .....  | <b>83</b>  |
| <b>B.4.2</b>   | <b>Friction material</b> .....  | <b>83</b>  |
| <b>B.4.3</b>   | <b>Pneumatic actuator/brake demand</b> .....                            | <b>83</b>  |
| <b>B.4.4</b>   | <b>Body/Bogie/wheel dynamics</b> .....                                  | <b>83</b>  |
| <b>B.5</b>     | <b>Vehicle functional model</b> .....                                   | <b>84</b>  |
| <b>B.5.1</b>   | <b>General</b> .....  | <b>84</b>  |
| <b>B.5.2</b>   | <b>Functional inputs</b> .....  | <b>84</b>  |
| <b>B.6</b>     | <b>Simulator validation</b> .....                                       | <b>84</b>  |
| <b>B.6.1</b>   | <b>General</b> .....  | <b>84</b>  |
| <b>B.6.2</b>   | <b>Validation of test benches</b> .....                                 | <b>84</b>  |
| <b>B.6.3</b>   | <b>Management</b> .....   | <b>87</b>  |
| <b>Annex C</b> | <b>(informative) Example of customer specific simulator tests</b> ..... | <b>88</b>  |
| <b>C.1</b>     | <b>Naturally occurring variable adhesion tests</b> .....                | <b>88</b>  |
| <b>C.1.1</b>   | <b>General</b> .....  | <b>88</b>  |
| <b>C.1.2</b>   | <b>Sequence</b> .....   | <b>88</b>  |
| <b>C.1.3</b>   | <b>Measurement and pass/fail criteria</b> .....                         | <b>90</b>  |
| <b>C.2</b>     | <b>Sustained low adhesion track condition (SLAC) Tests</b> .....        | <b>91</b>  |
| <b>C.2.1</b>   | <b>Sequence</b> .....   | <b>91</b>  |
| <b>C.2.2</b>   | <b>Measurement/pass fail criteria</b> .....                             | <b>92</b>  |
| <b>C.2.3</b>   | <b>WSP speed reference (<math>v_{ref}</math>)</b> .....                 | <b>92</b>  |
| <b>C.3</b>     | <b>Operating speeds above 160 km/h</b> .....                            | <b>92</b>  |
| <b>C.3.1</b>   | <b>Criteria</b> .....   | <b>92</b>  |
| <b>C.3.2</b>   | <b>Sequence</b> .....   | <b>93</b>  |
| <b>C.3.3</b>   | <b>Measurement and pass/fail criteria</b> .....                         | <b>93</b>  |
| <b>Annex D</b> | <b>(informative) Optional tests</b> .....                               | <b>94</b>  |
| <b>D.1</b>     | <b>Sander system tests — Criteria</b> .....                             | <b>94</b>  |
| <b>D.2</b>     | <b>Dynamic braking system tests — Criteria</b> .....                    | <b>95</b>  |
| <b>D.3</b>     | <b>Peripheral output tests — Criteria</b> .....                         | <b>95</b>  |
| <b>Annex E</b> | <b>(informative) Typical diagram of a real WSP test</b> .....           | <b>97</b>  |
| <b>Annex F</b> | <b>(informative) In-service monitoring</b> .....                        | <b>99</b>  |
| <b>Annex G</b> | <b>(informative) Braking configurations</b> .....                       | <b>100</b> |
| <b>G.1</b>     | <b>Per bogie control</b> .....  | <b>100</b> |

|  |            |
|--|------------|
| <b>G.2 Per wagon control .....</b>   | <b>100</b> |
| <b>Annex H (informative) Changes between Revision 1 and Revision 2 of EN 15595 .....</b> | <b>101</b> |
| <b>Bibliography .....</b>  | <b>103</b> |

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## European foreword

This document (EN 15595:2018+A1:2023) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2024, and conflicting national standards shall be withdrawn at the latest by April 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes A1 EN 15595:2018 and EN 15595:2018/AC:2021 A1.

This document includes the corrigendum EN 15595:2018/AC:2021 which corrects the wording of the 1<sup>st</sup> sentence of 8.3.3.3.1, the 2<sup>nd</sup> sentence of 8.3.3.3.2 and the 2<sup>nd</sup> sentence of 8.3.3.3.3.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags AC AC.

This document includes Amendment 1 approved by CEN on 23 July 2023.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

A1 *deleted text* A1

The rationale behind the changes between Revision 1 and this Revision of this standard is given in Annex H.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## Introduction

A Wheel Slide Protection (WSP) system is designed to make the best use of available adhesion and to improve adhesion by a controlled reduction and restoration of the brake force to prevent wheel sets from locking and uncontrolled sliding due to low adhesion. Thus the braking performance is optimized and the occurrence of wheelset damage is minimized.

The Wheel Rotation Monitoring (WRM) system is designed to detect locked wheels and to give immediate information in this case.

Trains fitted with WSP systems may consist of single vehicles, locomotive and trailing vehicles or may be high speed trains, multiple units, commuter trains, Light Rail Vehicles (LRV) and Tram Trains of any track gauge, etc.

Such trains will be equipped with friction brakes and may also be equipped with additional braking systems, e.g. dynamic brakes, wheel/rail adhesion independent brakes, and may also be fitted with adhesion improving systems, e.g. sanding.

This European Standard is not intended to be used to determine the stopping performance of a WSP equipped train under all environmental conditions.

## 1 Scope

This document specifies the criteria for system acceptance and type approval of a wheel slide protection (WSP) system. It also specifies criteria for the implementation of WSP to specific vehicle applications and specific operating conditions, as well as requirements for wheel rotation monitoring (WRM). This includes the design, testing and quality assessment of the WSP and WRM systems and their components.

This European Standard does not apply to vehicles on rubber tyred wheels or vehicles equipped with hydraulic brakes.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14478:2017, *Railway applications — Braking — Generic vocabulary*

EN 15663, *Railway applications — Vehicle reference masses*

EN 16834:2019, *Railway applications — Braking — Brake performance*

EN 45545 (all parts), *Railway applications — Fire protection on railway vehicles*

EN 50121-3-2, *Railway applications — Electromagnetic compatibility — Part 3-2: Rolling stock — Apparatus*

EN 50125-1, *Railway applications — Environmental conditions for equipment — Part 1: Rolling stock and on-board equipment*

EN 50126-1, *Railway Applications — The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) — Part 1: Generic RAMS Process*

EN 50128, *Railway applications — Communication, signalling and processing systems — Software for railway control and protection systems*

EN 50129, *Railway applications — Communication, signalling and processing systems — Safety related electronic systems for signalling*

EN 50155, *Railway applications — Rolling stock — Electronic equipment*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN 61373, *Railway applications — Rolling stock equipment — Shock and vibration tests (IEC 61373)*

EN ISO 228-2, *Pipe threads where pressure-tight joints are not made on the threads — Part 2: Verification by means of limit gauges (ISO 228-2)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

ISO 8573-1, *Compressed air — Part 1: Contaminants and purity classes*