



**SLOVENSKI STANDARD**  
**SIST EN 12082:2017/oprA1:2019**  
**01-april-2019**

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**Železniške naprave - Ohišja ležajev kolesnih dvojic - Preskušanje delovanja -  
Dopolnilo A1**

Railway applications - Axleboxes - Performance testing

Bahnanwendungen - Radsatzlager - Prüfung des Leistungsvermögens

Applications ferroviaires - Boîtes d'essieux - Essais de performance

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**ICS:**

45.040	Materiali in deli za železniško tehniko	Materials and components for railway engineering
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**SIST EN 12082:2017/oprA1:2019**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**EN 12082:2017**  
**prA1**

February 2019

ICS 45.040

English Version

## Railway applications - Axleboxes - Performance testing

Applications ferroviaires - Boîtes d'essieux - Essais de performance

Bahnanwendungen - Radsatzlager - Prüfung des Leistungsvermögens

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 256.

This draft amendment A1, if approved, will modify the European Standard EN 12082:2017. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 12082:2017/prA1:2019) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of EN 12082:2017.

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**EN 12082:2017/prA1:2019 (E)****1 Modification to Clause 2, Normative references**

Replace the current reference EN 12081:2007+A1:2010 with:

“EN 12081:2017”.

**2 Modifications to Clause 3, Terms and definitions**

In 3.9.1, delete the “<” sign before the definition.

**3 Modifications to Clause 4, Symbols and abbreviations**

Replace the existing description of  $n_{test}$  with the following:

“(see 3.12 nominal rotational test speed definition)”

Add the following line in Table 1:

“ $N_{trips}$ ; (no unit); theoretical number of elementary trips needed to achieve the performance test”.

Replace the definition of  $T_a$  (ambient temperature) with the following:

“ambient temperature (it is permitted to use a running average value for 30 min maximum to compensate for rapid changes in the ambient temperature)”.

Replace the definition of  $T_{z20}$  (measured temperature) with the following:

“measured temperature at a position  $z$  and then re-calculated to a temperature corresponding to an ambient temperature of 20 °C”.

Replace the existing description of  $v_{max}$  with the following:

“(see 3.11 maximum operational test speed definition)”

**4 Modifications to subclause 7.1, Rig performance test – General**

In the last paragraph, replace “Throughout the test, the performance of the bearings and the grease shall be monitored by measurement of temperatures” with:

“Throughout the test, the performance of the axleboxes shall be monitored by measurement of temperatures”.

**5 Modifications to subclause 7.3.1, Pre-test**

Add the following sentence at the end of the subclause:

“The elementary trips achieved during the pre-test are not submitted to any acceptance criteria described in 7.4”.

**6 Modifications to subclause 7.3.2, Performance test**

Replace the last sentence of the last paragraph with the following:

“If the number of interruptions exceeds  $(5 + 0,03 \times N_{trips})$ , the performance test shall be considered as not passed.”

## 7 Modifications to subclause 7.4.1, Results obtained during test

*Replace the second paragraph with the following:*

“This calculation shall be applied for the assessment of all criteria in Table A.2 except if an air-conditioned wind flow with  $(20 \pm 2)$  °C is used for cooling the axleboxes for the test period.”

*Replace the third paragraph with the following:*

“The rig test shall not be carried out if the ambient temperature is not comprised between 10 °C and 40 °C.”

*Delete the word “position” in the fourth paragraph to read:*

“For each thermal sensor, the maximum temperature as well as the simultaneous differences between axleboxes shall be registered. Sufficient temperature data points shall be registered in order that the results may be interpreted according to the criteria of Table A.2 (a sampling period of 100 s or less is recommended)”.

*Delete the word “position” in the sixth paragraph to read:*

“For consecutive elementary trips, the difference of maximum temperatures for an identical load zone sensor shall be noted and shall be used in the further evaluation according to the Criterion E in Table A.2”.

*Add the following sentence at the end of the subclause:*

“The first 4 elementary trips of the performance test (or of each sequence, in case of sequenced test) shall not be post-processed according to Table A.2.”

## 8 Modifications to subclause 7.5, Performance test report

*Replace the 12<sup>th</sup> bullet point with the following:*

“— for each temperature sensor and considering all elementary trips of the performance test (or of each sequence, in case of sequenced test), the mean value and the standard deviation of the maximum temperature values (of each elementary trip) shall be calculated. Pre-test values shall not be taken into account”;

## 9 Modifications to subclause 8.1, Field test – General

*Replace the fourth paragraph with the following:*

“The type of axlebox to be tested in the field test shall have passed the performance test in a laboratory.”

## 10 Modifications to Annex A.3, Grease sampling zones

*In Figure A.4, replace the first two lines of the key with the following:*

A bearing locking cap side zone, between the roller set and the seal (bearing outboard sealed area for cartridge bearings)

B bearing thrust collar side zone, between the roller set and the seal (bearing inboard sealed area for cartridge bearings)”

## EN 12082:2017/prA1:2019 (E)

**11 Modifications to Annex A.5.2, Conditions for sequenced tests**

Replace the first paragraph with the following:

“If a sequenced test is agreed in the test specification, the total cumulative distance shall be at least the required distance related to the highest sequence speed (i.e.: 400 000 km, 600 000 km or 800 000 km). Each sequence has to be defined according to Table A.1 and analysed according to Table A.2 and corresponding speed profile.

The following distribution of distance is taken by default:

—  $v_{\max} > 200$  km/h: (...)”

**12 Modifications to Annex A.6, Graphical presentation of test cycles**

Align the key of Figure A.5 correctly.

In Table A.1, capitalize the words “freight” and “urban”.

In Table A.1, replace all periods with comas as decimal separators.

Change the width of Table A.2 so that it is the same as Table A.1.

**13 Modifications to Annex A.7, Temperature criteria**

In the second column of Table A.2, delete all occurrences of the following phrase (appears 6 times in the table):

“excluding the first 4 elementary trips”. (standards.iteh.ai)

In the third column of Table A.2 for criteria A and B replace “for max 1 % of elementary trips” with:

“for max  $(0,01 \times N_{\text{trips}})$ ”. <https://standards.iteh.ai/catalog/standards/sist/d7a06763-2c31-4b8e-923c-2f6401cd7526/sist-en-12082-2017-oprA1-2019>

In the third and fourth columns of Table A.2 for criteria C, D, E1 and E2 replace “for max 2 % of elementary trips” with:

“for max  $(0,02 \times N_{\text{trips}})$ ”.

**14 Modifications to Annex A.8.2, Physico-chemical criteria**

In Table A.3, enlarge the second column so that all the units can fit on one line.

In Table A.4, replace all periods with comas as decimal separators.

**15 Modifications to Annex A.9.2, Preconditions for applicability of existing results**

Replace the first bullet with the following:

“— identical bearing. Conditions under which bearings can be considered as “identical” should be based on risk group number 3 of Table F.1 in EN 12080:2017”;

Replace the third sentence of the 8<sup>th</sup> bullet point with the following:

“The difference between the biggest and smallest bore diameters is calculated.”

Replace Formula (A.4) with the following:

$$“0,9 \cdot (D_{\max\_r} - D_{\min\_r}) \leq (D_{\max\_n} - D_{\min\_n}) \leq 1,1 \cdot (D_{\max\_r} - D_{\min\_r})”$$