# DIN EN 12082:2017-12 (E)

## Railway applications - Axleboxes - Performance testing

## Contents

Page


European foreword ..... 4

Introduction ..... 5

1 Scope ..... 6

2 Normative references ..... 6

3 Terms and definitions ..... 6

4 Symbols and abbreviations ..... 8

5 Test specification ..... 10
5.1 General requirements ..... 10
5.2 Test specification content ..... 10
5.2.1 General ..... 10
5.2.2 Rig tests ..... 10
5.2.3 Field test ..... 11

6 Water tightness test ..... 11

7 Rig performance test ..... 11
7.1 General ..... 11
7.2 Test execution ..... 12
7.2.1 Test rig ..... 12
7.2.2 Test parameters ..... 13
7.3 Carrying out the test ..... 14
7.3.1 Pre-test ..... 14
7.3.2 Performance test ..... 14
7.4 Acceptance criteria ..... 15
7.4.1 Results obtained during the test ..... 15
7.4.2 Results obtained after the test ..... 16
7.5 Performance test report ..... 16

8 Field test ..... 17
8.1 General ..... 17
8.2 Carrying out the test ..... 17
8.3 Test parameters ..... 17
8.4 Acceptance criteria ..... 18
8.4.1 Results to be obtained at intermediate inspections during the test ..... 18
8.4.2 Results to be obtained after the test ..... 18
8.5 Field test report ..... 18

Annex A (normative) Rig performance test ..... 19

A.1 Schematic examples of test rigs ..... 19
A.2 Temperature measurements ..... 21
A.3 Grease sampling zones ..... 22
A.4 Definition of forces ..... 23
A.5 Definition of test cycles ..... 23
A.5.1 Speed Classes and cumulative distances for testing ..... 23

A.5.2 Conditions for sequenced tests ..... 24
A.5.3 Particular conditions for similar rolling bearing(s), grease or box housing ..... 24
A.6 Graphical presentation of test cycles ..... 25
A.7 Temperature criteria ..... 26
A.8 Mechanical and physico-chemical acceptance criteria ..... 27
A.8.1 Mechanical criteria ..... 27
A.8.2 Physico-chemical criteria ..... 28
A.9 Reference to existing approval results ..... 29
A.9.1 General ..... 29
A.9.2 Preconditions for applicability of existing results ..... 30

Annex B (informative) Sequenced performance tests ..... 33

B.1 General ..... 33
B.2 High Speed Train example ..... 33
B.3 Passenger train example ..... 35
B.4 Freight train example ..... 36
B.5 Peri-urban train example ..... 38

Annex C (normative) Water tightness test ..... 40

C.1 General ..... 40
C.2 Test conditions ..... 40
C.3 Test procedure ..... 41
C.4 Pass/fail criterion ..... 41
C.5 Test report ..... 41
C.6 Sketches ..... 42
C.6.1 Classic application ..... 42
C.6.2 Application with dynamic seals on both sides of the axlebox ..... 43

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC aimed to be covered ..... 44

Bibliography ..... 46