

DIN EN 15954-1:2014-06 (E)

Railway applications - Track - Trailers and associated equipment - Part 1: Technical requirements for running and working

| Contents | | Page |
|--------------------|--|-------------|
| Foreword | | 4 |
| Introduction | | 5 |
| 1 | Scope | 6 |
| 1.1 | General | 6 |
| 1.2 | Validity of this European Standard | 7 |
| 2 | Normative references | 7 |
| 3 | Terms and definitions | 8 |
| 4 | Trailer types Examples of types of trailer | 12 |
| 4.1 | Trailer with continuous brake and parking brake | 12 |
| 4.2 | Trailer with parking/break-away brake only | 12 |
| 4.3 | Road rail trailer | 13 |
| 4.4 | Attachment with rail wheels | 13 |
| 5 | Railway specific safety requirements and/or measures | 13 |
| 5.1 | General | 13 |
| 5.2 | Gauge | 13 |
| 5.2.1 | Running gauge | 13 |
| 5.2.2 | Trailer in running configuration | 14 |
| 5.2.3 | Working limit | 15 |
| 5.2.4 | Determination of lateral limit of exceedance allowed on curves in working configuration .. | 16 |
| 5.2.5 | Limits in lower area in working and running configuration | 16 |
| 5.2.6 | Working limit in the upper area | 17 |
| 5.3 | Interaction with the infrastructure | 18 |
| 5.3.1 | General | 18 |
| 5.3.2 | Main wheels | 18 |
| 5.3.3 | Auxiliary wheels, auxiliary guides and working parts | 18 |
| 5.3.4 | Loads applied to the ballast | 19 |
| 5.3.5 | Loads applied to the formation | 19 |
| 5.3.6 | Forces on structures as a function of axle load configurations | 19 |
| 5.4 | Running safety and prevention of derailment | 20 |
| 5.4.1 | General | 20 |
| 5.4.2 | Running safety for trailers running at a speed of $60 \text{ km/h} < v < 100 \text{ km/h}$ | 20 |
| 5.4.3 | Running safety for trailers running at a speed of $v < 60 \text{ km/h}$ | 20 |
| 5.4.4 | Track test for all trailers | 21 |
| 5.5 | Stability and prevention of overturning | 21 |
| 5.6 | Trailer frame and structure | 21 |
| 5.6.1 | Frame strength for trailers $v > 60 \text{ km/h}$ | 21 |
| 5.6.2 | Frame strength for trailers $v < 60 \text{ km/h}$ | 21 |
| 5.6.3 | Lifting and jacking points | 21 |
| 5.7 | Couplings between trailers and/or towing machine | 23 |
| 5.7.1 | General | 23 |
| 5.7.2 | Special case for trailer that cannot be coupled with other trailers | 23 |
| 5.8 | Running gear | 23 |
| 5.8.1 | General | 23 |
| 5.8.2 | Distribution of the wheelset forces in running configuration | 24 |
| 5.8.3 | Trailer rail wheel base | 24 |

| | | |
|---|---|----|
| 5.8.4 | Rail wheel, wheel profile | 24 |
| 5.8.5 | Rail wheel arrangements | 25 |
| 5.8.6 | Load on rail wheels | 25 |
| 5.8.7 | Load on rail wheels in working condition Maximum rail wheel loads | 26 |
| 5.8.8 | Operation of spring loaded points | 28 |
| 5.9 | Rail wheel suspension | 28 |
| 5.10 | Braking | 28 |
| 5.11 | Driving and working cabs and places | 28 |
| 5.12 | Controls | 28 |
| 5.13 | Visibility of the trailer | 28 |
| 5.13.1 | Lighting - marker lights | 28 |
| 5.13.2 | Light switching arrangements | 29 |
| 5.13.3 | Tail lamps | 29 |
| 5.13.4 | Lamp brackets | 29 |
| 5.13.5 | Colour of the trailer | 31 |
| 5.14 | Electrical equipment and earth bonding | 32 |
| 5.14.1 | Equipotential bonding | 32 |
| 5.14.2 | Antennae | 32 |
| 5.14.3 | Pantograph | 32 |
| 5.15 | Electro-magnetic compatibility | 32 |
| 5.15.1 | Emissions from trailers | 32 |
| 5.15.2 | Immunity of trailers from railway environment | 33 |
| 5.16 | On and off tracking | 33 |
| 5.16.1 | General | 33 |
| 5.16.2 | Use of turntables | 33 |
| 5.17 | Setting up and packing away | 33 |
| 5.17.1 | General | 33 |
| 5.17.2 | Emergency recovery of equipment | 33 |
| 5.18 | Mobile elevating work platform (MEWP) | 34 |
| 5.19 | Exhaust | 34 |
| 6 | Marking of the trailers | 34 |
| 6.1 | Warning signs and pictograms | 34 |
| 6.2 | Identification plate | 34 |
| 7 | User information | 34 |
| 8 | Verification of the conformity to the requirements and/ or particular safety measures | 36 |
| Annex A (informative) Technical details for buffing and draw gear | | 37 |
| A.1 | General | 37 |
| A.2 | Draw gear constituent parts | 37 |
| A.2.1 | Coupling part | 37 |
| A.3 | Application | 38 |
| A.4 | Technical details for coupling parts | 38 |
| A.5 | User information | 39 |
| Annex B (normative) Special national conditions | | 40 |
| Annex C (normative) Check list for conformity | | 44 |
| Annex D (informative) Trailer identification plate | | 48 |
| Annex E (informative) Structure of European Standards for track construction and maintenance machines | | 49 |
| Bibliography | | 51 |